

REPORT ON
CURRENCY AND FINANCE
2001-02

RESERVE BANK OF INDIA

CONTENTS

	Page No.
FOREWORD	
I. THEME OF THE REPORT	I-1 to I-3
II. RECENT ECONOMIC DEVELOPMENTS	II-1 to II-42
Macroeconomic Developments : 2002-03	II-1
Real Sector	II-4
Public Finances	II-12
Monetary Developments	II-16
The Price Situation	II-21
Financial Markets	II-24
Financial Sector	II-31
External Sector	II-34
III. THE REAL ECONOMY	III-1 to III-46
Growth, Saving and Investment	III-2
Agriculture	III-13
Industry	III-25
Sustainability of Services Growth	III-41
Concluding Observations	III-45
IV. FISCAL POLICY	IV-1 to IV-28
Fiscal Reforms - International Experience	IV-2
Background and Approach to Fiscal Reforms in India	IV-3
Performance During the 1990s	IV-8
Assessment and Issues	IV-21
Concluding Observations	IV-28

(Contd...)



V. MONEY, CREDIT AND PRICES	V-1 to V-27
Imperatives of Monetary Reforms	V-1
Changes in the Monetary Policy Framework	V-3
Monetary Policy Reforms - An Assessment	V-9
Transmission Channels of Monetary Policy	V-22
Concluding Observations	V-27
VI. FINANCIAL SECTOR.....	VI-1 to VI-47
Financial Sector Reforms - Theoretical Rationale and International Experience	VI-2
Financial Intermediaries - An Assessment of Reforms	VI-4
Financial Markets - An Assessment of Reforms	VI-27
Concluding Observations	VI-45
VII. EXTERNAL SECTOR.....	VII-1 to VII-44
Trade Reforms, Institutional Arrangements and India's Position in the World Trade Organisation	VII-1
Current Account - Approach, Developments and Issues	VII-9
Capital Account, External Debt and Exchange Rate: Approach, Developments and Issues	VII-21
Foreign Exchange Reserves - Approach, Developments and Issues	VII-32
Concluding Observations	VII-44
VIII. ASSESSMENT OF REFORMS	VIII-1 to VIII-14
The Real Economy.....	VIII-1
Fiscal Policy	VIII-6
Monetary Policy.....	VIII-8
Financial Sector	VIII-9
External Sector	VIII-12
Conclusion	VIII-14
SELECT REFERENCES	I to XVIII



LIST OF BOX ITEMS

Box No.	Title	Page No.
II.1	Drought Relief Measures	II-7
II.2	Current and Capital Account Liberalisation Policies adopted in India: 2002-03	II-41
III.1	Monetary Implications of Excess Food Stocks	III-22
III.2	Fiscal Impact of the Growth in Food Stocks	III-24
III.3	Industrial Policy in East Asian Countries	III-28
III.4	Determinants of Demand for Manufacturing and Overall Industry	III-31
III.5	Power Sector Reforms in Indian States	III-35
IV.1	Fiscal Impact of the Operations of Public Sector Undertakings	IV-13
IV.2	The Operation of State Electricity Boards and State Finances	IV-14
IV.3	Worsening of State Finances – A Survey	IV-24
IV.4	Factors Causing Deterioration in State Finances – An Assessment	IV-25
V.1	Inflation Targeting as a Monetary Policy Rule	V-3
V.2	Monetary Transmission Mechanism: An Overview of Empirical Evidence	V-23
V.3	Transmission Channels for India: Methodology and Data Issues	V-24
VI.1	Financial Sector Reforms: Cross-Country Experiences	VI-3
VI.2	Credit Risk, Capitalisation, Ownership and Bank Efficiency: International Experience	VI-11
VI.3	Credit Risk, Capitalisation and Bank Efficiency: Evidence from India	VI-15
VI.4	Financial Markets - Reform Measures	VI-28
VI.5	Informational Efficiency of Stock Markets	VI-41
VII.1	Trade Liberalisation: Cross-Country Experience	VII-2
VII.2	Special Economic Zones	VII-7
VII.3	India and the WTO: Current Position Regarding Various Commitments under WTO	VII-8
VII.4	Export Sector's Contribution to Growth - Some Findings from Select Public Limited Companies (1975-76 to 2000-01)	VII-11
VII.5	Committee on Capital Account Liberalisation (Chairman: S.S. Tarapore)	VII-22
VII.6	Capital Account Liberalisation and its Reversal - Cross-Country Experience	VII-23
VII.7	Monetary Impact of Foreign Exchange Reserves - An Empirical Exercise	VII-40
VII.8	Is Foreign Exchange Reserves Build-up Inimical to Growth	VII-42

LIST OF CHARTS

Chart No.	Title	Page No.
II.1	Real GDP Growth - Cross-Country Experience	II-1
II.2	Sectoral Composition of GDP	II-5
II.3	Trends in Quarterly Sectoral Growth Rates of Real Gross Domestic Product	II-5
II.4	Saving by Institutional Sources	II-6
II.5	Gross Capital Formation by Institutional Sources	II-6
II.6	South-West Monsoon Cumulative Rainfall	II-6
II.7	Weekly Progress of South - West Monsoon	II-7
II.8	<i>Kharif</i> Agricultural Production	II-8
II.9	North-East Monsoon Cumulative Rainfall	II-8
II.10	Procurement, Off-take and Stocks of Foodgrains	II-9
II.11	Sectoral Contribution to Industrial GDP Growth	II-9
II.12	Growth of IIP	II-10
II.13	Leading Indicators of Industrial Growth	II-11
II.14	Growth of IIP - Use-based Classification	II-11
II.15	Growth of Infrastructure Industries	II-11
II.16	Sectoral Contribution in Growth of Services GDP	II-12
II.17	Quarterly Growth Rates of Services Sector	II-12
II.18	Monthly Position of Ways and Means Advances to the Central Government	II-14
II.19	Financing Pattern of GFD of the Centre	II-15
II.20	Outstanding WMAs and Overdraft to States (Weekly)	II-16
II.21	Commercial Bank Reserves and Call Rate	II-17
II.22	Select Sources of Reserve Money	II-18
II.23	NFA/Currency Ratio	II-18
II.24	Market Operations of RBI and Call Rate	II-18
II.25	Shares of Government and Commercial Sector in Adjusted Domestic Credit	II-20
II.26	Fortnightly Variation in Non-Food Credit	II-20
II.27	Liquid Funds with Banks and Gilt Yield	II-20
II.28	Sectoral Deployment of Gross Bank Credit.....	II-21

(Contd...)



LIST OF CHARTS

Chart No.	Title	Page No.
II.29	Credit Off-take - Major Industries	II-22
II.30	Annual Variations in WPI (Point-to-point)	II-22
II.31	WPI Food and Non-food Inflation (Point-to-point)	II-22
II.32	WPI - Major Groups' Inflation (Point-to-point)	II-22
II.33	Annual WPI Inflation Rate (Average basis)	II-23
II.34	Major Groups' Weighted Contributions to WPI	II-24
II.35	Annual CPI Inflation (Industrial Workers)	II-24
II.36	Average Call Rate, Secondary Market Yields, Changes in the BSE Sensex and Exchange Rate	II-24
II.37	Call Rate and the Repo Rate	II-25
II.38	10-Year Gilt Yield	II-27
II.39	Spread Between AAA-rated Corporate Bond and 5-Year Gilt Yield.....	II-27
II.40	Daily Movement in Indian Rupee <i>vis-a-vis</i> US Dollar	II-27
II.41	Indian Rupee <i>vis-à-vis</i> Major International Currencies	II-28
II.42	REER and NEER (5-Country)	II-28
II.43	Foreign Exchange Market Turnover.....	II-29
II.44	Monthly Average Exchange Rates and 3-Month Forward Premia	II-29
II.45	Trend in Resource Mobilisation in the Primary Market	II-29
II.46	Public Issues Market - Instrument Type	II-29
II.47	Trends in Indian Stock Markets	II-30
II.48	Movements in BSE Sensex, NASDAQ and Dow Jones	II-30
II.49	Turnover in Equity Derivatives Markets	II-31
II.50	Scheduled Commercial Banks : Key Indicators	II-32
II.51	Ratio of Net NPAs to Net Advances	II-32
II.52	Exchange Rate Movements of Major Currency Pairs	II-35
II.53	Net Private Capital Flows to Emerging Markets	II-36
II.54	Monthly Growth Rate of Exports	II-36
II.55	Oil Imports and Crude Prices	II-37
II.56	Growth Rates of Exports of Selected Commodities	II-37

(Contd...)

LIST OF CHARTS

Chart No.	Title	Page No.
II.57	Destination of India's Exports	II-38
II.58	Growth Rates of Imports of Selected Commodities	II-38
II.59	Sources of India's Imports	II-38
II.60	Current Account Balance	II-39
II.61	Capital Flows by Category	II-39
II.62	India's Foreign Exchange Reserves	II-40
III.1	Rate of Growth of Real Per Capita Income	III-2
III.2	Sectoral Composition of Real Gross Domestic Product	III-3
III.3	Contribution of Sub-sectors to Growth of Services	III-5
III.4	Output Gap in India	III-6
III.5	Potential Growth Rate in India	III-6
III.6	Contribution of Select Components to Growth of Aggregate Demand	III-7
III.7	Rates of Gross Domestic Capital Formation and Gross Domestic Saving	III-8
III.8	Rates of Gross Domestic Saving by Institutional Sources	III-9
III.9	Composition of Financial Saving of Household Sector	III-9
III.10	Rates of Capital Formation by Institutional Sources	III-11
III.11	Sectoral Rates of Capital Formation	III-12
III.12	Trends in Incremental Capital Output Ratio	III-12
III.13	Variations in Indices of Agricultural Production	III-15
III.14	Progress in Input Usage	III-16
III.15	Annual Compound Growth Rates of Disbursements of Direct Finance to Agriculture	III-18
III.16	Rice and Wheat Prices in India vis-a-vis Major Exporting Countries	III-19
III.17	CIP of Rice and Wheat	III-21
III.18	Impulse Response of Food Credit to One Standard Deviation Innovation in Food Stock	III-22
III.19	Impulse Response of Interest Rates (Call Rates) to One Standard Deviation Innovation in Food Stock	III-22
III.20	Share of Food Subsidy in the Revenue Expenditure of Central Government.....	III-23

(Contd...)



LIST OF CHARTS

Chart No.	Title	Page No.
III.21	Components of Food Subsidy	III-23
III.22	Fiscal Impact of Retaining the MSP at the Level Recommended by CACP	III-24
III.23	Potential and Actual Growth Rates of Industry	III-26
III.24	Indicators of Manufacturing Activity.....	III-32
III.25	Demand-Supply Gaps in Power Sector in India	III-33
III.26	Demand-Supply Gaps in Telecommunications Sector in India	III-33
III.27	Public Sector Real Gross Capital Formation in Select Physical Infrastructure Sectors	III-34
III.28	Wholesale Prices of Electricity <i>vis-à-vis</i> Manufacturing	III-34
III.29	Growth in Net Commercial Bank Credit to Industrial Sector	III-36
III.30	Growth in Financial Assistance Disbursed by All India Financial Institutions	III-37
III.31	Real Prime Lending Rates of Select Term Lending Institutions	III-37
III.32	Growth of Services and Gross Domestic Product	III-41
IV.1	Major Fiscal Indicators during the 1980s	IV-4
IV.2	Outstanding Net RBI Credit to the Government.....	IV-5
IV.3	Major Fiscal Indicators during the 1990s	IV-9
IV.4	Tax-GDP Ratio of Central Government	IV-10
IV.5	Non-Tax Revenue	IV-12
IV.6	Trends in Returns on Investment in Central PSUs and Interest Cost	IV-13
IV.7	Sources of States' Revenue Receipts	IV-14
IV.8	Expenditure Pattern of Central and State Governments	IV-15
IV.9	Interest Payments	IV-16
IV.10	Salaries and Pension of Central Government Employees	IV-16
IV.11	Subsidies by State Governments to SEBs	IV-17
IV.12	Disinvestment Programme of the Central Government	IV-19
IV.13	Financing Pattern of Central Government's Fiscal Deficit	IV-20
IV.14	Financing Pattern of States' Fiscal Deficit	IV-20
IV.15	State Finances during 1980-81 to 1999-00	IV-25
IV.16	Relative Trends in GDP Growth, Interest Rate and Primary Deficit.....	IV-27
IV.17	Central and State Governments Debt	IV-27
V.1	Movements in Statutory Liquidity Ratio	V-2
V.2	Monetisation of Fiscal Deficits	V-2

(Contd...)

LIST OF CHARTS

Chart No.	Title	Page No.
V.3	Income Velocity of Money.....	V-4
V.4	Bank Rate	V-6
V.5	Money, Output and Prices	V-10
V.6	WPI Inflation: Actual and Indicative Projections	V-10
V.7	WPI Inflation, Food Articles Inflation and M ₃ Growth	V-11
V.8	Global Inflationary Trends	V-12
V.9	Volatility of Inflation Rate	V-12
V.10	CPI Inflation and Divergence from WPI	V-13
V.11	Major Groups' Share in Overall WPI Inflation.....	V-13
V.12	Major Sources of Broad Money	V-14
V.13	Domestic Credit	V-15
V.14	Yield on Central Government Market Borrowings (Weighted Average)	V-16
V.15	Scheduled Commercial Banks' Credit.....	V-16
V.16	Credit and Output.....	V-17
V.17	Volatility in Bank Reserves and the Call Rate	V-18
V.18	Sources of Reserve Money.....	V-19
V.19	Key Monetary Indicators	V-19
V.20	Borrowing Costs of the Government and Others	V-20
V.21	Pass-through in the USA.....	V-21
V.22	Impulse Responses	V-25
VI.1	Gross NPAs of Public Sector Banks	VI-6
VI.2	Net Profit to Total Assets – Bank Group-wise	VI-8
VI.3	Real and Exchange Rate Adjusted Interest Rates	VI-9
VI.4	Diversion of Real and Exchange Rate Adjusted Interest Rates from International Benchmark Rates	V-10
VI.5	Gross Domestic Product from Insurance	VI-24
VI.6	Resource Mobilisation by UTI vis-à-vis Other Mutual Funds	VI-25
VI.7	Share of Mutual Funds in Turnover in the Stock Markets (BSE+NSE)	VI-26
VI.8	Mutual Funds' Net Investments and Movement in Sensex	VI-26

(Contd...)

LIST OF CHARTS

Chart No.	Title	Page No.
VI.9	Events in UTI and Movement in BSE Sensex	VI-26
VI.10	Behaviour of Call Rates	VI-30
VI.11	Evolution of Liquidity Adjustment Facility	VI-30
VI.12	Call Rates and Outstanding Amount of CPs and CDs	VI-31
VI.13	Money Market Interest Rates	VI-32
VI.14	Forward Rate Agreement/Interest Rate Swaps	VI-32
VI.15	Maturity Structure (Residual Maturity) of Outstanding Market Loans of Central Government	VI-34
VI.16	Yield Curves for Central Government Dated Securities	VI-35
VI.17	Indian Rupee <i>vis-à-vis</i> Major Currencies	VI-38
VI.18	Movement in the Exchange Rate of Selected Currencies <i>vis-à-vis</i> US \$	VI-38
VI.19	Volatility in Foreign Exchange Market.....	VI-38
VI.20	Foreign Exchange Market Turnover.....	VI-39
VI.21	Resource Mobilisation in the Equity Markets	VI-40
VI.22	Autocorrelation Function of Daily Returns of the BSE Sensex	VI-41
VI.23	Synchronicity of Stock Prices : India <i>vis-à-vis</i> Select Economies	VI-42
VI.24	R ² - India <i>vis-à-vis</i> Select Economies	VI-42
VI.25	Call Rate and the 3 - month Forward Premia	VI-44
VI.26	BSE Sensex and 5 - year Gilt Rate	VI-44
VI.27	Spread in Government Securities and Forex Markets	VI-44
VI.28	High-Low Spread in the BSE Sensex.....	VI-45
VII.1	Peak Tariff Rates in India.....	VII-4
VII.2	Growth Rates of Exports and Imports	VII-10
VII.3	India's Foreign Trade Ratios	VII-12
VII.4	Export/Import Ratio	VII-13
VII.5	Terms of Trade	VII-13
VII.6	Pattern of India's Exports	VII-13
VII.7	Share of India's Exports to Different Countries/Country Groups	VII-14
VII.8	India's Exports <i>vis-à-vis</i> Exports of Select East Asian Countries	VII-15

(Contd...)



LIST OF CHARTS

Chart No.	Title	Page No.
VII.9	Share of Major Commodity Groups in India's Imports	VII-16
VII.10	Sources of India's Imports	VII-16
VII.11	Trends in Current Account.....	VII-19
VII.12	Movement in the Current Account.....	VII-20
VII.13	Net Capital Flows into India	VII-21
VII.14	India's Foreign Investment.....	VII-24
VII.15	Composition of NRI Deposits	VII-26
VII.16	Net Capital Inflows and Accretion to Foreign Exchange Reserves	VII-27
VII.17	Composition of India's External Debt.....	VII-29
VII.18	External Debt Indicators of India	VII-29
VII.19	Exchange Rate Movement Since March 1993	VII-31
VII.20	Indian Rupee <i>vis-à-vis</i> Major Currencies	VII-32
VII.21	Non-gold Reserves of Select Economies	VII-34
VII.22	Developing Countries' Reserves	VII-35
VII.23	India's Foreign Exchange Reserves	VII-35
VII.24	Import Cover of Reserves	VII-36
VII.25	Money Based Indicators of Reserve Adequacy.....	VII-36
VII.26	Short-Term Debt to Reserves	VII-37
VII.27	Forward Liabilities to Reserves	VII-37
VII.28	Open Market Operations and Year-to-Year Changes in NDA and NFA of the RBI....	VII-39
VII.29	Impact of Foreign Exchange Reserves on Interest Rate	VII-40
VII.30	Impact of Foreign Exchange Reserves on Broad Money.....	VII-40

LIST OF TABLES

Table No.	Title	Page No.
2.1	Macroeconomic Indicators	II-3
2.2	Sectoral Growth Rates of Gross Domestic Product	II-4
2.3	Quarterly Sectoral Growth Rates of Gross Domestic Product	II-5
2.4	Gross Domestic Saving and Investment	II-6
2.5	Season-wise Agricultural Production	II-8
2.6	Crop-wise Targets/Achievements	II-9
2.7	Sector-wise Growth of IIP	II-10
2.8	Growth in Services Sector	II-12
2.9	Deficit Indicators of the Centre	II-13
2.10	Total Receipts and Aggregate Expenditure of the Centre	II-13
2.11	Reserve Bank's Net Foreign Assets, Net Credit to Centre, Initial Subscriptions, Open Market Operations and LAF Repos	II-17
2.12	Net Reserve Bank Credit to the Centre: Quarterly Variations	II-19
2.13	Monetary Indicators - Variations	II-19
2.14	Select Banking Indicators : Financial Year Variations	II-21
2.15	Sectoral and Industry-wise Deployment of Gross Bank Credit of Scheduled Commercial Banks	II-21
2.16	Commodity-wise WPI Inflation	II-23
2.17	Changes in the Regulatory Framework	II-33
2.18	Global Economy – Key Indicators	II-34
2.19	Cross-Country Quarterly GDP Growth	II-35
2.20	India's Foreign Trade	II-36
2.21	Growth Rates of India's Principal Exports	II-37
2.22	Estimates of Sources of Accretion to Foreign Exchange Reserves	II-39
2.23	Foreign Investment Flows by Category	II-39
2.24	Inflows under NRI Deposit Scheme	II-40
2.25	India's External Debt	II-42

(Contd...)

LIST OF TABLES

Table No.	Title	Page No.
3.1	Sectoral Trend Growth Rates of Real Gross Domestic Product	III-3
3.2	Growth Performance in Select Emerging Market Economies	III-4
3.3	Sectoral Growth Rates of Real Gross Domestic Product.....	III-5
3.4	Actual and Potential Growth Rates of GDP	III-6
3.5	Growth Rates and Relative Contributions of Select Components of Aggregate Demand	III-7
3.6	Rates and Composition of Gross Domestic Savings by Institutional Sources	III-8
3.7	Average Shares of Various Instruments in Household Financial Saving.....	III-9
3.8	Rates and Composition of Gross Capital Formation by Institutional Sources	III-11
3.9	Incremental Capital Output Ratio	III-12
3.10	Trend Growth Rates of Area, Production and Yield of Agricultural Crops	III-15
3.11	Irrigation Coverage for Various Crops	III-16
3.12	Cost of Production and MSPs of Foodgrain Crops	III-19
3.13	Trends in World Agricultural Commodity Prices	III-20
3.14	Share of Food Credit (Outstanding) in the Commercial Bank Credit.....	III-21
3.15	Share of Industries in GDP: Cross - Country Comparison	III-27
3.16	Growth of IIP – Manufacturing at Two-Digit Level	III-28
3.17	Contribution of Industry to GDP and Exports in Japan and Korea	III-28
3.18	Production and Imports of Capital Goods and IIP Growth	III-31
3.19	Real Gross Capital Formation in Infrastructure Sectors	III-33
3.20	Average Electricity Tariff for Industry.....	III-34
3.21	Growth in Sectoral Non-Food Credit.....	III-36
3.22	Industry-wise Deployment of Gross Bank Credit – Share of Major Groups	III-37
3.23	Average Real Lending Rates of Select Term Lending Institutions	III-37
3.24	Sources of Funds of Selected Public Limited Companies	III-38
3.25	Productivity in the Indian Industry: A Summary of Empirical Estimates	III-39
3.26	Indices of Input Intensity in the Indian Manufacturing Industry.....	III-40
3.27	Share and Growth of Sub-Sectors of Services	III-42

(Contd...)



LIST OF TABLES

Table No.	Title	Page No.
3.28	Growth of Gross Value Added in Services Sector	III-43
3.29	Growth in Public Administration and Defence	III-44
4.1	Types of Fiscal Adjustment	IV-2
4.2	Major Fiscal Indicators of the Government Sector	IV-9
4.3	Buoyancies of Central Taxes	IV-10
4.4	Buoyancies of State Taxes	IV-11
4.5	Composition of Non-tax Revenue of the Central Government	IV-12
4.6	Composition of Own Non-tax Revenue of State Governments	IV-12
4.7	Trends in Government Expenditure	IV-15
4.8	Central Government Expenditure on Subsidies - Major Heads	IV-17
4.9	Explicit Fiscal Impact of Operations of Public Sector Undertakings.	IV-18
4.10	Performance Indicators of Public Sector Undertakings	IV-18
4.11	Outstanding Government Guarantees	IV-21
4.12	Test of Stationarity for Central and State Government Debt	IV-27
4.13	Test of Stationarity for Central and State Government Debt with Structural Break ...	IV-27
5.1	Multiple Indicators of Monetary Policy	V-5
5.2	Monetary Policy Instruments	V-6
5.3	Use of the Bank Rate	V-6
5.4	Interest Rates on Term Deposits : Deregulation	V-8
5.5	Inflation and its Major Determinants	V-11
5.6	Goods and Services Inflation in Major Economies	V-13
5.7	Scheduled Commercial Banks' Investment in Non-SLR Investments	V-17
5.8	Changes in the Liquidity Management Framework: An Episodic Analysis	V-18
5.9	Real Interest Rates	V-22
5.10	Variance Decomposition Analysis	V-26

(Contd...)



LIST OF TABLES

Table No.	Title	Page No.
6.1	Financial Liberalisation in Select Countries: 1973-2002	VI-3
6.2	Distribution of Scheduled Commercial Banks by CRAR	VI-5
6.3	Distribution of Scheduled Commercial Banks by Net NPAs to Net Advances	VI-6
6.4	Share of Top Five Banks - Assets, Deposits and Profits	VI-7
6.5	Net Interest Income (Spread) to Total Assets	VI-7
6.6	Number of Profit and Loss Making Banks	VI-8
6.7	Important Financial Parameters - Bank Group-wise	VI-8
6.8	Intermediation Cost to Total Assets	VI-9
6.9	Real and Exchange Rate Adjusted Interest Rates	VI-9
6.10	Banking Sector Performance	VI-10
6.11	Summary of Banking Systems	VI-10
6.12A	Important Parameters of Select Bank-Groups	VI-12
6.12B	Important Parameters of Select Bank-Groups	VI-13
6.13	Capitalisation of Co-operative Banks: Select Indicators	VI-17
6.14	Non-Performing Assets of Co-operative Banks	VI-17
6.15	Select Indicators of Efficiency of Co-operative Banks <i>vis-à-vis</i> Scheduled Commercial Banks	VI-18
6.16	Sanctions and Disbursements of Select FIs	VI-19
6.17	Ratio of Profit Before Tax to Total Assets	VI-19
6.18	Important Financial Ratios for Development Finance Institutions	VI-20
6.19	Financial Institution-wise CRAR and Net NPAs to Net Loans	VI-20
6.20	Capital Adequacy Position of NBFCs	VI-22
6.21	Public Deposits of NBFCs	VI-22
6.22	Operating Expenditure and Net Profit.....	VI-22
6.23	Insurance Business: Summary Statistics	VI-23
6.24	Resources Mobilised/Assets under Management by Mutual Funds	VI-25
6.25	Net Resource Mobilisation by Mutual Funds	VI-25
6.26	Ratio of Assets of Open-end Funds to GDP.....	VI-27
6.27	Maturity Profile of Central Government Debt.....	VI-34
6.28	Weighted Average Yield and Maturity of Market Loans of Government of India	VI-34

(Contd...)



LIST OF TABLES

Table No.	Title	Page No.
6.29	Secondary Market Transactions in Central Government Securities	VI-35
6.30	Merchant Transactions in Foreign Exchange Market.....	VI-37
6.31	Inter-Bank Transactions in the Foreign Exchange Market	VI-37
6.32	Purchases and Sales of the US Dollar by the Reserve Bank	VI-37
6.33	Movement in the Exchange Rate of the Rupee per US Dollar	VI-38
6.34	Sources of Funds for Non-Government Non-Financial Public Limited Companies .	VI-40
6.35	Indicators of Liquidity.....	VI-41
6.36	Correlation Coefficient Matrix	VI-43
7.1	Tariff Barriers Across Select Emerging Market Economies	VII-5
7.2	Weighted Average Import Duty Rates in India.....	VII-5
7.3	India's Trade with SAARC Countries	VII-9
7.4	Average Growth Rate of Exports in East Asian Economies <i>vis-à-vis</i> India.....	VII-10
7.5	Average Growth Rate of Imports in East Asian Economies <i>vis-à-vis</i> India	VII-12
7.6	India's Foreign Trade Ratios	VII-12
7.7	Average Share of Exports of Selected Commodities	VII-14
7.8	Direction of India's Foreign Trade - Share in Total Exports	VII-14
7.9	Share of Select East Asian Countries in World Exports	VII-15
7.10	India's Share in World Imports and Imports of Major Trading Partners	VII-15
7.11	Invisibles by Category of Transactions	VII-20
7.12	Various Recommendations for Capital Account Convertibility (Tarapore Committee) .	VII-22
7.13	Balance of Payments - Key Indicators	VII-27
7.14	Major Indicators of External Debt.....	VII-28
7.15	Exchange Rate and the REER and NEER of the Indian Rupee	VII-31
7.16	Total International Reserves <i>minus</i> Gold	VII-34
7.17	Indicators of Reserve Adequacy	VII-35
7.18	Determinants of the Demand for Reserves	VII-37

ABBREVIATIONS

ACF	– Auto Correlation Function	CGE	– Computable General Equilibrium
AD	– Actual Deficit	CI	– Crowding-In
ADs	– Authorised Dealers	CILI	– Composite Index of Leading Indicators
ADRs	– American Depository Receipts	CIS	– Commonwealth of Independent States
AEZs	– Agriculture Economic Zones	CMIE	– Centre for Monitoring Indian Economy
AIBP	– Accelerated Irrigation Benefit Programme	CPI	– Consumer Price Index
AIFIs	– All-India Financial Institutions	CPI-IW	– Consumer Price Index for Industrial Workers
AL	– Autonomous Liquidity	CPSUs	– Central Public Sector Undertakings
AMS	– Aggregate Measure of Support	CRAR	– Capital to Risk-Weighted Assets Ratio
AoA	– Agreement on Agriculture	CRR	– Cash Reserve Ratio
APDRP	– Accelerated Power Development and Reform Programme	CSO	– Central Statistical Organisation
BA/NA	– Bid Amount/Notified Amount	DCF	– Debt Creating Flows
BIMSET-EC	– Bangladesh, India, Myanmar, Sri Lanka, Thailand-Economic Cooperation	DCCBs	– District Central Co-operative Banks
BIS	– Bank for International Settlements	DEPB	– Duty Entitlement Passbook
BoP	– Balance of Payments	DFHI	– Discount and Finance House of India
BPL	– Below Poverty Line	DFI	– Development Finance Institution
CAC	– Capital Account Convertibility	DFRC	– Duty Free Replenishment Certificate
CACP	– Commission on Agricultural Costs and Prices	DGCI&S	– Directorate General of Commercial Intelligence and Statistics
CAD	– Current Account Deficit	DGFT	– Directorate General of Foreign Trade
CAG	– Comptroller and Auditor General of India	DL	– Discretionary Liquidity
CAPM	– Capital Asset Pricing Model	DRI	– Differential Rate of Interest
CAS	– Credit Authorisation Scheme	DTA	– Domestic Tariff Area
CBEC	– Central Board of Excise and Customs	DvP	– Delivery <i>versus</i> Payment
CCIL	– Clearing Corporation of India Limited	EAC	– Economic Advisory Council
CCS	– Cash Compensatory Scheme	ECBs	– External Commercial Borrowings
CD	– Cyclical Deficit	EDI	– Electronic Data Interchange
CEECs	– Central, Eastern and European Countries	EEFC	– Exchange Earners' Foreign Currency

(Contd...)



EFC	– Eleventh Finance Commission	GATS	– General Agreement on Trade in Services
EFTA	– European Free Trade Association	GATT	– General Agreement on Tariffs and Trade
EHTP	– Electronic Hardware Technology Park	GCF	– Gross Capital Formation
EOUs	– Export Oriented Units	GDCF	– Gross Domestic Capital Formation
EPCG	– Export Promotion Capital Goods	GDS	– Gross Domestic Saving
EPZs	– Export Processing Zones	GDP	– Gross Domestic Product
ERR	– Economic Rate of Return	GDRs	– Global Depository Receipts
ESOP	– Employee Stock Option	GFD	– Gross Fiscal Deficit
EU	– European Union	HP	– Hodrick - Prescott
EXIM	– Export Import Bank/Policy	ICOR	– Incremental Capital Output Ratio
FC(B&O)	– Foreign Currency Bank and Ordinary	ICRA	– Investment and Credit Rating Agency
FC(ON)	– Foreign Currency Ordinary Non-Resident	IDA	– International Development Association
FCCBs	– Foreign Currency Convertible Bonds	IDB	– India Development Bond
FCNR(B)	– Foreign Currency Non-Resident (Banks)	IDBI	– Industrial Development Bank of India
FCNR(A)	– Foreign Currency Non-Resident Account	IFCI	– Industrial Finance Corporation of India
FCRCs	– Foreign Controlled Rupee Companies	IIBI	– Industrial Investment Bank of India
FDI	– Foreign Direct Investment	IIP	– Index of Industrial Production
FEDAI	– Foreign Exchange Dealers' Association of India	ILAF	– Interim Liquidity Adjustment Facility
FEMA	– Foreign Exchange Management Act	ILO	– International Labour Organisation
FERA	– Foreign Exchange Regulation Act	IMD	– India Millennium Deposit
FHP	– Farm Harvest Prices	IMF	– International Monetary Fund
FIIIs	– Foreign Institutional Investors	IP	– Intellectual Property
FPI	– Foreign Portfolio Investment	IPOs	– Initial Public Offerings
FRA	– Forward Rate Agreement	IRDA	– Insurance Regulatory and Development Authority
FRBMB	– Fiscal Responsibility and Budget Management Bill	IRS	– Interest Rate Swaps
FRBs	– Floating Rate Bonds	IT	– Information Technology
FRL	– Full Reservoir Level	ITOT	– Income Terms of Trade
		KCC	– Kisan Credit Card

(Contd...)



LAC	– Latin American and Caribbean Countries	NPRIOL	– Non-Priority Sector Loans to Total Loan
LAF	– Liquidity Adjustment Facility	NR(NR)RD	– Non-Resident (Non-Repatriable) Rupee Deposit
LERMS	– Liberalised Exchange Rate Management System	NR(E)RA	– Non-Resident External Rupee Account
LIBOR	– London Inter-Bank Offer Rate	NRIs	– Non-Resident Indians
LPA	– Long Period Average	NRO	– Non-Resident Ordinary
LTO	– Long Term Operation	NR(S)RA	– Non-Resident Special Rupee Account
M ₃	– Broad Money	NTOT	– Net Terms of Trade
MAPE	– Mean Absolute Percentage Error	NTPC	– National Thermal Power Corporation
MFN	– Most Favoured Nation	NTR	– Non-Tax Revenues
MNCs	– Multi-National Corporations	OBUs	– Overseas Banking Units
MoU	– Memorandum of Understanding	OCBs	– Overseas Corporate Bodies
MPC	– Marginal Propensity to Consume	OECD	– Organisation of Economic Co - Operation and Development
MSP	– Minimum Support Price	OGL	– Open General Licence
MTFRP	– Medium-Term Fiscal Reform Programme	OLS	– Ordinary Least Squares
NAFTA	– North American Free Trade Agreement	OMO	– Open Market Operations
NASSCOM	– National Association of Software Services and Companies	OMS	– Open Market Sales
NBFCs	– Non-Banking Financial Companies	OPEC	– Organisation of Petroleum Exporting Countries
NBFIs	– Non-Banking Financial Institutions	OWS	– Other Welfare Schemes
NCAER	– National Council of Applied Economic Research	PDs	– Primary Dealers
NCF	– Net Capital Flows	PDS	– Public Distribution System
NDA	– Net Domestic Assets	PIO	– Persons of Indian Origin
NDCF	– Non-Debt Capital Flow	PLRs	– Prime Lending Rates
NDS	– Negotiated Dealing System	POL	– Petroleum, Oil and Lubricants
NDTL	– Net Demand and Time Liabilities	PSU	– Public Sector Undertaking
NEER	– Nominal Effective Exchange Rate	QRs	– Quantitative Restrictions
NFA	– Net Foreign Assets	RBI	– Reserve Bank of India
NIC	– National Industrial Classification	R&D	– Research and Development
NPA	– Non-Performing Assets	RE	– Revised Estimate

(Contd...)



REER	– Real Effective Exchange Rate	SPSU	– State Public Sector Undertaking
RFC(D)	– Resident Foreign Currency Domestic	SRTU	– State Road Transport Undertaking
RIBs	– Resurgent India Bonds	SSI	– Small-Scale Industries
RIDF	– Rural Infrastructure Development Fund	STRIPS	– Separate Trading for Registered Interest and Principal of Securities
RNBCs	– Residuary Non-Banking Companies	TFCI	– Tourism Finance Corporation of India
RoW	– Rest of World	TFP	– Total Factor Productivity
RMSPE	– Root Mean Square Percentage Error	TNCs	– Transnational Corporations
RPS	– Retention Price Schemes	TPDS	– Targeted Public Distribution System
RTGS	– Real Time Gross Settlement	TRIPs	– Trade Related Intellectual Property Rights
SAPTA	– SAARC Preferential Trading Agreement	UCBs	– Urban Co-operative Banks
SBI	– State Bank of India	UMA	– Unpleasant Monetarist Arithmetic
SCBs	– Scheduled Commercial Banks	UNCTAD	– United National Conference on Trade and Development
SD	– Structural Deficit	URIF	– Urban Reforms Incentive Funds
SDP	– State Domestic Product	UTI	– Unit Trust of India
SEBs	– State Electricity Boards	VAT	– Value Added Tax
SERC	– State Electricity Regulatory Commission	VAR	– Vector Auto Regression
SEZs	– Special Economic Zones	VRS	– Voluntary Retirement Scheme
SGF	– Settlement Guarantee Fund	WEO	– World Economic Outlook
SIDBI	– Small Industries Development Bank of India	WMA	– Ways and Means Advances
SIL	– Special Import Licence	WOS	– Wholly Owned Subsidiaries
SLR	– Statutory Liquidity Ratio	WPI	– Wholesale Price Index
SMP	– Statutory Minimum Price	WTO	– World Trade Organisation

FOREWORD

Indian economic policy took a new direction in July 1991. Over the decade or so since then, the reform process has encompassed all areas of the economy. These wide ranging reforms were initiated and implemented in order to place the economy on a higher growth trajectory by inducing greater efficiency and competitiveness in all spheres of economic activity. It can certainly be said that India is no longer an economy of scarcity and shortages: food stocks and foreign exchange reserves are plentiful; shortages and rationing of essential goods and materials are memories of the past. In the macroeconomic and financial spheres, inflation has been contained, external debt indicators have improved, exchange rate is flexible and the country is free of financial repression. The trade account is open and India has become much more integrated with the world economy. All this has been reflected in a relatively high rate of economic growth over the decade and a significant reduction in poverty in the country. The economy has also become more resilient to shocks, both domestic and external: the twin shocks of the drought and increasing oil prices in this past year have been absorbed with relative ease.

With data now available for the full decade after economic reforms began in 1991, the time is now opportune to undertake a stock taking of the reform process and its outcomes. The Report on Currency and Finance 2001-02 accordingly makes an effort in this direction. In addressing this theme, the Report focuses on the key reform measures undertaken in various sectors in the 1990s, their rationale, their content, their impact and emerging lessons for the future. In making this assessment, appropriate comparisons are made with the previous decade of the 1980s, as also with relevant experiences of other countries. It is appropriate to mention that there is no attempt to be exhaustive in the treatment of reforms; instead, some key issues have been flagged, analysed and implications drawn for policy directions for the future.

The key issue that has arisen in this assessment is that of the growth slowdown of the last five years in comparison with the first five years of reform. This is also the most important economic policy issue facing the country today. I hope that some of the suggestions emanating from the analysis offered in the Report will provoke further analysis, debate and aid policy formulation. The full Report is also available at the Reserve Bank's website at www.rbi.org.in. Comments and suggestions are welcome.

The Report has been prepared in the Department of Economic Analysis and Policy (DEAP) under the guidance and supervision of Narendra Jadhav, Officer-in-Charge.

Coordination responsibilities were entrusted to a core team of economists led by Deba Prasad Rath and comprising Snehal Bandivadekar, Pallavi Chavan, Sangeeta Das, Saibal Ghosh, Rajan Goyal, Kumudini Hajra, Muneesh Kapur, Jeevan Kumar Khundrakpam, Arghya Kusum Mitra, Atri Mukherjee, Nishita Raje, M. Ramaiah, Arindam Roy, Ashis Kumar Sahoo, Satyanand Sahoo, Indranil Sen Gupta, Bhupal Singh and P.S.S. Vidyasagar.

Valuable inputs were provided by many officials in the Department comprising Somnath Chatterjee, C L. Dadhich, Ramesh Golait, R.K. Jain, Avijit Joarder, Jaya Mohanty, R.K. Pattnaik, Sitikantha Pattanaik, S.M. Pillai, A. Prasad, Abha Prasad, Janak Raj, Rajiv Ranjan, Partha Ray, Mridul Saggarr, T. S. Sohal and S. Suraj.

Almost every officer of the Department was associated in the preparation of the Report. Significant support was provided by B.B. Bhoi, Dhrutidyuti Bose, V. Fanai, Saurabh Ghosh, Sujan Hajra, Rajeev Jain, L. Lakshmanan, R. Kaushalya, Neeraj Kumar, Dipankar Mitra, Ajay Prakash, Anupam Prakash, Rajmal, P.S. Rawat, Siddhartha Sanyal and Vineet Srivastava.

The theme of this report is substantively difficult to tackle. It can form a subject of research lasting several years without definitive conclusion. The group of young economists who undertook this task did so with courage and determination. I would like to record my deep appreciation for the dedication with which the team has worked, and for the hours devoted to this work, far beyond the call of normal duty.

March 31, 2003

Rakesh Mohan
Deputy Governor



REPORT ON
CURRENCY AND FINANCE
2001-02

RESERVE BANK OF INDIA

“The findings, views, and conclusions expressed in this Report are entirely those of the contributing staff of the Department of Economic Analysis and Policy (DEAP) and should not necessarily be interpreted as the official views of the Reserve Bank of India.”

Price { Inland Rs. 200 }
 { Concessional Rs.150 } Postage Free
 { Foreign US \$ 60 }

REPORT ON CURRENCY AND FINANCE 2001-02

Published by Deba Prasad Rath for the Reserve Bank of India, Mumbai - 400 001
and designed and printed by him at M/s. Uchitha Graphic Printers Pvt. Ltd., Lower Parel, Mumbai 400 013.

I

THEME OF THE REPORT

1.1 The external payments crisis of 1991 induced a comprehensive policy response comprising macroeconomic stabilisation and structural adjustment. The adjustment was reflected in wide-ranging reforms in terms of liberalisation, privatisation and globalisation.

1.2 Economic reforms are now more than a decade old. As such, firm statistical information is available for a period of 10-years or more for most sectors of the economy. This period is momentous in India's economic history as it witnessed a successful transition of India from a closed, slow growing economy to a reasonably open economy that has now found a place amongst the fastest growing in the world. Of course, the success has not been without its share of deficiencies. On the whole, the opportunities presented by the crisis of 1991 were seized, but there are areas where the full potential of change has not been realised. Economic policies have been formulated to chart a definite, *albeit* somewhat slower, path to reforms. Reversals have been far and few. But this has added to the credibility of the process. On the other hand, some old impediments have persisted, even as new ones have emerged. Faced with a combination of internal and external constraints, growth has slowed down since 1997-98. In other areas, especially in the external sector and on the price front, the economy has gained strength and resilience. Given this mixed performance, it is important to make a policy evaluation and understand better the impediments that we face so that reforms can be sustained and the welfare of a billion people could be improved further. This issue of the Report on Currency and Finance attempts to provide a staff assessment in that direction.

1.3 The rest of the Report is organised as under: Chapter II, as the opening Chapter, provides a detailed review of recent developments in the Indian economy. This review is focused on the fiscal 2002-03 so far and serves as an update on macroeconomic developments before taking up a longer-term review and sectoral analyses that follow.

1.4 The touchstone of any reform process is the impact it has on the real economy. Chapter III provides an assessment of how reforms have impacted the real sector of the Indian economy. The Chapter provides a direct comparison of the 1980s and the 1990s in

terms of real activity and efficiency parameters. Although the decadal growth rates do not appear to be different substantially, the average growth rates mask two important facets. First, from an impressive growth performance in the initial period of reform (1992-93 to 1996-97), real GDP growth decelerated considerably. Major shocks included the contagion from the East Asian crisis, global economic slowdown, the recent downward spiral in global asset markets specially the new economy segment, uncertainty in global oil markets and the severe drought in the year 2002. Second, growth in the relatively trouble free period of the 1980s was excessively leveraged through large fiscal deficits and build up of external debt. In this sense, the growth before the reform was unsustainable. In contrast, the high growth after the reforms was accomplished to an extent, with adjustment. The Chapter attempts to explain these facets and also highlights the emerging weaknesses in the reform process which would have to be addressed so that real sector reforms gather further momentum. The potential of Indian economy to sustain the targeted high growth exists, but hinges critically on improvement of the domestic saving rate, increased public investment supported by marked improvement in public saving rate, higher inflow of foreign capital in gross as well as net terms and better credit delivery mechanisms.

1.5 The external disequilibrium of the early 1990s was linked to the fiscal gaps of the 1980s. Deterioration of the fiscal position in the 1980s was manifest in all major indicators of Government finances. GFD-GDP ratio for the Central Government rose substantially in the 1980s. For the State Governments, the increase was relatively moderate due to restrictions placed on their borrowing. Particularly worrisome has been the emergence of revenue deficits in the accounts of the Centre and States. The combined liabilities of the Centre and States expanded to an unsustainable proportion on the eve of the crisis in 1991. Against this backdrop, Chapter IV presents the rationale, assessment and impact of fiscal reforms. The Chapter details the areas of fiscal restructuring undertaken, as also the rigidities in the fiscal structure that have restrained progress in this area. This Chapter analyses the factors responsible for deterioration of fiscal situation of the



Centre and States during the 1990s. A key element for a sustainable fisc remains the size of internal debt and growing volume of interest payments. Formal evidence provided suggests that internal debt could become unsustainable, if adequate progress is not made in fiscal reforms. Unless the debt burden is lowered by innovative steps, especially through an accelerated disinvestments programme, the fiscal scenario would continue to be a cause for serious concern.

1.6 Chapter V covers money, credit and prices. Reforms during the 1990s were supported by a shift in the monetary policy framework in which monetary policy has been conducted. The Reserve Bank had moved in the 1980s from direct quantitative controls through credit budgeting to a formal monetary targeting framework. Monetary targeting was conducted in an environment where interest rates were substantially regulated. The system, however, was not efficient in resource allocation. It supported a large draft on household savings by the Government. The reforms that began in 1991 were supported by a change in operating procedures for the conduct of monetary policy. From a pure monetary targeting framework, a change to a multiple indicator approach was effected with a greater reliance on interest rates. The Chapter assesses this shift in the context of monetary transmission channels. Among other changes, market borrowings of the Government began to be conducted at market determined interest rates. This was aimed at introducing a sense of fiscal discipline and freeing larger resources for private investment. It also enabled the conduct of open market operations, enabling monetary authorities to move to full-fledged use of indirect instruments of monetary policy. Focus has since shifted to operating on the short-end of the money market through Liquidity Adjustment Facility operations in addition to using the conventional tools like the Bank Rate and the CRR. In the milieu of the changed framework, the Chapter analyses the inflation record during the reform period and explains the monetary and non-monetary factors that have helped lower inflation rate since the end of 1995. Empirical evidence on transmission of the impact of monetary policy actions to output and inflation is also presented in some detail.

1.7 Finance provides an important link between reforms and growth. Perhaps no area of the Indian economy has been as much influenced by impulses of reforms as the financial sector. Chapter VI provides an account of these changes with special focus on what these reforms portend for stability and efficiency of the financial system. Several stability and efficiency

parameters are analysed for different classes of financial intermediaries, such as commercial banks, cooperative banks, development finance institutions and mutual funds. The Chapter analyses legal and institutional constraints that have weighed down the progress. The Chapter also appraises the impact of reforms in terms of the functioning of various financial markets, specially the money market, the government securities market, the capital market and the foreign exchange market. Evidence regarding growing integration of money, debt, equity and foreign exchange markets is also analysed. In spite of increased integration that could bring volatility spillovers, the volatility in the Indian financial markets has been kept low through a modicum of regulatory interventions and the general policy design for the financial sector put in place during the 1990s.

1.8 The reform process was triggered with the problems in the external sector. It started with marked changes in this area, where the pressing needs for stabilisation and adjustment were addressed within three years or so of the crisis. The balance of structural changes in the external sector have been spread over and their pace has been controlled keeping in view the transition made in other sectors of the economy. Chapter VII takes stock of the calibrated liberalisation on current and capital account of the balance of payments. Shifts in composition and direction of foreign trade during the 1990s have been discussed. On capital account, foreign investment flows – direct and portfolio – have grown sharply since 1993-94. The Report argues that these levels are still lower than those realised by some other emerging markets and the scope for some widening of CAD-GDP ratio remains. On balance, policy reforms in the external sector have been a success. The exchange rate has depreciated smoothly in spite of severe exogenous shocks affecting the Indian markets. India's trade performance has been analysed *vis-à-vis* other East Asian countries. The opening of the capital account to allow inflows and outflows of foreign capital has helped financing of investments. This, however, brought new challenges for macroeconomic management. Surges of capital inflows and reversals had to be moderated by dampening excessive volatility in exchange rates. This was attained with unprecedented build up of foreign exchange reserves. While providing comfort on the external front, the high reserves raise questions of their optimality and the future concern on monetary management. These issues have been addressed at length in this Chapter.

1.9 Approaching reforms with gradualism had a well-founded rationale and on the whole this has

THEME OF THE REPORT

placed Indian reforms on a firm footing that have transcended political regime shifts. Changes have been carried out with broad consensus. The road to economic restructuring has been traversed in the 1990s by four different Governments. The country has gained significantly from policy reforms in the 1990s.

Further gains are there for taking. With broad consensus driving the course, the unfinished agenda could be addressed in the coming years. In the concluding part, Chapter VIII delineates the unfinished agenda for reform and draws inferences in an integrated manner.



II

RECENT ECONOMIC DEVELOPMENTS

Introduction

2.1 India continued to remain among the fastest growing economies in the world in 2002 in an international environment characterised by a hesitant recovery of global output and trade, adverse external factors and heightened risk aversion in financial markets. The international outlook continues to be uncertain especially in view of the delay in economic recovery in the face of persistent weak activity in advanced countries and the ramifications of the military action in Iraq which is still unfolding. According to the International Monetary Fund's World Economic Outlook, September 2002, world output is projected to grow by 2.8 per cent during 2002 and 3.7 per cent during 2003 (Chart II.1).

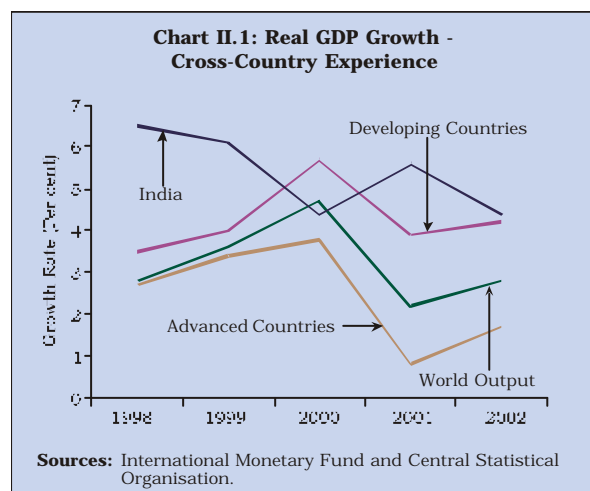
2.2 Notwithstanding the uncertainties in the global economy, the macroeconomic conditions remain favourable in India. Despite the drought situation in many parts of the country due to a weak and uneven monsoon after 13 years, foodgrain stocks remain comfortable. The industrial sector is continuously showing signs of broad-based recovery, led by all the three major constituents – mining, manufacturing and electricity. Significantly, the production of the infrastructure industries and capital goods has also revived. The services sector continues to sustain the Gross Domestic Product (GDP) with support from knowledge-based services such as professional and technical services. The inflation situation remains

benign. Conditions in the financial markets were stable during the year with ample liquidity creating a favourable interest rate environment for investment. Bank credit continued to pick up. In the external sector, a robust performance of exports and invisible earnings, despite an adverse global scenario, was reflected in a modest surplus in the current account, which facilitated a record accretion to foreign exchange reserves. Thus, the macroeconomic situation remains comfortable although the decline in agricultural production, concerns relating to the fiscal position and international political unrest remain downside risks that could constrain growth. Seen in the context of these uncertainties, the performance of the Indian economy during 2002-03 so far demonstrates its intrinsic resilience to shocks.

I. MACROECONOMIC DEVELOPMENTS: 2002-03

2.3 The real GDP growth rate is estimated to be 4.4 per cent in 2002-03 as per the Advance Estimates of the Central Statistical Organisation (CSO), somewhat lower than 5.6 per cent (Quick Estimates) in 2001-02 (Table 2.1). The expected slowdown in GDP growth in 2002-03 is mainly because of a sharp fall in agricultural GDP. Quarterly estimates of agricultural GDP indicated a growth rate of 4.4 per cent and zero per cent in the first and second quarters of 2002-03, respectively, over the corresponding period of 2001-02. Poor rains in the sowing month of July 2002 during the South-West monsoon season have led to an estimated decline of 21.3 million tonnes in *kharif* production to 90.3 million tonnes.

2.4 On the other hand, the CSO Advance Estimates show that the industrial and services sectors are expected to grow at an accelerated pace during 2002-03. The growth rate in the industrial sector is estimated to recover to 5.8 per cent in 2002-03, much higher than 3.2 per cent in the previous year. The expected growth rate would be higher in all the constituent sectors – 'manufacturing', 'mining and quarrying' and 'electricity, gas and water supply'. The industrial recovery is clearly evident in the quarterly industrial GDP, which grew by 4.1 per cent and 6.1 per cent in the first and second quarters of 2002-03 as compared with 2.5 per cent and 2.7 per cent, respectively, during



REPORT ON CURRENCY AND FINANCE

the same quarters of 2001-02. Furthermore, the index of industrial production (IIP) registered an upward trend during 2002-03 (up to January) with the IIP growing by 5.5 per cent as compared with 2.6 per cent during the same period of the previous year. The capital goods sector grew by 10.6 per cent during 2002-03 (up to January), while the infrastructure industries also witnessed a higher growth of 5.2 per cent during 2002-03 (up to February). The services sector is expected to continue to provide strong support to GDP, with its share increasing to 56.0 per cent in 2002-03 from 54.6 per cent in 2001-02 in line with long-term trends. All the sectors, except 'trade, hotels, restaurants, transport and communication' are expected to grow at a higher rate in 2002-03. The robust performance during the first two quarters of 2002-03 demonstrates the strength of the services sector in sustaining output against the backdrop of a significant fall in agricultural GDP.

2.5 The deterioration on the fiscal front continues to be a matter of concern. The gross fiscal deficit (GFD) at 5.9 per cent of GDP in the revised estimates for 2002-03 exceeded the budget estimate of 5.3 per cent. The rising fiscal deficit inevitably constrains augmenting outlays on the much needed social and physical infrastructure and poverty alleviation programmes. Recognising these issues, the Union Budget 2003-04 accorded priority to fiscal consolidation while addressing the basic objectives of eradication of poverty, giving a major boost to infrastructure and laying the foundations for balanced and accelerated growth of agriculture and industry. The Union Budget for 2003-04 envisages a reduction in the GFD to 5.6 per cent of GDP.

2.6 Monetary conditions remained stable with ample liquidity creating a favourable interest rate environment conducive for investment during 2002-03. Abundant liquidity conditions enabled a smooth absorption of the Centre's market borrowing as well as a softening of interest rates. Large and persistent capital inflows were sterilised by timely open market (including repo) operations. Consequently, base money expansion remained moderate at 7.5 per cent during 2002-03 (up to March 14, 2003) as compared with 8.8 per cent during the corresponding period of the previous year. Net of merger effects, broad money (M_3) growth was below the projections made by the Monetary and Credit Policy for 2002-03. On an year-on-year basis, M_3 grew by 12.7 per cent (net of the impact of the mergers) as on March 7, 2003 as compared with 13.9 per cent a year ago. The growth in net bank credit to the Government slowed down to 13.0 per cent during 2002-03 (up to March 7, 2003)

from 14.0 per cent during the corresponding period of the previous year. Bank credit to the commercial sector increased by 11.3 per cent (net of the merger impact) as compared with 9.2 per cent during the comparable period of 2001-02. The revival in non-food bank credit, which took root in the last quarter of 2001-02, firmed up throughout 2002-03 reflecting the improvement in the industrial climate. Inflation remained moderate throughout 2002-03 notwithstanding the shortfall in agricultural production and the volatility in oil prices with war risk perceptions. Headline inflation, measured by point-to-point annual changes in the WPI, edged up to 4.7 per cent on March 1, 2003 due to a hardening of international oil prices and base effects. On an annual average basis, the inflation rate decelerated to 3.0 per cent as on March 1, 2003 from 3.9 per cent in the corresponding period of the previous year.

2.7 Financial markets remained generally stable during 2002-03. The co-existence of adequate liquidity conditions and moderation of inflation expectations enabled a softening of interest rates. The Bank Rate, in particular, at 6.25 per cent, is now at a 30-year low. The reduction in interest rates in recent times has taken place across maturities despite a high fiscal deficit. This, combined with a benign inflationary environment, is a welcome development which augurs well for industrial recovery. While at the short-end, the overnight average call money rates moved down by 126 basis points guided primarily by repo rate cuts, the 10-year and the 25-year secondary market yields of government securities softened by 103 basis points and 77 basis points, respectively, during 2002-03 (up to February). The call money market remained stable, with call rates hovering around the repo rate. The government securities market witnessed a continued rally in the prices of government securities during the larger part of 2002-03. Yields have, however, been firming up since mid-January 2003, in the face of international uncertainties and inching up of domestic inflation rates. The foreign exchange market exhibited orderly conditions during 2002-03, with the exchange rate of the rupee trading in a narrow range. The stock markets were affected by a number of adverse factors such as border tensions, unsatisfactory monsoons and subdued trends in international markets.

2.8 The external sector of the Indian economy posted significant gains. Driven by the robust merchandise export performance and the highest ever net invisible earnings in any year, the current account balance recorded a larger surplus than in 2001-02, despite a reasonably well-distributed pick up in imports.

RECENT ECONOMIC DEVELOPMENTS

Net capital flows remained stable, particularly foreign direct investment (FDI) and non-resident deposits. These salutary developments resulted in a record accretion of around US \$ 20 billion to foreign exchange reserves during 2002-03 (up to March 13, 2003). The foreign exchange reserves stood at US \$ 73.9 billion

as on March 13, 2003, the seventh largest in the world. On the other hand, the strength of capital flows resulted in a modest appreciation of the exchange rate of the Rupee *vis-a-vis* the US dollar. Besides, the improvement in external-debt indicators now places India in the "less-indebted" country category.

Table 2.1 : Macroeconomic Indicators

(Per cent)

Variable	2001-02	2002-03 so far	2001-02 (corresponding period last year)
	1	2	3
Real GDP	5.6	4.4 \$	—
Agriculture and Allied Activities	5.7	-3.1 \$	—
Industry	3.2	5.8 \$	—
Services	6.5	7.1 \$	—
Index of Industrial Production (IIP)	2.8	5.5	2.6
		(up to January)	(up to January)
Foodgrains Production (mt)	212.0	183.2	212.0
Food Stocks (mt) (end-March)	51.0	40.1	56.4
		(end-January)	(end-January)
GFD / GDP (ratio)	6.1	5.9 (R.E.)	—
Broad Money (M ₃)	14.2	14.3 (11.4 &)	13.0
		(up to March 7)	(up to March 8)
Net Bank Credit to the Government	14.6	13.0	14.0
		(up to March 7)	(up to March 8)
Scheduled Commercial Banks' Non-Food Credit (adj. for non-SLR Investments)	12.7	22.9 (15.7 &)	9.9
		(up to March 7)	(up to March 8)
WPI Inflation (Point-to-point)	1.6	4.7#	2.0#
		(March 1)	(March 2)
Call Money Borrowing Rate (Weighted average)	6.97	5.90	7.18
		(February)	(February)
Yield on 10-Year Government Securities ##	7.36	6.34	7.34
		(end-February)	(end-February)
BSE Sensex (Average)	3331.95	3210.67	3311.21
		(up to February)	(up to February)
Exchange Rate (Rupees/US \$)	48.80	47.66	48.72
	(as on end- March)	(as on March 13)	(as on March 13)
Export Growth Rate (US \$ terms)	-1.6	17.3	-0.3
		(up to January)	(up to January)
Import Growth Rate (US \$ terms)	1.7	15.9	0.2
		(up to January)	(up to January)
Current Account Balance (US \$ billion)	1.3	2.5	-1.3
		(up to November)	(up to November)
Foreign Investment Inflow (US \$ million)	5,925	2,642	4,055
		(up to December)	(up to December)
Non-Resident Deposit Inflow (US \$ million)	2,728	2,283	2,254
		(up to December)	(up to December)
Foreign Exchange Reserves* (US \$ million)	54,106	73,918	52,189
		(March 13)	(March 15)

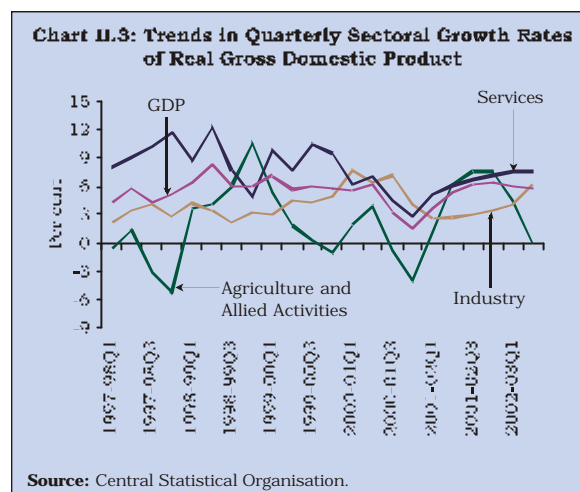
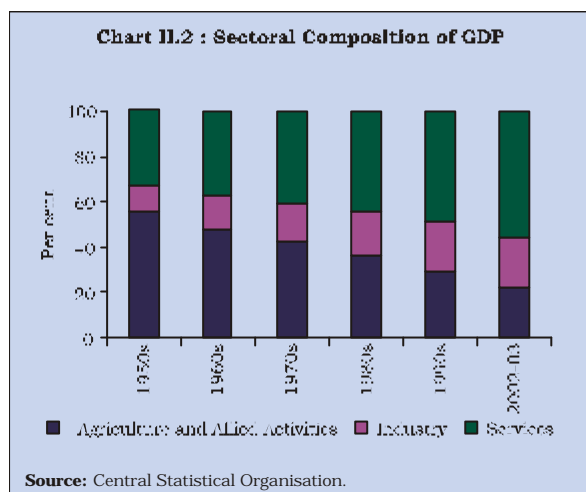
* As at the end of the period.

& Excludes the impact of mergers since May 3, 2002.

On a year-on-year basis.

\$ Advance Estimates from CSO.

On residual maturity basis.

RECENT ECONOMIC DEVELOPMENTS

Saving and Investment

2.12 The rate of gross domestic saving improved marginally to 24.0 per cent in 2001-02 from 23.4 per cent in 2000-01, mainly on account of an increase in the rate of household saving. This reflected increased holdings of both financial and physical assets by households. The rate of saving of the private corporate sector declined marginally in 2001-02. The rate of public

sector dis-saving deteriorated further to 2.5 per cent in 2001-02 from 2.3 per cent in 2000-01 and 0.9 per cent in 1999-2000 (Chart II.4 and Table 2.4).

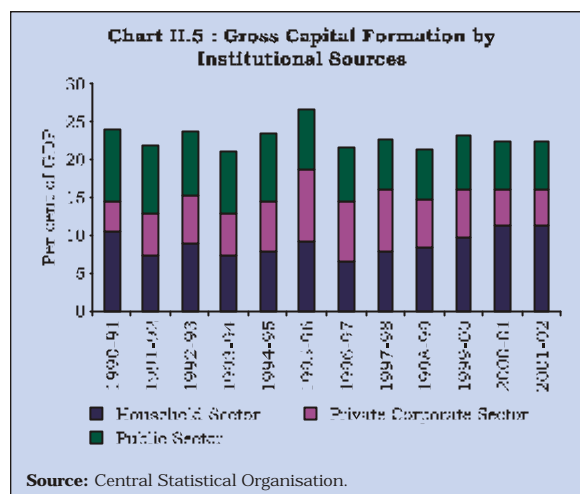
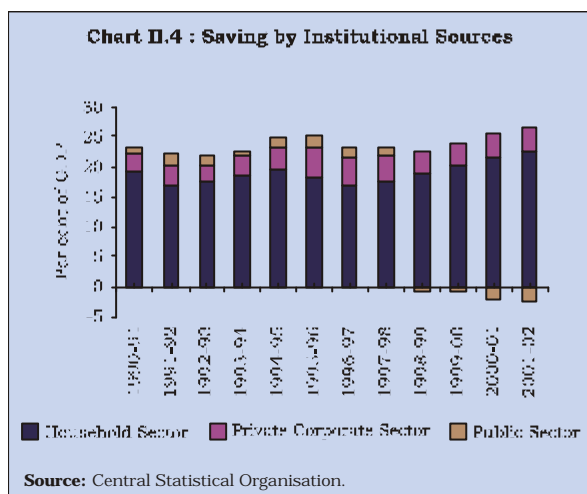
2.13 The investment rate declined to 23.7 per cent in 2001-02 from 24.0 per cent in 2000-01. As a result, the overall saving-investment gap recorded a surplus at 0.2 per cent of GDP in 2001-02 from (-) 0.6 per cent of GDP in 2000-01 (Table 2.4). In line with the

Table 2.3 : Quarterly Sectoral Growth Rates of Gross Domestic Product (at 1993-94 prices)

Sector	(Per cent)									
	2000-01				2001-02				2002-03	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
	1	2	3	4	5	6	7	8	9	10
1. Agriculture and Allied Activities	1.8	3.9	-0.8	-4.0	1.1	6.3	7.6	7.6	4.4	0.0
2. Industry	7.6	6.4	7.0	4.1	2.5	2.7	3.0	3.4	4.1	6.1
2.1 Mining and Quarrying	4.8	3.6	4.3	0.9	-0.3	0.7	3.1	3.5	5.3	5.1
2.2 Manufacturing	8.1	7.1	7.1	4.6	2.7	2.6	2.9	3.1	3.8	6.4
2.3 Electricity, Gas and Water Supply	7.1	4.5	9.3	4.0	3.9	5.4	3.8	5.4	5.3	4.9
3. Services	6.3	6.9	4.4	2.9	5.1	6.0	6.6	7.0	7.5	7.6
3.1 Construction	12.4	10.0	7.2	-1.2	-0.2	2.7	4.4	7.5	6.3	7.2
3.2 Trade, Hotels, Restaurants, Transport and Communication	8.1	6.3	4.8	2.4	4.5	6.3	6.6	7.2	7.4	8.0
3.3 Financing, Insurance, Real Estate and Business Services	3.7	3.9	2.1	2.0	7.0	7.6	8.1	8.3	9.7	8.9
3.4 Community, Social and Personal Services	3.2	9.8	5.0	5.8	6.5	5.4	6.2	5.6	5.7	5.7
4. Gross Domestic Product at factor cost	5.4	6.2	3.4	1.5	3.5	5.3	6.2	6.4	6.0	5.8

Source: Central Statistical Organisation.

REPORT ON CURRENCY AND FINANCE



trend observed during the second half of the 1990s, the rate of capital formation in the private corporate sector declined further in 2001-02 (Chart II.5).

Agriculture

2.14 The prospects for Indian agriculture were adversely affected by deficient monsoons after 13 continuous years of normal rainfall, reflecting the continued rain-dependency of Indian agriculture. The

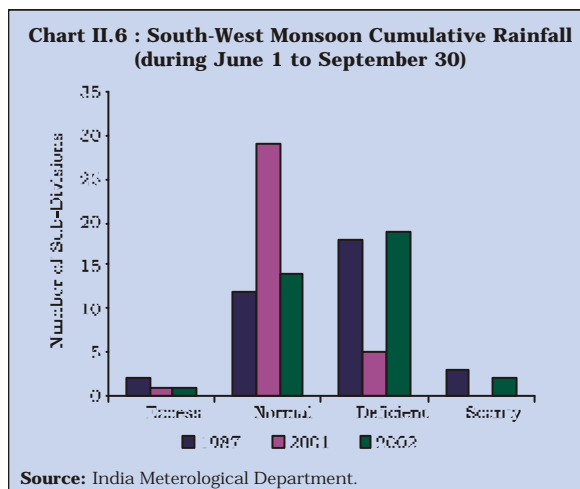
country, as a whole, received about 81 per cent of the long period average (LPA) rainfall during the South-West monsoon season in 2002 as compared with 90 per cent in 2001. As a result, 21 meteorological sub-divisions out of 36 received either deficient or scanty rainfall in comparison with 5 sub-divisions in the previous monsoon. According to the India Meteorological Department (IMD), the shortfall in rainfall during the 2002 South-West monsoon season led to drought in as much as 29 per cent of the land with 19 per cent being declared as moderate drought and 10 per cent as severe drought areas. Furthermore, the scale and intensity of the drought in 2002 has been comparable with that in 1987-88 when 21 sub-divisions received deficient/scanty rainfall and 14 sub-divisions received excess/normal rainfall (Chart II.6).

Table 2.4 : Gross Domestic Saving and Investment

Variable	Per cent of GDP (at current market prices)			
	1998-99	1999-2000	2000-01 @	2001-02*
	1	2	3	4
1. Household Saving	18.9	20.3	21.6	22.5
1.1. Financial Assets	10.5	10.8	10.4	11.2
1.2. Physical Assets	8.4	9.6	11.2	11.3
2. Private corporate sector	3.7	3.7	4.1	4.0
3. Public sector	-1.0	-0.9	-2.3	-2.5
4. Gross Domestic Saving (GDS) (1+2+3)	21.7	23.2	23.4	24.0
5. Saving-Investment Gap	-1.0	-1.1	-0.6	0.2
6. Gross Domestic Capital Formation (GDCF) #	22.7	24.3	24.0	23.7
7. Gross Capital Formation (8+9+10)	21.4	23.3	22.5	22.4
8. Public sector	6.6	7.1	6.4	6.3
9. Private corporate sector	6.4	6.5	4.9	4.8
10. Household sector	8.4	9.6	11.2	11.3

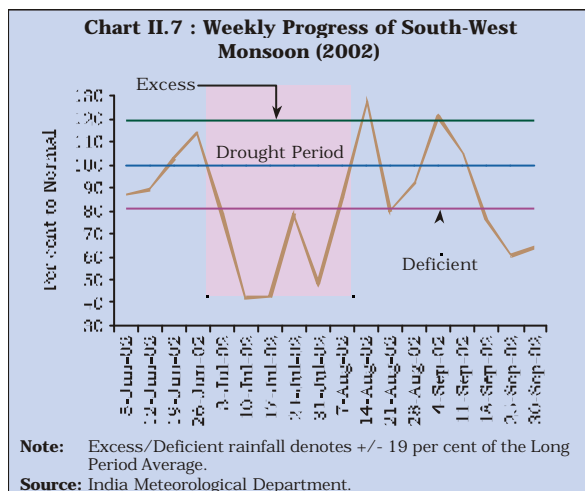
Adjusted for errors and omissions.
 @ Provisional Estimates.
 * Quick Estimates.
 Source: Central Statistical Organisation.

2.15 The impact of deficient rainfall was the most acute during July 2002, when the deviation of the



RECENT ECONOMIC DEVELOPMENTS

actual from the normal crossed 60 per cent for 2-3 weeks, adversely affecting the sowing and agricultural production (Chart II.7). There was, however, a turnaround during August and September 2002 with some rains, which provided respite from the moisture stress for late sown crops. Besides, it also replenished water in the reservoirs. Of the 70 reservoirs monitored by the Central Water Commission, while as many as 51 reservoirs recorded storage below or up to 30 per cent of the Full Reservoir Level (FRL) by end-July, the number fell to 19 by end-September 2002.



2.16 As a result of drought conditions, the real GDP originating from 'agriculture and allied activities' is estimated to have declined by 3.1 per cent in 2002-03 in contrast to a rise of 5.7 per cent in 2001-02. Quarterly estimates indicate a growth rate of 4.4 per cent and zero per cent in the first and second quarters of 2002-03, respectively, over the corresponding quarters of 2001-02. The damage to agricultural production was, however, controlled to some extent on account of the implementation of a contingency plan for crop production (Box II.1).

Kharif 2002

2.17 The Second Advance Estimates of Agricultural Production by the Union Ministry of Agriculture placed *kharif* foodgrains production in 2002 at 90.3 million tonnes indicating a fall of 21.3 million tonnes from the level attained in *kharif* 2001 (Table 2.5). Further, there has been a slippage in production performance in *kharif* 2002 vis-a-vis the targets as well (Chart II.8).

2.18 The progress of the North-East monsoon season (October-December 2002) has also been below the last year's levels. The cumulative rainfall was excess to normal in 10 subdivisions and deficient/scanty in the remaining 26 sub-divisions (Chart II.9).

Rabi 2002-03

2.19 According to the Second Advance Estimates of Agricultural Production, *rabi* foodgrains production

Box II.1

Drought Relief Measures

- The interest on both the *kharif* crop and agricultural term loans during 2002-03 was deferred. Besides, the loans were rescheduled into term loans which would be recovered over the next 5 years in the case of small and marginal farmers and 3 years in the case of other farmers. The first year's deferred liability of interest on *kharif* loans was waived completely as a one-time measure.
- The Government announced a grant of an input subsidy to small and marginal farmers, amounting to over Rs.1,490 crore. In view of the severity of the drought, the Agricultural Input Subsidy was extended further to cover all other farmers too, for both the sown and unsown areas, up to a ceiling of 2 hectares, as a one-time measure. All the 14 affected States received additional amounts for input subsidies, in excess of Rs.555 crore, for combating drought.
- Short duration crops like green gram (*moong*), *moth* and oil seeds crops like *toriya* (rapeseed) were promoted to tap the benefits of a revival of monsoon during the later part of the South-West monsoon season 2002. In the light of lower availability of surface and ground water for irrigation, farmers were advised to resort to zero tillage and strip-till drills wheat cultivation, utilising the residual moisture available after the rice harvest. Zero tilled wheat saves on about 30 per cent water, energy and labour and also gives either equal or enhanced yield compared to conventional tillage. The objective was to increase crop density so as to achieve maximum production.
- The off-take under Welfare Schemes in the Public Distribution System (PDS) at 38.99 million tonnes during 2002-03 (up to end-January 2003) was higher by 65.9 per cent over the corresponding period of the previous year. One-time special drought relief prices has been announced for various commodities. These range from Rs.20 per quintal for paddy, *jowar*, *copra* and *sesamum*, Rs.15 per quintal for sunflower seed, Rs.10 per quintal for *bajra* and *soyabean* and Rs.5 for various pulses. An increase of Rs.5 per quintal in Statutory Minimum Price (SMP) was announced for sugarcane farmers in all States. An amount of Rs.25 crore was provided to the Department of Animal Husbandry for support to '*gaushalas*' with more than 1,000 heads of cattle. Free transportation of cattle-grade feed and fodder to State Governments was also sanctioned until end-June 2003.
- On the foodgrains front, the Government sanctioned an allotment of 38.0 lakh metric tonnes of rice and wheat free of cost to the 14 drought-affected States for providing employment in drought affected States. In view of acute water shortage in the drought effected areas of Rajasthan, the Ministry of Railways was instructed to run additional water tanker trains to the State.

REPORT ON CURRENCY AND FINANCE
Table 2.5 : Season-wise Agricultural Production

(Million Tonnes)

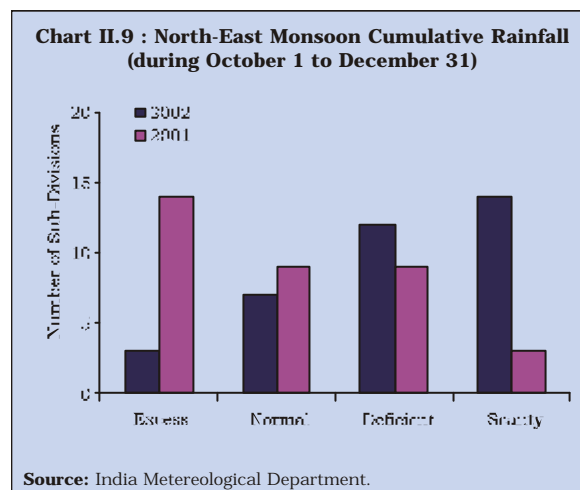
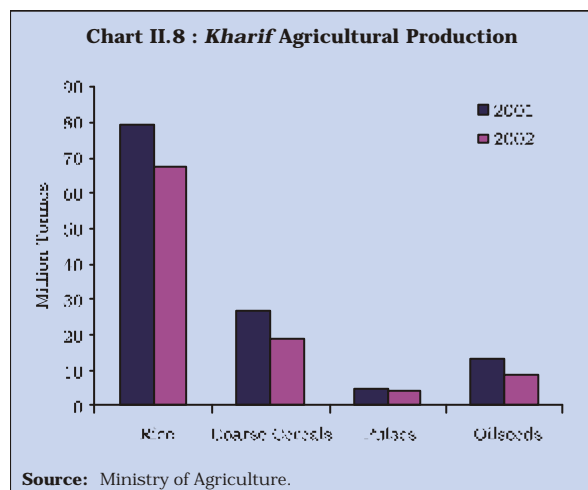
Crop	Kharif			Rabi		
	2001-2002	2002-2003		2001-2002	2002-2003	
	A	T	A.E.	A	T	A.E.
	1	2	3	4	5	6
Rice	79.76	78.64	67.41	13.32	14.36	10.31
Wheat	N.A	N.A	N.A	71.81	78.00	68.89
Coarse cereals	26.93	25.84	18.86	7.02	7.16	6.24
Pulses	4.87	6.00	3.99	8.32	10.00	7.47
Total Foodgrains	111.56	110.48	90.26	100.47	109.52	92.91
Oilseeds	12.90	15.90	8.45	7.53	11.10	6.99
Sugarcane	300.10	320.00	285.36	N.A	N.A	N.A
Cotton*	10.09	15.00	8.94	N.A	N.A	N.A
Jute & Mesta \$	11.64	12.00	11.50	N.A	N.A	N.A

T Target.
 AE Advance Estimates as on February 10, 2003.
 ** In million bales of 180 kilograms each.
 A Achievement.
 * In million bales of 170 kilograms each.

Source : Ministry of Agriculture, Government of India.

in 2002-03 is projected to decline by 7.6 million tonnes to 92.9 million tonnes as compared with 100.5 million tonnes in the previous year (Table 2.5). The decline is more for rice than in wheat.

monsoon season, which was affected by drought. This trend notwithstanding, the severe weather aberrations and its adverse impact on production, reflects the comfortable availability of foodgrains.



2.20 The overall performance of agriculture production has been affected adversely by the severe drought in 2002. Production of foodgrains in 2002-03 is estimated to decline sharply to 183.2 million tonnes from the record production of 212.0 million tonnes in the previous year (Table 2.6). The wholesale price index of foodgrains, in general, and that of cereals, in particular, remained stable during the post-South-West

Procurement, Off-take and Stock of Foodgrains

2.21 Despite a sharp fall in production by 28.9 million tonnes, the procurement of foodgrains during 2002-03 (up to February 28, 2003) declined only by 3.2 million tonnes to 37.1 million tonnes as compared with 40.3 million tonnes for the corresponding period of the previous year. The off-take, on the other hand, rose to

RECENT ECONOMIC DEVELOPMENTS

Table 2.6 : Crop-wise Targets/Achievements

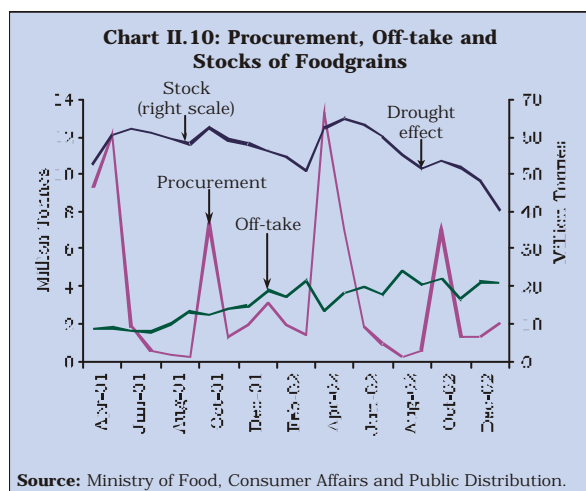
(Million Tonnes)

Crop	2000-01		2001-02		2002-03	
	T	A	T	A	T	AE
	1	2	3	4	5	6
Rice	90.00	87.70	92.00	93.08	93.00	77.72
Wheat	74.00	69.68	78.00	71.81	78.00	68.89
Coarse Cereals	33.00	31.08	33.00	33.94	33.00	25.10
Pulses	15.00	10.87	15.00	13.19	16.00	11.46
Total Foodgrains	212.00	199.33	218.00	212.02	220.00	183.17
Nine Oilseeds	28.00	18.44	28.00	20.73	27.00	15.44
Sugarcane	325.00	295.96	325.00	292.21	320.00	285.36
Cotton*	14.50	9.52	14.50	11.69	15.00	8.94
Jute & Mesta**	10.00	10.56	11.00	10.79	12.00	11.50

T Target.
 AE Advance Estimates as on February 10, 2003.
 ** In million bales of 180 kilograms each.
 Source : Ministry of Agriculture, Government of India.

A Achievement.
 * In million bales of 170 kilograms each.

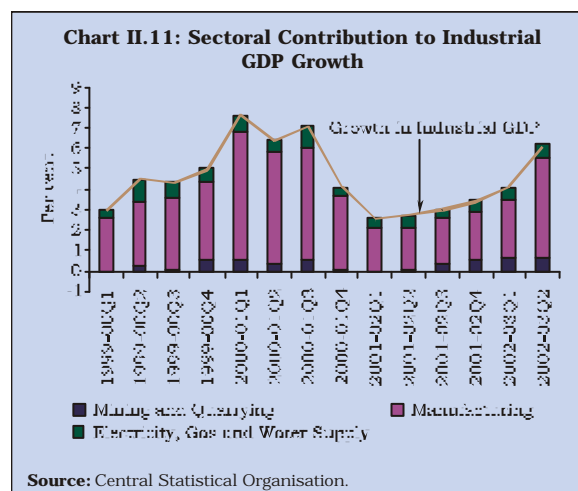
39.0 million tonnes during 2002-03 (up to January 2003) as compared with 23.5 million tonnes in the corresponding period last year. This pick up mainly reflected increased off-take under Other Welfare Schemes (OWS) followed by Open Market Sales (OMS), exports and Targeted Public Distribution System (TPDS). The off-take under TPDS rose following a downward revision of the Central Issue Prices (CIP) for the Above Poverty Line (APL) consumers. The higher off-take under other welfare schemes is attributed to the higher allocation made under various programmes, such as *Annapurna* and the Food for Work Programme, as part of the drought relief measures. Consequent to the increased offtake, foodgrains stock registered a significant decline to 40.1 million tonnes as at end-January 2003 from the peak of 64.8 million tonnes in May 2002. At this level, the stocks are a little less than two and a half times the end-December norm of 16.8 million tonnes (Chart II.10).



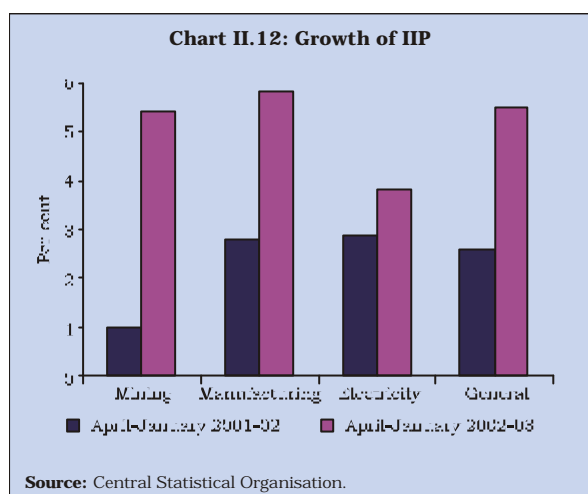
Industry

2.22 The recovery of industrial activity during 2002-03 augurs well for the overall growth and investment climate in India despite the hesitant recovery abroad. The industrial sector is estimated to have recovered to 5.8 per cent in 2002-03 from 3.2 per cent in the previous year. The industrial recovery was witnessed in all the constituent sub-sectors, particularly the manufacturing sector, which rose by 6.1 per cent in 2002-03 from 3.4 per cent in 2001-02 (Chart II.11).

2.23 The index of industrial production (IIP) accelerated to 5.5 per cent during 2002-03 (up to January 2003) from 2.6 per cent recorded during the comparable period of the previous year. All the sub-sectors recorded a higher growth during 2002-03 (up to January) as compared with the corresponding period of 2001-02 (Chart II.12 and Table 2.7).



REPORT ON CURRENCY AND FINANCE



2.24 The incipient industrial recovery during 2002-03 essentially emanated from a confluence of favourable impulses, which are both macroeconomic and industry-specific. The revival of industrial activity, therefore, could be partly attributed to a revival of export demand, rising business confidence, softening of interest rates and a slight increase in manufacturing inflation. Besides, the sharp expansion in construction activity also had a favourable impact on industrial demand through its backward linkages, e.g., cement

and steel industries, and forward linkages. Moreover, consumer non-durables have emerged as a source of growth for industry suggesting a revival of consumer demand. The leading indicators of industrial production such as non-food credit off-take, exports, capital goods imports and production of capital goods, have all recorded increases, suggesting that the revival of industrial activity is likely to be sustained during the year (Chart II.13). However, there is also a possibility that the delayed monsoon and its subsequent impact on agricultural production could dampen the rural demand for both durable and non-durable consumer goods.

2.25 According to the use-based classification, all the sectors except consumer durables showed an accelerated growth (Chart II.14). Significantly, the capital goods sector registered a positive growth of 10.6 per cent during 2002-03 (up to January 2003).

2.26 During 2002-03 (up to February 2003), the overall growth of infrastructure industries worked out substantially higher at 5.2 per cent as compared with a growth of 3.2 per cent during the corresponding period of the previous year (Chart II.15). All infrastructure industries except coal and petroleum refining products recorded a higher growth during 2002-03 (up to February 2003).

Table 2.7 : Sector-wise Growth of IIP

(Per cent)

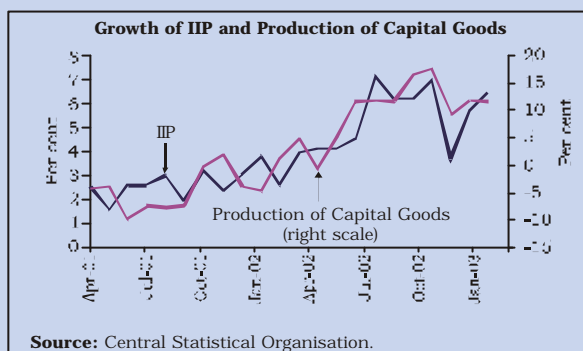
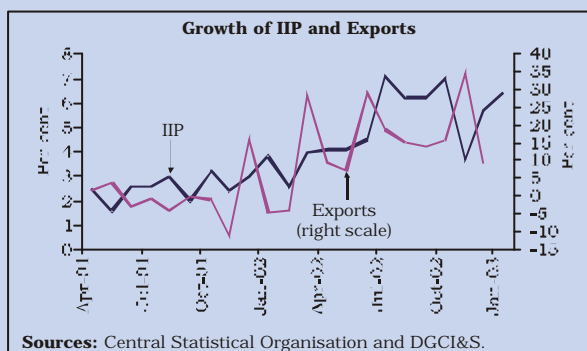
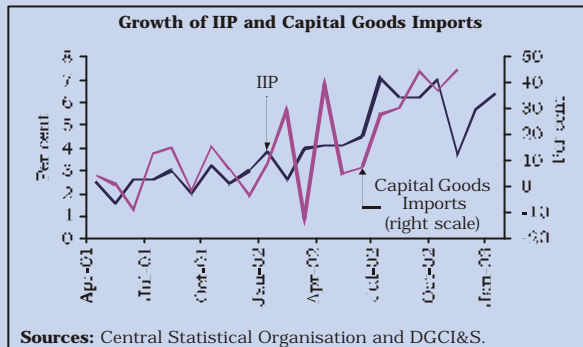
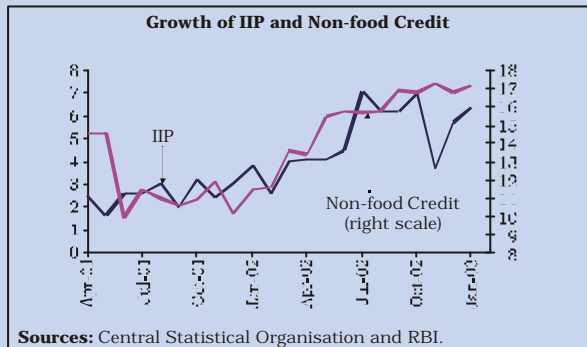
Month	General (100.00)		Electricity (10.17)		Mining & Quarrying (10.47)		Manufacturing (79.36)	
	2001-02	2002-03	2001-02	2002-03	2001-02	2002-03	2001-02	2002-03
	1	2	3	4	5	6	7	8
April	2.5	4.1	1.5	5.2	1.6	3.6	2.7	4.0
May	1.6	4.1	3.0	2.2	-1.9	7.9	1.8	4.0
June	2.6	4.5	2.1	3.8	-4.1	9.0	3.4	4.2
July	2.6	7.1	4.7	6.1	-2.6	12.1	2.9	6.7
August	3.0	6.2	2.7	4.1	0.6	5.7	3.3	6.5
September	2.0	6.2	4.6	-0.4	4.4	1.0	1.4	7.6
October	3.2	7.0	-0.2	7.1	3.8	4.2	3.5	7.3
November	2.4	3.7	2.4	3.5	3.7	3.4	2.3	3.8
December	3.0	5.7	4.2	2.8	1.8	5.5	3.0	6.1
January	3.8	6.4	4.0	4.0	2.3	2.7	4.1	6.9
April -January	2.6	5.5	2.9	3.8	1.0	5.4	2.8	5.8

Notes : 1. Data for 2002-03 are provisional.
2. Figures in bracket are weights in IIP.

Source : Central Statistical Organisation.

RECENT ECONOMIC DEVELOPMENTS

Chart II.13: Leading Indicators of Industrial Growth



Services Sector

2.27 The buoyancy in the services sector continued to strengthen during 2002-03 as it is expected to grow by 7.1 per cent as against 6.5 per cent in 2001-02 and 5.8 per cent in 2000-01. Among the sub-sectors of services, only the growth rate in 'trade, hotels, restaurants, transport and communication' would be lower at 7.8 per cent during 2002-03 as compared with 8.7 per cent in

the preceding year. Despite the lower growth rate, 'trade, hotels, restaurants, transport and communication' with a maximum share in the services GDP, would contribute 3.3 percentage points (46.5 per cent) in the overall growth rate of 7.1 per cent in services GDP during 2002-03 (Table 2.8 and Chart II.16).

2.28 The quarterly estimates of GDP also indicate that the services sector with a growth at 7.5 per cent and

Chart II.14 : Growth of IIP - Use-based Classification

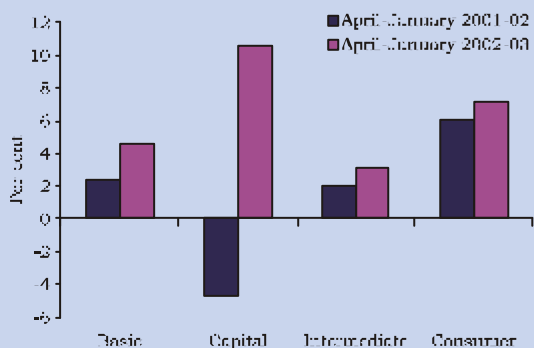
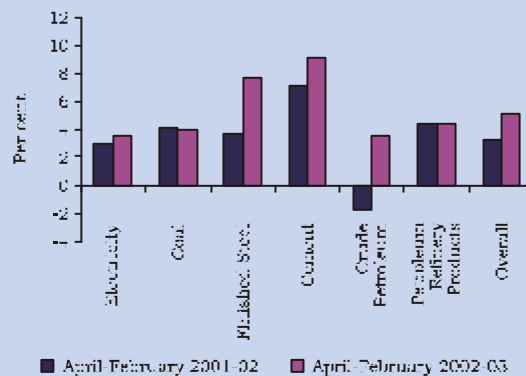


Chart II.15 : Growth of Infrastructure Industries

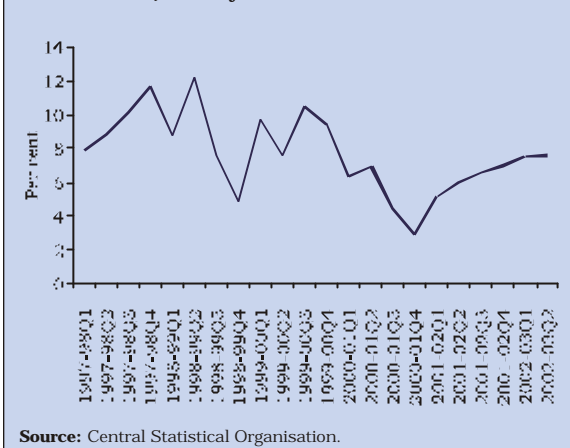


REPORT ON CURRENCY AND FINANCE
Table 2.8 : Growth in Services Sector

Sector	(Per cent)	
	2001-02	2002-03
	1	2
Construction	3.7 (0.4)	7.1 (0.7)
Trade, Hotels, Restaurants, Transport and Communication	8.7 (3.7)	7.8 (3.3)
Financing, Insurance, Real Estate and Business Services	4.5 (1.0)	6.5 (1.5)
Community, Social and Personal Services	5.6 (1.4)	6.4 (1.6)
Services Sector Growth	6.5	7.1

Note : Figures in bracket represent contribution to services growth rate in terms of percentage points.
Source : Central Statistical Organisation.

7.6 per cent, respectively, in the first and second quarters of 2002-03 is sustaining the GDP growth rate (Chart II.17). The growth rates of almost all the components of services are higher during the first two quarters of 2002-03 over the corresponding quarters of 2001-02.

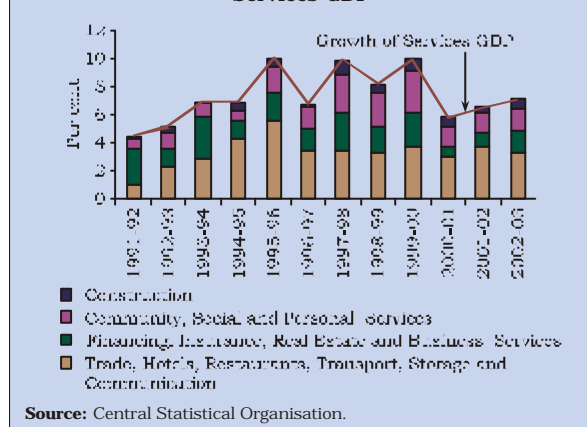
Chart II.17 : Quarterly Growth Rates of Services Sector


III. PUBLIC FINANCES

2.30 The issue of fiscal consolidation continues to be at the centre of public finances, with a commitment to fiscal adjustment at both the Central and State levels. The budgets for fiscal year 2002-03 placed the combined GFD of the Centre and States at 9.5 per cent of the GDP lower than 10.3 per cent in the revised estimates for 2001-02. The combined gross primary deficit and revenue deficit were also placed lower at 3.1 per cent and 6.2 per cent of GDP, respectively, as compared with 4.0 per cent and 7.0 per cent in the revised estimates for 2001-02. The reduction in the deficits was sought to be achieved through higher revenue mobilisation and moderation in aggregate expenditure.

Central Government Finances

2.31 The Union Budget for 2002-03 envisaged ongoing fiscal consolidation, higher growth in revenue collections, enhanced realisation from disinvestment and compression in the growth of aggregate expenditure. All the fiscal deficit indicators were budgeted at lower levels than the previous year's levels. The GFD, revenue deficit, and primary deficit were placed at 5.3 per cent, 3.8 per cent, and 0.7 per cent of GDP, respectively. The process of fiscal consolidation was envisaged through maintaining a higher growth in revenue (15.3 per cent) and a relatively moderate growth in aggregate expenditure (12.6 per cent). In the revised estimates for 2002-03, all the key deficit indicators were placed higher than their budgeted levels (Table 2.9). The deterioration witnessed in the revised estimates *vis-à-vis* budgeted levels, despite a decline in the overall expenditure, was mainly due to a larger shortfall in the realisation of revenue as well as disinvestment receipts.

Chart II.16 : Sectoral Contribution in Growth of Services GDP


2.29 Of late, the information technology (IT) and software services have emerged as one of the most dynamic service-providing sub-sectors in the services sector, with an annual average growth rate of 50.0 per cent during the second half of the 1990s. Reflective of this, the share of IT and software services increased to 2.9 per cent of GDP in 2001-02 from 2.8 per cent in 2000-01, with revenue earnings rising to Rs.48,000 crore in 2001-02 from Rs.37,760 crore in 2000-01. Exports have emerged as the major driver of the IT and software sector, accounting for 76.7 per cent of the total revenue earned in the sector during 2001-02.

RECENT ECONOMIC DEVELOPMENTS

Table 2.9 : Deficit Indicators of the Centre

(Rupees crore)

Indicator	2001-02	2002-03(BE)	2002-03(RE)	2003-04(BE)	Variation (3 over 2)	
					Rupees Crore	Per cent
	1	2	3	4	5	6
Gross Fiscal Deficit	1,40,955 (6.1)	1,35,524 (5.3)	1,45,466 (5.9)	1,53,637 (5.6)	9,942	7.3
Revenue Deficit	1,00,162 (4.3)	95,377 (3.8)	1,04,712 (4.3)	1,12,292 (4.1)	9,335	9.8
Gross Primary Deficit	33,495 (1.5)	18,134 (0.7)	29,803 (1.2)	30,414 (1.1)	11,669	64.3

Note : Figures in bracket represent per cent to GDP.

2.32 Revenue receipts declined by 3.3 per cent in the revised estimates for 2002-03 over the budgeted level due to a shortfall of 5.1 per cent in tax collection, while non-tax revenue registered a marginal increase over the budget estimates (Table 2.10). The gross tax collections were lower (5.9 per cent) than the budget estimates. Barring customs duties, all the major taxes suffered a decline over the budget estimates. On the capital receipts side, disinvestment receipts, in the revised estimates, were lower by Rs. 8,640 crore than

the budgeted target of Rs.12,000 crore. Non-debt capital receipts (disinvestment and recoveries) accounted for 12.9 per cent of the capital receipts while the rest was contributed by debt receipts.

2.33 The aggregate expenditure in the revised estimates for 2002-03 was lower by 1.5 per cent from the budget estimates. The expenditure reduction was solely in the non-Plan expenditure while the Plan expenditure showed a marginal rise. The reduction in

Table 2.10 : Total Receipts and Aggregate Expenditure of the Centre

(Rupees crore)

Indicator	2001-02	2002-03 (BE)	2002-03 (RE)	2003-04 (BE)	Variation (3 over 2)	
					Rupees crore	Per cent
	1	2	3	4	5	6
Total Receipts	3,62,453 (15.8)	4,10,309 (16.0)	4,04,013 (16.4)	4,38,795 (16.0)	-6,296	-1.5
Revenue Receipts	2,01,449 (8.8)	2,45,105 (9.6)	2,36,936 (9.6)	2,53,935 (9.3)	-8,169	-3.3
Tax Revenue (Net)	1,33,662 (5.8)	1,72,965 (6.8)	1,64,177 (6.7)	1,84,169 (6.7)	-8,788	-5.1
Non-Tax Revenue	67,787 (3.0)	72,140 (2.8)	72,759 (3.0)	69,766 (2.5)	619	0.9
Capital Receipts	1,61,004 (7.0)	1,65,204 (6.5)	1,67,077 (6.8)	1,84,860 (6.7)	1,873	1.1
Total Expenditure (1+2=3+4)	3,62,453 (15.8)	4,10,309 (16.0)	4,04,013 (16.4)	4,38,795 (16.0)	-6,296	-1.5
1. Non-Plan Expenditure	2,61,259 (11.4)	2,96,809 (11.6)	2,89,924 (11.8)	3,17,821 (11.6)	-6,885	-2.3
2. Plan Expenditure	1,01,194 (4.4)	1,13,500 (4.4)	1,14,089 (4.6)	1,20,974 (4.4)	589	0.5
3. Revenue Expenditure	3,01,611 (13.1)	3,40,482 (13.3)	3,41,648 (13.9)	3,66,227 (13.3)	1,166	0.3
4. Capital Expenditure	60,842 (2.6)	69,827 (2.7)	62,365 (2.5)	72,568 (2.6)	-7,462	-10.7

Note : Figures in bracket are per cent to GDP.

REPORT ON CURRENCY AND FINANCE

the non-Plan expenditure was on account of reduced grants and loans to States and Union Territories (UTs) due to non-utilisation of funds under the Fiscal Incentive Fund (Rs.2,184 crore), defence (Rs.9,000 crore) on account of lower capital expenditure, interest payments (Rs.1,727 crore) due to reductions in interest rates on Government securities and pensions (Rs.804 crore). However, the expenditure on subsidies increased by Rs.4,817 crore over the budget estimates with almost 83 per cent of the rise accounted for by food and indigenous fertiliser subsidies.

Union Budget for 2003-04

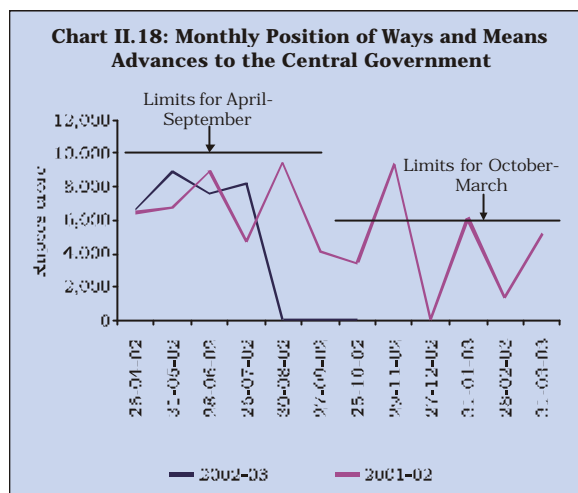
2.34 The Union Budget for 2003-04 accorded priority to fiscal consolidation and debt restructuring as it is essential for sustainable growth. The fiscal policy measures proposed in the Union Budget underscore the Government's commitment to totally eliminate budgetary drags and achieve fiscal consolidation through revenue enhancement under a modern tax administration and expenditure rationalisation. An important element in tax reforms is the switching over to a Value Added Tax (VAT) by States with effect from April 1, 2003; others include strengthening of tax administration through greater application of IT and rationalisation of the tax structure with a view to improving the competitiveness of Indian industry in international markets. The expenditure management envisaged in the Union Budget mainly focuses on better cash management and debt restructuring taking advantage of comfortable foreign exchange reserves and lower domestic interest rates. As part of debt restructuring, a buy back of a large proportion of the banks' holding of Central Government domestic debt contracted under the high interest regime is expected to improve banks' balance sheets. The Government's objective towards fiscal consolidation is, thus, endeavoured through expenditure reprioritisation and revenue augmentation.

2.35 The Union Budget for 2003-04 projects moderate growth rates of 7.2 per cent in revenue receipts and 8.6 per cent in aggregate expenditure. With a relatively higher growth in expenditure, all the major deficit indicators would show increases in absolute terms during 2003-04 from the levels in the revised estimates for 2002-03. However, in terms of GDP, all the deficit indicators would be lower during 2003-04 than the levels in the revised estimates for 2002-03. As proportion of GDP, the GFD for 2003-04 is placed lower at 5.6 per cent than 5.9 per cent in the revised estimates for 2002-03.

2.36 The Centre's ways and means advances (WMA) from the Reserve Bank for the first and second

halves of 2002-03 were fixed at Rs.10,000 crore (April-September) and Rs.6,000 crore (October-March), the same as in the previous year. The average utilisation of WMA, at Rs 4,433 crore during 2002-03 (up to March 14, 2003), was lower than the previous year's level. The net Reserve Bank credit to the Centre declined by Rs.24,098 crore during 2002-03 (up to March 14, 2003) reflecting active open market operations by the Reserve Bank (Chart II.18).

Chart II.18: Monthly Position of Ways and Means Advances to the Central Government

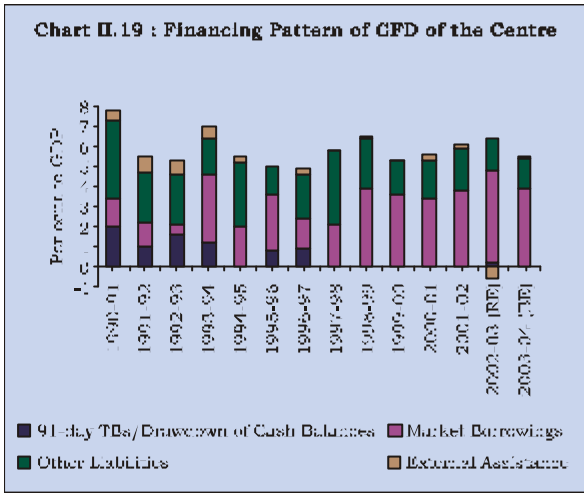


2.37 The gross market borrowings of the Central Government were budgeted at Rs.1,42,867 crore and net market borrowings at Rs.95,859 crore for 2002-03. The outcome in the revised estimates for 2002-03 placed the net borrowings at Rs. 1,12,865 crore which exceeded the budget estimates by 17.7 per cent. For 2003-04, the gross and net market borrowings are budgeted at Rs. 1,66,230 crore and Rs.1,07,194 crore, respectively. Net market borrowings would finance 69.8 per cent of GFD during 2003-04 as against 77.6 per cent in the revised estimates for 2002-03. At the same time, financing through other liabilities would decline to 27.9 per cent from 28.0 per cent and external finance would contribute 2.3 per cent as against a negative share of 9.3 per cent during 2002-03 (Chart II.19).¹

2.38 The Reserve Bank continued to combine auction issues with private placements of dated securities of the Central Government consistent with market conditions. Devolvments/ private placement with the Reserve Bank amounted to Rs.36,175 crore,

1 As against net external assistance of Rs.770 crore budgeted in 2002-03, the revised estimates show that net external assistance would be negative at Rs.13,496 crore due to higher repayments of Rs.25,210 crore than the budgeted amount of Rs.10,563 crore.

RECENT ECONOMIC DEVELOPMENTS



representing 28.9 per cent of the gross market borrowings of the Centre through dated securities during 2002-03 (up to March 21, 2003). The weighted average maturity of the Government of India dated securities issued so far during 2002-03 declined to 13.83 years from 14.26 years for 2001-02 as a whole. At the same time, the cost of market borrowings of the Central Government continued to fall due to a benign inflation rate and ample liquidity conditions. The weighted average yield of GOI dated securities declined to 7.34 per cent during 2002-03 (up to March 21, 2003) from 9.44 per cent during 2001-02 reflecting the general softening of the interest rate structure. The bid-cover ratio of the primary issuance of dated securities ranged between 0.64-3.8 during the current year so far. The interest rate on the primary issue of 10-year government securities declined from 6.85 per cent on April 5, 2002 to 6.72 per cent on July 18, 2002. The yield on 15-year securities declined from 7.49 per cent on April 16, 2002 to 7.37 per cent on October 17, 2002. Similarly, the yield on 25-year primary bonds declined from 8.62 per cent on May 30, 2002 to 7.48 per cent on November 7, 2002.

State Finances

2.39 The finances of State Governments during 2002-03 are budgeted to record an improvement over the previous year. In the budget estimates for 2002-03, the revenue deficit, as a percentage of GDP, is budgeted lower at 1.9 per cent as compared with 2.6 per cent in the revised estimates for 2001-02. With the compression in the revenue deficit, the GFD as a percentage of GDP is budgeted to decline from 4.6 per cent in 2001-02(RE) to 4.0 per cent in 2002-03. The primary deficit is also budgeted lower at 1.2 per cent of GDP in 2002-03 than 1.8 per cent in the previous year.

2.40 During 2002-03, revenue receipts are budgeted to rise by 13.3 per cent. States' own revenue receipts are expected to finance 53.6 per cent of revenue expenditure and 44.2 per cent of the aggregate expenditure (49.7 per cent and 41.0 per cent, respectively, in 2001-02). The total expenditure of States is budgeted to grow by 7.3 per cent, as compared with the growth rate of 15.7 per cent in the previous year.

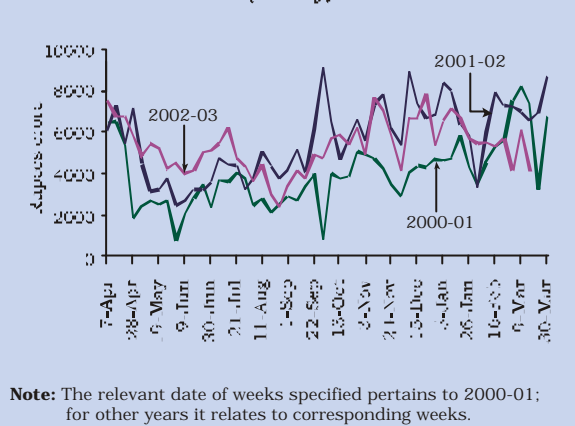
2.41 The States have continued to emphasise fiscal consolidation in their budgets for 2002-03 through expenditure management, revenue augmentation and reforms in public sector undertaking. The proposed measures include enhancement of revenue receipts through a revision of tax rates, broadening of the tax base and improved tax compliance. On the expenditure front, a number of States propose to contain revenue expenditure through a set of economy measures such as restrictions on fresh recruitment/creation of new posts and controlling administrative expenditure. Some States have initiated measures to provide statutory backing to the fiscal reform process through enabling legislations. While Karnataka has already enacted fiscal responsibility legislation, Maharashtra and Punjab introduced similar bills in their respective legislatures. The Kerala Government proposes to introduce a Fiscal Accountability Bill. Several States have already finalised their Medium-Term Fiscal Reforms Programme (MTFRP). A number of States have also focused on restructuring of public sector undertakings, development of infrastructure, including encouragement to private investment in the infrastructure projects and promotion of growth enhancing sectors like information technology and agro-based industries, consolidated sinking fund, guarantee redemption fund and statutory limits on guarantees.

2.42 The likely fiscal outturn of the State Governments during 2002-03 is not yet evident. During April-July 2002, the outstanding WMA was generally higher than those in the comparable period of the previous year. From August 2002, these have generally remained lower than the outstanding WMA in the comparable period of the previous year. The outstanding WMA and overdrafts of State Governments amounted to Rs.4,060 crore as on March 14, 2003 which was lower by 38.7 per cent as compared with the outstanding amount of Rs.6,622 crore on March 15, 2002 (Chart II.20).

2.43 The gross and net market borrowings allocated to States for 2002-03 (including additional allocation of Rs.10,000 crore under a debt-swap scheme)

REPORT ON CURRENCY AND FINANCE

Chart II.20 : Outstanding WMA and Overdrafts to States (Weekly)



amounted to Rs.30,933 crore and Rs.29,144 crore, respectively. During 2002-03 (up to March 20, 2003), the States have raised Rs.30,853 crore. Of this, Rs.27,880 crore (90.4 per cent) was raised through tap-issues at interest rates ranging between 6.6-7.8 per cent and Rs.2,973 crore (9.6 per cent) through auctions at coupon rates ranging between 6.7 per cent and 8.0 per cent. The States that raised funds through the auction route were Andhra Pradesh (Rs.545 crore), Gujarat (Rs.445 crore), Jammu and Kashmir (Rs.70 crore), Karnataka (Rs.200 crore), Kerala (Rs.445 crore), Madhya Pradesh (Rs.247 crore), Maharashtra (Rs.509 crore), Punjab (Rs.85 crore), Tamil Nadu (Rs.275 crore) and West Bengal (Rs.153 crore). The range of coupon rates, at 6.6-8.0 per cent during 2002-03 so far, worked out substantially lower than that of 7.8-10.5 per cent during 2001-02 and 10.5-12.0 per cent during 2000-01 as well as 11.5 per cent in case of loans from the Centre (Plan loans) and 10.5 per cent for loans arising from small saving collections. The decline in the interest rate on States' market borrowings reflected the general softening of interest rates. The coupon rate for the tap *tranche* held in August 2002 was fixed 50 basis points over the then prevailing yield of Government of India 10-year security. However, in the *tranche* conducted in December 2002, the spread was lower at 37 basis points over the then prevailing yield of a Government of India ten-year security.

2.44 The high order of borrowings by the Central and State Governments continue to raise concerns about the sustainability of the public debt. The combined debt-GDP ratio of the Centre and States increased to 70.0 per cent in the revised estimates for 2001-02 and is budgeted to rise further to 71.6 per cent in 2002-03.

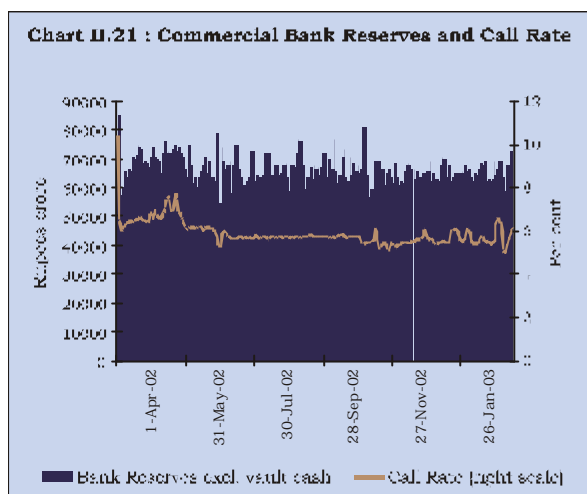
IV. MONETARY DEVELOPMENTS

2.45 The monetary policy stance of the Reserve Bank during 2002-03 continued to focus on the provision of adequate liquidity to meet credit growth and support investment demand in the economy with a policy preference for soft interest rates while continuing a vigil on movements in the price level. The Reserve Bank also reiterated its commitment to impart greater flexibility to the interest rate structure in the medium term. In April 2002, the monetary and credit policy for 2002-03 was framed on the basis of a real GDP growth rate of 6.0-6.5 per cent and a rate of inflation of slightly lower than 4.0 per cent under the assumption of a normal monsoon. Consistent with the macroeconomic objectives, indicative projections of M_3 growth and aggregate deposit growth of scheduled commercial banks were placed at 14.0 per cent each, with non-food credit growth (inclusive of non-SLR investments) projected at about 15.0-15.5 per cent. The Mid-Term Review of Monetary and Credit Policy (October 2002) lowered the projection of real GDP growth to 5.0-5.5 per cent in view of the drought conditions in several parts of the country.

2.46 Monetary conditions remained stable during 2002-03. Notwithstanding a higher non-food credit off-take, easy liquidity conditions prevailed during the year on account of strong capital flows, CRR cuts and a decline in food credit. This enabled a smooth absorption of the Centre's market borrowing as well as a softening of interest rates with varying sensitivity across the spectrum. The Reserve Bank continued to steer liquidity conditions by modulating market liquidity with an array of discretionary operations in the form of changes in reserve requirements, open market (including repo) operations and standing facilities, reinforced by interest rate signals, in the form of changes in the Bank Rate and the repo rate. In the backdrop of large and persistent capital inflows, the Reserve Bank absorbed excess liquidity through a policy mix of outright open market operations (OMO) sales and repos under the Liquidity Adjustment Facility (LAF) (Chart II.21 and Table 2.11). This enabled the Reserve Bank to contain primary money creation, on the one hand, and at the same time, ease interest rates by simultaneously cutting the price of discretionary liquidity, on the other.

2.47 During 2002-03, monetary conditions remained easy facilitated by stable foreign exchange market conditions leading to a favourable interest rate environment conducive to investment. A temporary tightening of liquidity resulting from pressures of the government borrowing programme, seasonal cash demand and a revival of credit off-take in end-May

RECENT ECONOMIC DEVELOPMENTS



2002 was mitigated by a policy mix of private placements and a CRR cut of 50 basis points effective fortnight beginning June 1, 2002. As call rates softened in response, the repo rate was cut by 25 basis points on June 27, 2002. This was reinforced by a further cut of 25 basis points each in the Bank Rate (to 6.25 per cent, the lowest since 1973), the repo rate (both effective October 30, 2002) and the CRR (effective November 16, 2002) as announced in the Mid-Term Review of Monetary and Credit Policy. At the same time, the Mid-Term Review stated that no useful purpose would be served by a further reduction in the Bank Rate in view of the prevailing easy liquidity conditions and the structural downward stickiness in interest rates, and the policy bias would be to keep it

stable at least until the end of the financial year. The repo rate was cut by 50 basis points to 5.0 per cent by March 2003.

2.48 In order to tackle the problem of downward rigidities in the interest rate structure, the Reserve Bank encouraged banks to introduce a flexible interest rate system (together with the fixed rate option) for all fresh deposits. To increase the interest rate flexibility, banks were advised to review both their prime lending rates (PLRs) and spreads. The Reserve Bank initiated the process of deregulation of ceiling rates on export credit in rupee terms in a phased manner to encourage greater competition among banks and to extend such credit at lower rates to exporters with good track records.

2.49 The Liquidity Adjustment Facility (LAF) emerged as the principal operating instrument of monetary policy to adjust liquidity on a day-to-day basis as well as transmit interest rate signals especially through periodic fixed rate auctions during the year. Since the LAF was able to provide an effective cushion to the market and with a view to phasing out sector-specific standing facilities, other windows of liquidity support continued to be gradually withdrawn. The collateralised lending facility (CLF), for instance, was phased out effective October 5, 2002. In case of export credit refinance, which is now the only remaining standing facility, the apportionment of normal (at a rate linked to the Bank Rate) and backstop (at a rate linked to LAF operations or NSE-MIBOR) facilities was changed to one-half each effective November 16, 2002, from the earlier ratio of two-third and one-third.

Table 2.11 : Reserve Bank's Net Foreign Assets, Net Credit to Centre, Initial Subscriptions, Open Market Operations and LAF Repos : 2002-03

(Rupees crore)

Month	RBI's NFA (net of revaluation)	Net RBI Credit to Central Government	RBI's Initial Subscription	RBI's Net OMO Sales	Average Daily Repo (LAF) Outstanding
	1	2	3	4	5
April	3,076	11,976	0	5,307	8,119
May	2,394	1,838	20,018	1,524	1,924
June	3,739	-12,359	2,000	189	9,640
July	9,160	8,122	1,157	6,538	14,636
August	7,370	-19,083	0	7,025	11,825
September	5,983	-8,593	0	6,355	12,181
October	8,350	-8,075	0	71	14,656
November	11,791	-1,191	0	11,070	8,141
December	11,297	-8,616	0	4,552	6,855
January	9,375	-3,288	0	10,995	5,018
February	11,062	-6,206	0	88	3,786

Note : Based on data pertaining to the last reporting Friday of the month.

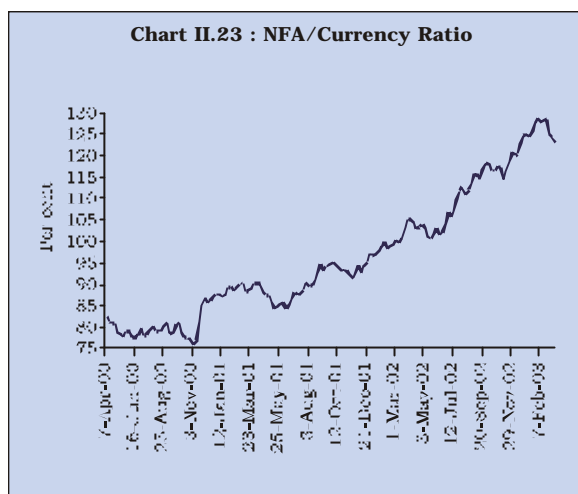
REPORT ON CURRENCY AND FINANCE

2.50 The Reserve Bank continued with structural reforms with the objective of widening and deepening the financial markets. Non-bank participants are being gradually phased out of the call/notice money markets which is expected to facilitate the development of other segments, such as the repo market and the term-money market. Besides, with effect from November 16, 2002, banks were required to maintain a minimum of 80 per cent of the required CRR balances on a daily basis as against the earlier requirement of a minimum daily maintenance of 50 per cent of required CRR balances during the first week and 65 per cent during the second week of the reporting fortnight. Subsequently, with effect from December 28, 2002, the required minimum daily CRR balance was brought down to 70 per cent.

Reserve Money

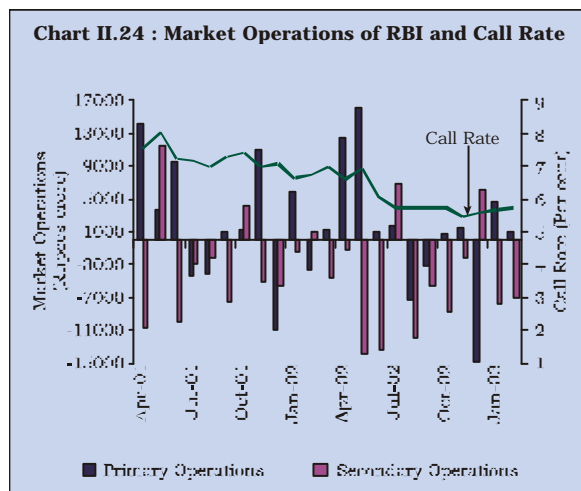
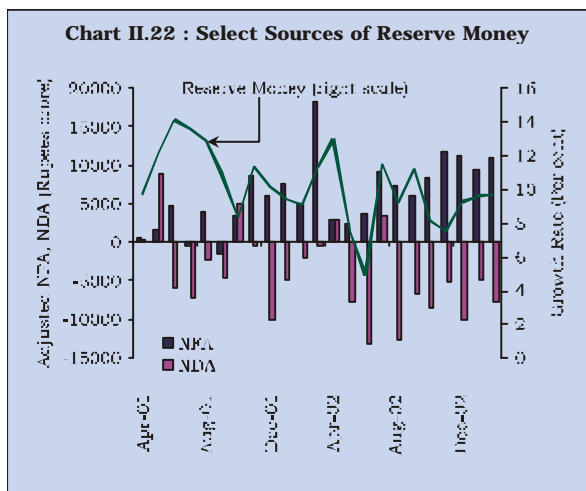
2.51 Reserve money increased by 7.5 per cent during 2002-03 (up to March 14, 2003) as compared with 8.8 per cent during the corresponding period of last year, notwithstanding the steady accretion to the Reserve Bank's foreign currency assets by Rs.75,730 crore (net of revaluation) during 2002-03 so far, as compared with Rs.45,740 crore last year. The net domestic assets (NDA) underwent a compensating decline of Rs.50,534 crore, as the Reserve Bank continued to counterbalance domestic and external sources of monetisation as well as neutralise the liquidity released by CRR cuts (Chart II.22).

2.52 Due to a steady rise in net foreign assets led by capital inflows, the ratio of net foreign assets to currency climbed to 123.3 per cent by March 14, 2003, far in excess of 70 per cent as recommended by the Committee on Capital Account Convertibility (Chairman: S. S. Tarapore) (Chart II.23).



2.53 The Reserve Bank's subscription to the Centre's fresh dated securities, at Rs.36,175 crore (at face value, inclusive of Rs.13,000 crore towards pre-payment of loans drawn from multi-lateral agencies) during 2002-03 so far, was swamped by net open market sales amounting to Rs.53,772 crore. Reflecting the increased market appetite for government paper in the wake of sustained easy liquidity conditions emanating from capital flows and reductions in reserve requirements, the Reserve Bank was, thus, able to more than offset the monetary impact of deficit financing through secondary market operations (Chart II.24).

2.54 The net Reserve Bank credit to the Central Government declined by Rs.24,098 crore as compared with a decline of Rs.936 crore during the corresponding period of 2001-02 (Table 2.12). In view of the market demand for government paper, the Reserve Bank converted annuities in the form of 4.6 per cent special securities of Rs.40,000 crore into marketable securities.



RECENT ECONOMIC DEVELOPMENTS

Table 2.12 : Net Reserve Bank Credit to the Centre: Quarterly Variations

(Rupees crore)

Variable	2001-02				2002-03			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4 ^s
	1	2	3	4	5	6	7	8
Net Reserve Bank Credit to the Centre (1+2+3+4-5)	19,523	-20,140	-4,770	236	1,455	-19,555	-17,882	11,884
	(13.3)	(-12.1)	(-3.3)	(0.2)	(1.0)	(-13.7)	(-14.5)	(11.3)
1. Loans and Advances	3,619	-7,791	-1,223	5,176	2,472	-7,648	0	0
2. Treasury Bills held by the Reserve Bank	-3	-480	0	18	-18	0	0	0
3. Reserve Bank's Holdings of Dated Securities	13,150	-11,907	-3,529	63	-6,107	-11,761	-17,979	11,979
4. Reserve Bank's Holdings of Rupee Coins	39	38	-18	24	64	-146	97	-91
5. Central Government Deposits	-2,718	0	-1	5,045	-5,044	0	0	4
<i>Memo Items*</i>								
1. Market Borrowings of Dated Securities by the Centre #	46,000	31,000	24,000	13,213	49,000	35,000	23,000	18,000
2. Reserve Bank's Primary Subscription to Dated Securities	21,000	679	4,000	3,213	22,018	1,157	0	13,000
3. Repos (-) / Reverse Repos (+) (LAF), net position	1,355	1,410	-1,160	-4,605	-20,355	8,845	10,371	4,994
4. Net Open Market Sales #	10,929	13,985	5,273	148	7,020	19,918	15,693	11,141
5. Primary Operations £	27,376	-7,273	1,178	3,368	29,598	-8,642	-12,527	17,969
* At face value. £ Adjusted for Centre's surplus investment. \$ Up to March 14, 2003. # Excludes Treasury Bills. Figures in parentheses constitute percentage variations. Data based on March 31 for Q4 and last reporting Fridays for other quarters.								

This enhances the quality of the Reserve Bank's balance sheet, not only by reducing the non-marketable portion of the public debt but also by valuing central bank assets at market-determined rates. Furthermore, commercial banks and PDs redeemed their refinance draws in view of CRR cuts.

Monetary Survey

2.55 Broad money (M_3) increased by 14.3 per cent

(11.4 per cent, net of the impact of the mergers) during 2002-03 (up to March 7, 2003) as compared with 13.0 per cent during the comparable period of 2001-02 (Table 2.13). On an annual basis, the M_3 growth rate worked out to 12.7 per cent (net of impact of mergers) as compared with 13.9 per cent last year. The average year-on-year M_3 growth rate decelerated to 13.9 per cent (net of RIBs/IMDs/merger effects) as on March 7, 2003 from 15.3 per cent in the previous year. Currency

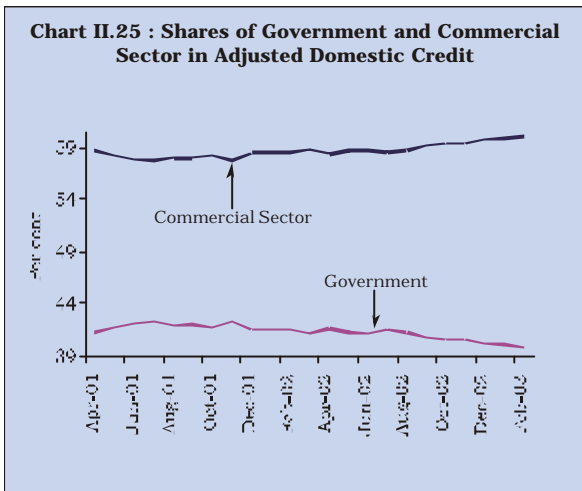
Table 2.13 : Monetary Indicators – Variations

(Absolute variations in Rupees crore)

Indicator	2001-02		2002-03 (up to March 7, 2003)		2001-02 (up to March 8, 2002)	
	Point to Point (Per cent)	Monthly Average (Per cent)	Absolute	Per cent	Absolute	Per cent
	1	2	3	4	5	6
Reserve Money	11.4	11.1	25,196 *	7.5 *	26,608 *	8.8 *
Broad Money (M_3)	14.2	16.2	2,14,249 (1,71,657)	14.3 (11.4)	1,70,536	13.0
Currency with the Public	15.2	12.7	32,932	13.6	34,251	16.3
Aggregate Deposits	14.2	17.0	1,81,759	14.5	1,37,716	12.5
Net Bank Credit to Government	14.6	16.6	76,214	13.0	71,763	14.0
Bank Credit to Commercial Sector	11.3	12.8	1,29,803	17.2	62,763	9.2
Net Foreign Exchange Assets of the Banking Sector	26.0	24.6	82,991	26.4	51,650	20.7
* Up to March 14, 2003 and the corresponding period of the previous year. Data are provisional. Figures in parentheses are net of the impact of the mergers.						

REPORT ON CURRENCY AND FINANCE

Chart II.25 : Shares of Government and Commercial Sector in Adjusted Domestic Credit



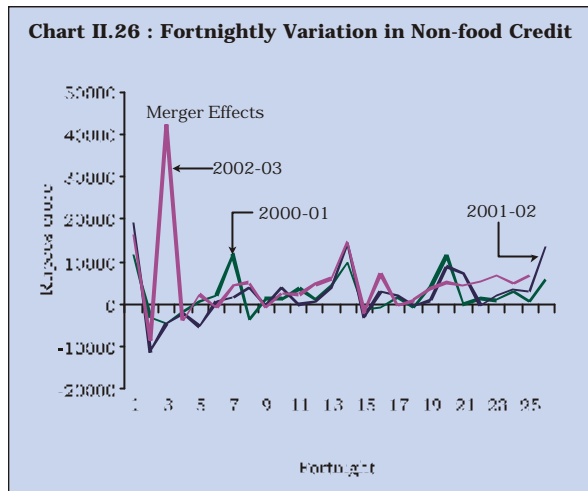
with the public decelerated during 2002-03 (up to March 7, 2003), partly reflecting dampened agricultural activity. Aggregate deposit growth, at 11.1 per cent (net of the merger impact), was lower than that of the corresponding period of last year.

Bank Credit

2.56 Domestic credit (including non-SLR investments), at 12.2 per cent (net of merger effects) during 2002-03 (up to March 7, 2003), was higher than 10.9 per cent during the corresponding period of the previous year, driven by higher non-food credit offtake. The share of commercial credit (adjusted for merger effects) in domestic credit, at 58.5 per cent as on March 7, 2003, was the same as a year ago (Chart II.25). Net bank credit to the Government increased by 13.0 per cent during the current fiscal year, as compared with 14.0 per cent during the corresponding period of the previous year. The share of commercial banks in the total draft of resources by the Government from the banking sector during the year climbed to 136.6 per cent as on March 7, 2003, up from 95.2 per cent as on March 8, 2002 in view of the market demand for government paper. Bank credit to the commercial sector rose by 11.3 per cent (net of the merger impact) as compared with 9.2 per cent during the comparable period of 2001-02.

2.57 The growth in non-food credit (adjusted to exclude the merger impact and to include the non-SLR investments) was of 15.7 per cent during the current financial year (up to March 7, 2003) as compared with 9.9 per cent during the corresponding period of 2001-02. The incremental non-food credit in the latter half of the year (up to March 7, 2003) at Rs.57,150 crore was higher than Rs.40,503 crore during the comparable period of the previous year (Chart II.26). Reflecting

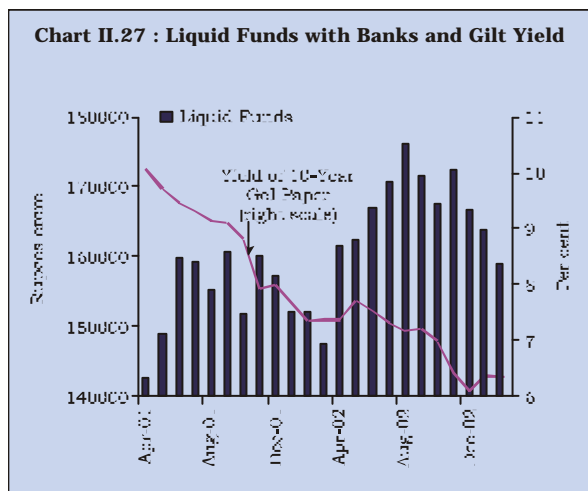
Chart II.26 : Fortnightly Variation in Non-food Credit



lower procurement and increased off-take of foodgrains, food credit declined by Rs.4,262 crore during 2002-03 (up to March 7, 2003) as against an increase of Rs.13,913 crore recorded during the corresponding period of 2001-02 (Table 2.14).

2.58 Scheduled commercial banks' investments in government securities accelerated to 25.3 per cent during 2002-03 (up to March 7) from 20.1 per cent during the corresponding period in 2001-02. Commercial banks' holding of government and other approved securities during the year so far has consistently been around 38.0 per cent of the net demand and time liabilities (NDTL) – much higher than the prescribed Statutory Liquidity Ratio (SLR) of 25.0 per cent. The excess liquid funds of the commercial banks flowing into the government securities market contributed to reducing the secondary market yields of Government securities across the spectrum (Chart II.27).

Chart II.27 : Liquid Funds with Banks and Gilt Yield



RECENT ECONOMIC DEVELOPMENTS
Table 2.14 : Select Banking Indicators : Financial Year Variations

(Rupees Crore)

Indicator	2001-02		2000-01		2002-03P (up to March 7)		2001-02 (up to March 8)	
	Absolute	Per cent	Absolute	Per cent	Absolute	Percent	Absolute	Per cent
	1	2	3	4	5	6	7	8
Aggregate Deposits	1,40,742	14.6	1,49,273	18.4	1,74,660	15.8	1,29,040	13.4
				15.2*		(12.0)		
Demand Deposits	10,496	7.4	15,185	11.9	12,637	8.3	2,398	1.7
Time Deposits	1,30,246	15.9	1,34,088	19.5	1,62,023	17.0	1,26,642	15.4
						(12.6)		
Bank Credit	78,289	15.3	75,476	17.3	1,24,899	21.2	64,699	12.7
Food Credit	13,987	35.0	14,300	55.7	-4,262	-7.9	13,913	34.8
Non-food Credit	64,302	13.6	61,176	14.9	1,29,162	24.1	50,786	10.8
Investments	68,110	18.4	61,215	19.8	1,03,593	23.6	65,606	17.7
Government Securities	71,141	20.9	61,579	22.1	1,04,097	25.3	68,291	20.1
Other Approved Securities	-3,032	-10.1	-364	-1.2	-504	-1.9	-2,685	-8.9

P Provisional.

* Net of IMDs.

Parenthetic figures are net of the impact of the mergers.

2.59 An analysis of the deployment of non-food gross bank credit of select scheduled commercial banks during 2002-03 (up to December) suggests that medium- and large-scale industry and housing emerged as the major drivers of growth of non-food credit during the year (Chart II.28 and Table 2.15).

2.60 Amongst the medium- and large-scale industries, the higher credit off-take was fuelled mostly by cotton textiles, iron and steel, cement, computer software, gems and jewellery and infrastructure. It was, however, subdued in case of certain industries like engineering, sugar, coal and petroleum (Chart II.29).

inflationary pressures, moderate recovery in investment demand, large buffer stocks and comfortable foreign exchange reserves, have contributed to the moderate inflation outcome during the year. The annual rate of

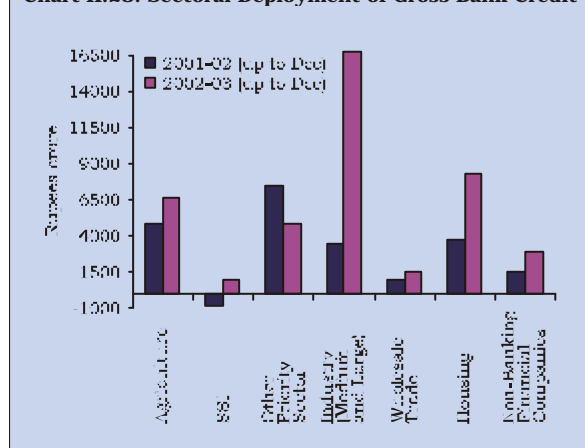
Table 2.15 : Sectoral and Industry-wise Deployment of Gross Bank Credit of Scheduled Commercial Banks (Fiscal Year Variations)

(Rupees crore)

Sector/Industry	2001-02 up to December		2002-03 up to December	
	Absolute	Per cent	Absolute	Per cent
	1	2	3	4
1. Priority sector #	11,515	7.5	12,420	7.1
o/w Agriculture	4,893	9.4	6,673	11.0
Small Scale	-858	-1.5	910	1.6
Others	7,480	16.1	4,837	8.4
2. Industry (Medium & Large)	3,519	2.2	16,826	9.8
o/w Petroleum	-2,523	-21.8	-633	-5.6
Infrastructure	1,682	14.8	3,858	26.1
Cement	214	5.6	750	17.8
Cotton Textiles	-1,279	-9.7	1,680	14.3
Iron and Steel	925	4.8	1,242	6.2
Coal	-43	-4.2	-71	-5.0
Fertilisers	403	7.7	564	10.3
Computer Software	153	12.5	323	19.4
Gems & Jewellery	-173	-2.6	952	14.7
3. Housing	3,672	22.7	8,287	37.1
4. Wholesale Trade	1,012	5.7	1,528	7.5
5. Rest of the sectors	8,928	11.5	10,480	11.3
Non-food Gross	28,646	6.7	49,541	10.3
Bank Credit				

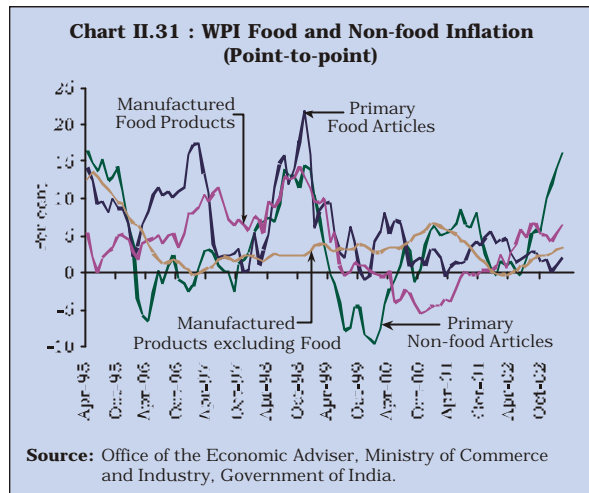
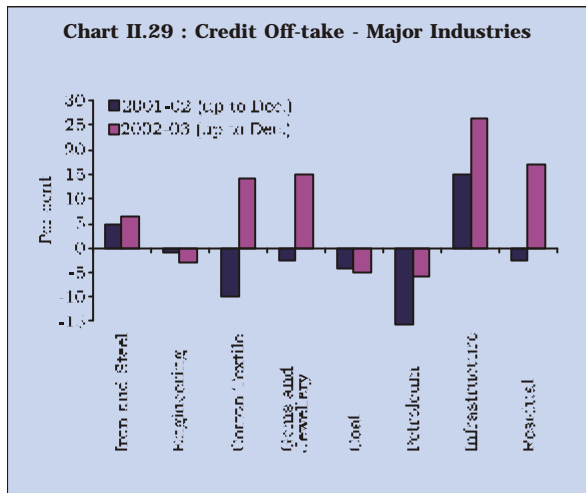
Excluding investments in eligible securities.

Note : Data are provisional and relate to select scheduled commercial banks which account for about 90 per cent of bank credit of all scheduled commercial banks.

Chart II.28: Sectoral Deployment of Gross Bank Credit

V. THE PRICE SITUATION

2.61 Inflation remained benign during 2002-03 (up to March 1, 2003). A number of factors, like a continuing weakness in global recovery, subdued global

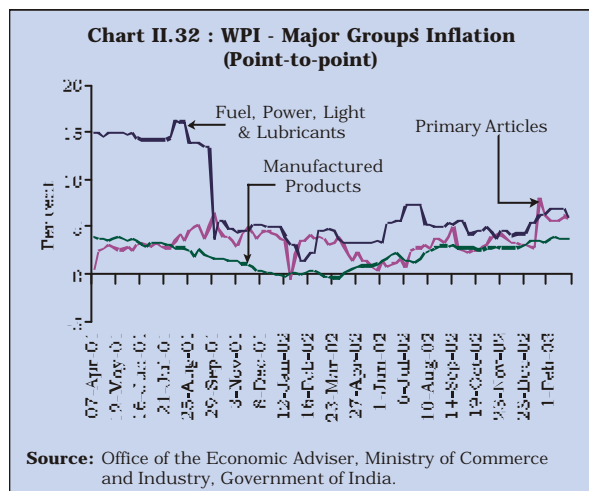
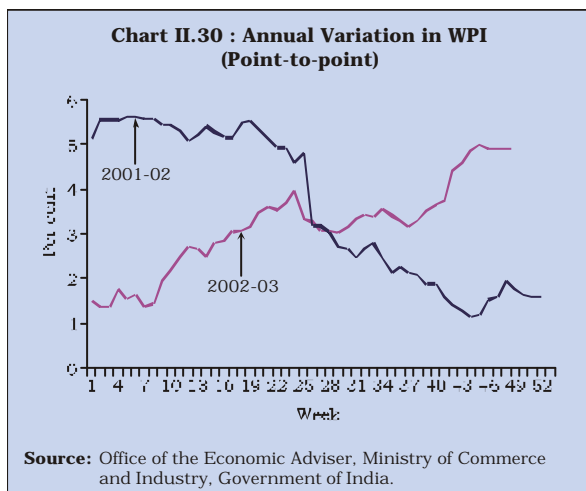
REPORT ON CURRENCY AND FINANCE



inflation, measured as point-to-point variations in the wholesale price index (WPI), remained low up to mid-December 2002 (3.2 per cent as on December 14, 2002). However, it increased thereafter to touch 5.0 per cent on February 8, 2003 as compared with 1.2 per cent during the corresponding period of the previous year. This edging up of inflation is attributed partly to the base effects and rising international oil prices (Chart II.30). The annual rate of inflation stood at 4.7 per cent on March 1, 2003.

2.63 Manufacturing inflation recovered modestly from a trough in 2001-02, driven by an increase in prices of chemicals and chemical products, fertilisers, edible oils, man-made textiles and iron and steel. The industrial recovery appears to be driving up the prices of manufactured products as reflected in the rise in the prices of intermediate goods. While domestic prices of metals show co-movement with international price movements, the volatility has been relatively low. The annual primary articles inflation, on a point-to-point basis, increased during 2002-03 (Table 2.16 and Chart II.32). The shortfall in production of oilseeds due to poor rains led to a substantial rise in the prices of oilseeds and edible oils, necessitating imports of edible oils. Fuel group inflation, in contrast, is rising since December 2002 in consonance with hardening of international crude prices following mounting tensions in the Gulf.

2.62 Despite the drought affecting *kharif* production substantially, the prices of food articles have risen only moderately. Better food management policies helped in containing the prices of food articles. However, in the post-*kharif* period, the primary non-food articles inflation has gone up substantially which could have some indirect impact on manufacturing prices (Chart II.31).



RECENT ECONOMIC DEVELOPMENTS

2.64 The annual average inflation, measured on the basis of annual percentage variation in the average wholesale price index, a better indicator of underlying inflation pressures, trended downwards to touch 2.3 per cent on October 12, 2002 and rose thereafter, ruling at 3.0 per cent as on March 1, 2003. The annual average WPI inflation during the comparable period of 2001-02 stood at 3.9 per cent (Chart II.33).

2.65 During 2002-03 (up to March 1, 2003), on an average basis, the primary articles and fuel group inflation decelerated to 3.2 per cent and 4.9 per cent, respectively, from 3.7 per cent and 8.9 per cent during the corresponding period last year. On the other hand, manufactured products inflation increased moderately to 2.4 per cent from 1.8 per cent during the same

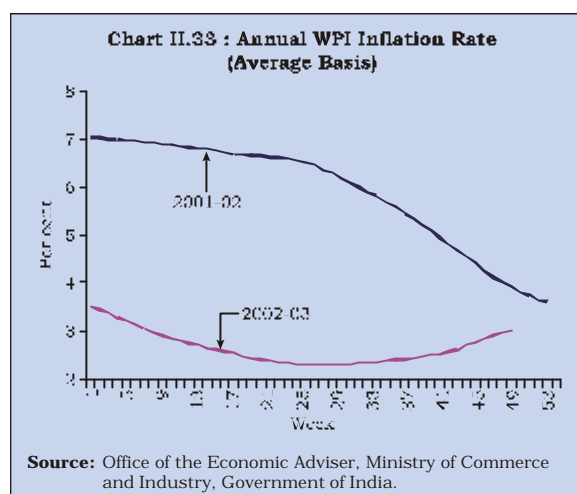
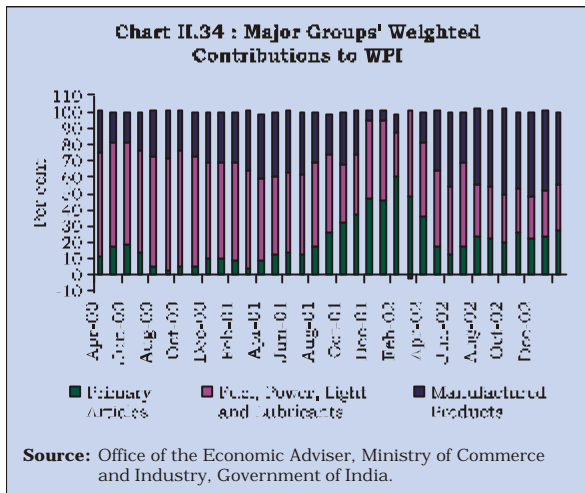


Table 2.16 : Commodity-wise WPI Inflation (Point-to-point)

Commodity	Weight	Annual Variation		
		2000 -01	2001- 02	2002-03 (As on March 1, 2003)
	1	2	3	4
All Commodities	100.0	4.9	1.6	4.7
I) Primary Articles	22.0	-0.4	3.9	6.0
i) Cereals	4.4	-5.5	0.8	4.6
ii) Pulses	0.6	7.1	-3.3	-2.6
iii) Fruits & Vegetables	2.9	-2.9	14.4	1.0
iv) Milk	4.4	0.4	4.7	2.5
v) Eggs, Fish and Meat	2.2	-2.1	9.3	-4.3
vi) Condiments and Spices	0.7	-13.8	-0.2	5.1
viii) Fibres	1.5	7.4	-17.9	24.9
ix) Oilseeds	2.7	2.8	6.8	23.4
II) Fuel, Power, Light and Lubricants	14.2	15.0	3.9	6.1
i) Mineral Oils	7.0	17.0	1.2	9.2
ii) Electricity	5.5	11.5	9.2	3.4
iii) Coal Mining	1.8	18.1	-1.9	0.0
III) Manufactured Products	63.8	3.8	0.0	3.7
i) Sugar, <i>Khandsari and Gur</i>	3.9	-6.1	-3.2	-12.6
ii) Edible Oils	2.8	-4.8	12.5	22.2
iii) Food Products	11.5	-3.7	0.3	5.1
iv) Cotton Textiles	4.2	6.3	-6.7	4.7
v) Man-made Textiles	4.7	2.0	-4.7	14.5
vi) Chemicals and Chemical Products	11.9	4.0	2.5	2.5
vii) Fertilisers	3.7	3.4	3.6	1.7
viii) Urea-N-Content	2.2	1.8	4.7	1.1
ix) Cement	1.7	20.3	-4.7	1.4
x) Iron and Steel	3.6	1.3	0.0	6.8
xi) Non-electrical Machinery	3.4	6.9	5.4	2.7
xii) Electrical Machinery	5.0	11.8	-1.1	-0.3
xiii) Transport Equipment and Parts	4.3	5.8	1.3	-1.3

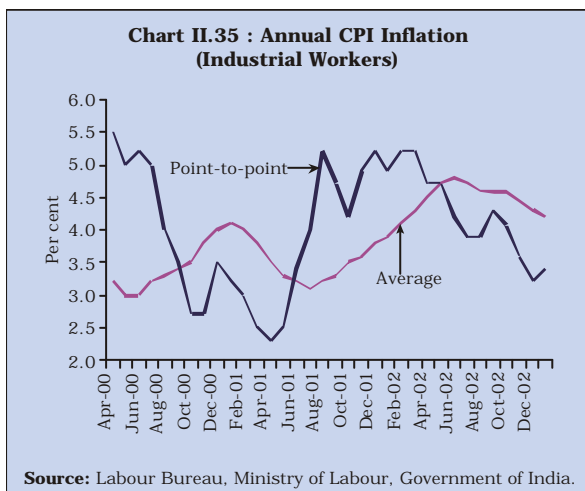
Source : Office of the Economic Adviser, Ministry of Commerce and Industry, Government of India.

REPORT ON CURRENCY AND FINANCE



period. An analysis of the weighted contributions of major groups of WPI (on an average basis) during 2002-03 so far indicates that, while the contribution of the manufactured products group increased to 44.6 per cent from 29.6 per cent during the corresponding period of the previous year, that of the fuel group declined to 31.6 per cent from 46.7 per cent over the same period. The weighted contributions of primary articles group was steady at around 23.8 per cent during the same period (Chart II.34).

2.66 At the retail level, consumer price inflation, as measured by the annual variation in the consumer price index for industrial workers (CPI-IW), on a point-to-point basis, decelerated to 3.4 per cent in January 2003 from 4.9 per cent in January 2002. On an average basis, however, consumer inflation stood higher at 4.2 per cent as compared with 3.9 per cent a year ago (Chart II.35).

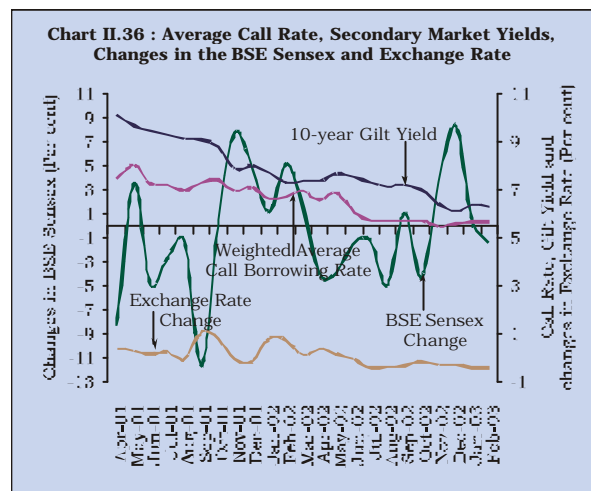


2.67 Inflationary pressures generally remain subdued across the globe during the year. International commodity prices recovered in the second half of 2002 after bottoming out in late 2001 from a prolonged decline in the aftermath of the Asian crisis. Non-fuel commodity prices, however, remain bound by weak demand and inventory drawdown. Since early August 2002, spot oil prices have risen markedly owing to concerns about a further deterioration in the geopolitical situation in the Middle East. Thus, the major risk to the current benign outlook for inflation hinges upon the prospects for uncertainty relating to the future movements in international oil prices.

VI. FINANCIAL MARKETS

2.68 Orderly conditions prevailed in the financial markets during 2002-03 (Chart II.36). The presence of adequate liquidity conditions and moderation of inflation expectations enabled a softening of interest rates. The foreign exchange market continued to witness excess supply conditions. The capital market began to recover from November 2002 after being adversely affected by a number of external shocks, including border tensions. At the same time, the Reserve Bank carried forward structural reforms to develop the various financial market segments with a view to enhancing financial stability and improving allocative efficiency.

2.69 Reflecting ample liquidity conditions during 2002-03, there was a softening of interest rates across the various segments of the financial market, although the pace of reduction of interest rates was not necessarily uniform. At the short end of the market, the average overnight call rates declined from 6.58 per cent in April 2002 to 5.71 per cent by February 2003 and further to 5.21 per cent on March 17, 2003.



RECENT ECONOMIC DEVELOPMENTS

The primary implicit yields of both 91-day and 364-day Treasury Bills declined to 5.89 per cent as on March 19, 2003 from 5.97 per cent and 6.09 per cent, respectively, as on April 3, 2003. At the longer end of the spectrum, the secondary market yields on government securities in the maturity range of 10 to 20 years softened from 7.37-7.91 per cent in April 2002 to 6.34-7.05 per cent by February 2003. Deposit rates of public sector commercial banks with a maturity of more than one year softened from 7.25-8.75 per cent during March 2002 to 5.25-7.00 per cent by end-February 2003. However, the fall in prime lending rates of the public sector banks from 10.0-12.5 per cent during March 2002 to 9.00-12.25 per cent by end-February 2003 did not match the fall in yields in government securities.

Call Money Market

2.70 The call/notice money market was orderly and stable during 2002-03 so far. The weighted average call money borrowing rates remained, by and large, within the informal corridor of the repo and reverse repo rate. After edging up during the first two months of the fiscal year, the weighted average call money borrowing rate softened thereafter, occasionally dipping below the repo rate (Chart II.37).

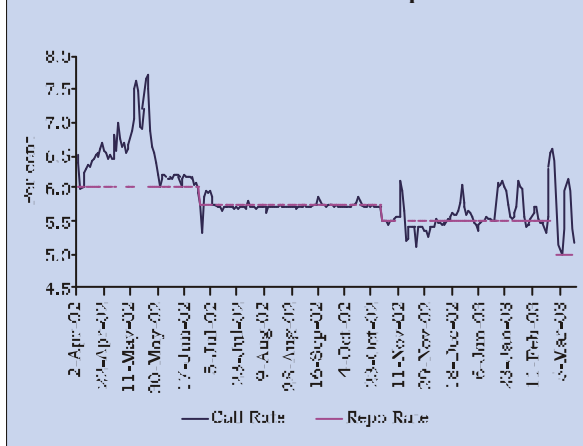
2.71 Various reform measures were undertaken in the call money market during the year. The phasing out process of non-banks from the call/notice money market began with mapping of a four-stage exit of non-banks from this market. During the first stage, which commenced with effect from May 5, 2001, non-banks were allowed to lend, on an average, up to 85 per cent of their average daily lending in the call/notice market during 2000-01 in a reporting fortnight. Such

limits would come down to 75 per cent as part of stage II from a date to be notified later by the Reserve Bank when the Negotiated Dealing System/Clearing Corporation of India Limited (CCIL) becomes fully operational and widely accessed. Call lending by corporates was disallowed effective July 1, 2001. The Reserve Bank instituted a daily call money borrowing ceiling of 2 per cent of aggregate deposits (as at the end of March of the previous financial year) for urban co-operative banks, which was extended to State Co-operative Banks (SCBs) and District Central Co-operative Banks (DCCBs). In respect of scheduled commercial banks, effective from the fortnight beginning October 5, 2002, the fortnightly average ceiling for call/notice money lending for banks was stipulated at 50 per cent of their owned funds with the daily lending ceiling fixed at 100 per cent of their owned funds. The fortnightly average ceiling for call/notice money borrowing for banks was placed at 150 per cent of their owned funds or 2 per cent of aggregate deposits, whichever is higher, as at end-March of the preceding financial year. The daily borrowing ceiling was specified at 250 per cent of their owned funds. Simultaneously, primary dealers were permitted to lend in the call/notice money market up to 25 per cent of their net owned funds. Effective from the fortnight beginning December 14, 2002, the fortnightly average ceiling for call/notice money lending for banks was further scaled down to 25 per cent of their owned funds and the daily lending ceiling to 50 per cent of their owned funds. The fortnightly average ceiling for call/notice money borrowing for banks is 100 per cent of their owned funds or 2 per cent of aggregate deposits, whichever is higher, as at end-March of the preceding financial year with the daily borrowing ceiling at 125 per cent of their owned funds.

2.72 The progression of money market reforms was smooth with the monthly weighted average call money borrowing rates steadily softening as the current financial year has progressed.

2.73 The fiscal year 2002-03 commenced with easy liquidity conditions as reflected in the substantial amount of repo bids received under the LAF auctions, pulling call rates below the repo rate during the first week of April 2001. The absorption of surplus liquidity through both LAF auctions as well as OMO outright sales and the launching of the government borrowing programme balanced the money market liquidity, reverting the call money rates above the repo rate. The pick up in the tempo of the Government borrowing combined with border tensions in May 2002 tightened

Chart II.37: Call Rate and the Repo Rate



REPORT ON CURRENCY AND FINANCE

liquidity conditions, firming up the weighted average call money borrowing rates to 7.7 per cent on May 22, 2002.

2.74 The Reserve Bank's primary market operations, monetary easing and redemption inflows comforted the money markets in June 2002. The Reserve Bank undertook devolvments and private placements of government primary issuances and advanced the date of the CRR cut of 50 basis points to 5.0 per cent, by a fortnight to June 1, 2002. These measures as well as government bond redemptions softened call money rates steadily to a band of 6.0-6.2 per cent during end-May to June 23, 2002. The easy liquidity conditions also reflected the fact that the repo cut-off rate was brought down by 25 basis points to 5.75 per cent on June 27, 2002.

2.75 The banks appeared to have factored in the two-stage prudential restrictions on their call money market exposures during the third quarter of 2002-03 quite smoothly as the call money borrowing rates hovered mostly at or below the repo rate. Prudential limits on borrowings and lendings of scheduled commercial banks and on lendings of primary dealers in the call/notice money market became operative, effective October 5, 2002. Simultaneously, the collateralised lending facility available to banks and primary dealers was phased out.

2.76 The repo rate reduction on October 30, 2002 by 25 basis points to 5.5 per cent, expectedly brought down the call money rate. However, the call money rates exhibited some volatility with the weighted average borrowing rate inching up above 6.0 per cent on November 12, 2002 reflecting, *inter alia*, outflows on account of a gilt auction as well as a 13-day repo auction at a time when banks were making preparations towards graduating for maintaining a minimum of 80 per cent of eligible CRR balances on a daily basis. The markets, however, soon stabilised with the weighted average call money borrowing rate coming down to 5.27 per cent on November 30, 2002.

2.77 The second stage of prudential restrictions on call money lendings and borrowings of banks became effective fortnight beginning December 14, 2002. The usual advance tax outflows and State loan auctions in December 2002 firmed up call rates temporarily. There was some temporary tightness of liquidity in January 2003 as a result of open market sales. The call rates, however, soon turned easy on account of augmenting of money market liquidity through redemptions, coupon inflows and some selling of government securities with the waning of expectations

of any reduction in policy interest rates and war tensions in the Middle East. There was some edging up of call rates towards the last week of February 2003 on account of some outflows of funds towards State loan auctions. Although the repo rate was reduced by 50 basis points to 5.0 per cent, a second round of State loan auctions pushed call rates to 6.2 per cent as on March 12, 2003. The call rate eased thereafter to 5.21 per cent as on March 17, 2003.

Government Securities Market

2.78 The Reserve Bank continued to take measures to deepen and widen the government securities markets. As a step towards enhancing transparency, an indicative calendar for the issuance of marketable dated Government securities for the first half of year 2002-03 was issued on March 27, 2002 to enable investors to plan their investments in a better manner. The calendar was generally adhered to with some minor deviations. In continuation of this, the Reserve Bank announced the calendar for the second half-year (October-March) on September 18, 2002 in consultation with the Government. In future, the calendar would be issued every half-year. A bond with put and call options (6.72 per cent Government Stock 2007/12) exercisable on or after 5 years from the date of issue was issued for the first time. The Reserve Bank issued a 30-year paper in July 2002, in line with the policy of elongating the maturity structure of dated securities.

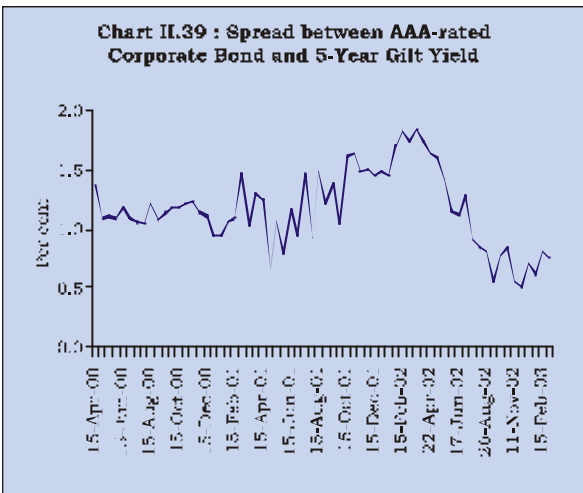
2.79 Stable and soft money market interest rates, ample liquidity conditions and moderate inflation expectations provided the conditions for a continued rally in the prices of government securities through most of the year up to mid-January 2003. The surplus liquidity in the banking system drove down gilt yields during 2002-03 (up to mid-January 2003). The outlook on gilts turned bearish during the second half of January due to a host of negative factors like the rising oil prices, a worsening situation in the Middle East, a sharp rise in domestic WPI inflation rate and indications of a recovery in industrial production.

2.80 Yields fell in the usual flush of early April liquidity but started firming up by May 2002, with the tightening of liquidity conditions, a lower than expected CRR reduction in the Monetary and Credit Policy of April 2002 and as the market expectation of a Bank Rate cut did not materialise (Chart II.38). Besides, border tensions also affected market sentiment by end-May. This was reflected in a drop in the market

RECENT ECONOMIC DEVELOPMENTS

turnover. The rise in yields abated as market sentiment improved after the Reserve Bank advanced the CRR reduction by a fortnight in June 2002. As monetary conditions continued to ease mainly due to a sharp rise in capital inflows, yields continuously declined till mid-January 2003. The investor interest in gilts was further strengthened by the monetary easing in the Mid-Term Review of the Monetary and Credit Policy in October 2002. As prices continued to rally, transaction volumes also steadily increased, reaching a peak in November 2002. The OMO sales as well as renewed tensions in the Middle East in January 2003, however, halted the rally and the yields have somewhat firmed up since mid-January 2003. Gilt prices rallied sharply after the Union Budget 2003-04 with a reduction in the repo rate by 50 basis points to 5.0 per cent on February 28, 2003. However, continuing uncertainties and the usual year-end profit booking led to the reversal of post-Budget gains in early March 2003.

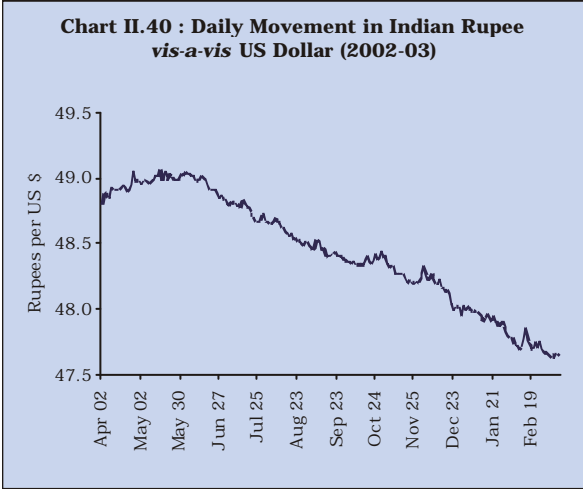
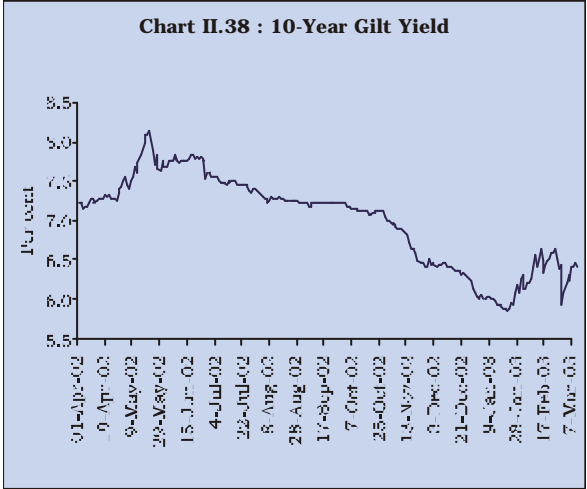
2.81 The average decline of yields in the 2-5 year segment has been of the order of 23 basis points while the same for the 6-10 year and 11-20 year sector has fallen by 83 and 89 basis points, respectively. The 10-year yield rose by about 85 basis points to 8.13 per cent by the third week of May 2002 from 7.28 per cent at the beginning of the current financial year and subsequently eased to 6.34 per cent at the end of February 2003. While yields have declined across the maturity spectrum, there has also been a flattening of the yield curve during the year which could be reflecting a combination of factors including a demand for longer-term paper in the face of sustained easy liquidity and subdued inflation expectations. The spread between AAA-rated corporate bonds and government



securities, which widened during 2001-02, narrowed by March 2003 (Chart II.39).

Foreign Exchange Market

2.82 The Indian Rupee generally exhibited an appreciating trend with respect to the US dollar during 2002-03 due to excess supply conditions on account of steady foreign exchange inflows from exporters, foreign direct investment as well as remittances by NRIs coupled with modest corporate demand. The slow growth in imports continued despite some industrial recovery, exacerbating the appreciating pressure. The exchange rate of the Indian Rupee vis-à-vis the US dollar moved within a range of Rs.47.63-Rs.49.06 per US dollar during 2002-03 (up to March 13, 2003) (Chart II.40). On the basis of monthly average exchange rates, the Indian Rupee appreciated by 2.5 per cent from Rs.48.92 per US dollar in April 2002 to Rs.47.73 per US dollar in February 2003.

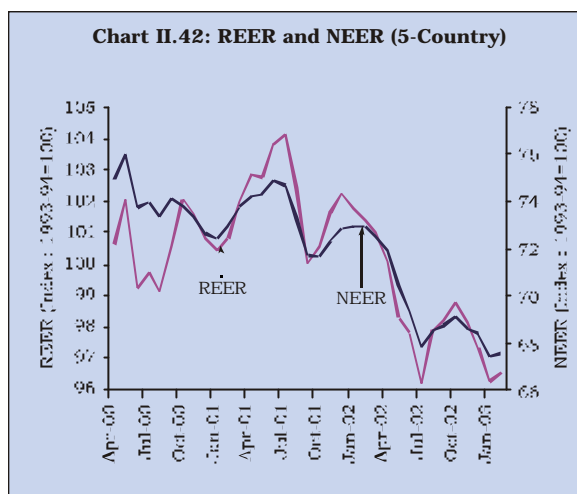


REPORT ON CURRENCY AND FINANCE

2.83 The Rupee remained broadly stable during the first quarter of 2002-03, except for a brief period of uncertainty on account of concerns regarding higher global oil prices and border tensions in May 2002. There was appreciating pressure since June 2002 on account of the positive sentiment created by easing of border tensions and the continued weakness of US dollar against other major international currencies on account of doubts over the strength of the US recovery and a series of corporate accounting scandals in the US. The strengthening of the Rupee continued in the following months due to heavy US dollar inflows mainly in the form of foreign direct investments and exporter remittances. This prompted the Reserve Bank to mop up surplus US dollars in the market in order to prevent excessive appreciation of the Rupee.

2.84 Cross-currency movements reveal that due to depreciation of the US dollar against major currencies, the Rupee depreciated steadily against the Euro and the Pound Sterling during 2002-03 (up to February) (Chart II.41). In terms of monthly average exchange rates, while the Rupee depreciated by 8.3 per cent against the Pound Sterling, its depreciation against the Euro was sharper at 15.8 per cent during the 11-month period. The Euro became costlier than the US dollar in terms of Rupees for the first time on November 7, 2002, with the value of Euro rising to Rs.48.54 per Euro as against Rs.48.33 per US dollar on the same day. The Rupee depreciated against the Japanese Yen by 6.6 per cent during the same period.

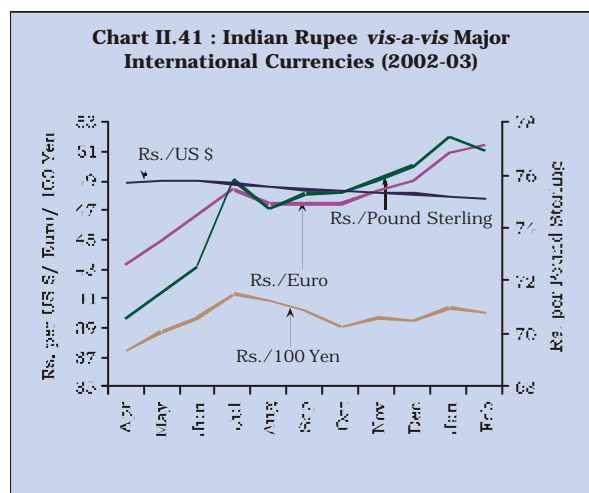
2.85 The depreciation of the Rupee against major currencies is also reflected in the movements in the nominal effective exchange rate (NEER) and real effective exchange rate (REER) (Chart II.42). The REER of the Indian Rupee depreciates with the depreciation



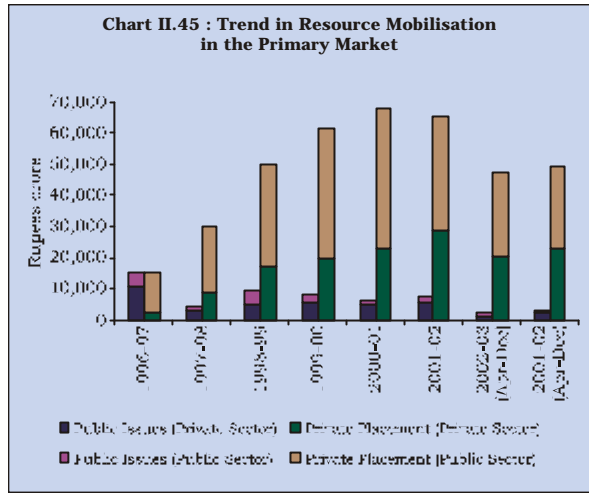
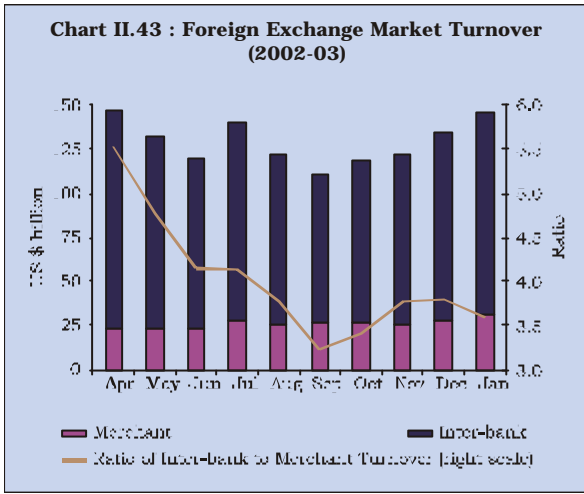
in the US dollar against the major currencies as well as depreciation of the Indian rupee against the US dollar. Further, the REER also depreciates with a fall in inflation in India as compared with other major economies included in the basket. Despite the recent appreciation of rupee against the US dollar, the NEER and REER depreciated reflecting a depreciation of the US dollar against the major currencies. Inflation remained subdued in India as well as abroad.

2.86 The Clearing Corporation of India (CCIL), which commenced its operations from February 15, 2002 in clearing and settlement of transactions in government securities, also started settlement of foreign exchange transactions through multilateral netting of member obligations for both the Indian Rupee and US dollar. This process significantly reduces individual funding requirements for every member as well as liquidity risk in the market. The average monthly total turnover in the foreign exchange market marginally increased to US \$ 129.2 billion during 2002-03 (up to January 2003) from US \$ 118.5 billion in 2001-02. The monthly turnover remained within the range of US \$ 22.5-31.7 billion in the merchant segment and in a range of US \$ 84.1-124.3 billion in the inter-bank market during 2002-03 (up to January 2003) (Chart II.43). Reflective of the stable foreign exchange market conditions, the ratio of inter-bank to merchant turnover fell steadily from 5.5 per cent in April 2002 to 3.6 per cent in January 2003.

2.87 In the swap segment of the foreign exchange market, the forward premia hardened for all the three maturities (one- three- and six-month) during April-May 2002, partly reflecting uncertainties generated by border tensions. With the return of stability in the spot segment of the foreign exchange market resulting from steady



RECENT ECONOMIC DEVELOPMENTS



supply of US dollar, the forward premia for all three maturities declined steadily during the next nine months (June 2002 – February 2003). In terms of monthly averages, the three-month and the six-month forward premia declined from 6.23 per cent and 6.19 per cent, respectively, in May 2002 to 3.55 per cent, each, in February 2003 (Chart II.44).

2003) as the resource mobilisation aggregating Rs.3,259 crore from 12 issues was lower than Rs.4,375 crore raised through 17 issues during 2001-02 (up to January 2002) and Rs.7,112 crore raised through 24 issues during 2001-02 (Chart II.45). During 2002-03 (up to January 2003), there were five issues aggregating Rs.1,049 crore from the non-Government public limited companies (private sector) and seven issues aggregating Rs.2,210 crore by the public sector entities in the financial sector. The entire resource mobilisation during 2001-02 (up to January 2002) was accounted for by private sector companies.



Capital Market

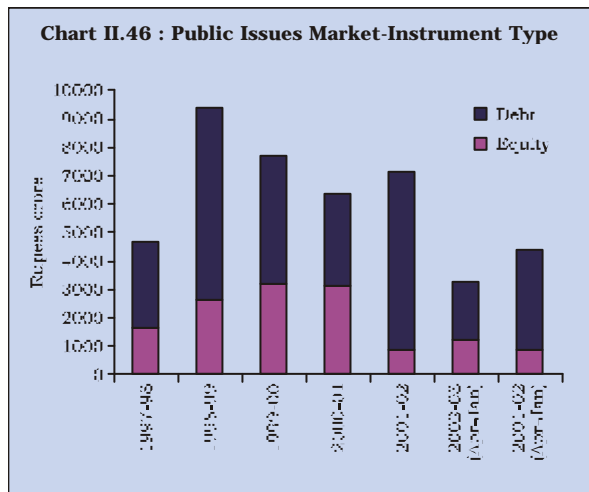
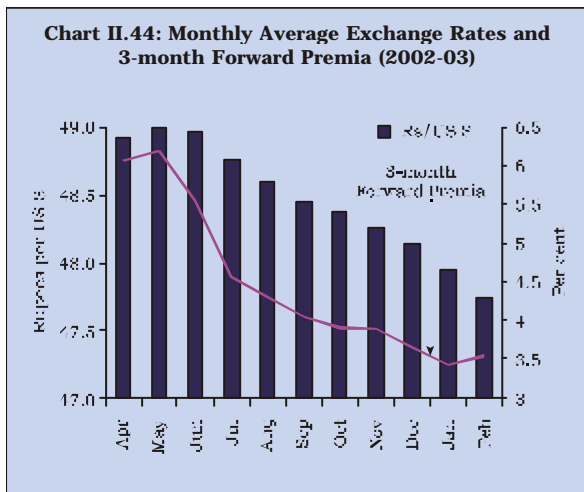
2.88 During 2002-03 so far, both the primary and secondary segments of the capital market remained generally subdued on account of several domestic and external factors. Financial assistance sanctioned and disbursed by the all-India Financial Institutions (AIFIs) also declined sharply.



Primary Market

2.89 The public issues market continued to witness depressed conditions during 2002-03 (up to January

2.90 The share of equity in the total resource mobilisation increased sharply to 37.0 per cent during 2002-03 (up to January 2003) as compared with 19.6 per cent during the corresponding period of the previous year, following floatation of equity issues from the banks in the public sector (Chart II.46). All the issues during



REPORT ON CURRENCY AND FINANCE

2002-03 (up to January 2003) were *mega* issues (Rs.100 crore and above) (except one issue of Rs.36 crore) with the average size of the issues correspondingly working out to Rs.272 crore as compared with Rs.257 crore during the corresponding period of the previous year.

2.91 The private placement market, which has become quite popular in recent years, witnessed some slowdown in resource mobilisation during April-December, 2002. The resource mobilisation from the private placement market, at Rs.46,647 crore was 5.6 per cent lower than Rs.49,437 crore raised during the comparable period of the previous year due to a decline in resource mobilisation by the AIFIs and state-level undertakings in the public sector.

2.92 Resource mobilisation through ADRs, GDRs and FCCBs from the international capital market, at Rs.3,314 crore during 2002-03 (up to January 2003), was 41.5 per cent higher than Rs.2,341 crore raised during the corresponding period of the previous year.

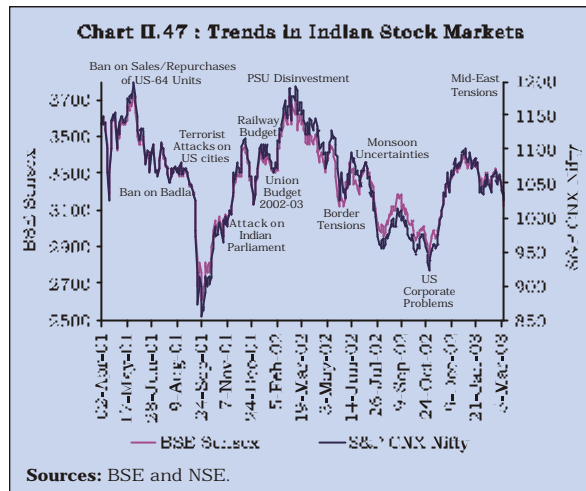
2.93 According to the data available with SEBI, net resource mobilisation by mutual funds (including UTI), at Rs.16,612 crore during 2002-03 (up to January 2003), was 45.9 per cent higher than Rs.11,389 crore during the comparable period of the previous year, mainly due to the sizeable funds raised under debt-oriented schemes. The Unit Trust of India (UTI), however, witnessed a net outflow of Rs.8,720 crore during 2002-03 (up to January 2003).

2.94 Financial assistance sanctioned and disbursed by the term-lending institutions, at Rs.13,933 crore and Rs.12,185 crore, respectively, declined sharply by 49.7 per cent and 45.6 per cent, respectively, during 2002-03 (up to January 2003) as compared with the declines of 24.8 per cent and 11.5 per cent (excluding ICICI), respectively, during the corresponding period of the previous year.

Secondary Market

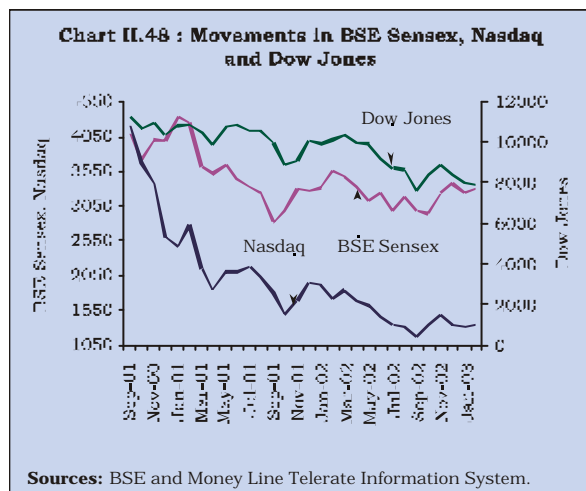
2.95 The stock markets witnessed subdued conditions due to several factors, such as, border tensions, inadequate monsoon and subdued trends in international markets, especially following the discovery of accounting discrepancies in some major US companies and international disturbances (Chart II.47).

2.96 The stock markets began 2002-03 on a positive note, led by a rally in PSU scrips following disinvestment initiatives by the Government but soon turned bearish by end-May 2002 as border tensions mounted. The markets recovered partly in early June 2002 as border tensions abated but the BSE Sensex



fell below the 3000-mark by end-July 2002, reflecting monsoon uncertainties and weakening of international markets following the discovery of accounting discrepancies in large US firms (Chart II.48).

2.97 After a brief spell of recovery in August, the markets declined again by October, on account of lower than expected quarterly results and uncertainties regarding PSU disinvestment. The market sentiment turned positive by early November 2002 mainly due to a revival of PSU disinvestment initiatives by the Government, bargain buying by institutional investors, especially in technology scrips and a revival in international markets. A downtrend set in again from end-January 2003 as the market sentiment was affected by the Middle East crisis. Bank scrips were in the limelight following the permission to increase FDI in private sector banks

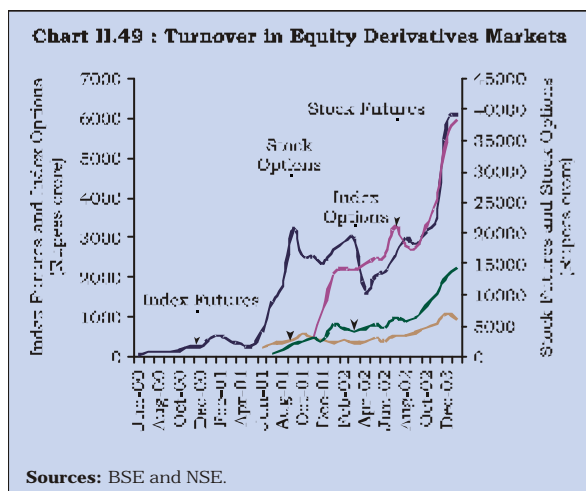


RECENT ECONOMIC DEVELOPMENTS

and increase in profitability. PSU stocks also became attractive on account of disinvestment initiatives by the Central Government. In contrast with a 5.4 per cent decline in the BSE Sensex during 2002-03 (up to February 2003), the BSE-500 registered only a marginal decline of 0.3 per cent over the same period reflecting buying interest in PSU scrips and mid-caps outside the ambit of the narrow blue-chip indices.

2.98 The volatility in share prices, as measured by the coefficient of variation, at 5.0 per cent during 2002-03 (up to February 2003), was lower than 7.2 per cent during the corresponding period of the previous year. Foreign institutional investors' (FIIs) net investments in equity markets declined to Rs.2,376 crore during 2002-03 (up to February 2003) as compared with Rs.5,785 crore during the corresponding period of the preceding year. The mutual funds remained net sellers in equity markets during 2002-03 so far.

2.99 The derivative segment continued to expand with the total turnover rising to Rs.50,080 crore during February 2003 from Rs.20,535 crore during March 2002 (Chart II.49).



VII. FINANCIAL SECTOR

Scheduled Commercial Banks²

2.100 The operating profits of scheduled commercial banks (SCBs) during 2001-02 increased by 50.9 per cent to Rs.29,814 crore. Notwithstanding higher

2. Includes the impact of merger of ICICI Ltd. with ICICI Bank Ltd. on assets, liabilities, performance, NPAs and capital adequacy of scheduled commercial banks.

provisioning and contingencies, the net profits in 2001-02 increased by 80.7 per cent to Rs.11,572 crore.

2.101 This increase in bank profitability may be attributed to a softer interest regime resulting in gains from treasury operations coupled with containment in operating expenses. Among the major financial parameters, the growth in income during 2001-02 was 14.4 per cent while that in expenditure was 11.0 per cent. The growth in other income accelerated to 41.6 per cent from 8.8 per cent in the previous year while operating expenditure declined by 1.4 per cent to Rs.33,696 crore, thereby boosting the net profit. The ratio of net profits to total assets of SCBs increased to 0.75 per cent as at end-March 2002 from 0.49 per cent, a year ago. The decline in lending rates together with an increase in competitive pressures impacted on the bottomline as reflected in the decline in net interest income to 2.6 per cent as at end-March 2002 from 2.8 per cent as at end-March 2001 (Chart II.50).

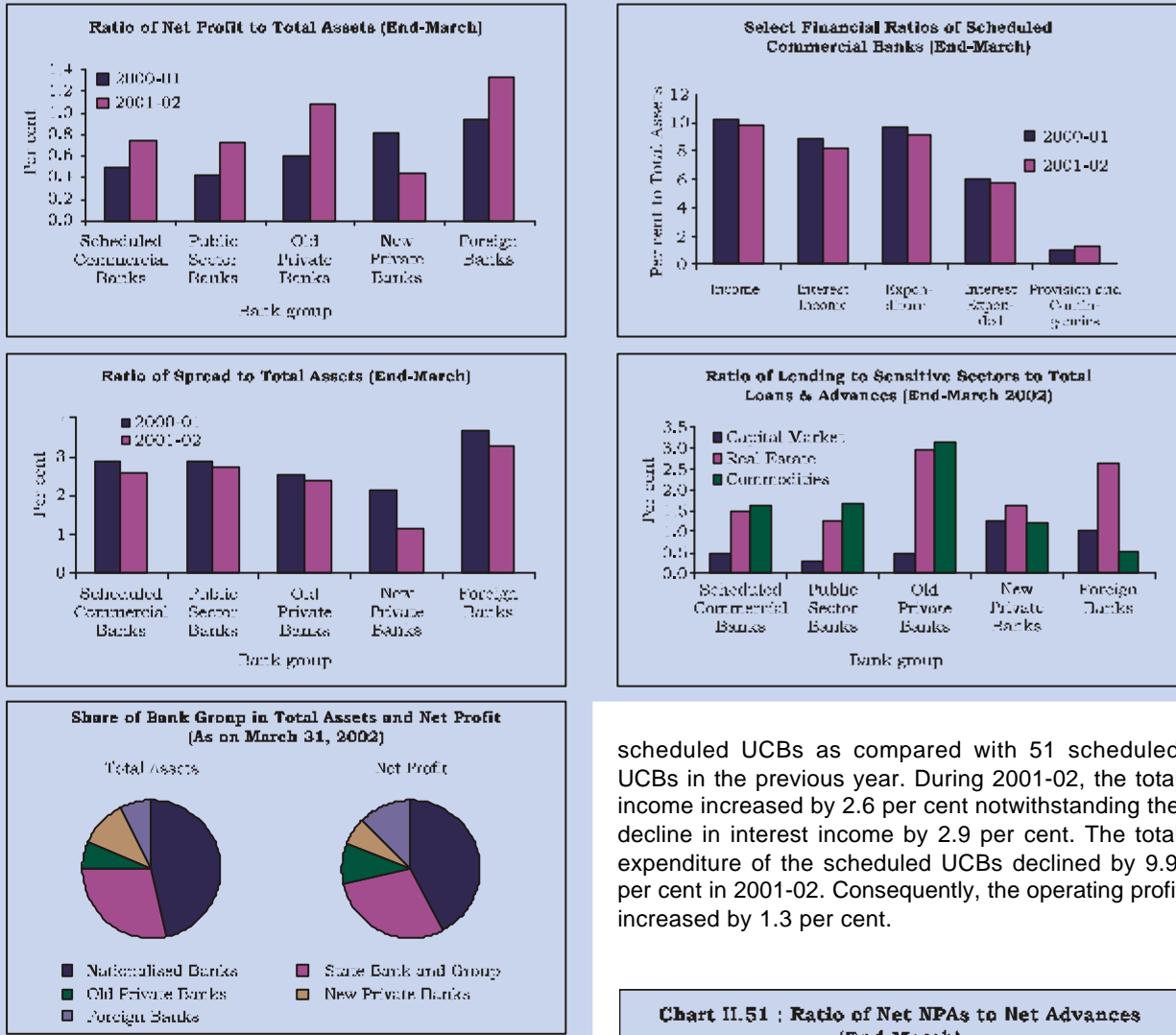
2.102 The ratio of gross non-performing assets (NPAs) to total assets of SCBs declined to 4.6 per cent as at end-March 2002 from 4.9 per cent as at end-March 2001, while net NPAs to total assets declined to 2.3 per cent from 2.5 per cent. For the same period, the ratio of gross NPAs to gross advances declined to 10.4 per cent from 11.4 per cent in 2000-01 and net NPAs to net advances declined to 5.5 per cent from 6.2 per cent (Chart II.51).

2.103 As at end-March 2002, 85 out of 97 SCBs recorded a capital to risk-weighted asset ratio (CRAR) in excess of 10 per cent, seven banks had CRAR between 9 per cent and 10 per cent, while five banks had CRAR below the 9 per cent mark. The corresponding distribution of banks in the previous year was 84 banks, 11 banks and five banks, respectively.

2.104 The Reserve Bank undertook several measures to enhance soundness of the banking sector alongside the deregulation of interest rates and balance sheet restrictions, especially in respect of the investment portfolio (Table 2.17). The Mid-Term Review of Monetary and Credit Policy of October 2002 revised norms for loan classification, according to which, effective March 31, 2005, an asset would be classified as doubtful if it remained in the substandard category for 12 months (instead of 18 months earlier). The additional provision need to be phased in over a four-year period, commencing from the year ending March 31, 2005.

REPORT ON CURRENCY AND FINANCE

Chart II.50 : Scheduled Commercial Banks : Key Indicators



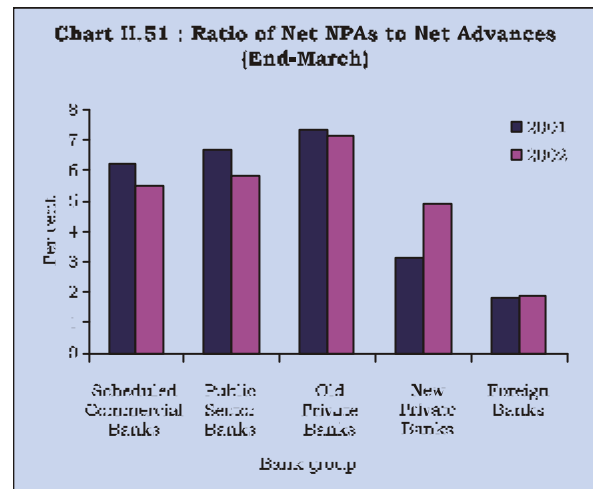
scheduled UCBs as compared with 51 scheduled UCBs in the previous year. During 2001-02, the total income increased by 2.6 per cent notwithstanding the decline in interest income by 2.9 per cent. The total expenditure of the scheduled UCBs declined by 9.9 per cent in 2001-02. Consequently, the operating profit increased by 1.3 per cent.

Co-operative Banks

2.105 At the end of March 2002, the number of urban co-operative banks (UCBs) was 2,090. Information on the financial performance of UCBs relating to profits/losses are available for 1,854 banks, which roughly cover 88.7 per cent of the total UCBs. Of these, 1,629 UCBs registered profits while the rest incurred losses. The percentage of profitable UCBs among the reporting banks increased to 87.9 per cent during 2001-02 from 83.9 per cent in the previous year.

Scheduled Urban Co-operative Banks

2.106 As on March 31, 2002, there were 52



RECENT ECONOMIC DEVELOPMENTS

Table 2.17 : Changes in the Regulatory Framework

Variable	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	1	2	3	4	5	6	7	8	9	10
1. CRAR (per cent to risk weighted assets)										
Domestic Banks with International Business	4	8	8	8	8	8	8	9	9	9
Other Domestic Banks	4	4	4	8	8	8	8	9	9	9
Foreign Banks	8	8	8	8	8	8	8	9	9	9
2. Non-performing Assets (period overdue in quarters)										
Sub-standard Assets	4	3	2	2	2	2	2	2	2	2#
Doubtful Assets	8	8	8	8	8	8	8	8	6	6##
3. Provisioning Requirements (per cent to corresponding asset)										
Standard Assets*								0.25	0.25	0.25
Sub standard Assets	10	10	10	10	10	10	10	10	10	10
Doubtful Assets										
Secured portion**	20-50	20-50	20-50	20-50	20-50	20-50	20-50	20-50	20-50	20-50
Unsecured portion	100	100	100	100	100	100	100	100	100	100
Loss Assets	100	100	100	100	100	100	100	100	100	100
4. Mark to Market (per cent)	30	30	30	40	50	60	70	75	\$\$	\$\$
#	1 quarter from the year ending March 31, 2004									
##	4 quarters effective March 31, 2005									
*	on global portfolio basis									
**	20 per cent if a doubtful asset (DA) = 1 year; 30 per cent if DA of 1-3 years; 50 per cent if DA>3 years.									
\$\$	According to the revised classification norms for investment portfolio (including SLR and non-SLR securities) effective half-year ended September 30, 2000, banks should classify the same into three categories, viz., Held to Maturity (HTM), Available for Sale (AFS) and Held for Trading (HFT) categories. The investments under HTM should not exceed 25 per cent of banks' total investments.									

Financial Institutions

2.107 The profitability analysis of the nine FIs³ indicates that the combined net profits of these institutions declined by 46.5 per cent during 2001-02. This reflected a decline in income by 3.2 per cent and a concomitant increase in expenditure by 4.8 per cent, mainly due to a sharp increase of 97.3 per cent in provisions. The industrial slowdown and exposure to certain industries has adversely affected the quality of assets of FIs. The spread (net interest income) as a ratio of total assets worsened from 1.55 per cent in 2000-01 to 1.27 per cent in 2001-02. The share of

net NPAs in net loans as at end-March 2002 was highest in the case of Industrial Investment Bank of India (IIBI) at 24.1 per cent, followed by Industrial Finance Corporation of India (IFCI) (22.5 per cent), Tourism Finance Corporation of India (TFCI) (20.2 per cent) and Industrial Development Bank of India (IDBI) (13.4 per cent). The CRAR of all institutions, excepting IFCI (3.1 per cent), were well above the benchmark minimum of 9 per cent.

Non-Banking Financial Companies

2.108 As at end-March 2001, the total outstanding public deposits of the 1,012 deposit holding companies (both registered and unregistered) aggregated Rs.18,243 crore, equivalent to 1.7 per cent of the outstanding deposits (Rs.10,55,386 crore)

3. ICICI Ltd. merged with ICICI Bank Ltd. with effect from March 30, 2002 and is, therefore, excluded.

REPORT ON CURRENCY AND FINANCE

of scheduled commercial banks (excluding regional rural banks). The aggregate assets of the NBFC sector increased to Rs.54,489 crore as on March 31, 2001 from Rs.51,324 crore as on March 31, 2000. The profitability analysis of the NBFCs (excluding residuary non-banking financial companies) indicates that this segment recorded a net loss of Rs.471 crore in 2000-01 in contrast to a net profit of Rs.137 crore in the previous year. Income registered a decline of 16.5 per cent largely due to a drop in fund-based income while the decline in expenditure was 6.9 per cent. At the disaggregated level, equipment leasing companies registered a sharp growth of 46.7 per cent in public deposits held by them while those held by investment and loan companies declined sharply by 63.5 per cent during the same period.

Insurance Companies

2.109 The process of liberalisation of the insurance market continued to gather pace during 2002-03. The Insurance and Regulatory Development Authority (IRDA) registered one new life insurance company and three general insurance companies taking the number of life insurers and general insurers both to 13 during 2002-03 so far. According to the IRDA, the life insurance business at force (in terms of premium) expanded by 38.9 per cent during 2001-02 as compared with 37.4 per cent during the previous year. The general insurance business (in terms of gross direct premium income) increased by 26.3 per cent during 2001-02 as compared with 5.9 per cent during the previous year. The share of the private insurers, life and non-life worked out to about 0.5 per cent. During 2001-02, all insurance companies satisfied the solvency margins set by the IRDA.

VIII. EXTERNAL SECTOR

Global Economic Scenario

2.110 The near-term outlook for global growth continues to remain uncertain in view of the hesitant and limited nature of the recovery that characterised the global growth process in the second half of 2002. The bursting of the technology, telecom and media bubbles, meltdowns in equity prices, oil price hikes, war tensions and corporate accounting problems continue to hinder the recovery process. According to the estimates generated by the IMF, world output is expected to recover to about 3.7 per cent in 2003 from 2.8 per cent in 2002 and 2.2 per cent in 2001. World trade volume is also projected to exhibit a stronger recovery in 2003 in relation to 2002 (Table 2.18).

2.111 The signs of recovery witnessed around early 2002 in the USA subsequently lost momentum. This has raised concerns about the strength and durability of global recovery in the face of persistent weak economic activity in other major industrial countries as well as war tensions. Quarterly estimates of GDP indicate that the major economies continue to experience slower growth rates which reaffirm the weakness of the recovery process. Activity in Japan and Euro area continue to remain weak. In Japan, a modest rebound is projected for the remaining period of 2002 and 2003. Domestic demand remains sluggish in the Euro area as the recovery is lagging behind in other areas like North America and the emerging markets in Asia (Table 2.19).

2.112 In the currency market, the movement in major exchange rates was dominated by a large depreciation of the US dollar against the euro and yen (Chart II.52). This is partly a reflection of the growing concerns about the large US current account deficit and a

Table 2.18 : Global Economy – Key Indicators

(Annual per cent change)

Variable	September 2002 Projections				Difference from April 2002 projections	
	2000	2001	2002	2003	2002	2003
	1	2	3	4	5	6
1. World Output	4.7	2.2	2.8	3.7	..	-0.3
2. Advanced Economies	3.8	0.8	1.7	2.5	..	-0.5
3. Developing Countries	5.7	3.9	4.2	5.2	-0.1	-0.3
4. World trade (Volume)	12.6	-0.1	2.1	6.1	-0.4	-0.5
5. Oil Prices (US \$)	57.0	-14.0	0.5	-0.8	5.8	3.5
6. Non-oil commodity prices (US \$)	1.8	-5.4	4.2	5.7	4.3	-1.5

Source : World Economic Outlook, September 2002.

RECENT ECONOMIC DEVELOPMENTS

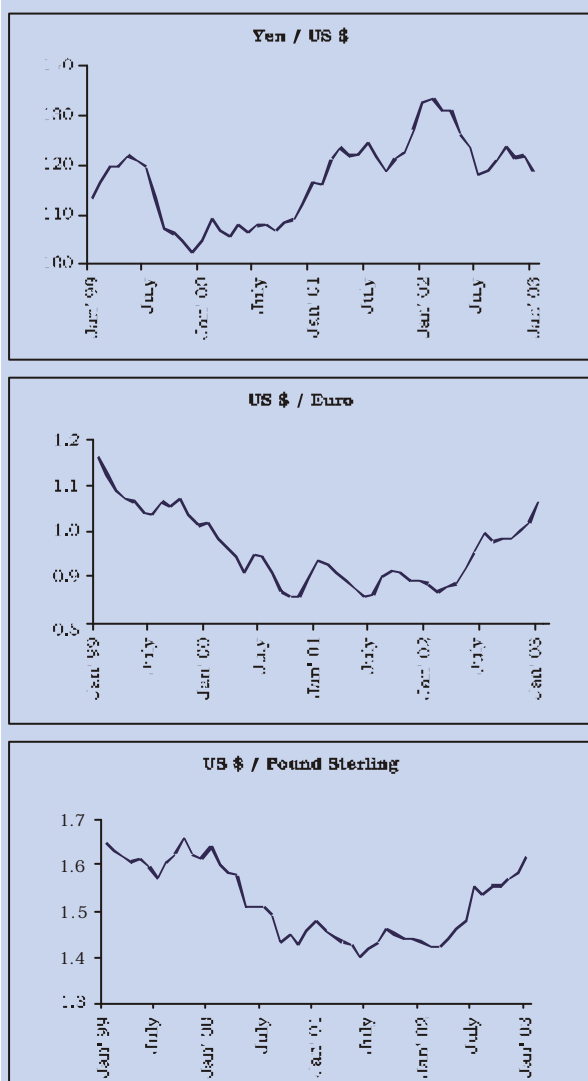
Table 2.19 : Cross-Country Quarterly GDP Growth

(Year-on-year, in per cent)

Area	2001				2002			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	1	2	3	4	5	6	7	8
USA	-0.6	-1.6	-0.3	2.7	5.0	1.3	4.0	1.4
Euro Area	2.4	1.5	1.3	0.5	0.3	0.7	0.8	..
Japan	1.0	-2.1	-1.3	-0.4	0.1	1.3	0.7	0.5

Source : US Bureau of Economic Analysis; European Central Bank Monthly Bulletin (Various Issues) and Bank of Japan's Monthly Report on Finance and Economic Development (Various issues).

Chart II.52 : Exchange Rate Movements of Major Currency Pairs



Source: IMF, International Financial Statistics, January 2003.

decline in the attractiveness of US assets. Amidst the global slowdown, the US current account deficit improved very little since 2000. On the other hand, some of the emerging market economies in Asia, Japan and to some extent Europe are witnessing surpluses in their current accounts.

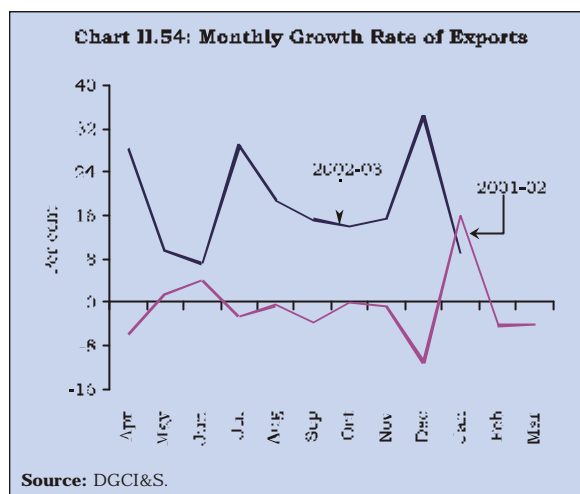
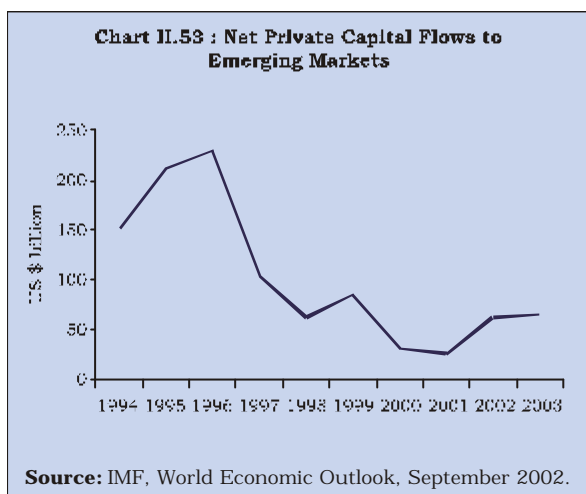
2.113 The outlook for emerging market economies has become increasingly diverse. Latin American countries, in particular, witnessed substantial turbulence, largely due to country-specific factors, including concerns about debt dynamics and political uncertainties, generating a lower risk appetite and the increased possibility of contagion. Developing Asia, on the other hand, saw a recovery, posting a growth of 6.1 per cent in 2002, driven by improvement in both exports and domestic demand. The IMF projections suggest that this region may sustain the same growth rate in 2003, with scope for some further recovery.

2.114 The global financial markets weakened since end-March 2002, reflecting a deterioration in the balance sheets of financial intermediaries, corporates and households, concerns about the strength and durability of the recovery and unsettled geo-political conditions. Equity markets and bond yields weakened sharply, while credit spreads widened in bond markets reflecting concerns relating to corporate earnings. A heightened risk aversion contributed to a sharp rise in interest rate spreads.

2.115 The net private capital flows to emerging market economies grew by more than two and a half times during 2002 as compared with the last year, with the major portion accounted by the emerging market economies of Asia (Chart II.53). The private capital flows to developing Asia increased substantially during 2002.

2.116 There are several downside risks to the growth outlook for 2003. The most prominent concern is the unfavorable geopolitical situation and

REPORT ON CURRENCY AND FINANCE



the associated implications for international oil prices. The IMF estimates suggest that a sustained US \$ 5 increase in oil prices could lower global GDP growth by 0.3 percentage points. Other downside risks are: i) dependence of the recovery on the outlook for the US, with the pick-up in Europe yet to be self-sustained and domestic demand growth in Japan likely to remain constrained by banking and corporate sector difficulties, ii) volatility in equity markets, iii) possibility of sudden corrections in the US dollar, iv) increased risks in emerging markets, particularly in Latin America and Turkey which could potentially impact on capital flows to emerging market economies, and v) continuing weakness in the economic recovery in Japan and its vulnerability to adverse shocks, such as an appreciation of the yen. Financial market developments also reflect heightened risk aversion. A further decline in asset prices can affect the growth prospects by weakening the balance sheets of corporates, institutions and households.

2.117 The need for industrial countries to maintain accommodative monetary policies has been emphasised by the IMF in the World Economic Outlook of September 2002. Interest rates are already at a very low level in the developed countries. The US Federal Reserve cut its target for the Federal Funds Rate to 1.25 per cent in November 2002, after having already lowered it in eleven steps from 6.5 per cent to 1.75 per cent during 2001. As inflationary pressures abated, the European Central Bank (ECB), which had kept its key interest rate (minimum bid rate on the main refinancing operations) unchanged through 2002 (up to November 2002), reduced it by 50 basis points to 2.75 per cent in December 2002

and further by 25 basis points to 2.5 per cent in March 2003. In the UK, the repo rate was reduced by 25 basis points to 3.75 per cent in February 2003.

Merchandise Trade

2.118 India's exports staged a remarkable recovery during 2002-03 (up to January 2003) after declining by 1.6 per cent during 2001-02 (Chart II.54 and Table 2.20). As per the latest provisional data released by the Directorate General of Commercial Intelligence and Statistics (DGCI&S), India's exports during 2002-03

Table 2.20 : India's Foreign Trade

(US \$ Billion)

Item	April-March		April-January	
	2000-01	2001-02	2001-02	2002-03 P
	1	2	3	4
Exports	44.6	43.8	35.9	42.2
	(21.0)	(-1.6)	(-0.3)	(17.3)
(a) Oil	1.9	2.1	1.7	1.7
	(4,709.7) #	(11.6)	(8.7)	(-1.2)
(b) Non-Oil	42.7	41.7	34.2	40.5
	(16.1)	(-2.2)	(-0.7)	(18.2)
Imports	50.5	51.4	42.5	49.3
	(1.7)	(1.7)	(0.2)	(15.9)
(a) Oil	15.7	14.0	11.7	14.3
	(24.1)	(-10.5)	(-14.1)	(22.1)
(b) Non-Oil	34.9	37.4	30.8	35.0
	(-5.9)	(7.2)	(7.0)	(13.6)
Trade Balance	-6.0	-7.6	-6.6	-7.2
(a) Oil	-13.8	-11.9	-10.0	-12.6
(b) Non-Oil	7.8	4.3	3.4	5.5

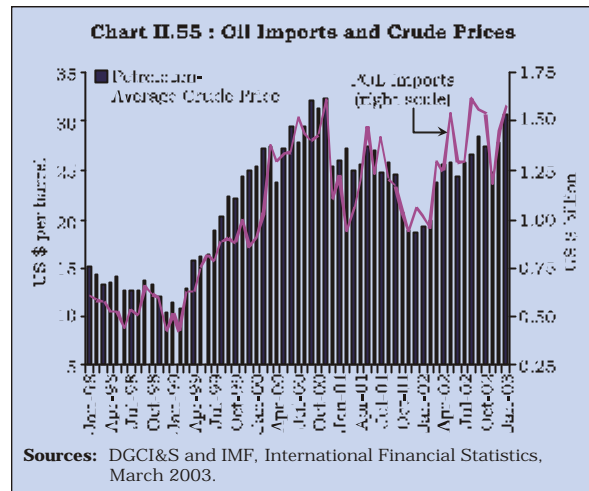
P Provisional.
 # Exports of petroleum products rose sharply to US \$ 1,870 million in 2000-01 from US \$ 39 million in 1999-00.
 Figures in brackets relate to percentage variation over the corresponding period of the previous year.
Note : Figures may not add up to totals due to rounding-off.
Source : DGCI&S.

RECENT ECONOMIC DEVELOPMENTS

(up to January 2003), at US \$ 42.2 billion, increased by 17.3 per cent in sharp contrast to a decline of 0.3 per cent during the corresponding period of the previous year. The outlook for export growth during the remainder of 2002-03 remains positive.

2.119 Imports, at US \$ 49.3 billion during 2002-03 (up to January 2003), witnessed an increase of 15.9 per cent as compared with a marginal rise of 0.2 per cent during the comparable period of the previous year, mainly on account of higher oil imports (Chart II.55). Oil imports during this period increased sharply by 22.1 per cent as against a decline of 14.1 per cent during 2001-02 (up to January 2002), due to high international crude oil prices. In consonance with a pick-up in industrial activity, non-oil imports, at US \$ 35.0 billion, recorded a higher increase of 13.6 per cent as compared with 7.0 per cent during the corresponding period of the previous year. The trade deficit during this period widened to US \$ 7.2 billion from US \$ 6.6 billion during 2001-02 (up to January 2002).

2.120 The detailed data on commodity/country-wise trade are available up to the period April-November 2002. Exports of manufactured goods as well as primary products posted robust growth as compared



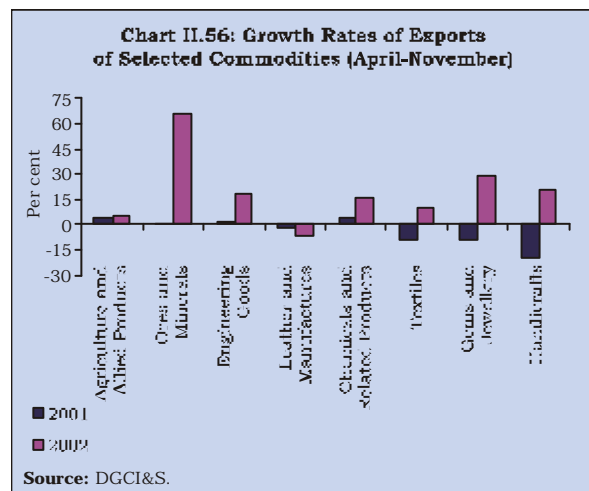
with the corresponding period of the previous year. During April-November 2002, while the exports of manufactured goods increased by 16.2 per cent in contrast to the decline of 4.6 per cent during the corresponding period of the previous year, primary products exports recorded a higher increase of 14.9 per cent as compared with that of 3.5 per cent during April-November 2001 (Table 2.21 and Chart II.56).

2.121 The destination-wise data showed an increase in the exports to Organisation of Economic Cooperation and Development (OECD), Organisation of Petroleum Exporting Countries (OPEC), Eastern Europe and developing countries of Asia and Latin America. Among the major destination countries, sharp increases in exports were observed in respect of USA, Japan, Belgium, Germany, UK, People's Republic of China, Indonesia, UAE, South Korea, Singapore and Sri Lanka, while the exports to Hong Kong declined (Chart II.57).

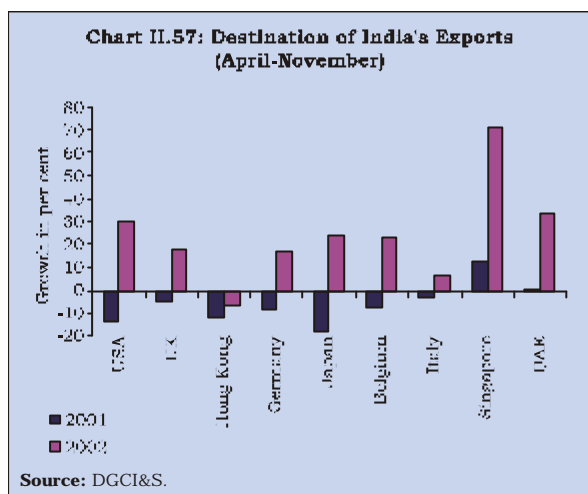
Table 2.21 : Growth Rates of India's Principal Exports

Item	(Per cent)			
	April-March		April-November	
	2000-01	2001-02	2001-02	2002-03 P
	1	2	3	4
I. Primary Products	9.2	-0.9	3.5	14.9
(a) Agriculture and Allied Products	6.5	-2.0	3.9	4.9
(b) Ores and Minerals	25.9	5.0	1.0	65.5
II. Manufactured Goods	15.6	-3.5	-4.6	16.2
<i>of which:</i>				
(a) Leather and Manufactures	22.3	-2.0	-2.0	-7.0
(b) Chemicals and Related Products	25.1	1.7	3.8	16.3
(c) Engineering Goods	32.3	0.8	1.9	18.3
(d) Textiles	16.8	-10.0	-9.1	10.3
(e) Handicrafts	-1.1	-17.2	-19.8	21.0
(f) Gems and jewellery	-1.6	-1.1	-8.8	29.4
(g) Carpets	-9.8	-13.5	-14.3	-6.8
III. Petroleum Products	4,709.7 #	13.7	24.8	11.3
Total Exports	21.0	-1.6	-0.8	18.0

P Provisional
Exports of petroleum products rose sharply to US \$ 1,870 million in 2000-01 from US \$ 39 million in 1999-00.
Source : DGC&S.



REPORT ON CURRENCY AND FINANCE



2.122 Commodity-wise data on imports during April-November 2002 revealed that non-oil imports increased by 12.8 per cent as compared with 7.7 per cent during the corresponding period of the previous year. There was a decline in the imports of gold and silver by 9.4 per cent during April-November 2002 owing, *inter alia*, to a sharp escalation in their global prices. Non-oil imports excluding gold and silver, recorded an increase of 16.5 per cent mainly brought about by increases in the imports of capital goods and export related items (Chart II.58).

2.123 With a revival in industrial activity, the imports of capital goods showed a robust increase of 30.4 per cent during April-November 2002 as compared with 5.3 per cent during the corresponding period of the previous year. Within the capital goods group, imports of 'electronic goods including computer software' and 'transport equipments' increased significantly. Imports of export-

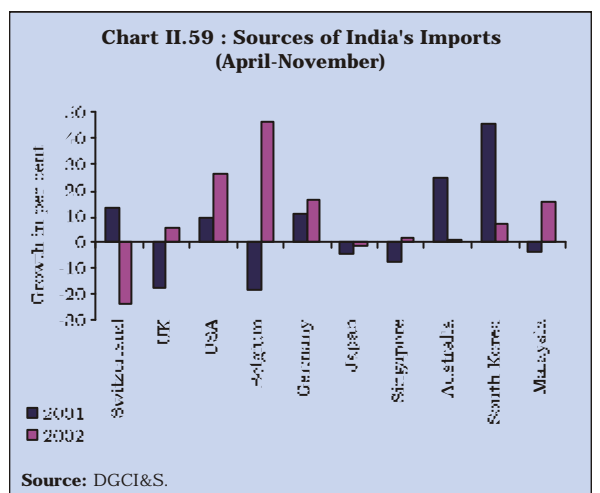
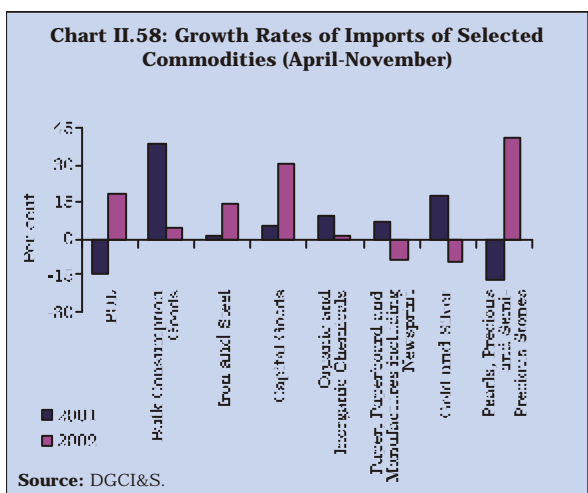
related items like raw cashew nuts increased perceptibly along with that of 'pearls, precious and semi-precious stones'. The imports of industrial raw materials and intermediate goods such as 'pulp and waste paper', 'artificial resins and plastic materials' and crude rubber (including synthetic and reclaimed) also showed an increase consistent with an increase in industrial activity. Imports of fertilisers, 'paper, paperboard and manufactures including newsprint' and 'metalliferous ores and metal scrap' showed a decline.

2.124 The country-wise analysis of import data for the period April-November 2002 reveals an increase in imports from the OECD, OPEC, Eastern Europe and developing countries of Asia and Africa, while imports from Latin American countries declined (Chart II.59).

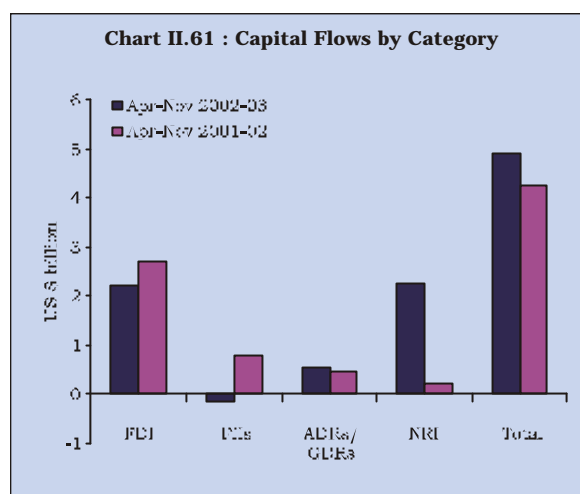
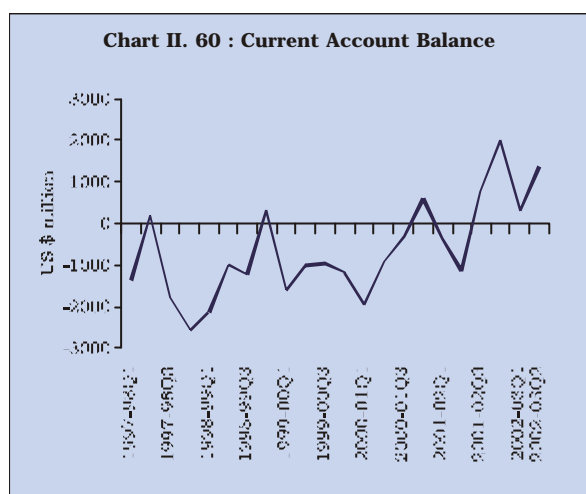
Invisibles and Current Account

2.125 Invisibles earnings continued to provide significant support to India's balance of payments during 2002-03 (up to November). The buoyancy in the invisible account was sustained as the net invisible surplus (on account of transactions in services, transfers and income) increased to US \$ 10.0 billion during April-November 2002. According to disaggregated data available up to September 2002, the higher surplus was mainly due to higher software and private transfer receipts. Software exports rose by 13.4 per cent during the first half of 2002-03 from the corresponding half of the previous year.

2.126 With the merchandise trade deficit contracting, and the increased invisible surplus, the current account balance moved into a surplus of US \$ 2.5 billion during April-November 2002 as against a deficit of US \$ 1.3 billion during the corresponding period of 2001 (Chart II.60).



RECENT ECONOMIC DEVELOPMENTS

**Capital Account**

2.127 Net capital flows increased from US \$ 6.2 billion during April-November 2001 to US \$ 8.0 billion during April-November 2002 (Chart II.61).

2.128 Estimates show that positive exchange rate expectations, a freer trade and payments regime, burgeoning international reserves and improving

fundamentals provided a safe haven for adjustments in financial claims leading to larger inflows during April - November 2002 (Table 2.22).

2.129 Amongst the major components of capital flows, while foreign direct investment flows were a little lower than in the previous year, portfolio investment flows failed to pick up (Table 2.23). Outflows under external commercial borrowings increased further as the

Table 2.22 : Estimates of Sources of Accretion to Foreign Exchange Reserves

(US \$ billion)

Item	April- November 2001	April- November 2002
	1	2
I. Exports	29.0	34.0
2. Imports	38.3	41.5
3. Invisibles (net)	8.0	10.0
4. Current Account Balance (1-2+3)	-1.3	2.5
II. Capital Account (net)	6.2	8.0
5. Foreign Investment	2.7	1.9
6. Banking Capital, of which:	3.6	4.0
NRI Deposits	2.2	2.1
7. External Commercial Borrowings	-0.9	-1.8
8. External Assistance	0.1	-0.4
9. Short Term Credit	-0.5	0.5
10. Other capital	1.2	3.8
of which:		
(i) Leads and lags in export receipts	0.5	2.8
III. Overall Balance	4.9	10.5
M. Accretion to Foreign Exchange Reserves (excluding valuation change)	4.9	10.5
V. Valuation change (appreciation '+'/ depreciation '-')	-0.4	+2.1
VI. Accretion to Foreign Exchange Reserves (including valuation change) (IV + V)	4.5	12.6

Table 2.23 : Foreign Investment Flows by Category

(US \$ million)

Item	2000-01	2001-02	April-December (P)	
			2001-02	2002-03
	1	2	3	4
A. Direct Investment	2,339	3,904	2,712	2,256
a) Government (SIA/FIPB)	1,456	2,221	1,581	925
b) RBI	454	767	564	598
c) NRI	67	35	33	-
d) Acquisition of shares*	362	881	534	733
B. Portfolio Investment	2,760	2,021	1,343	386
a) GDRs/ ADRs #	831	477	477	537
b) FIIs @	1,847	1,505	827	-151
c) Off-shore funds and others	82	39	39	-
Total (A+B)	5,099	5,925	4,055	2,642
P Provisional.				
* Relates to acquisition of shares of Indian companies by non-residents under Section 5 of FEMA 1999.				
# Represents the amount raised by Indian corporates through Global Depository Receipts (GDRs) /American Depository Receipts (ADRs).				
@ Represents net inflow of funds by Foreign Institutional Investors (FIIs).				

REPORT ON CURRENCY AND FINANCE
Table 2.24 : Inflows under NRI Deposit Scheme

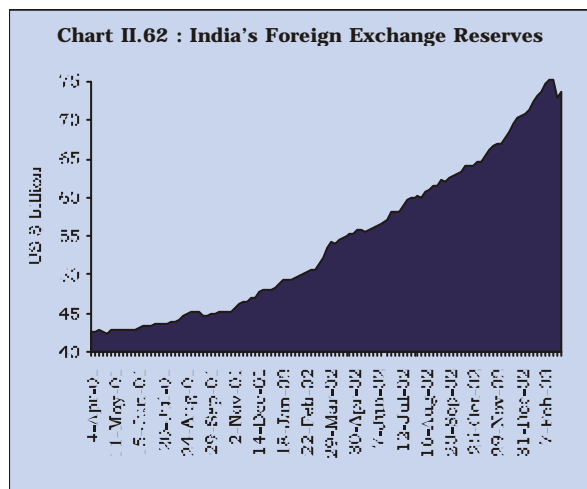
Scheme	(US \$ million)			
			April-December (P)	
	2000-01	2001-02	2001-02	2002-03
	1	2	3	4
1. FCNR(B)	904	594	585	592
2. NR(E)RA	860	1,626	1,206	4,582
3. NR(NR)RD	553	508	463	-2,891
Total	2,317	2,728	2,254	2,283
P Provisional.				

appetite for external finance remained subdued, partly on account of ample domestic liquidity.

2.130 Non-resident deposits were broadly of the same order as in the previous year. Short-term credits rose in line with the increase in POL imports (Table 2.24).

Foreign Exchange Reserves

2.131 The foreign exchange reserves increased by US \$ 21.2 billion during 2002-03 (up to February 21, 2003) on the top of an increase of US \$ 11.8 billion during 2001-02 (Chart II.62). The foreign exchange reserves declined to US \$ 72.9 billion on February 28, 2003 on account of pre-payment of external debt of US \$ 2.97 billion by the Central Government. At US \$ 73.9 billion as on March 13, 2003, the level of reserves was equivalent to more than a year's imports. The increase in reserves was almost entirely on account of foreign currency assets. Gold holdings of the Reserve Bank increased by a marginal US \$ 0.7 billion. Currency valuation effects arising from a realignment of the US dollar with other major currencies accounted for US \$ 3.5 billion of the reserve accretion during 2002-03 (up to March 13, 2003).

Chart II.62 : India's Foreign Exchange Reserves


2.132 The recent sustained increase in the reserves have raised issues about the costs and benefits of reserves. The financial cost of additional reserve accretion is estimated to be low, given that debt flows contributed only 23 per cent of the reserve accretion during April-November 2002 while the surplus in the current account, non-debt creating flows and valuation factors, which do not involve contractual servicing obligations, together contributed 77 per cent of the reserve accretion. These costs are likely to be more than offset by the return on additional reserves.

2.133 Forward liabilities of the Reserve Bank were fully extinguished by September 2002. Forward assets of US \$ 2.6 billion were accumulated by end-February 2003.

2.134 The accumulation of foreign exchange reserves during the year is in line with the Reserve Bank's policy of maintaining an adequate level of foreign exchange reserves to meet import requirements, unforeseen contingencies, volatility, self-fulfilling and speculative adverse expectations and liquidity risks associated with different types of capital flows. The policy for reserve management continues to be judiciously built upon a host of identifiable factors and other contingencies, including the size of the current account deficit, the size of short-term liabilities (including current repayment obligations on long-term loans), the possible variability in portfolio investment and other types of capital flows, the unanticipated pressures on the balance of payments arising out of external shocks and movements in the repatriable foreign currency deposits of Non-Resident Indians (NRIs). Taking these factors into account, India's foreign exchange reserves are at present comfortable and consistent with the rate of growth, the share of external sector in the economy and the size of risk-adjusted capital flows.

2.135 A number of measures of current and capital account relaxations were undertaken during the year as a part of the ongoing liberalisation of exchange control regulations and taking into account the stable market conditions and healthy foreign exchange inflows (Box II.2).

External Debt

2.136 India's external debt, at US \$ 101.97 billion as at end-September 2002, increased by 0.7 per cent from the end-June 2002 level and 3.5 per cent over end-March 2002 (Table 2.25).

2.137 The consolidation of external debt was carried further during the quarter as indicated by key

RECENT ECONOMIC DEVELOPMENTS
Box II.2
Current and Capital Account Liberalisation Policies adopted in India: 2002-03

- In order to permit the corporates to take advantage of low interest rates, the Reserve Bank simplified the norms for prepayment of external commercial borrowings (ECBs), by allowing prepayment without any limit out of balances held in EEFC accounts as well as out of local resources/market purchases.
- Funds in Non-Resident Ordinary (NRO) accounts are allowed to be repatriated up to (a) US \$ 30,000 per academic year, to meet expenses in connection with education; (b) US \$ 1,00,000 to meet the medical expenses abroad of the account holder or his family members and (c) US \$ 1,00,000 per year, representing sale proceeds of immovable property, which was held for a period not less than 10 years subject to payment of applicable Indian taxes.
- Considerable liberalisation has been made towards release of foreign exchange for individual residents, with self certification / minimum documentation requirements, for most purposes including travel, education, medical expenses and other current account transactions.
- Non-resident Indians/ Persons of Indian Origin (NRIs/PIOs) have been permitted to repatriate assets in India acquired by way of inheritance/legacy, in addition to other facilities. Full repatriation of current income like rent, dividend, pension and interests of NRIs, even without holding a NRO account in India was also permitted.
- Status Holder Exporters may credit up to 100 per cent of their eligible receipts of foreign exchange to their Exchange Earners Foreign Currency (EEFC) account.
- Remittances towards premium for general insurance policies taken by units located in Special Economic Zones (SEZ) from insurers outside India were permitted.
- Insurance companies registered with the Insurance Regulatory and Development Authority (IRDA) were allowed issuance of general insurance policies denominated in foreign currency.
- The Reserve Bank allowed banks to offer i) foreign currency-rupee swaps to their customers without any limit and ii) hedging facility to FIIs, as well as iii) a facility to freely invest in overseas money and debt market instruments.
- The existing limit of US \$ 20,000 on remittance for purchase of foreign securities by resident individuals under the Employees Stock Option (ESOP) Scheme has been removed. Remittances for the acquisition of foreign securities under ESOP is permitted as per terms of offer without any monetary limit subject to conditions.
- Indian companies have been allowed to retain ADR and GDR proceeds abroad for any period to meet their future foreign exchange requirements. Corporates would now be permitted to acquire immovable property overseas for their business and residential (staff) purposes.
- Listed Indian companies have been allowed to invest abroad in companies a) listed on recognised stock exchanges and b) which has the shareholding of at least 10 per cent in an Indian company listed on a recognised stock exchange in India (as on January 1 of the year of the Investment). Such investment shall not exceed 25 per cent of the Indian company's net worth, as on the date of the latest audited balance sheet.
- Mutual funds, which are at present permitted to invest in ADRs/GDRs of the Indian companies and rated debt investments within an overall cap of US \$ 500 million, are permitted to invest in equity of overseas companies subject to the overall cap of US \$ 1 billion.
- Corporates raising ECBs may retain the funds abroad in a bank account for their future foreign exchange requirements subject to some stipulations.
- Authorised dealers are permitted to allow remittance of assets of foreign nationals, including retired employees/ widows of Indian citizens resident outside India and assets in India acquired by NRIs/PIOs by way of inheritance/legacy up to US \$ 1,00,000.
- Resident individuals are permitted to open a Resident Foreign Currency Domestic (RFC(D)) Account with a bank in India and deposit foreign exchange earnings repatriated to India through the banking channel. The earnings could be out of export of goods and/or services, royalty, honorarium etc. They can also open/credit the RFC(D) account with currency notes, bank notes and travelers cheques (a) saved from the trip outside India, (b) received as honorarium during the trip outside India, (c) received as gift from persons on visit to India and (d) received from a person on a visit to India for services rendered in India. These accounts are not interest bearing and there is no ceiling on the balances that can be built up in these accounts. The balances held in these accounts can be used for any purpose for which foreign exchange can be bought from a bank in India.
- Companies are allowed to make investment in JV/WOS abroad without prior approval of the RBI up to US \$ 100 million, provided that the drawal of foreign exchange from an AD in India does not exceed 100 per cent of the net worth of the Indian Company.
- Listed Indian Companies, resident individuals and mutual funds have been permitted to invest in companies (a) listed on a recognised stock exchange and (b) which has the shareholding of at least 10 per cent in an Indian Company listed on a recognised stock exchange in India.

REPORT ON CURRENCY AND FINANCE

indicators of debt sustainability. The concessional debt as a proportion to total debt continued to be significant. The size of short-term debt remained modest both in regard to total debt and reserves. The proportion of short-term debt to total debt remained broadly stable at around 3.0 per cent as at end-September 2002 as

compared with 3.1 per cent as at end-June 2002 and 2.8 per cent as at end-March 2002. The ratio of short-term debt to foreign exchange reserves declined to 4.8 per cent as at end-September 2002 from 5.3 per cent as at end-June 2002 and 5.1 per cent as at end-March 2002.

Table 2.25 : India's External Debt

Item	As at the end of					
	March 2002		June 2002		September 2002	
	Amount (US \$ Million)	Share in Total Debt (Per cent)	Amount (US \$ Million)	Share in Total Debt (Per cent)	Amount (US \$ Million)	Share in Total Debt (Per cent)
	1	2	3	4	5	6
1. Multilateral	31,898	32.4	32,288	31.9	32,132	31.5
2. Bilateral	15,347	15.6	16,306	16.1	16,234	15.9
3. IMF	0	0	0	0	0	0
4. Export Credit	5,005	5.1	4,957	4.9	4,769	4.7
5. Commercial Borrowings	23,338	23.7	23,081	22.8	22,344	21.9
6. NRI Deposits (Long-Term)	17,154	17.4	18,617	18.4	20,658	20.3
7. Rupee Debt	3,002	3.0	2,912	2.9	2,800	2.7
8. Long-Term Debt (1 to 7)	95,744	97.2	98,161	96.9	98,937	97.0
9. Short-Term Debt *	2,745	2.8	3,092	3.1	3,035	3.0
10. Total Debt (8+9)	98,489	100.0	1,01,253	100.0	1,01,972	100.0

* Excludes suppliers credit of up to 180 days.

III

THE REAL ECONOMY

Introduction

3.1 During the first three decades after Independence, the Indian economy stagnated around a trend growth of 3.5 per cent. The scenario changed during the 1980s. The acceleration of growth during the 1980s to 5.6 per cent put the Indian economy on a higher growth path. However, the growth process of the 1980s turned increasingly unsustainable as manifested in the growing macroeconomic imbalances over the decade in the form of high fiscal deficit, high levels of current account deficit, and increasing levels of external debt, besides a repressive and weakening financial system. Continuing macroeconomic imbalance and delay in taking corrective action accentuated the impact of global economic shock of 1990. A large and growing fiscal deficit with a sizeable component of monetised deficit, resulted in pressures on money supply and inflation. These imbalances, in turn, spilled over to the external sector in the form of a large and unsustainable current account deficit - giving rise to sizeable public debt, both domestic and external. All these culminated in an unprecedented external payments crisis in 1991. Economic growth fell to such a low level in 1991-92 that real per capita income declined for the first time since 1979-80. The improved growth performance of the 1980s was, thus, short-lived. To an extent, this underscored the importance of the inter-temporal budget constraint in ensuring macroeconomic stability.

3.2 In response to the macroeconomic crisis; a programme of stabilisation and structural adjustment was initiated in July 1991, with wide ranging reform measures encompassing the areas of trade, exchange rate management, industry, public finance and the financial sector. Fiscal correction, exchange rate adjustment, monetary targets and inflation controls constituted the immediate measures for macroeconomic stability. These measures were supported by structural reforms in the form of industrial deregulation, liberalisation of foreign direct investment, trade liberalisation, overhauling of public enterprises and financial sector reforms. Apart from aiming at restoring the economic stability on both domestic and external fronts, the economic reform programme strived towards achieving a higher growth trajectory

through increased levels of investment, and improvements in productivity, efficiency and competitiveness.

3.3 The reform measures had sectoral dimensions as well. Beginning with the industrial policy of 1991, reforms in the industrial sector were undertaken with a view to remove distortions in the resource allocation and improve competitiveness of Indian industry. The reform measures included removal of industrial licensing, reduction in the number of industries reserved for the public sector, abolition of restrictions on investment and expansion under the Monopolies and Restrictive Trade Practices (MRTP) Act, 1969, automatic approval of foreign investment, elimination of quantitative import restrictions on intermediate and capital goods and steady reduction in protective custom tariffs. These measures created a favourable environment for industry to upgrade its technology and build-up capacity in order to cater to growing domestic and external demand. Despite widespread perception regarding the relative isolation of the agricultural sector from the direct impact of the reform process, a series of policy initiatives were undertaken in this sector as well. These included, *inter alia*, replacement of quantitative controls by tariff, partial decontrol of fertiliser prices, removal of bottlenecks in agricultural marketing, relaxation of restrictions of the Essential Commodities Act, 1955, replacement of the Revamped Public Distribution System (RPDS) with Targeted Public Distribution System (TPDS), and establishment of Rural Infrastructure Development Fund (RIDF). Moreover, price reforms improved terms of trade for agriculture. Also, exchange rate and international trade reforms improved the incentive structure facing agriculture.

3.4 The present Chapter does not seek to chronicle the above-mentioned reform measures, which are well documented elsewhere; instead, against the backdrop of these reform measures, it seeks to address the following set of questions: (i) How did the economic reform of the 1990s influence the growth process? (ii) Was the impact of economic reform on growth short-lived? (iii) How does the Indian economy fare *vis-à-vis* other emerging market economies? (iv) What was the prime mover for the post-reform growth experience? (v) Was it entirely

REPORT ON CURRENCY AND FINANCE

services-driven, with sectors like 'public administration and defence' giving a short-lived fillip to growth? (vi) Has the agricultural sector been somewhat isolated from economic reform? (vii) What explains the unprecedented stockpile of foodgrains in the recent years and what are their macroeconomic implications? (viii) Has the industrial sector entered a phase of prolonged slowdown? (ix) Has there not been any productivity improvement under economic reform? Some of these issues have received attention in the available literature. Given the divergent assessment on each of these issues and recognising the importance of a comprehensive analysis of each sector to explain the overall growth dynamics, this Chapter aims at documenting major developments during reforms, explaining the factors underlying them and identifying the policy challenges therein.

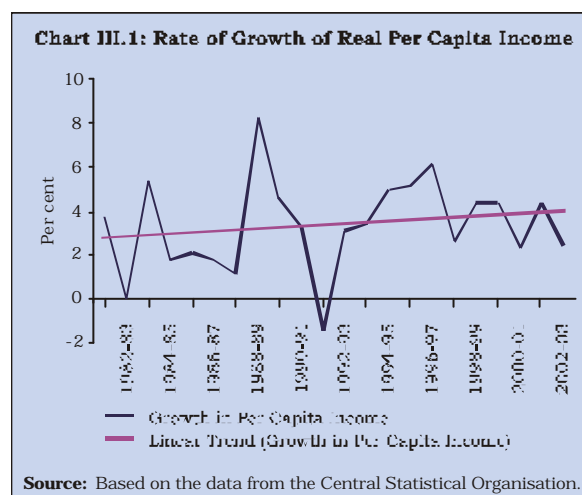
3.5 The Chapter is organised as follows. Section I begins with an analysis of the impact of reforms on economic growth and its variability at the aggregate level, besides analysing issues relating to saving and investment. Section II is devoted to the performance of agriculture sector, which has exhibited a deceleration in output growth during the reform period. Apart from exploring issues like decelerating public investment, credit availability and near stagnating yields, attention is also focused on a phenomenon of topical interest, *viz.*, burgeoning food stocks, with an emphasis on their fiscal and monetary implications. The issue of manufacturing sector slowdown, along with the underlying short and long-run constraints for the industrial sector is examined in Section III. The issue of falling productivity growth impinging on industrial competitiveness is also dealt with in this section. Section IV analyses sustainability of the services sector in view of its increasing significance in the overall growth process. Finally, Section V presents the concluding observations.

I. GROWTH, SAVING AND INVESTMENT

3.6 As mentioned earlier, the programme of macroeconomic stabilisation and the structural reforms introduced since 1991 encompassed the areas of industry, trade, foreign direct investment, public enterprises and the financial sector. This brought about an improved growth performance during the first phase of reform period, *i.e.*, 1992-93 to 1996-97. The overall growth in this period was

led by a marked acceleration in the industrial growth. The growth momentum, however, slackened in the latter phase of reforms, *i.e.*, 1997-98 to 2002-03, with the slowdown exacerbated by the global recessionary conditions.¹ This pulled down the trend growth for the period of reforms (*i.e.*, 1992-93 to 2002-03) to 6.1 per cent, which was moderately higher than the trend growth of 5.6 per cent recorded during the pre-reform decade (*i.e.*, 1981-82 to 1990-91). Although the services sector provided some resilience to the overall growth process, the pronounced deceleration in manufacturing activities during the second phase of the reform period posed a major challenge for sustaining the growth momentum. Against this backdrop, the present section examines three crucial macro-economic aggregates, *viz.*, growth, saving and investment.

3.7 With improvement in the overall growth rate, the real per capita income exhibited an increasing trend (Chart III.1). The per capita income grew at a higher average rate of 3.9 per cent during the reform period compared with 3.2 per cent during the pre-reform decade. This was aided by a distinct deceleration in the compound growth rate of population from 2.14 per cent during the decade ending 1991 to 1.96 per cent during the decade ending 2001. The positive outcome of the growth process during the reform period also seems to have been reflected in reduction in the poverty ratio to 26.1 per cent in 1999-2000 from 36.0 per cent in 1993-94 and 38.9 per cent in 1987-88 (Government of India, 2003).



1. Henceforth, the first phase of reforms refers to the period 1992-93 to 1996-97 and the second phase of reforms refers to the period 1997-98 to 2002-03.

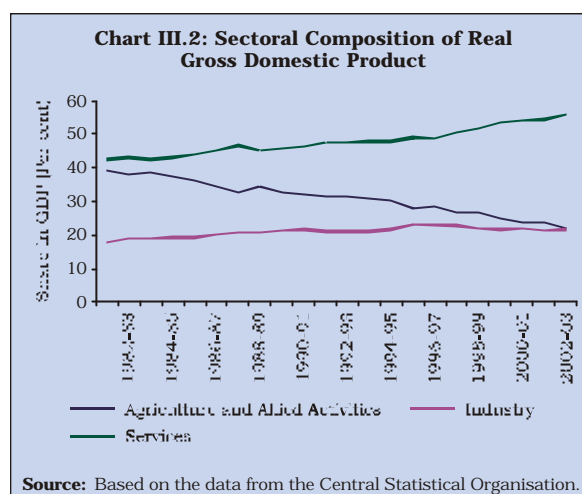
THE REAL ECONOMY

3.8 The real sector is presently confronted with a number of challenges. First, the recent deceleration in economic growth, particularly the sharp deceleration in the rate of industrial growth is worrisome. Second, there has been a distinct downturn in domestic investment during the second half of the decade of reforms, involving both the public sector and the private corporate sector. Third, public sector saving have fallen drastically and have become negative for the first time from 1998-99 onwards.

Growth Performance

3.9 As mentioned before, the economic performance during the reform period reflected an improvement in real Gross Domestic Product (GDP) growth (Table 3.1). The growth process responded favourably to the initial productivity gains arising from deregulation of trade, industry and finance. The overall growth during the reform period was marked by higher services sector growth (8.0 per cent as compared with 6.7 per cent during the 1980s), while agriculture and industry witnessed some deceleration.

3.10 This change in the growth process resulted in shifts in the production structure (Chart III.2). The services sector (including construction) with high growth rate emerged as the 'lead' sector contributing over 50 per cent of GDP in the period of reforms as compared with 44.4 per cent in the pre-reform



decade. The deceleration in agricultural growth led to a decline in its share to 27.0 per cent in the reform period from 35.7 per cent during the pre-reform decade. The shifting output structure reflects the impact of relative sectoral productivity growth on the one hand, and changing demand pattern on the other.

3.11 The growth performance of the Indian economy during the reform period provides encouraging evidence when compared with the growth performance

Table 3.1 : Sectoral Trend Growth Rates of Real Gross Domestic Product

(Per cent)

Sector	Decade Preceding Reforms (1981-82 to 1990-91)		Crisis Year (1991-92)	Period of Reforms (1992-93 to 2002-03)	
	Growth	CV (%)	Growth	Growth	CV (%)
	1	2	3	4	5
1. Agriculture and Allied Activities	3.1	150.7	-1.5	2.5	130.2
2. Industry	7.6	24.1	-1.2	6.2	53.5
Mining and Quarrying	7.5	59.3	3.7	4.2	84.7
Manufacturing	7.4	28.9	-3.6	6.6	62.0
Electricity, Gas and Water Supply	9.4	21.2	10.4	6.0	46.4
3. Services	6.7	18.0	4.5	8.0	22.7
Construction	4.8	102.5	2.1	6.0	51.0
Trade, Hotels and Communication	5.9	18.9	2.5	8.6	22.0
Financing, Insurance, Real Estate and Business Services	10.1	16.3	12.0	7.8	40.2
Community, Social and Personal Services	6.6	30.9	2.6	8.0	44.7
4. GDP at Factor Cost	5.6	39.1	1.3	6.1	23.0

Notes : 1) Trend growth rates have been calculated using semi-logarithmic regression.
2) CV refers to Coefficient of Variation of growth.

Source : Computed on the basis of data from the Central Statistical Organisation.

REPORT ON CURRENCY AND FINANCE

of some other emerging market economies during the same period. Among select emerging market economies, India ranked high during the 1990s in terms of average real GDP growth (Table 3.2). Similar trends were evident at the sectoral level as well. However, unlike India, the growth momentum in most other emerging market economies was led by the industrial sector rather than the services sector.

3.12 Besides acceleration in growth, another important aspect that characterised the growth process in India during the 1990s was the reduced variability in annual growth rates. Among the three sectors of economy, the variability in growth has traditionally been the highest for the agricultural sector, owing to its dependence on the monsoon. Its variability, as measured by the coefficient of variation, however, showed a decline to 130.2 per cent during the period of reforms from 150.7 per cent in the preceding decade, reflecting a favourable impact of the successive normal monsoons. This contributed to a reduction in variability of overall GDP growth to 23.0 per cent from 39.1 per cent during the same period.

3.13 The decadal analysis presented above masks some important aspects of the growth process within the decade. For a meaningful comparison, the period of reforms can be sub-divided into two phases *viz.*, Phase I (1992-93 to 1996-97) and Phase II (1997-98 to 2002-03). The entire period of Phase I can be further divided into two sub-periods based on the growth performance of the economy. The first sub-period (1992-93 to 1993-94) was the period of recovery from the crisis while the second sub-period (1994-95 to 1996-97) was marked by high growth of the economy. During the crisis year of 1991-92, the rate of growth of real GDP had dipped to 1.3 per cent, engendered to a

large extent by sharp credit containment and fiscal as well as import contraction. Both, agriculture and industrial sectors recorded negative rates of growth, the former primarily emanating from the occurrence of drought. However, the speed of recovery of the economy during the first sub-period of Phase I was quite impressive with the real GDP growth improving to an average of 5.5 per cent per annum spread over all the sectors (Table 3.3).

3.14 With the economic recovery gathering momentum in the first sub-period of Phase I, the economy was placed on a higher growth trajectory in the subsequent period. During the second sub-period of the first phase, the growth rate of GDP averaged as much as 7.5 per cent per annum. This was the only period in India's economic history during which real GDP growth exceeded 7.0 per cent consecutively over a period of three years. The sharp acceleration in the rate of growth of overall GDP was largely the result of the phenomenal growth of 10.8 per cent per annum in the industrial sector. The upswing in industrial growth during this sub-period can be regarded as an outcome of removal of various constraints in the form of licensing and other restrictions as a part of the liberalisation initiatives. The growth of GDP, however, moderated in 1997-98, which marks the beginning of phase II.

The Growth Deceleration

3.15 The phase from 1997-98 to 2002-03 was marked by a deceleration in growth with the average rate of growth during this period turning out to be 5.3 per cent, which was much lower than the average growth of 7.5 per cent per annum recorded during the period of high growth from 1994-95 to 1996-97.

Table 3.2 : Growth Performance in Select Emerging Market Economies

(Annual average growth rate in percent)

Country	GDP		Agriculture		Industry		Services	
	1980-1990	1990-2000	1980-1990	1990-2000	1980-1990	1990-2000	1980-1990	1990-2000
	1	2	3	4	5	6	7	8
Argentina	-0.7	4.3	0.7	3.4	-1.3	3.8	0.0	4.5
Brazil	2.7	2.9	2.8	3.2	2.0	2.6	3.3	3.0
China	10.1	10.3	5.9	4.1	11.1	13.7	13.5	9.0
India	5.8	6.0	3.1	3.0	6.9	6.4	7.0	8.0
Indonesia	6.1	4.2	3.6	2.1	7.3	5.2	6.5	4.0
Malaysia	5.3	7.0	3.4	0.3	6.8	8.6	4.9	7.2
Mexico	1.1	3.1	0.8	1.8	1.1	3.8	1.4	2.9
Thailand	7.6	4.2	3.9	2.1	9.8	5.3	7.3	3.7

Source : World Development Indicators 2002, World Bank.

THE REAL ECONOMY

Table 3.3 : Sectoral Growth Rates of Real Gross Domestic Product: Reform Period

(Per cent)

Sector	Phase I		Phase II
	Sub-period I: 1992-93 to 1993-94	Sub-period II: 1994-95 to 1996-97	1997-98 to 2002-03
	1	2	3
1. Agriculture and Allied Activities	5.0	4.6	1.0
Agriculture	5.2	4.7	*
2. Industry	5.3	10.8	4.3
Mining and Quarrying	1.3	5.2	4.0
Manufacturing	6.3	12.2	4.2
Electricity, Gas and Water Supply	3.1	7.2	5.7
3. Services	6.0	7.9	7.9
Construction	2.0	4.6	7.0
Trade, Hotels and Communication	6.3	10.5	7.9
Financing, Insurance, Real Estate and Business Services	9.6	6.9	7.3
Community, Social and Personal Services	4.0	5.8	8.6
4. GDP at Factor Cost	5.5	7.5	5.3

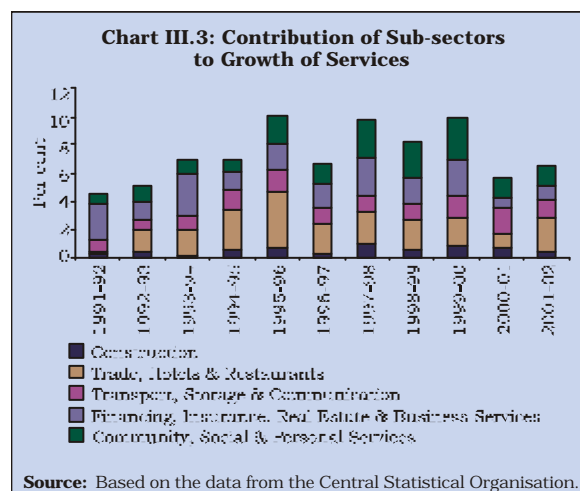
* Not available separately

Source : Computed on the basis of data from the Central Statistical Organisation.

The most disturbing feature of this phase was the steep decline in industrial growth, led by a severe slowdown in the manufacturing sector. The average rate of growth of manufacturing decelerated by as much as eight percentage points during this phase as compared with the second sub-period of the first phase.

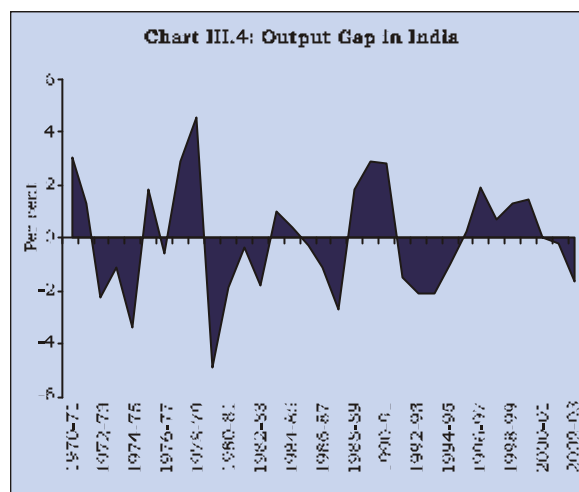
3.16 Within the second phase, real GDP growth, after dipping to 4.8 per cent in 1997-98, recovered during the years 1998-99 and 1999-2000 to over 6.0 per cent. One of the factors contributing to this recovery was the high growth emanating from services sector, and within the services sector, the growth of 'community, social and personal services', particularly 'public administration and defence'. The Fifth Pay Commission Award led to an increase in GDP originating from the sub-sector of 'public administration and defence' in 1997-98, with its lagged effect persisting till 1999-2000. These years witnessed a striking increase in the weighted contribution of 'community, social and personal services' to the growth of GDP originating from the services sector (Chart III.3) [This issue is discussed in greater details in Section IV]. The period from 1997-98 to 1999-2000 also witnessed steady growth in other components of the services sector. In the more recent period, growth of overall GDP dipped to 4.4 per cent

in 2000-01. This was a result of poor performance of agriculture, coupled with a significant deceleration in the growth rate of GDP from the services sector, particularly 'financing, insurance, real estate and business services'. The same rate of growth of 4.4 per cent has also been registered in 2002-03, as per the latest Advance Estimates, which has been an outcome of a sharp fall in agricultural growth to a negative of 3.1 per cent owing to the drought conditions.



Potential Output and Output Gap

3.17 A combination of structural and cyclical factors can be identified for explaining the deceleration in growth during the second phase. Structural factors include, among others, the lack of appropriate reforms in the agricultural sector, infrastructure gaps, labour market rigidities, weak bankruptcy and exit procedures, while the cyclical factors primarily include decline in aggregate demand. The cyclical fluctuations in real economic activity are captured by the measure of output-gap; the impact of structural factors on the growth process can be gauged from the underlying potential output. The potential output indicates the capacity output of the economy as represented by the steady state level that is associated with long-run supply curve under full utilisation of capacity.



3.18 Although the growth process of the economy during the reform period seems to have been influenced, to some extent, by cyclical factors, their impact as reflected in differences between potential and actual output growth was found to have diminished in magnitude in the post-1991 period as compared with the previous four decades (Donde and Sagar, 1999). An updated empirical estimate of the output-gap for India covering the most recent period also reveals that the output gap has come down significantly in the decade of reforms *vis-à-vis* the preceding decade. Furthermore, within the 1990s, there has been a significant narrowing down of the output gap during the latter half. In other words, the cyclical factors seem to have had a diminished impact on the growth process in the recent years. This may have been the result of fortuitous monsoon, more stable growth in services sector and more effective counter-cyclical policies. A combination of these factors may have had a stabilising influence on output fluctuations (Chart III.4).² Contemporaneously, the potential growth rate exhibited somewhat decelerating trend during the latter phase of the 1990s as against the first phase (Chart III.5 and Table 3.4). This corroborates the persistence of structural constraints and may have implications for medium term growth outcome. Despite the declining role of domestic cyclical sources of growth variability, progressive globalisation has enhanced the importance of global cyclical factors. In fact, during the current phase of global slowdown, such factors have weakened India's growth prospects despite its moderate degree of globalisation.

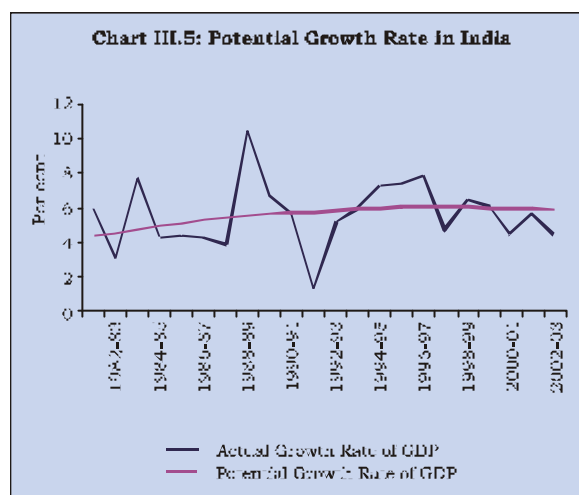


Table 3.4 : Actual and Potential Growth Rates of Real GDP

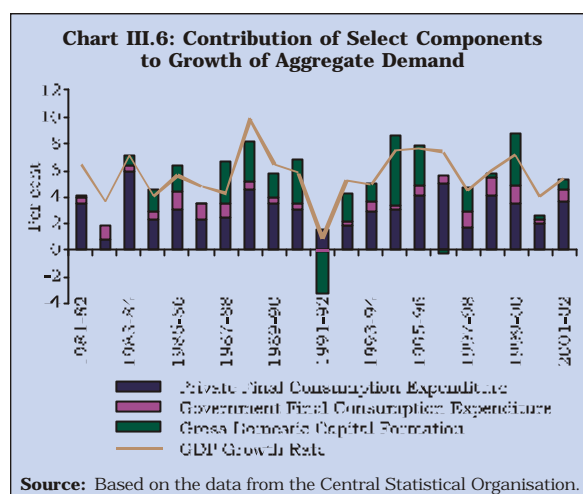
Period	(Per cent)	
	Actual Growth Rate	Potential Growth Rate
	1	2
1981-82 to 1990-91	5.64	5.12
1992-93 to 1996-97	6.69	5.96
1997-98	4.76	6.02
1998-99	6.57	5.97
1999-00	6.04	5.91
2000-01	4.37	5.86
2001-02	5.57	5.82
2002-03	4.37	5.81

2. The output gap represents the difference between the actual output and the potential output worked out on the basis of the filtered series using the Hodrick-Prescott (HP) Filter. Technically, the HP filter is a two-sided linear filter. The time series are decomposed into trend and cyclical components. The smoothed series are obtained by minimising the variance of series around its trend components. The smoothing parameter is taken as 100 for smoothing the annual series.

THE REAL ECONOMY

Aggregate Demand

3.19 Sectoral analysis of the growth process can be supplemented by an assessment of aggregate demand. The growth process during the 1990s can be analysed in terms of autonomous, exogenous and policy-induced components of aggregate demand, which broadly relate to private, net external and government demand, respectively. Several stylised facts emerge from the analysis of sources of aggregate demand during the reform period (Table 3.5 and Chart III.6). During the first phase of reforms, particularly in its second sub-period, improvement in growth emanated mainly from investment demand, with private consumption demand providing a strong support. Second, during the second phase of reforms, the positive demand-pull stemmed from a high growth in the Government consumption expenditure. This increase reflected the rise in GDP originating from 'public administration and defence', owing to the effect of the Fifth Pay Commission. Third, the slowdown in the economic activity during the second phase seems to have been a result of a rapid deceleration in investment demand coupled with a relatively lower growth in private consumption demand. These two components showed contraction in terms of annual growth during the second phase. During this phase, a decline can also be noted in the case of the contributions of these two components to growth in overall aggregate demand, as shown in Chart III.6. In view of these developments, there is a need to revive the aggregate demand especially by accelerating investment in order to stimulate the overall growth performance of the economy.



Saving Behaviour

3.20 The process of economic growth hinges critically on the generation of greater saving and its channelisation into productive investment. The overall improvement in GDP growth during the reform period seems to have been facilitated by the improvement in the rate of aggregate domestic saving as corroborated by an empirical exercise discussed subsequently. During the period of reforms as a whole, the rate of Gross Domestic Saving (GDS) increased to 23.1 per cent from 19.8 per cent in the preceding decade, with both periods witnessing some variability on a year-to-year basis (Chart III.7).

Table 3.5 : Growth Rates and Relative Contributions of Select Components of Aggregate Demand (At 1993-94 prices)

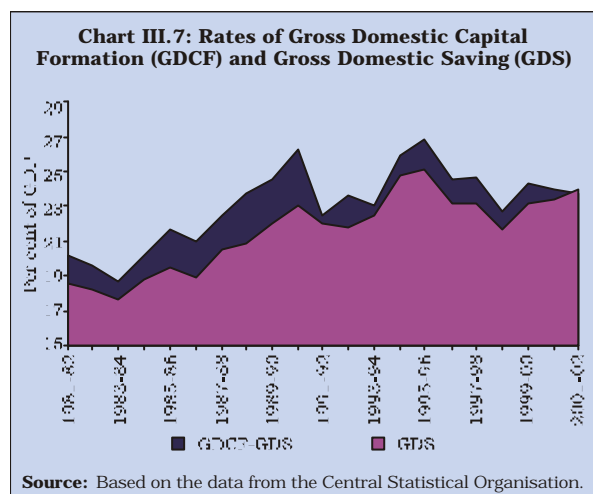
(Per cent)

Item	Growth Rate			Relative Contribution		
	Phase I		Phase II	Phase I		Phase II
	Sub-period I: 1992-93 to 1993-94	Sub-period II: 1994-95 to 1996-97	1997-98 to 2001-02	Sub-period I: 1992-93 to 1993-94	Sub-period II: 1994-95 to 1996-97	1997-98 to 2001-02
	1	2	3	4	5	6
1 Total Final Consumption Expenditure	3.7	6.0	5.3	2.9	4.6	4.0
1.1 Private Final Consumption Expenditure	3.5	6.2	4.7	2.4	4.1	3.0
1.2 Government Final Consumption Expenditure	4.8	4.6	9.0	0.5	0.5	1.0
2 Gross Domestic Capital Formation	7.6	11.0	5.9	1.7	2.7	1.5
3 GDP at Market Prices	5.1	7.5	5.4	5.1	7.5	5.4

Note : The relative contributions of the components of aggregate demand will not add up to total on account of non-availability of Net Exports in real terms.

Source : Computed on the basis of data from the Central Statistical Organisation.

REPORT ON CURRENCY AND FINANCE



3.21 The behaviour of the saving rate and economic growth in India during the reform period seems to suggest that the high growth phase is associated with

higher order of increase in domestic saving (Table 3.6). Within the first phase, the second sub-period, which was also a period of high GDP growth, witnessed an increase of 2.2 percentage points in the domestic saving rate over the first sub-period. During the second phase of reforms, which was marked by a distinct deceleration of growth, the saving rate declined by 1.3 percentage points to reach 23.1 per cent. Empirical relationship between the changes in GDP and incremental saving provides the evidence of a bi-directional causality - highlighting the role of the feedback effects emanating from saving to economic growth and *vice versa*.³

Sources of Domestic Saving

3.22 A salient feature of the 1990s was the rising trend in the household sector saving (Chart III.8). Within the household sector saving, the rate of saving held in financial assets steadily increased during this period. Financial liberalisation has an important bearing on financial saving as it involves the creation of newer

Table 3.6 : Rates and Composition of Gross Domestic Saving by Institutional Sources

(Per cent)

Item	Phase I		Phase II
	Sub-period I: 1992-93 to 1993-94	Sub-period II: 1994-95 to 1996-97	1997-98 to 2001-02
	1	2	3
1. Private Sector	21.0	22.6	24.1
	(95.0)	(92.7)	(104.6)
1.1 Household Sector	18.0	18.3	20.2
	(81.1)	(75.0)	(87.5)
1.1.1 Financial Saving	9.9	10.4	10.5
	(54.9)	(56.7)	(52.2)
1.1.2 Physical Saving	8.1	7.9	9.7
	(45.1)	(43.3)	(47.8)
1.2 Private Corporate Sector	3.1	4.3	3.9
	(13.8)	(17.6)	(17.1)
2. Public Sector	1.1	1.8	-1.1
	(5.0)	(7.3)	(-4.6)
3. Gross Domestic Saving	22.2	24.4	23.1
	(100.0)	(100.0)	(100.0)
Memo Item:			
Growth Rate of Real GDP at Factor Cost	5.5	7.5	5.5

Notes : 1) Rates are worked out as a percentage of GDP at current market prices.
2) Figures in parentheses indicate percentage share in GDS except for items 1.1.1 and 1.1.2, where they indicate the percentage shares in household sector saving.

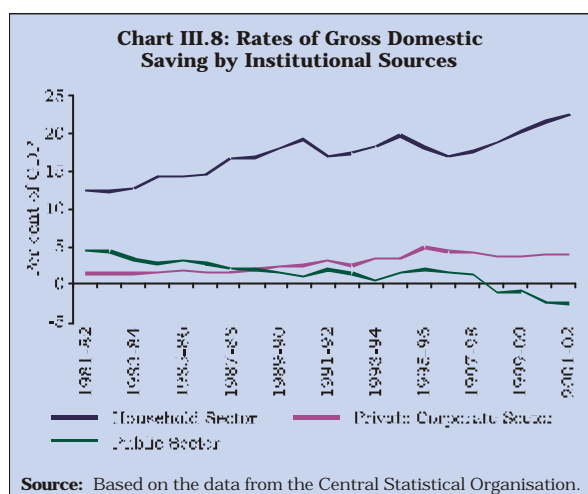
Source : Computed on the basis of data from Central Statistical Organisation.

3. Results of Granger Causality test between nominal saving growth and GDP growth for the sample, 1950-51 to 2000-01, are as follows:

Null Hypothesis	Test Statistic (Chi Square)	Accept / Reject Null Hypothesis
Saving does not Granger cause GDP Growth	9.71*	Reject
GDP Growth does not Granger cause Saving	21.31*	Reject

* Significant at 1 per cent level.

THE REAL ECONOMY



instruments and avenues of saving, and also reduces intermediation costs (McKinnon, 1973). In India, the phenomenon of improvement in financial saving could be attributed to more efficient financial intermediation, greater opportunities for diversification across financial assets and emergence of market related returns.

3.23 Notwithstanding financial innovations, bank deposits continued to be the most important instrument of financial saving among the households during the period of reforms. The shares of various instruments in household financial saving for the period since 1981-82 are given on the basis of five-year and

ten-year averages in Table 3.7. An empirical exercise conducted to estimate the effect of real interest rate on saving held in bank deposits indicates that interest rate plays an insignificant role.⁴ Personal disposable income, however, is found to be an important determinant of this saving.

3.24 Another important feature of household saving during the reform period has been the increasing importance of saving held in insurance funds, and provident and pension funds (together described as contractual saving) (Chart III.9). The growing share of this saving is a positive development, given that such

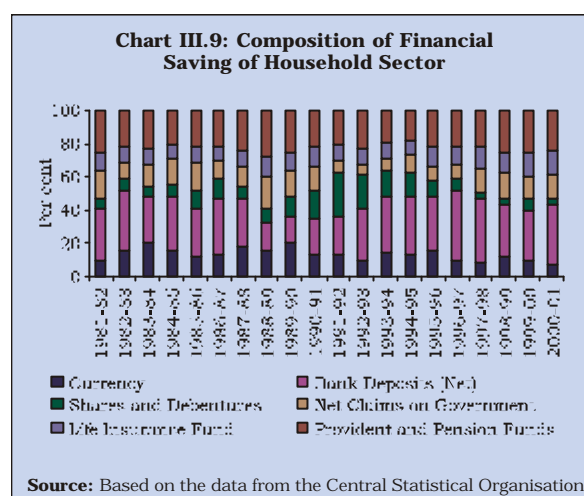


Table 3.7 : Average Shares of various Instruments in Household Financial Saving

Item	(Per cent)					
	1981-82 to 1985-86	1986-87 to 1990-91	1981-82 to 1990-91	1991-92 to 1995-96	1996-97 to 2000-01	1991-92 to 2000-01
	1	2	3	4	5	6
1. Currency	14.9	15.9	15.4	13.2	9.5	11.4
2. Bank Deposits (Net)	31.1	23.3	27.2	31.3	35.6	33.6
3. Shares and Debentures	7.1	11.6	9.4	17.1	5.1	11.1
4. Net Claims on Government	14.8	14.6	14.7	7.7	13.2	10.4
5. Life Insurance Funds	9.2	10.3	9.8	10.5	12.8	11.5
6. Provident and Pension Funds	22.9	24.2	23.5	20.2	23.7	22.0
Household Saving in Financial Assets	100.0	100.0	100.0	100.0	100.0	100.0

Source : Central Statistical Organisation.

4. Functional relationship between bank deposits and interest rates for the sample period: 1981-82 to 2000-01

$$LBD = -4.08 + 0.006RR + 1.07 * LPDI$$

(0.43) (22.29)

R² = 0.97, DW=1.57 ; where, LBD = Log of saving in bank deposits, LPDI= Log of personal disposable income, RR= Real rate of interest on bank deposits (3-5 years), and * Significant at 1 per cent level.

saving is long-term in nature and can be an important instrument for channelising funds towards certain productive sectors of the economy, such as infrastructure, which require lumpy investments and involve long gestation lags (Government of India, 1996). Apart from ensuring assured rates of return with tax exemptions, contractual saving also provides old age security. As disposable income rises and life expectancy continues to increase, concerns regarding old age security can be expected to result in increasing share of financial saving held in contractual instruments.

3.25 'Shares and debentures' is another instrument of financial saving that was expected to get a boost from the reforms. Measures undertaken for developing the capital market were expected to divert saving from the traditional financial instruments to the capital market instruments. Reflecting this, the proportion of household saving in 'shares and debentures' (inclusive of investment in mutual funds) rose steeply to over 20 per cent of total financial saving in the initial years of the 1990s from 9.4 per cent in the 1980s. This was due to a shift away from the relatively safer modes of saving, such as small saving instruments (included under 'claims on Government'). Following the irregularities in stock market in 1992 and the associated price uncertainty that prevailed in the subsequent period, the proportion of household financial saving held in 'shares and debentures', however, witnessed a decline to reach a low of 3.2 per cent by 2000-01. On the whole, the proportion of financial saving in 'shares and debentures' rose by little less than two percentage points between 1981-91 and 1991-2001. The pattern of financial saving that emerges during the decade of reforms, thus, indicates a continued preference of households for relatively safer instruments with assured returns.

3.26 The improved performance of the private corporate sector saving during the second sub-period of Phase I can be attributed to high industrial growth and rising profitability of corporate entities (Table 3.6). On the other hand, the distinct slowdown in corporate sector saving witnessed since 1996-97 can be attributed to declining profitability of these entities engendered by industrial slowdown.

3.27 The public sector witnessed a noticeable decline in its saving during the reform period (Chart III.8). The deteriorating fiscal position during the 1980s had resulted in worsening of contribution of this sector to aggregate saving. During the period of reforms, despite the increased emphasis on fiscal discipline, at least in the initial years, the rising expenditure burden on account

of factors such as higher interest payments and salaries coupled with a fall in the tax-GDP ratio, placed considerable strain on the saving from this sector. During the 1990s, gross tax-GDP ratio for the Central Government fell by about 2.0 percentage points whereas interest payment as a proportion of GDP rose from 3.8 per cent to 4.6 per cent during the same period. Similarly, falling trend in salaries as a proportion of GDP witnessed in the early 1990s also got reversed after the implementation of the award of Fifth Pay Commission in the latter part of the 1990s. This contributed to the public sector saving rate turning negative (-1.1 per cent) during 1997-98 to 2001-02 from 1.8 per cent of GDP during 1994-95 to 1996-97 – a reduction of 2.9 percentage points. The high levels of public sector deficit imply a draft on the private saving in the economy. More worrisome aspect is that predominant part of Government draft on private saving is utilised for consumption purposes and to that extent productive capacity of the economy gets impaired [see Chapter IV for details on the issues related to fiscal policy].

Investment Behaviour

3.28 Reflecting greater investment demand in response to the major structural reforms undertaken in various sectors, the rate of domestic capital formation improved to 25.8 per cent of GDP during the second sub-period of Phase I (Table 3.8). The slowing down of the structural reforms in the second phase along with the cyclical influences transmitted from the global uncertainties weakened the investment demand, resulting in significant slackening in the rate of domestic capital formation to a level of 23.9 per cent of GDP.

3.29 The industrial and trade policy reforms of 1991 resulted in significant acceleration in private sector investment in the early 1990s, and was particularly led by a robust increase in manufacturing investment. The high investment demand in the industrial sector, apart from being aided by policy reforms, was facilitated by an improved domestic saving rate. However, a decelerating trend in the rate of private corporate sector investment was observed during the latter half of the 1990s. Even though investment from the household sector continued to show a rising trend, investment from the private corporate sector could not keep up with the momentum it witnessed in the initial years of the 1990s (Chart III.10). The pace of private investment originating from private corporate sector was, *inter alia*, inhibited by reduced saving from this sector, lack of adequate regulatory reforms in core and infrastructure sectors and lack of public investment in infrastructure. These factors could have inhibited private sector investment by imposing extra costs in a competitive environment.

THE REAL ECONOMY

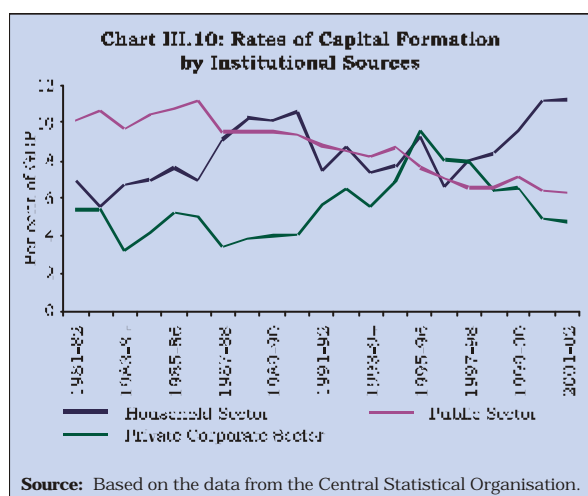
Table 3.8 : Rates and Composition of Gross Capital Formation by Institutional Sources

(Per cent)

Item	Decade Preceding Reforms	Year of Crisis	Phase I		Phase II
	1981-82 to 1990-91	1991-92	Sub-period I: 1992-93 to 1993-94	Sub-period II: 1994-95 to 1996-97	1997-98 to 2001-02
	1	2	3	4	5
1. Private Sector	12.6	13.1	14.1	16.1	15.8
	(55.2)	(59.8)	(62.6)	(67.2)	(70.6)
1.1 Household Sector	8.0	7.4	8.1	7.9	9.7
	(35.7)	(33.9)	(35.9)	(33.0)	(43.2)
1.2 Private Corporate Sector	4.5	5.7	6.0	8.2	6.1
	(19.5)	(25.8)	(26.8)	(34.2)	(27.4)
2. Public Sector	10.0	8.8	8.4	7.8	6.6
	(44.8)	(40.2)	(37.4)	(32.8)	(29.4)
3. Gross Capital Formation	22.5	21.9	22.5	23.9	22.4
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
4. Gross Domestic Capital Formation	21.8	22.6	23.3	25.8	23.9

Notes : 1) Rates are worked out as a percentage of GDP at current market prices.
2) Figures in parentheses indicate percentage share in Gross Capital Formation.

Source : Computed on the basis of data from the Central Statistical Organisation.



Besides these, increased uncertainties in the domestic investment climate created by factors such as poor progress and lack of clarity on the directions of disinvestments and privatisation programme, and the continued slowdown in the global economy, may also have dampened private investment.

3.30 High public investment in the 1980s was particularly aimed at boosting investment in infrastructure. However, public sector investment rate exhibited a steep fall during the 1990s which was caused by deterioration in public sector saving rate.

The rising interest payments and rigidity in subsidies and wages pre-empted a larger part of the revenues and borrowed funds of the Government, leaving reduced resources for investment. Besides this, the declining tax-GDP ratio and low user charges on public infrastructure services reduced the ability of the Government to undertake investment in basic infrastructure. Further, the process of fiscal adjustment led to direct cutbacks on the capital expenditure of both Central and State Governments.

3.31 Among the three sectors, a steady downturn in investment rates was experienced by the agricultural sector during the decade of reforms (Chart III.11). The decline in agricultural investment as a ratio of GDP came about from a decline in public investment rate on account of *inter alia*, rising subsidies, and also from the decline in private investment rate primarily owing to inadequate provision of infrastructure. The rate of investment in industry, accounting for the largest proportion of aggregate investment, exhibited a rise in the initial years of the reform decade responding to the major real sector reforms and associated anticipation of rising potential demand. This period of high investment was associated with high growth rate of GDP originating from the industrial sector. In the subsequent years, however, the rate of investment underwent a steep decline, as was the case with the rate of growth of output from this sector.

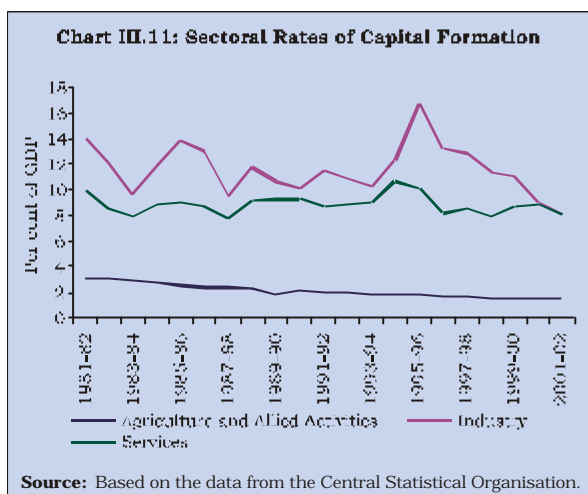


Table 3.9 : Incremental Capital Output Ratio

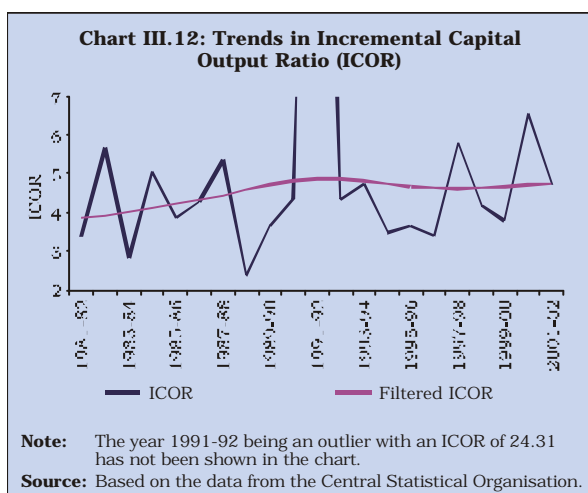
Period	Actual ICOR	Filtered ICOR
1981-82 to 1985-86	4.15	4.02
1986-87 to 1990-91	4.00	4.56
1992-93 to 1996-97	3.91	4.74
1997-1998	5.81	4.62
1998-1999	4.14	4.63
1999-2000	3.77	4.66
2000-01	6.54	4.70
2001-02	4.70	4.74

External Demand

3.33 The growth process during the reform period also seems to have been influenced by the behaviour of external demand. Traditionally, external demand has not been an important factor in influencing the behaviour of aggregate demand in India due to low degree of openness. However, during the 1990s, under a more liberalised trade and exchange regime, the degree of openness of the Indian economy rose considerably as reflected in higher ratio of foreign trade to GDP. Consequently, the pattern of exports has been exhibiting some degree of co-movement with global business cycles. The Granger causality between cyclical imports of industrial countries and India's exports is significant and strongly bi-directional. Further, the cyclical output of industrial countries has unidirectional causal effect on output in India (RBI, 2002).

Trends in Incremental Capital-Output Ratio

3.32 An improvement in the rate of investment needs to be supplemented by improvement in productivity in order to accelerate the rate of economic growth. The productivity of capital use, as measured by the Incremental Capital Output Ratio (ICOR), improved during the first half of the 1990s as exhibited by a steady decline in the filtered series of ICOR till 1997-98 (Chart III.12).⁵ As against this, an upward movement in the ICOR was observed during the subsequent period, reflecting the deceleration in productivity growth (Table 3.9). Given the existing level of investment in the economy, the downward trend in productivity does not augur well for achieving and sustaining high growth rate.



3.34 The magnitude of the influence of external demand on aggregate demand can be examined broadly in terms of export growth for the Indian economy. The average growth in exports rose from 8.3 per cent in the 1980s to 11.9 per cent during the first sub-period of Phase I (i.e., 1992-93 to 1993-94) and further to 14.8 per cent during the second sub-period (i.e., 1994-95 to 1996-97). This seems to have provided significant impetus to the aggregate demand in the economy during the phase of high growth. In the subsequent period, under the influence of weakening global demand and lower growth in world trade volume, export growth experienced wide fluctuations and the overall export growth decelerated to 5.9 per cent during the second phase from 1997-98 to 2001-02. The world trade in goods and services exhibited a deceleration in growth from an average of 8.8 per cent during the period 1994-97 to 5.6 per cent during 1998-2001 (IMF, 2002). This, reinforced

5. The ICOR can be susceptible to transitory fluctuations, and is thus smoothed using the HP filter.

THE REAL ECONOMY

by the trade cycles, seem to have also contributed to the slowdown in the aggregate demand in the economy during the second phase of reform period.

Summing Up

3.35 The economy witnessed distinct improvement in growth during the first phase of reforms responding favourably to the initial productivity gains arising from reforms in the spheres of trade, industry and finance. This high growth was essentially led by a remarkable performance of the industrial sector. However, there was evidence of deceleration in the growth momentum in the second phase, mainly engendered by industrial sector, which has become a major policy concern. During the 1990s as a whole, the growth process was marked by robust growth in the services sector. The positive aspects of the growth process were an increase in the average growth of per capita income coupled with decline in the poverty ratio.

3.36 The slowdown in the domestic saving rate in the second half of the 1990s, mainly caused by public sector dis-saving, has constrained investment levels in the economy. The saving behaviour of the household sector shows that despite financial innovations, there is continued preference for relatively risk-free assets like bank deposits and contractual saving. The rising share of contractual saving reflects the rising disposable income and concerns for old age security. During the first half of the 1990s, the increased domestic saving enabled a rise in the investment rate in the economy. The slowing down of the structural reforms along with declining domestic saving rate and cyclical influences transmitted through global business cycles weakened the investment demand during the second phase of reforms. Declining public sector investment was reflective of the spill-over effects of rising revenue deficits on capital budgets of the Governments of both Centre and States. Besides a slowdown in investment, indications of declining productivity growth as reflected in rising ICOR during this phase, continue to pose challenges for the growth process.

3.37 Against this backdrop, the Tenth Five Year Plan (2002-03 to 2006-07) has set the target of an average rate of growth of GDP at 8 per cent, which is much higher than 5.5 per cent achieved during the Ninth Plan (Government of India, 2002a). This requires stepping up the average rate of investment by more than 4 percentage points to 28.4 per cent from 24.2 per cent in the previous plan. This order of increase in investment is expected to emanate from both private and public sectors. The Plan underlines the need to step up public sector investment in infrastructure to

promote private sector investment. The higher investment level is to be met mainly by domestic saving, which is expected to rise by more than 3 percentage points to 26.8 per cent during the Plan from 23.3 per cent during the previous plan. A larger improvement in the saving to the extent of 3.8 per cent is required to come from the public sector. To achieve the growth target, the Plan suggests the formation of policies that would lead to an increase in productivity of existing resources as well as efficiency of new investment. This would imply a reduction in the ICOR to a level of 3.6 during the Plan period as against 4.5 in the previous plan.

II. AGRICULTURE

3.38 Agriculture witnessed an improved growth of 3.2 per cent during the 1980s, after a span of relative stagnation during the previous two decades. The growth performance was somewhat subdued in the 1990s with real GDP originating from agriculture growing at a modest 2.9 per cent resulting from near stagnation in crop yields and falling rate of public sector capital formation in this sector, despite consecutive good monsoons. Within the agricultural sector, a sharper deceleration was observed in the non-food grain production. While there was deceleration in output growth, the variability of the growth process has significantly declined during the 1990s as compared with the 1980s.

3.39 The reasons for slowdown in agricultural growth were many. The pre-occupation with food security led to restrictive trade policies regulating trade in agricultural commodities. Alongwith this, high protection to industry resulted in unfavourable terms of trade for agriculture until the early 1990s. The negative consequences of such policies were to be offset by the provision of high subsidies on inputs such as irrigation and fertilisers. However, such input subsidies assumed large proportions over time and reduced the capacity of the Government to invest in agricultural infrastructure. Further, the distortionary pricing system of agricultural commodities with Minimum Support Prices (MSP) favouring production of rice and wheat, provided adverse incentives for crop diversification. The falling world prices of agricultural commodities during the latter half of 1990s further reduced the competitiveness of the agricultural exports. The relatively higher MSPs on the one hand, and the increasing production of rice and wheat on the other, all led to increased procurement of foodgrains, and in the face of lower off-take, resulted in piling up of foodgrain stocks. Thus, the slowing down of agriculture growth in the 1990s, despite a generally favourable

REPORT ON CURRENCY AND FINANCE

macroeconomic environment, could be attributed to limited reforms in this sector. Limited progress has been made in removal of restrictions on domestic trade and processing, rationalisation of price interventions and reforms in rural infrastructure.

3.40 It is apparent that Indian agriculture is characterised by deceleration in its performance in the 1990s coupled with a large stock of foodgrains. While plateauing of yield gains (*i.e.*, productivity) in foodgrains could, in part, explain the observed deceleration in production performance, there is no denying of the fact that higher growth in agriculture will, clearly, need diversification. Notwithstanding the limited reforms directly affecting agriculture, some policy measures were undertaken to provide incentive framework for agriculture to make it more competitive. The reform measures taken during the 1990s included, (i) restructuring of Public Distribution System (PDS), initially through the Revamped Public Distribution System (RPDS) and subsequently by replacing RPDS with the Targeted Public Distributions System (TPDS); (ii) replacement of the quantitative controls by tariff restrictions; (iii) introduction of forward trading in important commercial crops; and (iv) relaxation of restrictions under the Essential Commodities Act, 1955. It may be noted that most of these reforms in agricultural sector were introduced only towards the end of the 1990s and are still in the process of being operationalised.

3.41 These reform measures have brought in some changes in the agricultural sector. Deregulation of industrial sector improved the terms of trade for agriculture (Vyas and Reddy, 2002; Mohan, 2002). The gradual reliance on the market seems to have brought some changes in the cropping pattern, causing diversion towards non-foodgrains from foodgrains. However, within the foodgrains, there has been area diversion towards input intensive cultivation of rice and wheat from coarse cereals and pulses, reflecting the impact of subsidies on inputs such as fertiliser and fuel for irrigation.

3.42 Against this backdrop, this Section seeks to analyse two distinct issues. First, the deceleration in agricultural growth during the 1990s and its product-specific profile are analysed. Second, the phenomenon of burgeoning buffer stocks of foodgrains including their fiscal and monetary implications is discussed in some detail.

Foodgrains

3.43 The deceleration in the growth of foodgrains production to 2.0 per cent in the 1990s from 2.9 per

cent in the preceding decade was caused predominantly by declining yield growth, reflecting a diminishing growth in productivity. Among foodgrains, growth in rice production decelerated due to a decline in yield growth, despite a marginal increase in the growth of area under cultivation. On the other hand, production of wheat in the 1990s witnessed an identical rate of growth to that of the 1980s, due to substantial increase in acreage, even as yield growth decelerated. The increased area growth in wheat and rice during the 1990s led to a decline in area under coarse cereals and pulses. Despite a decline in acreage, production of coarse cereals was maintained almost at the levels attained in the preceding decade on account of increased yield growth. Growth in pulses production decelerated in the 1990s due to a deceleration in yield growth coupled with a decline in acreage (Table 3.10). Following the changes in acreage under foodgrains during the 1990s, the shares of rice and wheat increased and those of coarse cereals and pulses declined, which had implications for input usage and procurement of foodgrains.

Non-Foodgrains

3.44 The decelerating growth in the index of non-foodgrains production to 2.6 per cent in the 1990s from 3.8 per cent in the earlier decade was also marked by a slowdown in the yield growth. Within non-foodgrains, oilseeds production growth witnessed a sharp deceleration from 5.5 per cent in the previous decade to 2.3 per cent in the 1990s due to a decline in yield growth and stagnation in area coverage. Stagnation in area under these crops seems to have been induced by the freeing of imports of major edible oils in 1994 that had considerably weakened the protectionist atmosphere in respect of the oilseeds sector. The growth in sugarcane production during the 1990s was identical to that in the 1980s, due to some acceleration in area growth, while yield growth decelerated marginally. In the case of cotton, the substantial yield growth attained in the 1980s appears to have influenced the farmers' preference to cultivate cotton in the 1990s with acreage increasing substantially by 2.7 per cent per annum. This increase in acreage led to an increase in output of cotton by 2.3 per cent even as yield growth turned negative to 0.4 per cent (Table 3.10).

3.45 The deceleration in yield growth, spread across both foodgrains and non-foodgrains, led to a perceptible slackening in the growth of agricultural production to 2.3 per cent in the 1990s from 3.2 per cent in the earlier decade. Moreover, increased variability in agricultural production during the latter

THE REAL ECONOMY

Table 3.10 : Trend Growth Rates of Area, Production and Yield of Agricultural Crops

(Per cent)

	1980-81 to 1989-90			1990-91 to 1999-2000		
	Area	Production	Yield	Area	Production	Yield
	1	2	3	4	5	6
Index of Foodgrains Production	-0.2	2.9	2.7	-0.1	2.0	1.5
Index of Non-Foodgrains Production	1.1	3.8	2.3	1.2	2.6	1.1
Index of All Crops Production	1.0	3.2	2.6	0.3	2.3	1.3
Foodgrains						
Rice	0.4	3.6	3.2	0.7	2.0	1.3
Wheat	0.5	3.6	3.1	1.7	3.6	1.8
Coarse Cereals	-1.3	0.4	1.7	-2.1	0.0	2.2
Pulses	-0.1	1.5	1.6	-0.6	0.7	1.3
Non-Foodgrains						
Oilseeds	2.4	5.5	3.0	0.2	2.3	2.1
Sugarcane	1.5	2.7	1.2	1.7	2.7	1.1
Cotton	-1.3	2.8	4.1	2.7	2.3	-0.4

Note : Trend growth rates are computed on the basis of semi-logarithmic equations.

Source : Computed on the basis of data from the Ministry of Agriculture, Government of India.

part of the 1990s, primarily emanating from the fluctuations in acreage in case of foodgrains, and from fluctuating yields in case of non-foodgrains is also a matter of concern (Chart III.13).

3.46 Apart from these traditional foodgrains and non-foodgrains, India produces a large number of horticultural crops such as fruits, flowers, vegetables, potato, tropical tuber crops, spices, and plantation crops like coconut, cashewnut and cocoa as also livestock products. Given the diverse agro-climatic conditions in India, horticultural crops have the

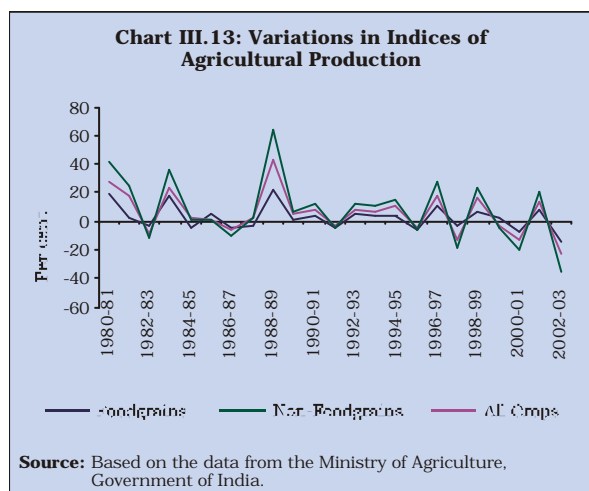
potential to turn agriculture more profitable as also create employment in rural areas. India has emerged as the largest producer of coconut, arecanut, cashewnut, ginger, turmeric, black pepper and the second largest producer of fruits and vegetables in the world. It needs to be recognised that these allied products of agriculture have high value added with a higher potential for exports. The sustainability of growth in the agriculture would, however, require much faster diversification away from traditional items to these non-traditional agro-products.

Deceleration in Agricultural Growth in the 1990s

3.47 As illustrated above, barring wheat and sugarcane, there has been a perceptible slackening of growth in agriculture in the 1990s. The main factors for the deceleration in agricultural growth include, i) inadequate irrigation cover; ii) improper adoption of technology; iii) unbalanced use of inputs; iv) decline in public investment; and v) weakness in credit delivery system.

i) Inadequate Irrigation Cover

3.48 Inadequate irrigation cover for most of the crops continues to be the main constraining factor for speedy adoption of improved technology. For instance, only 39.2 per cent of the gross cropped area in the country was under irrigation in 1998-99. The share of public expenditure on irrigation and flood control to total



public expenditure had declined over the years. The share, which was 10 per cent during the Sixth Plan period (1980-85), came down to 7.6 per cent during the Seventh Plan period (1985-1990) and further to 6.5 per cent during the Eighth Plan (1992-97) period. During the Ninth Plan period (1997-2002), the share is estimated to remain at around 6.5 per cent.

3.49 Furthermore, irrigation coverage across various States and crops is quite skewed. Among the major agricultural States, while 92.2 per cent of gross cropped area in Punjab was irrigated in 1998-99, in Maharashtra only 15.4 per cent of cultivated area was irrigated. States like West Bengal, Karnataka, Madhya Pradesh and Orissa had less than 30 per cent of the cultivated area under irrigation in 1998-99. Distribution of irrigation facilities across crops is also equally skewed. For example, only 12.1 per cent of the area under pulses was irrigated in 1998-99 as compared with 85.8 per cent for wheat and 52.3 per cent for rice at the national level (Table 3.11). Similarly, the coverage of irrigation under the non-foodgrains crops had also been quite lopsided. Among the non-foodgrains, irrigation cover in respect of oilseeds was as low as 23.2 per cent, while the same for sugarcane stood at 91.7 per cent in 1998-99. The low irrigation cover for various crops has led to severe rainfall dependency. It was found that the correlation between production and rainfall was particularly high for pulses and oilseeds.⁶ This rainfall dependence of Indian agriculture has imparted variability to production in the

latter part of the 1990s when the spatio-temporal distribution of rainfall remained largely skewed.

ii) *Inadequate Adoption of Technology*

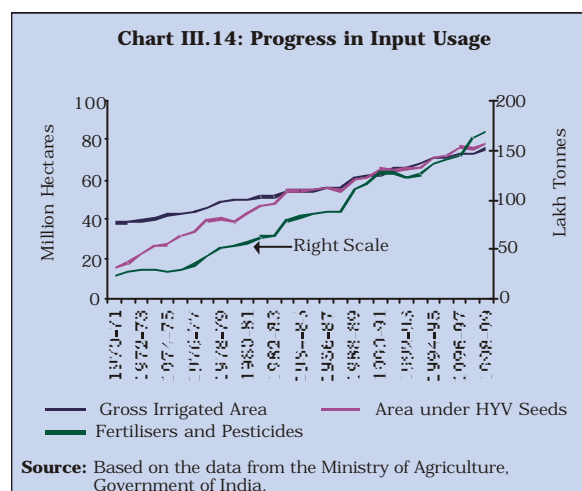
3.50 One of the main reasons for the low levels of yields in Indian agriculture has been the unsatisfactory spread of new technological practices, including the adoption of High Yielding Varieties of seeds (HYV) and usage of fertilisers and pesticides, inadequate spread of farm management techniques and other practices such as soil conservation and crop rotation (RBI, 2002). The adoption of new technology, mainly the HYV seeds requires intensive use of fertilisers and pesticides under adequate and assured water supply. The use of HYV seeds entails a higher yield risk as compared with the traditional seed varieties, mainly due to lack of proper irrigation facilities (Ganesh Kumar, 1999; Saha, 2001). This increased risk is one of the elements obstructing the speedy adoption of HYV seed cultivation across regions and crops. The area under HYV seeds and area under irrigation have been growing in tandem, probably on account of reduction in yield risk facilitated by availability of irrigation facilities (Chart III.14). The area under HYV seeds, which recorded a trend growth rate of 8.1 per cent per annum in the 1980s, decelerated to 4.4 per cent per annum in the 1990s. Availability of quality seeds is inadequate and usage of high yielding hybrid seeds is very low and occurs only in the case of a few crops. Similarly, there has been a decline in growth rate of consumption of fertilisers to 4.3 per cent in the 1990s from 7.8 per cent in the 1980s, with wide variations across States.

Table 3.11 : Irrigation Coverage for Various Crops

(Per cent to gross cropped area under the crop)

	1980-81	1990-91	1998-99
	1	2	3
Rice	40.7	45.5	52.3
Wheat	77.0	81.1	85.8
Coarse Cereals	9.2	9.0	12.0
Gram	20.6	20.5	21.0
Arhar	2.6	5.5	4.2
Total Pulses	9.0	10.5	12.1
Total Foodgrains	29.7	35.1	42.4
Groundnut	13.3	18.6	19.4
Rapeseed & Mustard	43.7	59.8	58.3
Soyabean	—	—	2.5
Oilseeds	14.5	22.9	23.2
Sugarcane	81.2	86.9	91.7
Cotton	27.3	32.9	34.9

Source : Ministry of Agriculture, Government of India.



6. The correlation co-efficient between rainfall and production for major crops are: rice (0.26), wheat (0.27), coarse cereals (0.37), pulses (0.61), oilseeds (0.34), sugarcane (0.21) and cotton (0.16).

iii) Unbalanced Use of Inputs

3.51 Various subsidies on inputs have resulted in skewed and unsustainable usage of inputs. To illustrate, subsidies on urea have resulted in unbalanced use of Nitrogen (urea), Phosphorus (phosphate), Potassium (potash) fertilisers (which was in the ratio of 8.5: 3.1: 1 in 1998-99 as against the desirable ratio of 4:2:1) and aggravated deficiency in use of micro-nutrients (Government of India, 2000). Subsidies on other inputs such as provision of electricity at nominal rates for irrigation pumps continue in various States. Subsidised electricity for irrigation purposes has resulted in proliferation of ground water drawing machinery such as pump sets and tubewells, which have implications for groundwater sustainability (Vaidyanathan, 1996). This also has adverse implications for equity since such machinery is capital intensive, and hence, the actual benefits derived by small farmers are debatable. Furthermore, subsidies on electricity and diesel have led to the cultivation of water intensive crops such as rice and wheat, with skewed consumption of nitrogenous fertilisers leading to an unsustainable cropping pattern. Moreover, private sector capital formation in irrigation typically favours digging of wells, as this practice has the advantage of excludability, as opposed to the non-excludable nature of canal irrigation. However, it needs to be recognised that such implements draw water from ground water table, which covers larger area beyond a farm size. This means that farmers with larger capacity pumps can actually draw water away from the water table adjoining their farms, and at a faster rate than those with smaller pumps (Dhawan, 1996). This tendency clearly has adverse impact on the level of water table and the ability of small and marginal farmers to irrigate their farms. Ground water being a common public resource, there is a necessity to rationalise the access and utilisation of the same. Appropriate user charges on electricity and diesel, could have a favourable impact on rational utilisation of water resource. Alternative arrangements of common property resource management, such as user cooperatives may result in better management and conservation of this public good.

iv) Decline in Public Investment

3.52 The subdued performance of Indian agriculture in the 1990s is often attributed to a secular decline in the rate of public investment in agriculture. It is argued that decelerating public sector capital formation in agriculture, which goes primarily towards major irrigation, has serious implications for the private sector investment in minor irrigation.⁷ The ratio of public

sector capital formation in agriculture to Gross Public Sector Capital Formation has declined from 17.7 per cent in 1980-81 to 7.1 per cent in 1990-91 and further to 4.9 per cent in 2000-01. Capital formation in agriculture as a ratio of GDP originating from agriculture also decreased from 8.5 per cent in 1980-81 to 6.1 per cent in 2000-01. However, private sector capital formation in agriculture has been on the rise during the same period. In this connection, it needs to be noted that about 90 per cent of public sector capital formation in agriculture is invested in major and medium irrigation facilities, while most of the private sector capital formation goes towards minor irrigation facilities like pump sets.

3.53 Although the private sector capital formation in agriculture has been on the rise, fixed capital formation by the household sector has been on the decline (Sawant *et al*, 2002). Furthermore, private sector capital formation was found to be responsive to availability of water (canal intensity) and inputs (electricity) in any given year (Dhawan, 1996). It is worth mentioning in this regard that major and medium irrigation facilities have a long gestation period (10-12 years) and hence, private sector capital formation would respond to a greater degree to the cumulative capital formation in agriculture rather than that in any given year. Thus, the declining capital formation in agriculture seems to be a result of reduced investment in irrigation over a long period covering both the 1980s as well as the 1990s (Gulati and Bathla, 2001).

3.54 It is clear that the inadequacy of new capital formation has slowed the pace and pattern of technological change in agriculture with adverse effects on productivity. In this context, there are apprehensions that the boost in output from subsidy-stimulated use of fertilisers, pesticides and water may partly be at the expense of deterioration in aquifers and soil, and hence is environmentally unsustainable (Government of India, 2000). This, to some extent, explains the rising costs and slackening growth and productivity in agriculture.

v) Credit Delivery System

3.55 Lack of adequate credit for investment is an important impediment to expansion of acreage under HYV seeds and the use of optimum dose of inputs (Sarap and Vashist, 1994). Furthermore, adequate credit plays a crucial role in augmenting private sector capital formation. The annual compound growth rate

7. See among others, Dhawan (1996) for complementarity between public sector investment in major irrigation and private sector investment in minor irrigation.

of direct institutional credit (disbursements) to agriculture and allied activities improved marginally from 12.0 per cent during the 1980s to 12.7 per cent during the 1990s. However, the credit delivery scenario at the disaggregated level in the 1990s is somewhat unsettling as there is a deceleration in the scheduled commercial banks' disbursements of direct finance to small farmers from 15.1 per cent in the 1980s to 11.0 per cent in the 1990s. Similarly, the annual compound growth rate of direct finance (disbursements) to marginal farmers, decelerated to 13.0 per cent from 18.1 per cent during the same period. The annual compound growth rates of medium/long term loans disbursed to agriculture and allied activities (direct advances), which are important for private sector capital formation in agriculture, have shown deceleration to 9.7 per cent in the 1990s from 11.5 per cent in the preceding decade. However, the disbursements of short-term loans have accelerated from 12.2 per cent to 14.5 per cent during the same period. The shift in the composition of the agricultural loans in favour of short-term advances is a matter of some concern, as it is likely to further accentuate the declining private sector capital formation in agriculture (Chart III.15).

formulated. The system, despite various infirmities, worked reasonably well till the late 1970s. Since then, primarily due to the expansion of production possibility frontier under the Green Revolution, domestic production of foodgrains started to keep pace with the requirement of public distribution system. With the emergence of successive "normal" monsoons during the 1990s, the prevalence of a distorted price mechanism resulted in large accumulation of food stocks with the official agencies during the second half of the 1990s. Two major issues that have come to the forefront of public policy debate in this regard are: What are the factors behind the burgeoning food stocks? And, what are its macro-financial implications for the economy? This sub-section takes a look into these two questions.

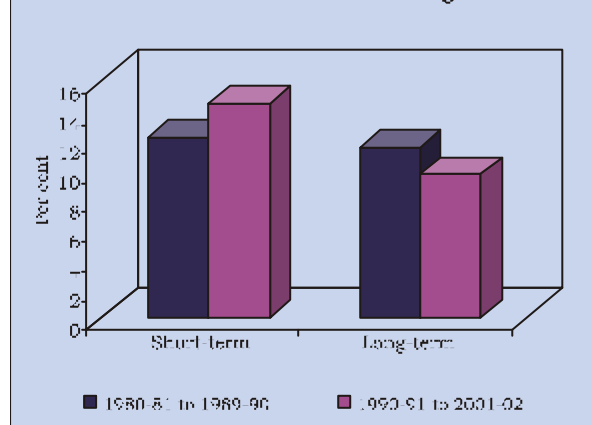
Some factors behind the burgeoning food stocks

3.57 Burgeoning food stocks with the official agencies can be attributed to an increase in procurement, a reduction in off-take or a combination of both. A number of factors like distorted price incentives for agricultural products and shift in consumption pattern have added to this phenomenon.

i) Price Interventions

3.58 Price interventions by the Government by way of Minimum Support Prices (MSP) have resulted in some distortions in cropping pattern. One of the major factors influencing the cropping pattern is the income accruing to the farmer or expected income from cultivating a crop. Generally, low yield rates of pulses and coarse cereals among foodgrains generate lower income for farmers than rice and wheat. Moreover, the price support operations have been skewed in favour of rice and wheat, which have benefited significantly by the elaborate procurement operations in conjunction with the rising MSP. On the other hand, coarse cereals and pulses do not seem to have been procured by the public sector agencies on a comparable scale. Furthermore, in contrast to that of rice and wheat, the cost of production of coarse cereals and pulses has been generally higher than the MSPs during the period 1983-84 to 1997-98 (Table 3.12). This makes the cultivation of rice and wheat more attractive than pulses and coarse cereals. The higher relative yields of wheat and rice further increase the assured income per hectare (in terms of MSP multiplied by the per hectare yield). The increasing MSPs and higher yields in wheat and rice, thus, accentuate the difference in expected income from coarse cereals/pulses *vis-à-vis* wheat and rice. The rising MSPs and higher procurement of rice and wheat coupled with unattractive assured incomes from

Chart III.15: Annual Compound Growth Rates of Disbursements of Direct Finance to Agriculture



Burgeoning Food Stock: Some Macro Implications

3.56 Another issue that has assumed significance in the recent period is the large food stocks and their macro implications. It may be recalled that in order to ensure food security to the vast population of the country, an elaborate system of public procurement and distribution of foodgrains was evolved as a part of a conscious strategy. As per this strategy, the Food Corporation of India (FCI) was established in 1965 and a detailed price support mechanism was

THE REAL ECONOMY

Table 3.12 : Cost of Production and MSPs of Foodgrain Crops

(Rupees per quintal)

Year	Paddy		Wheat		Coarse Cereals		Gram		Arhar	
	Cost	MSP	Cost	MSP	Cost	MSP	Cost	MSP	Cost	MSP
	1	2	3	4	5	6	7	8	9	10
1983-84	124	132	142	152	117	124	249	240	N.A	245
1985-86	123	142	133	162	143	130	235	260	345	300
1990-91	213	205	206	225	231	180	448	450	604	480
1991-92	253	230	232	275	319	205	482	500	837	545
1992-93	270	270	261	330	293	240	559	600	759	640
1993-94	267	310	N.A	350	N.A	260	N.A	640	N.A	700
1994-95	344	340	324	360	330	280	616	670	764	760
1995-96	341	360	346	380	490	300	704	700	914	800
1996-97	375	380	389	475	463	310	837	740	824	840
1997-98	411	415	418	510	499	360	783	815	1221	900

Source : Compiled on the basis of information from the Ministry of Agriculture, Government of India.

cultivation of pulses and coarse cereals have, thus, induced farmers to cultivate rice and wheat more than other foodgrains crops.

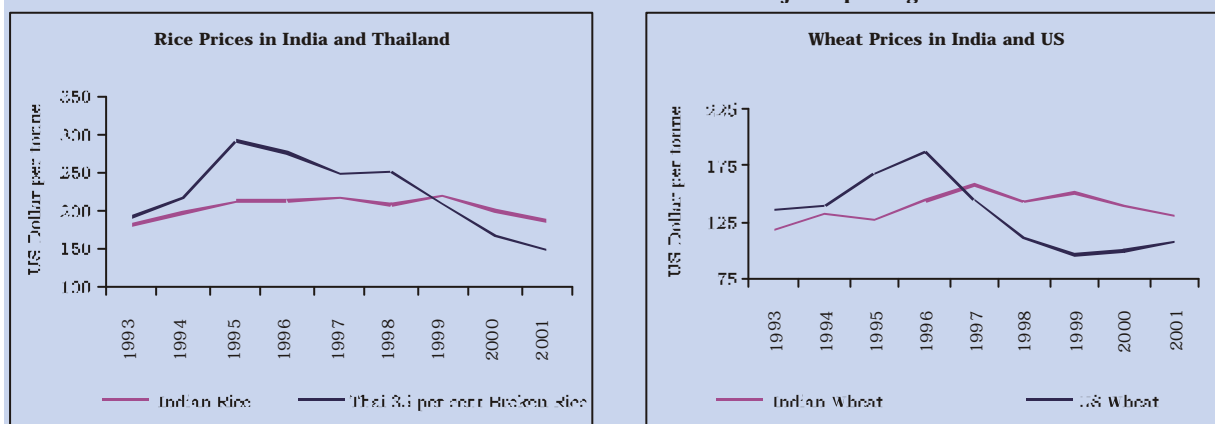
ii) International Price Environment

3.59 Protectionist atmosphere for foodgrains production coupled with various restrictions on imports and exports, generally led to higher domestic prices of rice and wheat. In contrast to the partial rigidity in the Indian prices of rice and wheat in the 1990s, there was a sustained decline in international prices (Table 3.13 and Chart III.16). Increasing domestic prices of rice and wheat in the face of declining prices of the same in the international market have shielded farm incomes from

international price volatility, but adversely impacted on the price competitiveness of Indian exports of foodgrains, and led to increasing dependence of farmers on procurement operations for market clearance.

3.60 The wholesale price of rice in India during 1993 to 2001 was on an average lower than that in Thailand for the same period. The average wholesale price of wheat in India in this period was slightly higher than the US Soft Red Winter (SRW) variety, but lower than those of US Hard Red winter (HRW) and Canadian varieties. If the current downtrend in international prices of rice and wheat is cyclical, they are likely to rise above Indian prices, thus, making Indian rice and

Chart III.16: Rice and Wheat Prices in India vis-à-vis Major Exporting Countries



Note: Indian prices are annual averages of domestic wholesale prices.

Sources: Based on the data from 1. The Ministry of Agriculture, Government of India. 2. Report of the High Level Committee on the Long-term Grain Policy, Ministry of Food, Consumer Affairs and Public Distribution, Government of India, 2002.

Table 3.13 : Trends in World Agricultural Commodity Prices

(US Dollar per Metric Tonne)

Year	Wheat		Rice	
	US*	India	Thailand **	India
	1	2	3	4
1993	134.8	118.1	191.4	181.4
1994	138.6	132.2	218.5	197.0
1995	167.4	126.7	290.2	212.8
1996	187.4	143.6	275.8	213.4
1997	143.7	158.2	246.8	216.9
1998	111.5	141.5	249.7	207.1
1999	96.3	150.5	210.5	220.2
2000	98.9	138.9	167.2	198.4
2001	107.7	131.0	149.1	187.7

* SRW variety.

** Refers to 35 per cent broken rice.

Note : The domestic prices of rice and wheat are annual average wholesale prices. In order to enable comparability to international prices, domestic prices are deflated by the average nominal exchange rate (US dollar).

Sources : 1. Ministry of Agriculture, Government of India.
 2. Report of the High Level Committee on Long-term Grain Policy, Ministry of Food, Consumer Affairs and Public Distribution, Government of India, 2002.

wheat competitive. Even if there is a secular decline in international prices, the Indian prices can still be competitive, provided, the Aggregate Measure of Support (AMS) by the US and European countries is reduced to WTO compatible levels.

iii) Increasing procurement

3.61 The increased cultivation of rice and wheat in the 1990s supported by the consecutive good monsoons, has played an important role in large-scale procurement. However, as mentioned earlier, increase in support prices, mainly due to the change in methodology of including the "statutory minimum wages" instead of "actual wages" paid in computing the cost of cultivation, coupled with lack of international competitiveness and restrictions on international trade of foodgrains seem to be the main causative factors underlying increasing procurement. The system of compulsory levy procurement and the restrictions on movement of foodgrains under the Essential Commodities Act, 1955 also contributed to increasing procurement operations. The ever-increasing MSPs of rice and wheat and the compulsory procurement coupled with the protectionist atmosphere, ensured market clearance for rice and wheat and thereby created a vicious circle of increasing

MSPs - higher procurement - larger cultivation of rice and wheat-increasing production and generation of higher marketable surplus - lack of export competitiveness - increasing procurement further.

iv) Decline in Off-take

3.62 The off-take of foodgrains in the 1990s was generally low. This was partly due to limited open market operations because of higher price for low quality foodgrains that were made available through PDS, which also led to lower off-take by the actual PDS beneficiaries. Altered consumption pattern of the population due to improving income levels and lacklustre export performance also explain the decline in off-take through PDS. Inadequate institutional arrangements for quick and timely delivery in areas of greater need and linking delivery to specific requirements were also contributing factors.

● *Rise in Issue prices and Targeted Public Distribution System*

3.63 Consumer prices reflected in the Central Issue Price (CIP) have witnessed a rise since the inception of TPDS (Chart III.17). The TPDS was introduced in 1997 in order to achieve better targeting of subsidies. Under the TPDS, a dual price mechanism for the APL (Above the Poverty Line) and BPL (Below the Poverty Line) consumers was introduced. The full economic cost of foodgrains was recovered from the APL consumers, while foodgrains were sold at half the economic cost to the BPL consumers. Successive increases in MSPs of rice and wheat and attendant increase in economic cost of foodgrains necessitated an increase in CIP for APL consumers, which resulted in narrowing the gap between open market prices of foodgrains and the CIPs. This led to a drastic reduction in off-take under TPDS (Government of India, 2002b). For instance, the off-take under TPDS declined by 29.5 per cent to 12.0 million tonnes in 2000-01 from 17.1 million tonnes in the previous year.

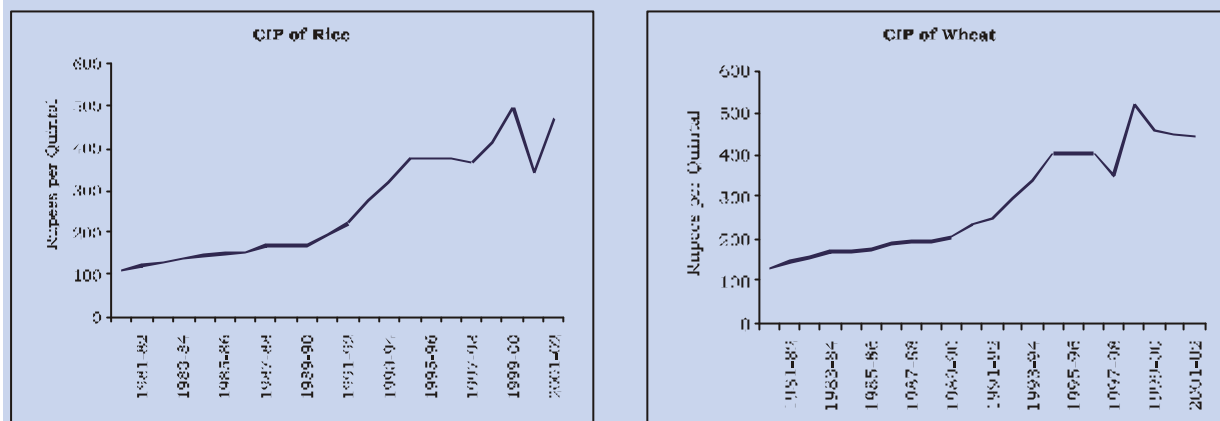
● *Shift in Consumption Pattern*

3.64 Apart from the increasing CIPs, the changes in consumption pattern towards milk, eggs and meat, as against cereals, partly caused the decline in off-take. Recent studies, based on NSS data on consumption expenditure, show that there has been a decline in the share of food in the total expenditure among both the poor and non-poor, despite relatively lower prices of cereals (Bhalla *et al*, 1999; Meenakshi, 2000).

3.65 Thus, domestic off-take has been low *vis-à-vis* the procurement of the foodgrains, resulting in the problem of growing stocks. The implications of the

THE REAL ECONOMY

Chart III.17: CIP of Rice and Wheat



Source: Based on the data from the Ministry of Food, Consumer Affairs and Public Distribution, Government of India.

mounting food stocks are manifold. Apart from price implications that emanate from MSP, it adds to storage and maintenance costs in presence of limited off-take, thereby imposing high fiscal costs in the form of food subsidy. To the extent the burgeoning food stocks are financed by preferential food credit, they have monetary implications as well.

Monetary Implications of Growing Foodgrain Stocks

3.66 The monetary implications of increasing food stocks emanate essentially from the increasing procurement of foodgrains. The higher demand for food credit can give rise to possible crowding-out effects on other sectors. It can also affect the interest rate and the credit risk profile of the banking system arising out of deteriorating quality of foodgrain stocks, which act as collateral for food credit. As a result of unprecedented rise in foodgrain procurement operations, food credit registered a marked uptrend from Rs.4,506 crore as at end-March 1991 to Rs.53,978 crore as at end-March 2002 (Table 3.14). Consequently, the share of food credit in total commercial bank credit has increased from 3.9 per cent to 9.2 per cent during the same period.

3.67 Given the persistence of significant deficit on the revenue account of the Central Government, any increase in food subsidy (caused by increasing procurement) implies equivalent increase in market borrowing by the Central Government. Furthermore, the higher demand for resources may engender a tighter liquidity position, particularly during conditions of strong economic activity, which in turn could affect the interest rate. If monetary conditions were to remain unaffected, banks would have to raise additional resources through refinance or reallocate

Table 3.14 : Share of Food Credit (Outstanding) in the Commercial Bank Credit

Year	Bank Credit	Food Credit	(Rupees crore)
			Food Credit as a per cent of Bank Credit
	1	2	3
1980-81	25,371	1,759	6.9
1985-86	56,067	5,535	9.9
1990-91	1,16,301	4,506	3.9
1995-96	2,54,015	9,791	3.9
1996-97	2,78,401	7,597	2.7
1997-98	3,24,079	12,485	3.9
1998-99	3,68,837	16,816	4.6
1999-00	4,35,958	25,691	5.9
2000-01	5,11,434	39,991	7.8
2001-02	5,89,723	53,978	9.2

existing assets in order to meet the higher non-food credit demand. Presently, refinance from the Reserve Bank is not allowed against food credit. In the absence of any food credit refinance facilities, banks may reduce their holding of government securities, which could imply higher holding of securities by the Reserve Bank, increasing thereby the monetary base indirectly. This would lead to reserve money expansion and, *ceteris paribus*, would result in an increase in money supply over the medium-term through the money multiplier process with possible inflationary effect. Since food credit is provided out of the lendable resources of banks, any further increase in non-food credit demand would reduce the resources available to banks for lending to other sectors thereby exerting an upward pressure on interest rates (Box III.1).

Box III.1

Monetary Implications of Excess Food stocks

The monetary implications of food credit (*i.e.*, the credit advanced to FCI for carrying out the procurement and distribution operations) emerge from their impact on money supply and on interest rates. Since equiproportionate gains in output may not occur, excess liquidity could add to the inflationary potential in the economy. From the policy perspective, the impact of food credit on money supply, though small, is of some relevance in monetary management and the degree of sensitivity of monetary policy would depend on both the actual quantum of food credit and the observed trend in its movement.

Impact on Interest Rates

The manner in which growing food stocks impact on the evolution of the short-term interest rates in the system is important from the viewpoint of the conduct of the monetary policy. As the food stocks accumulate beyond optimal levels (mainly due to increasing procurement), there is higher demand for the food credit from the banking system. Food credit being mandated in nature, growth in food stocks contemporaneously results in higher food credit. For a given level of money supply, the pressure on the non-food credit increases and depending on the magnitude of pre-emption of funds for food credit, the interest rate could rise.

The interest charge component of carrying cost of buffer stocks has increased steadily at the compound growth rate of above 15 per cent since 1992-93. Since the carrying cost of buffer stock

forms a part of the food subsidy, such hefty increase in interest charges will impart an upward pressure on the quantum of food subsidy. In fact, in the recent years, the carrying cost component of food subsidy far exceeded that of the consumer subsidy.

The interest rate impact of the food credit from the banking system has been analysed in an unrestricted VAR framework. The model consists of food stocks (Lstock), food credit (Lfcr), short-term interest rates (*i.e.*, call rates) (Rcall) and non-food credit (Lnfc). Food credit and non-food credit were taken as ratios to domestic assets of the banking system. The ordering of the variable in the VAR was Lstock, Lfcr, Rcall, Lnfc. A dummy variable was used in the system for the period September 2001 onwards to neutralise the impact of cyclical downturn on interest rates. The order of VAR in the model was two. The impulse response derived from the above unrestricted VAR framework provides evidence of the interest rate impact of large food stocks. Shocks to food stocks cause sharp rise in food credit for three months, but the impact of the shock peters out thereafter (Chart III.18). As the non-food credit demand rises, the short term interest rate moves upwards for about six months and then stabilises (Chart III.19).

In the current milieu of progressive liberalisation of the banking system and a shift by banks towards integrated asset-liability management, there is a need to explore the scope for a gradual scaling down of this large outstanding amount.

Chart III.18: Impulse Response of Food Credit to One Standard Deviation Innovation in Food Stock

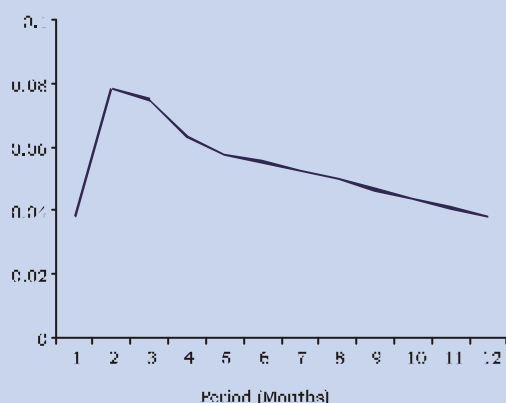
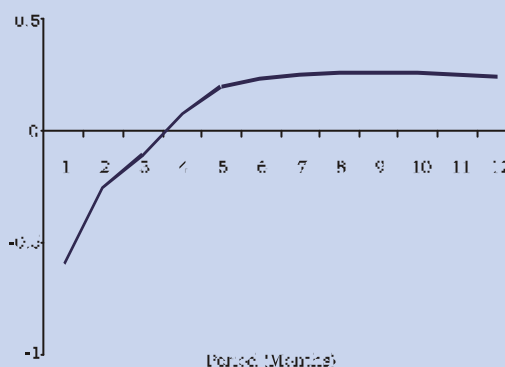


Chart III.19: Impulse Response of Interest Rates (Call Rates) to One Standard Deviation Innovation in Food Stock

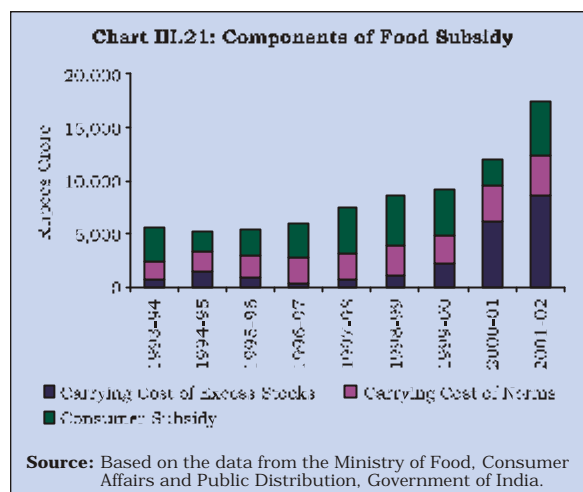
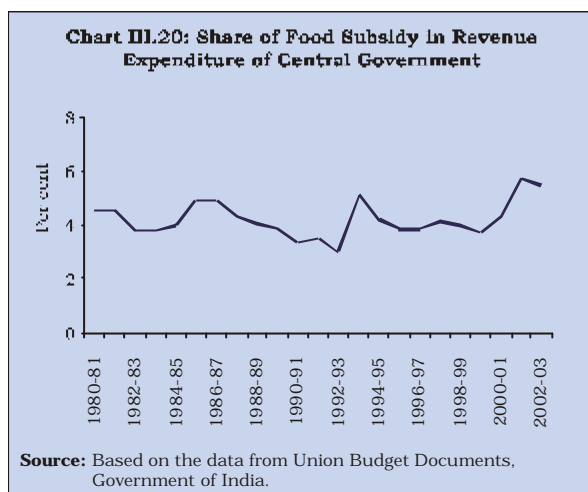


The Fiscal Impact of Food stocks

3.68 Apart from the monetary implications, growing food stocks have fiscal impact, arising from the growing food subsidy and its concomitant impact on the revenue deficit of the Central Government. The food subsidy is the operational deficit in the economic cost of foodgrain operations on one hand and the income accruing to the

FCI through sales under PDS, open market sales including exports, and other welfare schemes at issue prices fixed by the Government on the other. The food subsidy rose moderately from Rs.2,450 crore in 1990-91 to Rs.5,377 crore in 1995-96 and then rapidly to Rs.17,499 crore in 2001-02 and accounted, on an average, 4.1 per cent of Central Government expenditure (Chart III.20).

THE REAL ECONOMY



3.69 The food subsidy comprises two components: consumers' subsidy and the subsidy pertaining to the carrying cost of buffer stock. The carrying cost is the cost incurred by the FCI for inventory management, while consumer subsidy is food subsidy net of carrying cost. The amount of consumer subsidy depends on the volume of foodgrains distributed through the PDS and the carrying cost is determined by the volume of the inventory with the FCI.⁸ While carrying cost on maintaining the stocks at buffer norm levels is a price for food security, the carrying cost on excess stocks over and above buffer norms may be considered as a kind of implicit producers' subsidy.⁹ In other words, if the stocks were to be maintained at the levels of prescribed norms, given the off-take, procurement would have to be less by the extent of excess stocks and hence, lesser total outgo in terms of carrying cost. In recent years, the share of carrying cost for excess stocks over and above norms (*i.e.*, the implicit producers' subsidy) in total food subsidy far exceeded that of the consumer subsidy (Chart III.21).

3.70 The composition of food subsidy has, over the years, evolved in such a way that implicit producers' subsidy emerged as the largest component (48.9 per cent in 2001-02 from 12.8 per cent in 1993-94) with a corresponding erosion in the share of the consumer

subsidy (29.2 per cent in 2001-02 from 56.5 per cent in 1993-94) and subsidy pertaining to maintaining the stocks at the buffer norm levels (21.9 per cent in 2001-02 from 30.7 per cent in 1993-94). This implies that a larger portion of the subsidy is being spent on carrying costs, rather than on meeting the original aim of subsidising the consumers through the PDS.

3.71 Food procurement operations of the FCI also imply contingent liabilities for the Central Government. The food credit outstanding must always be fully matched by the value of paid stocks of foodgrains, evaluated as per the banking norms. In this connection it raises concern regarding the procedure for evaluating the quality and quantity of stocks (which act as collateral for the extension of food credit by virtue of their marketability), as these will have an impact on the quality of outstanding advances of commercial banks. This becomes crucial in the light of the finding that on an average 10 per cent of the annual production of foodgrains is wasted annually on account of inadequate storage facilities (Radhakrishna *et al*, 1997). As food credit is government guaranteed, deterioration in the quality of food stock, in the final analysis, implies a further loss on the Government account as these guaranteed stocks result in cash outflows (in terms of food

8. As consistent and reliable information on the farm harvest prices (FHPs) is not available for the 1990s, it is difficult to assess the producers' share of the food subsidy accruing on account of higher MSPs *vis-à-vis* the FHPs. However, MSPs form a part of the economic cost which ultimately affect the consumers' subsidy.

9. Similarly, implicit subsidy to the producers measured through carrying cost as also cost for the food security depend on the efficiency in the handling of the stock by the FCI. Higher the efficiency lower will be the carrying cost and *vice-versa*. Incidentally, variables relating to food management generally under control of the FCI such as procurement incidentals and carrying cost have increased in the 1990s at the rate of 12.1 per cent and 10.2 per cent, respectively, as compared to MSPs (8.6 per cent) and distribution cost (3.0 per cent). This indicates that operations of the FCI are not cost effective. To that extent implicit subsidy to the producers and cost of food security have been over-estimated.

REPORT ON CURRENCY AND FINANCE

subsidy) in the budget, which is the fiscal impact of growing stocks (Box III.2).

3.72 It may be noted, however, that the stocks have been on the decline since 2001-02 mainly due to persistent efforts made by the Government to increase off-take primarily through exports. The reduction in CIP for APL consumers in July 2001 had also resulted in some improvement in the off-take on the TPDS front. The strategy of increasing exports at the BPL prices can at best be sustained in the short-run only, as the exports depend on various factors other than the prices of the grains. As for the immediate future, the first half of 2002 has seen grain prices rise largely due to adverse weather conditions in the United States, Canada and Australia. The price increase in the near term, however, seems limited due to higher

competition from other producers such as Argentina and Brazil and the restoration of export subsidies by the European Union (IMF, 2002). Further, the US Farm Bill, which aims at increasing price support and expanding support to new crops, may also dampen the prospects of sustained increases in the prices of foodgrains. The world price scenario that may prevail in the long run is not clear. Relying on exports of foodgrains, therefore, could only be a short-term strategy for increasing off-take and lowering stocks. In the long run, there is a need to boost export competitiveness, through both price and non-price factors, to overcome the problem of growing stocks.

Summing Up

3.73 The supply response of Indian agriculture, though predominantly determined by monsoon, has

Box III.2

Fiscal Impact of the Growth in Food stocks

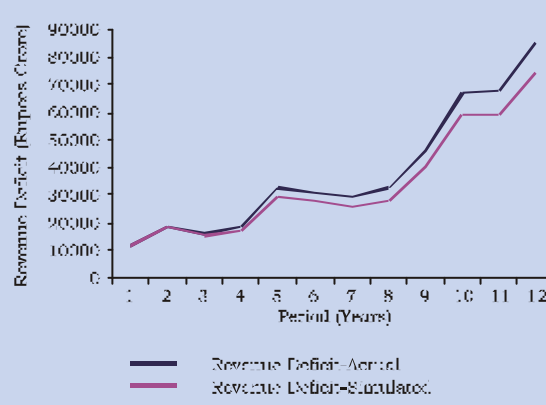
It has generally been recognised that growing food stocks contribute to weakening fiscal position of the Government. The direct impact of the food subsidies on the budget is in the form of rising subsidies to finance the operational deficit of the FCI. Given the mainly exogenous nature of the Government revenues which are largely determined by the output growth in the economy, an increase in subsidy directly leads to a rise in the revenue deficit of the Government. This, in turn, leads to widening of the fiscal deficit or the aggregate borrowing requirements of the Government.

A structural model was formulated to analyse the fiscal impact of food stock comprising 6 behavioural equations and five identities. The model consists of 7 exogenous and 4 lagged endogenous variables.¹⁰ The model covers the sample period 1975-76 to 2001-02, and establishes linkages between the food stock operations and the fiscal accounts. The model is estimated by two stage least square (2SLS) simulation. The model is tested for convergence and meaningful results are obtained in this regard. The estimates of the model reveal that the coefficients have expected signs and are statistically significant. In each of the equations, the coefficient of determination (Adj.R²) is reasonably high and computed Durbin-Watson (DW) statistic indicated absence of serial correlation.

In the model framework, the fiscal impact of the food stocks is analysed in a medium-term time frame.¹¹ The main issue examined here is the impact of distortionary support prices on accumulation of food stocks and the current expenditure of the Government. It is analysed how the reduction in procurement prices of rice and wheat to the level recommended by the Commission on

Agricultural Costs and Prices (CACP) would translate into reduced subsidies for the Government and hence, a lower revenue deficit. It is evident from the Chart III.22 that if MSP of wheat and rice were retained at the level recommended by the CACP, the revenue deficit of the Government would have consistently declined by about 13 per cent in the terminal period of the simulation. This provides evidence of the magnitude of fiscal distortions resulting from the existing food stock operations.

Chart III.22: Fiscal Impact of Retaining MSP at the Level Recommended by CACP



10. The role of international prices of rice and wheat was examined in affecting the off-take of food stocks and food subsidy indirectly, apart from providing stability to the model. However, the impact did not turn out to be significant possibly due to the fact that till recently, trade in foodgrains was highly restricted.

11. The impact of cost of inventories of the FCI is likely to be significant in influencing the subsidies and consequent revenue deficits. However, these could not be directly integrated in the model due to non-availability of a reasonable time series data on the carrying cost.

THE REAL ECONOMY

also been significantly influenced by structural bottlenecks such as inadequate infrastructure, particularly in irrigation. Furthermore, the successive increases in MSPs of rice and wheat in contrast to declining world prices has led to reduced export competitiveness of Indian rice and wheat. The rising MSPs of rice and wheat also favoured their increased cultivation, leading to higher procurement. As opposed to growing procurement, the off-take has been low due to increasing CIPs on one hand and the changes in consumption pattern away from cereals to non-traditional food items on the other. Thus, the increasing procurement and low off-take resulted in mounting foodgrain stocks, which have had monetary and fiscal implications, particularly in terms of the unprecedented growth in food subsidy. The growth in food subsidy has serious opportunity costs, especially in terms of investment in irrigation and other infrastructure, which in turn would have facilitated higher agricultural growth.

3.74 Irrespective of the fiscal costs that are imposed by the increasing MSPs by way of aiding increased procurement, it is worthwhile to reiterate that it serves the role of price stabilisation. The policy intervention to support agriculture is less in India, than in many OECD countries. If the level of subsidies accorded to these commodities is reduced in USA and European countries, Indian cereal production would retain competitiveness. It can be said that the Indian price policy has provided a modicum of income protection to farmers, *albeit* with fiscal costs.

3.75 It is interesting to note that the recent predicament of mounting foodstocks occurred despite a deceleration in agricultural growth. It is quite possible that the foodgrain stock piling could have been much more, had there been higher growth in rice and wheat production. The increasing production of rice and wheat, in conjunction with the increasing MSPs would have resulted in much higher procurement, mainly due to inadequate market clearance caused by the declining demand for cereals. This would have led to larger levels of stocks and hence, higher economic costs.

3.76 Achievement of higher growth in agricultural production will require much faster crop diversification. The changes in consumption pattern also make crop diversification imperative. There is a growing preference by consumers towards processed foods such as flour, packaged milk, instant foods, meat, poultry, fish, fruits and vegetables. With the share of unprocessed foods falling in the consumption, the future growth in agriculture lies in these value added products and areas like horticulture and floriculture,

which also have higher export potential. In such emerging areas of agriculture, the heterogeneity of products is much greater. There is a multiplicity of varieties that can be produced. However, so far production is often regionally concentrated and the production and marketing conditions differ significantly as also the input requirements. Furthermore, the lack of adequate storage facilities act as a major bottleneck in the development of food processing industry. Another matter of concern regarding processed foods in India is the lack of standardisation of product quality, which is important for meeting the international norms like the Codex Standards.

3.77 Policies and programmes that need to be designed to support higher productivity and production in these areas should be regionally disaggregated and knowledge intensive. The promotion of diversified agriculture will also need a greater concentration of resources in research and extension in the new areas. Further, a greater thrust needs to be provided to the development of rural infrastructure, viz., rural roads, cold storage, transport facilities with greater private sector participation. This would require a decentralised private sector framework with appropriate policies and supportive financing facilities. Furthermore, in view of the relatively high level of food security that has been now achieved, there is a need to focus on the distributional aspects of foodgrains rather than encouraging unsustainable levels of cereal production through the Minimum Support Prices. There is a need to develop markets by way of removing movement restrictions so as to enable markets to take care of the distributional aspects. Next, demand driven agricultural production requires introduction of futures trading so as to enable price discovery. International competitiveness requires more rational usage of inputs, particularly pesticides, so that Indian products can meet the Codex Norms. In this regard, rationalisation of input prices, particularly of fertilisers, electricity and irrigation is required to attain a sustainable agricultural growth. Agricultural marketing needs to be developed, with emphasis on brand building and standardisation of product quality to increase the export competitiveness of Indian processed foods on one hand and to help more effective utilisation of the vast production potential of fruits and vegetables in the country.

III. INDUSTRY

3.78 The adverse impact of the crisis of 1991 was perhaps most pronounced in case of the industrial sector in India, which experienced a negative growth of 0.6 per cent in 1991-92. Following the reform

REPORT ON CURRENCY AND FINANCE

measures, there was an initial turn-around in the industrial growth profile. However, it was short-lived, and deceleration has set in the industrial sector since 1996-97.

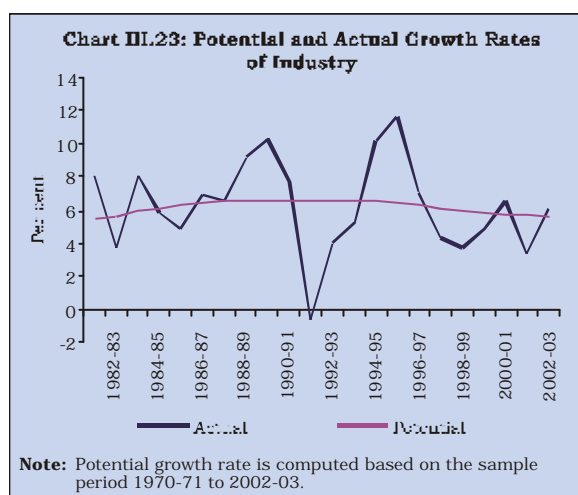
3.79 Structural factors inhibited productivity and cost efficiency and hence, the overall growth of the industrial sector until the 1980s. These included myriads of controls and regulations, lack of technological development and restricted access to foreign technology. This resulted in a situation where the impetus to technological upgradation emanated primarily from the public sector. The controls on industry through licensing, MRTP, thus, inhibited competition. Further, institutional rigidities prevented restructuring in the manufacturing sector. It is against this background that a set of policy measures having a bearing on the industrial sector was introduced. Elements of the new industrial policy sought to increase competition by abolishing restrictions on MRTP companies, terminating the phased manufacturing programmes, freeing foreign direct investment and import of foreign technology and dereservation of sectors hitherto reserved for public sector. The thrust of these measures was to create a competitive environment as a means to improve productivity and efficiency. These measures created a favourable environment for the industry to upgrade its technology and build-up its capacity through imports in order to cater to growing domestic and external demand. The industrial sector responded favourably to the initial phase of structural reforms, but later industrial deceleration set in. The manufacturing sector, which accounts for more than half of the overall industry, was affected the most with its growth decelerating not only to lower than the first phase of reforms but lower than the 1980s as well. Given the contribution of manufacturing to GDP growth and its sectoral linkages, the persisting slowdown has raised several concerns. The poor performance of the manufacturing sector, apart from being influenced by business cycles, is strongly affected by supply side bottlenecks, which are emerging as major constraints to productivity growth and competitiveness of the industrial sector. Such constraints are operating primarily through infrastructure - both in terms of unstable supply as well as higher unit cost, financing constraints, and lack of adequate institutional and structural reforms to facilitate the required degree of industrial re-structuring.

3.80 Against this backdrop, the growth performance of industry, with particular reference to the

manufacturing sector, and its changing production structure is analysed in the present Section. The manufacturing slowdown has been examined both in terms of cyclical factors operating through aggregate demand as well as structural factors, reflecting the supply constraints, with a view to ascertaining their relative roles. In view of the growing importance of structural factors in posing a binding constraint on manufacturing, the provision of infrastructure and finance as also the issue of manufacturing productivity have been examined.

Profile of Industrial Growth

3.81 The actual industrial growth during the latter phase of the reform period fell below the potential growth, indicating a decline in the capacity utilisation over the medium-term.¹³ Besides, there have been distinct signs of the potential growth itself slowing down compared with the first phase of the reform period and the latter half of the preceding decade (Chart III.23). This can be attributed to a deceleration in growth across all sub-sectors, *i.e.*, registered manufacturing, mining and quarrying as well as electricity, gas and water supply. An analysis of industrial slowdown as per the use-based classification reveals that while the consumer goods industries sustained growth momentum to some extent during the latter part of the reform period, substantial decline in growth was witnessed in basic and intermediate goods segments. The demand for these goods in the face of sustained consumption demand in the latter period of the reforms implies that industry may be undertaking inventory adjustment created by the initial



13. Potential growth rate here refers to the underlying growth rate obtained by filtering the original series applying H-P Filter.

THE REAL ECONOMY

phase of capacity creation and overproduction. Although production of capital goods witnessed an improved average growth during the latter phase of the reform period, a rapid decline was observed from 2000-01 onwards, indicating the impact of weakening investment demand in the economy.

3.82 The 1990s witnessed a shift in the production structure in favour of the registered manufacturing as against the unregistered one. While the share of registered manufacturing in industrial GDP increased from 38.6 per cent in 1990-91 to 41.5 per cent in 2001-02, the share of unregistered manufacturing declined from 22.5 per cent to 21.6 per cent during the same period. Even within registered manufacturing, traditional industries such as textile, jute and other vegetable fibre textiles witnessed a decline in their respective shares in the reform period while the modern segments like metal products and electrical machinery forged ahead. The relatively low growth in productivity, lack of technological improvements and reduced access to credit have, *inter alia*, possibly acted as a more binding constraint in respect of the traditional segment *vis-à-vis* the modern one.

3.83 During the 1980s, although the average growth in value added in the manufacturing sector was relatively high at 7.3 per cent, it was not reflected in the commensurate growth in employment mainly on account of reduction in employment in cotton textiles and jute textiles, which were high employment generating industries. The employment growth in the organised manufacturing sector rose to 2.3 per cent in the first half of the 1990s from 0.8 per cent in the 1980s. This may be attributed to increased employment in small and medium size factories as a result of liberalisation of industrial and trade policies (Goldar, 2000). The deceleration in the manufacturing growth rate in the latter half of the 1990s had, however, adverse implications on employment growth. This was visible in employment growth turning negative (-2.1 per cent) in the latter half of the 1990s.

3.84 While the emerging production structure of industry bodes well for the economy, the stagnant share of manufacturing at around 17 per cent of GDP during the 1990s is a matter of concern. Other emerging market economies have exhibited a rising share of manufacturing and industry at similar levels of developments, with these sectors being the lead growth centres. The contribution of industry to GDP in such developing countries is placed in the range of 28 per cent to 51 per cent in 2000, much higher than 25 per cent in India. As a matter of fact, the fast growing East Asian countries witnessed a rise in the

share of industry in GDP between 1990 and 2000 (Table 3.15). The differences in the nature of industrial policy and their implementation are found to be critical to the industrial success of such countries. Important elements of industrial policy in these countries included flexibility of labour use, build up of large and efficient social infrastructure, favourable attitude towards international technology transfer, substantial investment in public technology institutions and competitive pressures resulting from exports (Box III.3). Given the stagnating share of industry in GDP in India, the issues of manufacturing slowdown, productivity and competitiveness need further examination, which is attempted next.

Table 3.15: Share of Industry in GDP: Cross-Country Comparison

(Per cent)

Country	1990	2000
	1	2
India	24	25
China	42	51
Indonesia	38	47
Korea, Rep.	43	43
Malaysia	42	45
Thailand	37	40
Brazil	39	29
Argentina	36	28
Mexico	28	28

Source : World Development Indicators 2002, World Bank.

The Manufacturing Slowdown

3.85 The loss of momentum in manufacturing growth, which occurred in the latter part of 1996, has since continued during the second phase of the reform period. At the disaggregated two-digit level, the manufacturing sector witnessed substantial deceleration in 11 industry groups with a combined weight of 64 per cent in the manufacturing production (Table 3.16). Six industry groups with a combined weight of 36 per cent withstood the slowdown and posted an accelerated growth during 1996-2002. However, in view of their relatively low weight, the manufacturing sector, as a whole, registered a slowdown.

Factors Causing the Industrial Slowdown: Some Hypotheses

3.86 A number of hypotheses in terms of cyclical and structural factors have been put forward to explain the slowdown in the manufacturing activity

REPORT ON CURRENCY AND FINANCE

Table 3.16 : Growth of IIP-Manufacturing at Two-Digit Level

(Per cent)

Industry Group	Weight	1992-93 to 95-96	1996-97 to 01-02
	1	2	3
1. Food products	9.08	4.5	2.7
2. Beverages, tobacco and related products	2.38	10.9	11.6
3. Cotton textiles	5.52	6.1	2.4
4. Wool, silk and man-made fibre textiles	2.26	14.6	9.0
5. Jute and other vegetable fibre textiles (except cotton)	0.59	4.3	-0.2
6. Textile products (including wearing apparel)	2.54	2.3	3.8
7. Wood and wood products, furniture & fixtures	2.70	7.7	-4.3
8. Paper and paper products and printing, publishing and allied industries	2.65	8.7	5.4
9. Leather and leather & fur products	1.14	3.2	8.3
10. Basic chemicals and chemical products (except products of petroleum & coal)	14.00	7.5	8.0
11. Rubber, plastic, petroleum and coal products	5.73	4.5	6.7
12. Non-metallic mineral products	4.40	9.6	9.0
13. Basic metal and alloy industries	7.45	15.6	3.1
14. Metal products and parts (except machinery and equipment)	2.81	-1.0	6.4
15. Machinery and equipment other than transport equipment	9.57	9.4	6.4
16. Transport equipment and parts	3.98	10.1	7.6
17. Other manufacturing industries	2.56	8.4	4.8
Overall Manufacturing	79.36	11.6	5.6

Note : The category of wool, silk and man-made fibre is available since 1993-94 onwards.

Source : Central Statistical Organisation.

Box III.3

Industrial Policy in East Asian Countries

There has been considerable focus on the selective intervention of industrial policies in accelerating economic growth in the East Asian countries. The role of industrial policy in the growth process of these economies was particularly recognised in the 1970s and the 1980s. A number of questions have been raised in the backdrop of the role of industrial policy in the East Asian economies. Whether the selective intervention policies pursued were an important part of their economic success? Whether the changes in international economic environment inhibit developing countries to implement similar industrial policies? The East Asian experience of industrial growth has been, thus, debated for choosing alternative policy options for attaining rapid industrial growth, higher employment and exports as witnessed by these economies (Table 3.17).

Table 3.17: Contribution of Industry to GDP and Exports in Japan and Korea

Item	Japan		Korea	
	1990	2000	1990	2000
	1	2	3	4
Share of Manufacturing in GDP (%)	27	22	29	31
Share of Industry in GDP (%)	39	32	43	43
Share of Manufacturing Exports in Merchandise Exports (%)	96	94	94	91

Source: World Development Indicators 2002, World Bank.

(Contd.)

THE REAL ECONOMY

(Contd.)

Japan implemented sectoral industrial policy in the post-1950 period through direct subsidies; tax policy and off-budget finance through Fiscal Investment and Loan Programme; subsidised credit, including the channelling of capital to specified sectors; and controls on international trade, investment and technology imports. The focus of these efforts was aimed at rebuilding heavy industries such as steel and transportation equipment. The trade protection provided to Japanese industry, as measured by effective rate of protection, is argued to be associated with lower than the expected performance of exports, contradicting the notion that infant industries were promoted (Noland, 1997). The research and development (R&D) financed by the Government, however, had favourable impact on trade competitiveness during the 1970s and 1980s. The role of direct subsidies in fostering changes in Japan's industrial composition was minimal. Indirect subsidies such as low interest loans were, however, found to be associated with expansion of output and improved trade performance. Industrial policies were effective in the sense that market interventions appeared to have impacted on resource flows and composition of output.

The orientation of industrial policy in Korea had changed drastically in the mid-1960s with an emphasis on exports. There was a drive towards heavy and chemical industry in order to alter the composition of industrial output with more technology and engineering intensive products. It also aimed at upgrading export profile and reducing reliance on imports. The policies for channelling capital through interest subsidy were augmented by extensive tax incentives for priority industries. However, the era of protection to industries came to an end in 1979 when the Government announced a comprehensive stabilisation plan. Policies undertaken during this period are, however, found to be unsuccessful on the ground of creation of excess capacity in favoured sectors while starving non-favoured sectors of resources. It is also observed that during the heavy and chemical industry drive, the establishment of oligopolistic positions by the *Chaebol* retarded technological change. Further, Lee (1996) finds that trade protections were negatively associated with the growth rate of labour and total factor productivity, while tax incentives and subsidised credit were uncorrelated with sectoral productivity growth. The labour productivity growth is found to be slower in protected sectors. Nevertheless, inter-industry externalities of industrial policies emanating from domestic production of intermediate goods, movements of workers from protected sectors to other sectors and direct interaction on equipment design between producers and local buyers would have potentially increased total factor productivity (TFP) growth in other sectors (Pack, 2000).

A critical component of Taiwan's success was that its industrial policies helped to establish new and successful manufacturing sector. The industrial growth was facilitated by low level of trade protection, availability of inputs at international prices, conservative macroeconomic policy, and competitive factor markets. The basic fiscal incentive programme for industry from 1961 to 1990 provided for participating firms to choose tax exemptions or accelerated depreciation on capital equipment. Such fiscal incentives targeted specific industries, though the focus shifted over time from labour intensive exports in the 1960s to capital-intensive sectors in the 1970s to technology intensive sectors in the 1980s. In the 1990s, the Government discontinued such fiscal concessions and replaced them with the system where firms were eligible for tax relief based on expenditure on activities such as R&D expenditure or pollution control. A second industrial policy tool was subsidised credit for export financing and import of raw materials. The third major tool of

industrial policy was trade controls. However, since 1989 the Government undertook far reaching trade liberalisation that brought the level of trade protection down to developed country levels, at least in the manufacturing. Besides these standard tools of selective intervention, there was also another set of policy conducive to the development of manufacturing sector viz., establishment of a large number of institutions that were designed to identify, transfer, defuse and efficiently absorb foreign industrial technologies and then to undertake innovation. These latter policies were largely introduced in the late 1970s and 1980s. These efforts reflected the fact that Taiwan's policies were more neutral than those of Korea and Japan with respect to firm size. Much of its industrial development was in firms with fewer than 100 employees. Pack and Lin (2001) find that industrial policy could have added 1 percentage point to TFP growth in manufacturing.

Much of the early growth in Japan, Korea and Taiwan consisted of simple, labour intensive products such as clothing, toys, sporting goods and simple electronics. Perhaps, the main miracle in these countries was maintenance of a high rate of investment and relatively efficient absorption. After the oil price shocks in the 1970s, Japan, Korea and Taiwan were able to pursue a policy of reducing domestic absorption and altering the real exchange rate between tradables and non-tradables for exports to respond to the new price structure. De Mello (1985), using the standard input-output based demand decomposition, found that rapid expansion of exports than of other components of final demand accounted for about three-quarters of the rise in growth of manufacturing sector. The phenomenal expansion of exports generated rapid employment growth in these sectors.

Despite ambiguity on the role of industrial policy in causing TFP growth, favourable impact of industrial policy was that investment ratio and TFP growth did not fall in the face of phenomenal rates of capital accumulation (Noland and Pack, 2003). An important factor that contributed to the high marginal product of capital especially in Korea and Taiwan was the considerable flexibility of labour and the efforts of firms to improve their productivity. Workers moved without impediment to expanding areas rather than sticking to the sectors under increasing competitive pressure. Measures at enhancing industrial growth in the East Asian countries also focused on building large and efficient social infrastructure, favourable attitude towards international technology transfer and substantial investment in public technology institutions. The difference in performance of these countries is also attributed to more competitive pressure that resulted from reliance on exports as a measure of performance. In addition, a critical difference was the relative openness of these countries to disembodied technology imports obtained through technology licenses where as Latin American countries and India were restrictive.

In the above backdrop, the relevant lesson for contemporary developing countries is that the differences in the nature of policy and its implementation are critical for robust industrial growth. Japan, Korea and Taiwan undertook continuous monitoring of progress of firms where the protection was provided. Subsidised credit and protection in the domestic market in Korea were contingent on export performance of firms. Firms were, thus, forced to improve productivity which led to intensive efforts to import and assimilate foreign technology. Consequently, Korea and Taiwan experienced high TFP growth rate compared with other developing countries, although much of this might have accrued without selective intervention.

during the latter phase of the reform period. The explanations provided, however, fall short of giving a satisfactory answer to what has led to the manufacturing slowdown and its persistence. The onset of slowdown is often attributed to the satiation of the pent-up domestic demand of 'once-for-all' nature for a host of import-intensive goods, which could be domestically assembled or produced following trade liberalisation (Chandrasekhar and Ghosh, 2002). The short-run increase in domestic demand was seemingly facilitated by easy access to credit, including consumer credit in the wake of financial liberalisation. Once that pent-up demand of transitory nature was satisfied, industry entered the phase of slowdown in the absence of demand support - domestic or exports. However, the huge capacity-build up noticed in the first phase of the reform period runs counter to the momentary surge in demand that was not likely to be sustained in the long run.

3.87 Another hypothesis on the onset of slowdown relates to the 'credit crunch' which, it is argued, triggered off the manufacturing slowdown (Sen *et al*, 1997 and Desai, 2001). The unexpected and temporary tightening of liquidity in money markets during 1995-96, resulting from large dollar sales by the Reserve Bank to contain volatility in the forex market, was mistaken to be an expression of deflationary credit policy (Acharya, 2002).

3.88 Yet another factor was the role of the corporate sector. The proportion of corporate funds locked up in inventories and receivables went up steadily, leading to a scarcity of working capital (Sen *et al*, 1997). Further, the proportion of funds invested in financial instruments, which had hovered around 5 per cent during 1985-1993, crossed the level of 10 per cent subsequently. The depressed stock market conditions in 1995-96 inhibited the redemption of financial instruments. The rising interest rates may also have been prohibitive for new projects and investment, particularly, in the informal sector which has limited access to funds (Shetty, 1997a and 2001b). Reinforced by the increased borrowings by the Government, the weighted average lending rate of scheduled commercial banks rose to 17.1 per cent in 1995-96 from 16.1 per cent in 1994-95. In real terms, the rate shot up to 8.5 per cent in 1995-96 from an all-time low (for the 1990s) of 3.9 per cent in the preceding year.

3.89 What follows below is an account of these cyclical and structural factors which have impacted upon industrial growth in recent years.

Cyclical Factors in Industrial Slowdown

3.90 Cyclical factors have generally been recognised as an important source of industrial slowdown. In this context, the significant fall in Government capital investment especially since 1995, has been recognised as the key contributor to the slowdown (Nayyar, 1996). It is, however, important to underscore that while the contraction in Government expenditure does have adverse implications for the manufacturing growth, it declined even during the manufacturing boom (1992-93 to 1995-96). Thus, decline in Government expenditure *per se* does not provide a satisfactory explanation of the slowdown.

3.91 The manufacturing slowdown can also be seen in terms of decline in fixed investment in industry in the context of over-expansion of capacities during the manufacturing boom, slump in the capital market for new issues and rise in real interest rates in 1995-96 (Acharya, 2002). The increase in real fixed investment in manufacturing from 6.8 per cent of GDP in 1990-91 to 13.0 per cent in 1995-96 and the subsequent decline to 7.9 per cent by 2000-01 seems to have mirrored the pattern of manufacturing growth.

3.92 Among the other cyclical sources of demand, the lagged effect of the negative agricultural growth in 1995-96 seems to have worked towards slowing down the growth of rural demand for consumer durables and non-durables subsequently (Government of India, 2000). As the demand for industrial products, particularly the consumer durables, is significantly influenced by the rural demand, fluctuations in the agricultural production seem to have adversely impacted the industrial growth.

3.93 The cyclical downswing was not confined to the domestic sources of demand but was also clearly visible in manufacturing exports. In anticipation of high potential demand in the wake of reforms, the manufacturing sector built up huge capacity through imports of capital goods during 1994-97 (Table 3.18). Such capacity build-up was not sustainable on the basis of normal growth in domestic demand, and the only feasible outlet was the exports market. However, signs of exports slowdown were visible in 1995-96 when manufacturing exports decelerated. Subsequently, with slowdown in the world trade, sluggishness in the global manufacturing prices and variations in the cross-currency exchange rates, manufacturing exports growth declined to a meagre 3.6 per cent by 1996-97. The real appreciation of Rupee between 1993 and 1995 and the Asia-wide slowdown in exports following the loss of market share to China also contributed to the slowdown in exports [See Chapter VII for a discussion].

THE REAL ECONOMY

Table 3.18 : Production and Imports of Capital Goods and IIP Growth

(Per cent)

Year	IIP (Manufacturing)	Capital Goods Production	Capital Goods Imports
	1	2	3
1990-91	9.0	16	10.1
1991-92	-0.8	-8.5	10.4
1992-93	2.2	-0.1	-27.5
1993-94	6.1	-4.1	7.1
1994-95	9.1	9.2	37.8
1995-96	14.1	5.4	22.4
1996-97	7.3	11.4	35.2
1997-98	6.7	5.8	-4.0
1998-99	4.4	12.6	-1.3
1999-00	7.1	6.9	2.7
2000-01	5.3	1.8	-10.9
2001-02	2.9	-3.4	-0.3

Sources : 1. Central Statistical Organisation.
 2. Directorate General of Commercial Intelligence and Statistics.

3.94 As is evident from the foregoing analysis, the growth momentum in manufacturing slackened towards the end of 1996, largely under the influence of factors outside the realm of public policy in the short-run. The movement in major indicators of aggregate demand, viz., domestic capital formation, Government capital expenditure, capital goods production, import of capital

goods, manufacturing exports and private final consumption expenditure, all witnessed deceleration during the latter phase of the reforms (Chart III.24). Some empirical evidence of the determinants of industrial demand is set out in Box III.4.

Structural Factors

3.95 To the extent the slowdown is prolonged and protracted, it seems to have its origin in structural factors, including, inadequate industrial restructuring undertaken in the face of growing openness of the economy and the associated external competitive pressure. The inadequacy of institutional and structural reforms, which held back the industrial restructuring, has, thus, emerged as a binding constraint on manufacturing growth in the liberalised trade regime.

Infrastructure Constraints in the Industrial Sector

3.96 The industrial performance continues to be hampered by physical infrastructure bottlenecks with the demand-supply imbalances persisting and growing during the reform period. A worrisome feature of infrastructure development has been the declining trend in potential output of a number of basic activities such as steel, coal, cargo handling and freight loading. There are, however, signs of improvement for a few sectors, like power and communication. With the initiation of power sector reforms, the demand-supply gap for power has witnessed a decline to 7.9 per cent during the reform period from 8.9 per cent during the pre-reform period. Notably, the power deficit remained

Box III.4

Determinants of Demand for Manufacturing and Overall Industry

The influence of demand factors on manufacturing is corroborated by the empirical estimates of a manufacturing demand function. The estimated demand function for manufacturing (mfgcy) indicates that agriculture (Lagr) has a dominant positive impact on manufacturing with an elasticity of 0.21. The export elasticity (Lex) of manufacturing demand is positive but relatively low at 0.08. The manufacturing demand is found to be sensitive to manufacturing inflation (Lpm) with elasticity of (-) 0.19. There has been a significant adjustment to the desired level of demand as indicated by the lagged dependent variable. The demand function for the industrial sector (indcy) as a whole also reveals that the maximum positive demand impact emanates from agriculture (elasticity = 0.18), closely followed by exports (elasticity = 0.11). The industrial demand also turns out to be sensitive to industrial inflation with elasticity of (-) 0.21.

Demand Function for the Manufacturing Sector

(Sample: 1970-71 to 2001-02)

$$mfgcy = -2.490 + 0.211 Lagr + 0.077 Lex - 0.189 Lpm - 0.047 Dum1$$

(2.103) (2.234) (-3.025) (-2.533)

$$+ 0.292 mfgcy(-1)$$

(2.07)

$$R^2 = 0.61, \text{ Durbin's } h = 0.50, F = 7.37$$

Demand Function for the Overall Industry

$$indcy = -2.311 + 0.179 Lagr + 0.111 Lex - 0.212 Lp - 0.038 Dum2$$

(2.540) (3.023) (-3.874) (-2.887)

$$R^2 = 0.67, DW = 1.91, F = 9.83$$

Where, mfgcy = cyclical demand component of manufacturing sector, indcy = cyclical demand component of overall industry, Lagr = log of agriculture output, Lex = log of exports of manufacturing items, Lpm = log of prices of manufacturing products, Lp = Log of WPI, Dum1 and Dum2 represent the impact of irregular shocks.

REPORT ON CURRENCY AND FINANCE

Chart III.24: Indicators of Manufacturing Activity



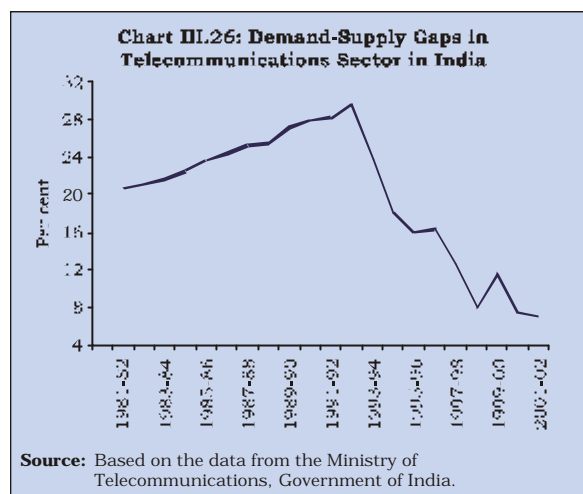
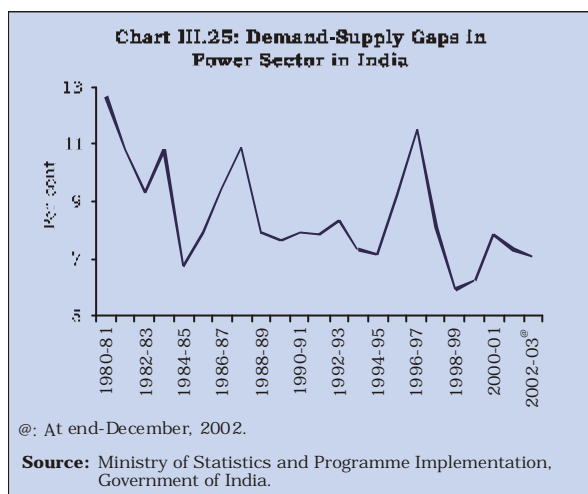
Source: Based on the data from the Central Statistical Organisation, DGCI & S and Union Budget, Government of India.

high at around 9 per cent during the mid-1990s when the industrial sector was growing at a faster rate (Chart III.25). The downtrend in demand-supply gap for telecommunications accompanied by a decline in unit cost reflects the regulatory reforms and increased

competition arising from private sector participation (Chart III.26).

3.97 The deteriorating infrastructure services represent a direct fall out of shrinkage in infrastructure

THE REAL ECONOMY



investment in the context of grossly inadequate internal resources of public infrastructure entities and dwindling Plan outlay for infrastructure. The real capital formation in electricity, gas and water supply declined to 2.6 per cent of GDP during the 1990s from 2.9 per cent during the preceding decade (Table 3.19). A similar trend was observed for railways. Within the 1990s also, there was a decline in the real gross capital formation in sectors like electricity, gas and water supply, and the railways between the first and the second half. In contrast, communication witnessed an improvement in the reform period following the market based pricing of services and better regulatory framework. The investment in infrastructure sector as a whole has shown clear decline of one percentage point of GDP between the first and the second halves of the 1990s. This decline can be attributed to declining government investment on infrastructure - a fall out of the prevailing fiscal situation - which was a major contributing factor for the economic slowdown in the latter part of the 1990s.

3.98 The pace of public investment in infrastructure slowed down substantially during the reform period on account of rising fiscal imbalances of the Government, both at the Centre and the States. As a result, public investment in major infrastructure sectors declined in real terms during the reform period (Chart III.27). The rates of return from infrastructure services extended by the Government continue to be abysmally low, constraining the ability to generate internal resources for investment. For instance, the rate of return on investment for the State power sector deteriorated from (-)12.7 per cent in 1991-92 to (-)32.8 per cent in 2001-02. These essentially indicate lack of required structural reforms in the power sector in India, notably the near absence of market based pricing.

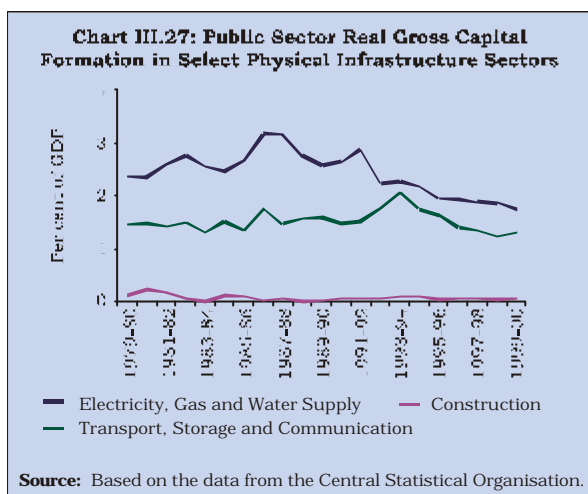
3.99 Contemporaneously, response of the private sector to the reform process has not been adequate to offset the declining public investment on account of inadequate institutional reforms, lack of clarity regarding

Table 3.19 : Real Gross Capital Formation in Infrastructure Sectors

(Per cent of GDP)

Period Averages	Electricity Gas and Water Supply	Construction	Transport, Storage and Communication	Of which: Railways	Communi- cation	Total Infras- tructure	Total Gross Capital Formation
	1	2	3	4	5	6	7
1980-81 to 1984-85	2.8	0.5	2.5	0.6	0.4	5.8	25.5
1985-86 to 1989-90	3.1	0.4	2.9	0.7	0.5	6.4	25.4
1990-91 to 1994-95	2.9	0.4	3.0	0.6	0.7	6.3	24.7
1995-96 to 1999-00	2.3	0.4	2.6	0.4	0.7	5.3	25.8
1980-81 to 1989-90	2.9	0.5	2.7	0.7	0.4	6.1	25.4
1990-91 to 1999-00	2.6	0.4	2.8	0.5	0.7	5.8	25.2

Source : National Accounts Statistics, Government of India.



infrastructure development priorities, non-transparency in project outsourcing processes, and numerous time consuming clearances. In the absence of rationalisation of user charges, the infrastructure sectors such as railways, public transport, power continue to suffer from the levy of inadequate user charges, thereby putting off potential private participation. Keeping in view the long gestation period for infrastructure projects, the issue of initial risk sharing by the Government assumes importance, given the inability of the private sector to assess the long-term risks.

3.100 The cost of power and energy is an important element in the total cost of manufacturing in India and a higher cost structure of power for the industrial sector adversely affects its price competitiveness. During the 1990s, electricity tariff charged from industrial/commercial users is significantly higher than the average cost of supply. During the 1990s, the tariff charged from the industrial sector, on an average, remained 26 per cent above the average cost of supply of State Electricity Boards (SEBs) and electricity departments, reflecting on the higher input costs for the industry (Table 3.20). The higher cost of electricity is also borne out by the fact that annual variation in WPI for electricity has been higher than that of WPI for manufacturing for the entire period (Chart III.28). During latter phase of the reforms, the cost of power for the industry has risen at a rate much faster than the rise in the prices of manufacturing products. For instance, during the period 1996-97 to 2001-02 (i.e., the period of industrial slowdown), while the average tariff charged from industry increased on an average by 7.7 per cent, the manufacturing prices rose by 2.9 per cent. Thus, the distinct rise in the cost of power for the industry has impacted on industrial competitiveness.

Table 3.20 : Average Electricity Tariff for Industry

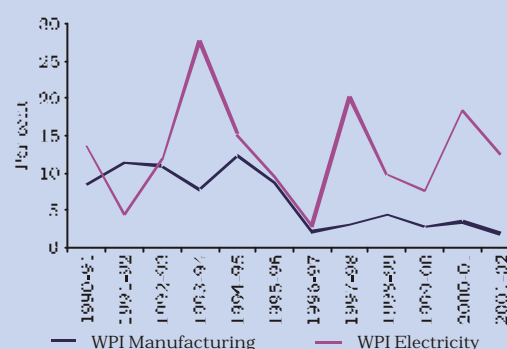
(Paise/Kwh)

Year	Average Cost of Supply of Electricity	Average Tariff Charged from Industry	Index for Average Tariff for Industries	WPI for Manufacturing
	1	2	3	4
1992-93	128.2	171.50	86.5	97.8
1993-94	149.1	198.20	100.0	100.0
1994-95	163.4	219.90	110.9	112.2
1995-96	179.6	245.50	123.9	121.9
1996-97	215.6	276.89	139.7	124.4
1997-98	239.7	314.63	158.7	128.0
1998-99	263.1	324.33	163.6	133.6
1999-00 (P)	305.1	343.37	173.2	137.2
2000-01 (RE)	327.3	368.37	185.9	141.7
2001-02 (AP)	349.9	381.14	192.3	144.3

P = Provisional Estimates, RE = Revised Estimates, AP = Advance Estimates.

Source: Planning Commission, Government of India, 2002c.

Chart III.28: Wholesale Prices of Electricity vis-à-vis Manufacturing (Annual Variations)



Source: Based on the data from the Ministry of Commerce and Industry, Government of India.

3.101 In the context of reducing the unit cost of power to the industry as also to ensure stable supply in the event of rising industrial demand, the issues of pricing, cross subsidy, ownership and the regulatory issues have emerged to the forefront. The major challenges to the sustainable growth of power sector in India continue to emanate from poor recovery of SEBs' dues and transmission and distribution losses, subsidies to the agricultural and domestic sectors, and a lack of restructuring. As the financing of power projects poses a daunting task and requires a long-term solution, resource generation within the sector through prompt and efficient

THE REAL ECONOMY

collection of appropriate user charges across the consumer categories should precede the efforts at attracting private investments. The poor response of the private sector is indicated by the fact that even after a decade of opening up of the power sector, private sector accounts for only 10 per cent of the present generating capacity. More recently, regulatory reforms and reforms in the transmission and distribution sectors have been emphasised to improve the efficiency of the power infrastructure and raise the level of revenue realisation. In the Indian context, as power is in the Concurrent List of the Indian Constitution, measures for reforming this sector have been undertaken by a number of State Governments (Box III.5).

3.102 The above developments reveal that there has been compression in investment on infrastructure leading to inadequate availability and deterioration in the quality. At the same time, cost of infrastructure,

particularly the cost of power for industry, has relatively risen in the late 1990s. Further, there has been a relative increase in the real interest cost for the industrial sector. These factors together, have reduced the competitiveness of the industry and caused the persisting slowdown.

Industrial Performance and Credit Growth

3.103 The provision of credit is considered an essential input to industrial activities. The credit delivery mechanism plays an important role, especially in developing economies with credit market imperfections. A major finding of the literature in this regard is that small firms are largely dependent on bank credit to meet their financing requirements while the big firms have alternative sources of finance (Gertler and Gilchrist, 1993; Oliner and Rudebusch, 1995). Therefore, small firms usually get affected more on occasions of tightening of bank credit. Not only

Box III.5

Power Sector Reforms in Indian States

An early but notable exercise in power reform was carried out by a committee of the National Development Council way back in 1994. Following a series of Chief Ministers Conferences in late 1996, a 'Common Minimum National Action Plan for Power' was agreed upon based on the following points: independent regulatory commission, rationalisation of tariffs and private sector participation in distribution. Accordingly, the regulatory reform started off in 1996 with the establishment of State Electricity Regulatory Commission (SERC) in Orissa, followed by Haryana in 1998 prior to the Central enactment, namely the Electricity Regulatory Commission Act, 1998. The Central Electricity Regulatory Commission (CERC) was set up in 1998 as an independent regulatory body.

Twenty-two States have so far either constituted or notified the constitution of State Electricity Regulatory Commission (SERC), of which 13 have already issued tariff orders. State Electricity Reforms Act has been enacted by nine states e.g., Orissa, Haryana, Andhra Pradesh, Uttaranchal, Uttar Pradesh, Karnataka, Rajasthan, Madhya Pradesh and Delhi. Of these, State Electricity Boards have been corporatised for all except Madhya Pradesh. Though separate state-owned generation, transmission and distribution companies were established with an ultimate aim of privatising it, most of them have made progress in that regard only to a limited extent (e.g. corporatisation but not privatisation). In fact, though generation has improved in some states, transmission and distribution units have seen further mounting of losses.

States such as Andhra Pradesh, Orissa, Haryana, Karnataka, Rajasthan and UP have completed unbundling of their respective SEBs into separate entities for generation, transmission and distribution. Orissa and Delhi are the only States so far to have privatised their distribution. In Orissa, distribution is

presently carried out by four companies. Besides, 49 per cent disinvestment has taken place in its thermal power company with a similar plan on the agenda for its hydro-power generation company. Financial stress of the Grid Corporation of Orissa, with an estimated liability of Rs.1,160 crore in 2000-01, has been mitigated with concerted efforts. Andhra Pradesh Government plans to privatise its distribution activity by 2002. In Gujarat, the reform programme has emphasised on metering of all categories of consumers with a cap on agricultural subsidy.

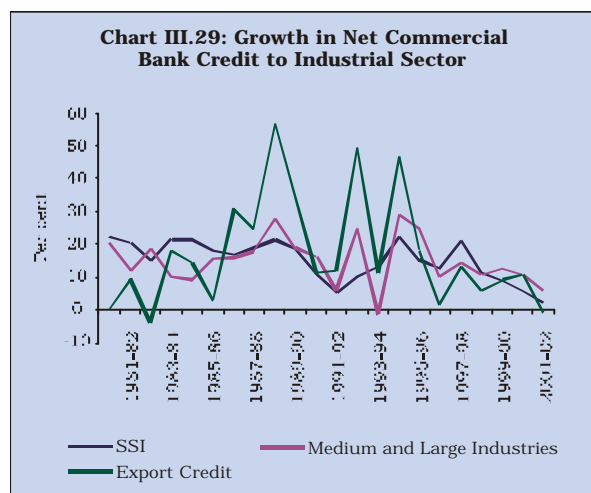
During the reform period, though the demand-supply gap in power supply has narrowed down to some extent, it still persists and the financial position of most of the SEBs has further deteriorated. However, it is noteworthy that major problems such as recovery of receivables, settlement of past dues, metering of all consumers, reduction in subsidies to the agricultural and domestic sectors, reduction in Transmission and Distribution (T&D) losses, improvement in Plant Load Factor (PLF) and restructuring of SEBs have been identified, and remedial measures have been initiated by the Central as well as State Governments to tackle these problems in the medium term.

Against this backdrop, some SERCs have clearly identified governance as the primary issue. The governance issue arises because of the complicated structure, inadequate information flows from the field offices to the management, lack of action by the senior management against the non-performing executives and staff, undefined role of the political executive, absence of guidelines and norms for personnel policies, lack of transparency and finally, outdated work processes that are not in tune with the commercial status of the Electricity Corporations (Government of Uttar Pradesh, 2002). It is, therefore, crucial for the States to have a vision, work out a credible strategy of power development and lay down implementation milestones.

REPORT ON CURRENCY AND FINANCE

the credit availability, but also the cost of credit has a significant impact on the production decisions of firms. Contextually, credit delivery system continues to be a major focal point of the on-going financial reforms in India since the early 1990s. The objective is to meet the credit requirements of the productive sectors and, more so, of the weaker bidders in the credit market.

3.104 The credit off-take from scheduled commercial banks to the commercial sector indicated a declining trend during the 1990s, barring an uptrend in the mid-1990s. At the disaggregated level also, there was a slowdown in credit growth for the various segments such as exports, Small Scale Industries (SSIs), medium and large industries, particularly in the second phase of the reform period (Chart III.29). Export credit growth declined substantially to about 6.5 per cent during the second half of the 1990s from 31.3 per cent in the first phase. The deceleration in export credit while reflecting the slowdown in exports, can also be attributed to other forms of financing by exporters, such as, Exchange Earners' Foreign Currency Account and availability of funds at sub-PLR.



3.105 The slowdown in the credit growth was more pronounced for the SSIs *vis-à-vis* the medium and large industries. The credit needs of SSIs were largely met in the 1980s and earlier as part of the promotional policies for the SSIs under the priority sector lending by banks. During the period 1990-91 to 2001-02, the growth in credit to SSIs decelerated to 11.6 per cent from 19.4 per cent in the 1980s (Table 3.21). Moreover, credit to SSIs as a percentage of non-food gross bank credit indicated a decline from 14.4 per cent in 1995-96 to 11.8 per cent in 2001-02. It may be noted that while the concessional element in lending rates for the SSIs stands largely withdrawn during the 1990s,

financial vulnerability of State level institutions in view of poor recovery and other inherent inefficiencies also raises concerns regarding the prospects of credit flows to the SSI sector. This decline in credit flow to the SSI sector has to be seen in the context of falling productivity in the SSI sector as a whole in the 1990s as against the 1980s with the index declining to 34 in 1994-95 from 50 in 1984-85 (SIDBI, 2001). However, within the SSI sector the productivity in the modern segment remained higher than the traditional/tiny segment. Thus, a key issue for the SSI reforms is to enhance the credit assessment capability of the financial institutions so that the small scale as a whole is not equated with high risk for credit disbursement.

Table 3.21 : Growth in Sectoral Non-Food Credit

(Per cent)

Period	SSIs	Medium and Large Industries	Exports
	1	2	3
1980-81 to 1989-90	19.4	16.7	18.8
1990-91 to 2001-02	11.6	13.7	15.7

3.106 An analysis of credit to major industrial sub-groups within the manufacturing sector reveals that during the reform period a substantial shift has taken place in favour of industries such as iron and steel, electricity, food processing, cement, gems and jewellery and petroleum (Table 3.22). Infrastructure sector improved its share to 6.5 per cent in March 2002 from 2.0 per cent in March 1998. The industries that recorded a decline in their respective shares were metal and metal products, engineering, cotton, jute and other textiles, paper and paper products, chemicals, leather and leather products and construction. The highest decline was noticed for the engineering industry with its share in gross bank credit declining from 22.6 per cent in 1991 to 10.5 per cent in 2002. The cotton, jute and other textiles together also witnessed shrinkage in their share from 13.2 per cent in 1991 to 11.3 per cent in 2002, reflecting partly the rising incidence of sickness in such industries.

3.107 Another important source of finance for industry is the financial assistance disbursed by the All India Financial Institutions (AIFIs) mainly for investment operations in medium to long-term horizon. In keeping with the trend in bank credit, the growth in disbursements by AIFIs increased from 21.8 per cent in the pre-reform decade to 24.7 per cent in the first phase of the reform period. Subsequently, however, disbursements witnessed a distinct slow down to 7.9

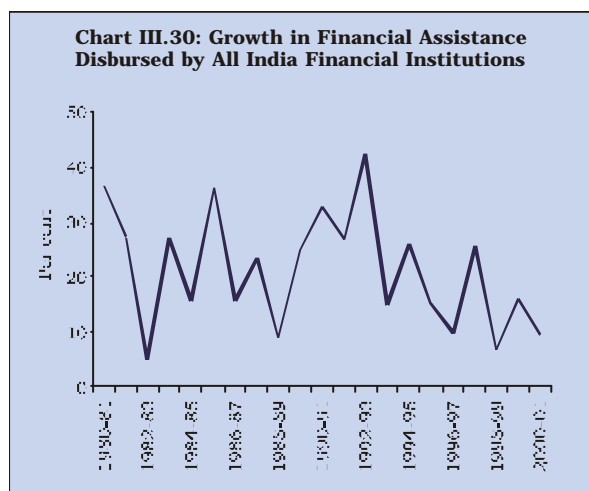
THE REAL ECONOMY

Table 3.22 : Industry-wise Deployment of Gross Bank Credit – Share of Major Groups (Outstanding as on Last Reporting Friday of March)

Industries	1985-86 to	1991-92 to	1996-97 to
	1990-91	1995-96	2001-02
	1	2	3
Iron and Steel	5.1	6.4	9.2
Other Metals and Metal Products	3.5	3.5	3.2
All Engineering	23.9	21.4	12.6
Electricity	2.0	1.9	3.5
Cotton, Jute, Other Textiles	14.2	12.7	12.5
Sugar	1.5	2.0	2.0
Food Processing	1.9	2.1	2.8
Paper and Paper Products	2.5	2.1	1.7
Rubber and Rubber Products	1.6	1.5	1.2
Chemicals, Dyes, Paints etc.	12.3	12.7	11.3
Cement	1.5	1.5	1.6
Leather and Leather Products	1.5	1.7	1.4
Gems and Jewellery	0.7	2.2	2.5
Construction	1.6	1.9	1.6
Petroleum	0.4	0.5	4.0
Infrastructure	–	–	4.1

Note : Infrastructure has been included as a separate category from 1998 onwards.

per cent in the second phase of the reform period (Chart III.30). This is indicative of a slow down in the investment demand, particularly for the green-field projects and expansion activities in the industrial sector.



3.108 The slowdown in the credit flows from banks and financial institutions may be evaluated in the context of the behaviour of the prime lending rates (PLRs) charged by them. In real terms, the PLR of AIFIs (IDBI) ruled, on an average, 9.11 per cent during 1995-96 to 2001-02, which was higher than 5.52 per cent prevailing during the period 1990-91 to 1994-95 (Chart III.31 and Table 3.23). The real PLR of banks (weighted average lending rates of Scheduled Commercial Banks) also increased to 12.5 per cent from 6.8 per cent over the same period. Such high real interest rates on medium to long-term borrowings for the industrial sector work as a constraint in undertaking investment decisions. Persistence of high interest cost adversely impacts on the capacity build-up and upgradation. Over a medium-term, the high interest rate effect is ultimately reflected in lower output growth. An assessment of the present trends in the real interest rates for the industrial sector and the real

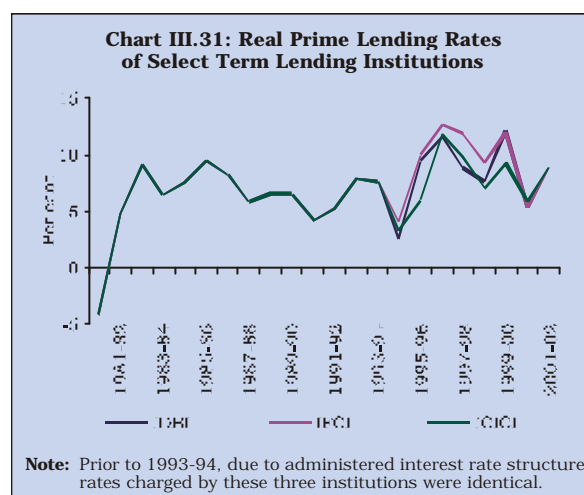


Table 3.23 : Average Real Lending Rates of Select Term Lending Institutions

Period	(Per cent)		
	IDBI	IFCI	ICICI
	1	2	3
1980-81 to 1984-85	4.71	4.71	4.71
1985-86 to 1989-90	7.34	7.34	7.34
1990-91 to 1994-95	5.52	5.82	5.67
1995-96 to 2001-02	9.11	9.99	8.38

Note : Represent ex-post real interest rates. The real rates are computed by subtracting the Inflation rate (WPI) from nominal Prime Lending Rates.

REPORT ON CURRENCY AND FINANCE

output growth seems to indicate weakening sustainability of the investments. While during the period 1996-97 to 2001-02 growth of real output from industrial sector averaged to 4.9 per cent, the real PLRs remained distinctly high at around 9 per cent. Given the downward rigidity of medium and long-term real interest rates, industrial investment is rendered unviable when such rates are higher than the rate at which the industry is growing.

3.109 The decelerated credit off-take by industry from banks and AIFIs needs to be interpreted keeping in mind the alternative sources of finance that are available to industry in the reform period.¹⁴ A comparative analysis of financing patterns of select non-financial public limited companies indicates an increasing recourse to internal sources of financing as against the borrowed sources of funds, particularly since the late 1990s. Among the borrowed sources of funds, financing through debentures, and loans and advances declined from 11 per cent and 13.5 per cent, respectively, during the period 1985-86 and 1989-90 to 5.7 per cent and 11.5 per cent during the second phase of the reform period (Table 3.24). The declining share of credit from banks and financial institutions has been evident particularly in the second phase of the reform period when their share in total sources of funds raised by the corporate sector declined to 17.4 per cent in 2000-01 from 23.8 per cent in 1995-96.

3.110 The reduced role of conventional financing for the corporate sector such as bank credit and financial assistance from AIFIs should be seen in the context of increasing recourse to private placements of debt and equity on account of less stringent disclosure norms, low cost of issuance, ease of structuring instruments and reduced time lag in issuance.

Resource mobilisation through this route increased sharply from Rs.13,361 crore in 1995-96 to Rs.64,950 crore in 2001-02. Nevertheless, the high cost of credit in real terms from banks and AIFIs seems to have gone against the conventional sources of financing, inhibiting the growth of investment demand and capacity build-up in industry. The reduced industrial credit can also be seen as an outcome of the risk-based prudential requirements, such as capital adequacy and provisioning norms implemented for banks and financial institutions as part of the financial sector reforms (Nag and Das, 2002). As a result, bank funds have been largely deployed in Government securities, relatively risk free assets, which account for around 39 per cent of their net demand and time liabilities, far exceeding the minimum statutory liquidity requirement of 25 per cent.

3.111 It may be difficult to clearly distinguish as to what extent the lower credit growth to the commercial sector from banks and the financial institutions is attributable to the sluggishness in demand or to the heightened risk aversion arising from tighter supervisory/regulatory norms. While the present slowdown in the industrial demand seems to have contributed to the slowdown in the credit growth, both for working capital requirements and long-term investments, the possibility of high lending rates impacting on the credit demand of certain segments, particularly small enterprises having limited access to alternative sources of funds has been a matter of concern. Since large corporates can access alternative cheaper sources of funds, the burden of adjustment in the financial sector seems to have fallen relatively more on small and medium enterprises due to segmentation of credit markets. The problem seems

Table 3.24 : Sources of Funds of Selected Public Limited Companies

(Percentage share in total funds raised)

Period	Internal Sources	External Sources						Total
		Paid-up Capital	Borrowings				Trade Dues & Other Current Liabilities	
			Debentures	Loans and Advances		Total		
				Banks	FIs			
1	2	3	4	5	6	7	8	
1985-86 to 1989-90	31.8	7.2	11.0	13.5	8.7	37.9	22.8	68.2
1990-91 to 1994-95	29.9	18.8	7.1	8.2	10.3	32.7	18.4	70.1
1995-96 to 2000-01	41.2	12.1	5.7	11.5	9.2	32.1	14.2	58.9

Source : Selected Financial Statistics - Public Limited Companies, RBI.

14. The neoclassical theory of investment known as the Modigliani-Miller (1958) theorem, however, assumes that as long as the firm has profitable investments with returns above the cost of capital, it can obtain sufficient funds to undertake such investments. Thus, internal and external finance can be viewed as substitutes, and firms could use external finance to smoothen investment when internal finance fluctuates.

THE REAL ECONOMY

to have been accentuated on account of lack of adequate credit risk assessment regarding small and medium enterprises emanating from poor credit information base on such enterprises. In view of these concerns, the credit delivery system has been a major focus of reforms since the 1990s with the objective of augmenting the total volume of institutional credit while securing an equitable distribution of credit, particularly for weaker bidders in the credit markets, including small enterprises. Besides improving the volume and terms of credit, policy efforts have been directed towards simplifying the procedures.

Productivity Trends in the Manufacturing Sector

3.112 Productivity plays a major role in sustaining the industrial growth since it is the principal determinant of cost, price and trade competitiveness of firms and industries. Notwithstanding the differences of views on measurement issues, there is a near unanimity in the empirical literature on productivity growth in the Indian manufacturing sector. It is recognised that there was a decline in total factor productivity growth (TFPG) till 1980, with a turnaround taking place in mid-1980s following the reoriented trade and industrial policies and improved infrastructure performance (Brahmananda, 1982; Ahluwalia, 1985, 1991).¹⁵ In fact, the significant shortfall in the target for industrial output till about the Sixth Plan can be attributed to the negligible TFPG in manufacturing. The later studies covering the period up to mid-1990s have found evidence of a positive TFPG (Balakrishnan and Pushpangadan, 1994; Majumdar, 1996; Rao, 1996; Pradhan and Barik, 1999) (Table 3.25). Thus, there seems to be turnaround in the productivity growth in the mid-1980s.

3.113 The role of the reform process in terms of its impact on manufacturing productivity continues to be debatable. While a positive rate of growth in productivity is noticed in the post-1985 period, the level of labour productivity is found to be abysmally low and its convergence to the international standards seems to be a difficult proposition in the near future (Trivedi *et al*, 2000). The low labour productivity appears to have offset the comparative advantage in terms of low labour cost (CII-World Bank, 2002). NCAER (2001) has observed a decline in productivity growth in 1990s (up to 1997-98) in relation to the 1980s. Besides, the mean technical efficiency of all firms taken together

Table 3.25 : Productivity in the Indian Industry : A Summary of Empirical Estimates

	Period Covered	TFPG (SD)	TFPG (DD)
		1	2
Brahmananda (1982)	1950-51 to 80-81	-0.2	—
Ahluwalia (1985)	1959-60 to 79-80	-0.6	—
Goldar (1986)	1959-79		1.06 to 1.31
Ahluwalia (1991)	1959-60 to 85-86	-0.4	—
Balakrishnan and Pushpangadan (1994)	1970-71 to 88-89	0.5	3.1
Dholakia and Dholakia (1994)	1970-71 to 88-89	-0.11 to 0.06	0.9 to 1.74
Majumdar (1996)	1950-51 to 92-93	1.7*	—
Rao (1996)	1973-74 to 92-93	1.3@	2.2
Pradhan and Barik (1999)	1963-64 to 92-93	0.6	
Trivedi <i>et al</i> (2000)	1973-74 to 97-98	1.95	3.7
NCAER (2001)	1980-81 to 96-97	-0.05 to 0.04\$	
Unni <i>et al</i> (2001)	1978-79 to 94-95	-0.1	

* The estimates are reported only for the sub-period 1973-74 to 1992-93, out of the total period of the study spanning 1950-51 to 1992-93.
@ Growth rate of TFP is obtained indirectly from the estimates of TPG.
\$ Represents different estimates of TFPG based on the firm level panel data set.
SD = Single deflation method, DD = Double deflation method.

seems to have declined in 1990s as compared to the pre-reform period. Unni *et al* (2001) also provide evidence of a declining productivity growth in the first half of 1990s. Productivity growth in the SSIs also witnessed a decline, with the labour productivity growth decelerating to 3.7 per cent during 1990-96 from 6.2 per cent during 1980s and the capital productivity growth declining to (-)1.6 per cent from 2.6 per cent during the same period (SIDBI, 2000). Regarding trend in productivity in the unorganised manufacturing sector, Unni *et al* (2001) have observed a rapid decline in the TFPG to (-)3.1 per cent during the reform period (1990-95) from 11.4 per cent in the latter half of 1980s. The TFPG for the entire period of study, *i.e.* 1978-95 is estimated at (-)2.5 per cent. This reflects, *inter alia*, low technological change in the unorganised sector in the reform period.

3.114 Broad assessment of partial factor productivity for the industry can be based on an analysis of the changes in input intensities. The material intensity of the manufacturing sector which remained high during the 1980s and the first half of the 1990s, witnessed a sharp decline in the latter half (Table 3.26). This is indicative of

15. A major measurement issue is the conversion of nominal value added into the real value added done either with single deflation or double deflation method. In the case of single deflation method both nominal output and nominal material inputs are deflated by output price index, while under double deflation method, the nominal output is deflated by output price index and nominal material input is deflated by input price index. It is evident from the above studies that the factor productivity growth obtained through the single deflation approach is lower than the double deflation approach, implying that the relative prices of inputs and output have increased over time.

REPORT ON CURRENCY AND FINANCE

Table 3.26 : Indices of Input Intensity in the Indian Manufacturing Industry

Year	Current Prices				Constant Prices			
	Mat Inpt/ Output	Cap/ GVA	Prod Cap/ GVA	Labour/ GVA	Mat Inpt/ Output	Cap/ GVA	Prod Cap/ GVA	Labour/ GVA
	1	2	3	4	5	6	7	8
1970-71	100	100	100	100	100	100	100	100
1975-76	95.9	81.9	88.5	105.8	114.7	80.3	86.7	109.1
1980-81	97.8	92.6	99	98.7	107.9	90.8	97	114.5
1985-86	105.2	93.1	96.4	89.8	119.7	85.7	88.7	94.1
1990-91	102.7	93.1	90.9	74.9	106.3	82.9	81	73.6
1995-96	101.3	91.7	88.9	62	92.4	83.9	81.4	58.4
1999-00	95.6	91.4	85.2	70.4	94.1	88.7	82.7	40.8

Mat Inpt = Material inputs, Cap = Fixed capital, Prod Cap = Productive capital, GVA = Gross value added

a shift away from material inputs as also the rationalisation of the production process, ensuring efficiency in use of material inputs. The labour intensity index (at constant prices), in contrast, witnessed almost a secular decline from the peak of 114.5 per cent in 1980-81 to 73.6 per cent in 1990-91 and further to 40.8 per cent in 1999-2000. A similar trend is discernible in the labour intensity index at current prices, though the extent of decline has been less. This can be attributed to the relatively high increase in the CPI of industrial workers than in the prices of manufacturing goods. On the other hand, the capital intensity has significantly risen during the 1990s as compared with the 1980s.

3.115 The productivity growth in the manufacturing sector seems to have declined during the 1990s and, more so, in the latter phase of the reform period, primarily as a sequel to the faltering pace of implementation of structural reforms, the binding infrastructure constraints, and the lack of required industrial restructuring – all impinging on the competitiveness of the Indian industry. The input intensity indices show that the production process in the manufacturing sector has become more capital intensive, possibly in view of the adoption of capital-intensive new technologies in response to the inflexibilities that characterise the labour market. The efficiency in use of material inputs has, however, shown improvement in the latter part of 1990s.

Summing Up

3.116 The industrial sector in the reform period (1992-93 to 2001-02) reported a slowdown in all its major segments. The manufacturing slowdown noticed since the latter part of 1996 had its origin in the cyclical slowdown of exports and subdued agricultural performance. The slowdown persisted in the subsequent period due to inadequate industrial restructuring and the resultant loss of competitiveness.

The lack of institutional and structural reforms, which affected the pace and content of industrial restructuring operates as the major binding constraint on manufacturing growth in a liberalised trade regime. The manufacturing slowdown has possibly been reinforced by the observed decline in productivity growth in the 1990s and the cyclical downturn in demand, both in the domestic and external markets.

3.117 Industrial performance continues to be hampered by physical infrastructure bottlenecks with demand-supply imbalances persisting during the reform period. The deteriorating infrastructure services have been a direct fall-out of shrinkage in infrastructure investment in the context of inadequate availability of internal resources of public infrastructure entities and dwindling Plan outlay earmarked for infrastructure. The declining public investment in infrastructure has not been offset by the private investment on account of inadequate institutional reforms. There are, however, signs of improvement in a few sectors, like communication.

3.118 The credit flow from the banking system has significantly slowed down for SSIs and medium and large industries in the second phase of the reform period. The deceleration has been more pronounced for the SSIs. Besides, disbursements from the all India financial institutions (AIFIs) to industry have witnessed a considerable slowdown. Such developments on the credit front need to be assessed in the context of increasing recourse to internal resources and private placement by corporates, high real cost of credit coupled with its downward inflexibility, and prudential requirements such as capital adequacy and provisioning norms for banks and financial institutions, as well as the existing structure of the credit delivery system. The high real interest rate for industrial sector, ruling above industrial growth rate, also seems to have inhibited investment and capacity build-up in industry.

THE REAL ECONOMY

3.119 The increase in competition resulting from the reform measures *viz.*, delicensing, opening up of trade has had a mixed impact on the industrial sector. This is evidenced amply in the fact that the manufacturing inflation in the late 1990s was around 3 per cent as against 10 per cent in the early 1990s. The sharp decline in the manufacturing prices has impacted adversely on the profit margins of companies. Further, inadequate industrial restructuring has hampered industrial growth. Adequate flexibility in industrial restructuring involves more rapid bankruptcy procedures, easier reallocation of capital, faster transformation of urban land use and flexibility in labour use.

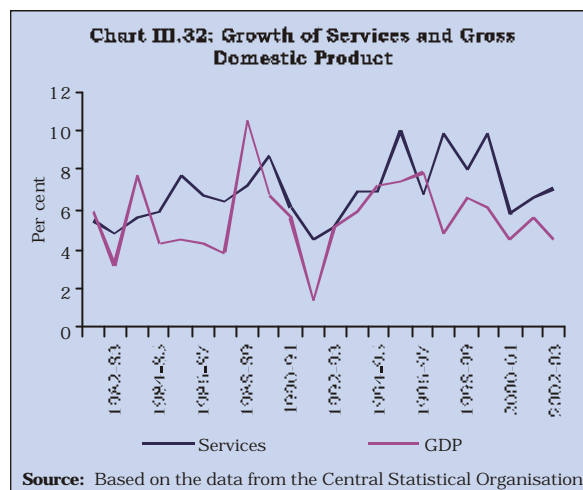
3.120 The reservation for SSI producers has created an anomalous situation where foreign producers irrespective of size are able to bring in reserved products but existing SSI producers are not allowed to expand investment and scale to economically efficient levels to compete with imports. Therefore, there is a need for dereservation in select products with strong export potential (Government of India, 2001).

3.121 Increase in competition denotes that any rise in the input costs is difficult to cope with. The dwindling public investment on infrastructure in the latter half of the 1990s, caused by deterioration in Government capital expenditure, has clearly impacted on the availability as well as the quality of infrastructure services. Simultaneously the high cost of infrastructure, particularly power and railways freight, has been loaded on to the industry. Together, the prevailing high real interest rates have adversely impacted the price competitiveness of the industrial sector. Exchange rate appreciation witnessed in the late 1990s increased further pressure on the competitiveness. Generally exchange rate adjustments compensate for the rise in input costs, but the large capital inflows into the Indian economy during the late 1990s have prevented such an adjustment.

IV. SUSTAINABILITY OF SERVICES GROWTH¹⁶

3.122 Since the 1980s, growth process in India has been marked by a robust performance of services sector. While this is partially in line with the experience of developed countries, the Indian experience is somewhat unique in the sense that the sectoral shift in favour of services sector accompanied almost stagnant share of industry and reduced share of agriculture. The momentum continued during the

1990s; in fact, it was the growth performance of the services sector that provided a modicum of resilience to the overall growth of the economy, particularly in times of adverse agricultural shocks and industrial slowdown (Chart III.32).



3.123 The set of economic reform measures initiated since 1991 also impacted on the performance of the services sector. First, reforms in the domestic industrial environment which resulted in rising manufacturing growth provided synergies to the services sector in the form of increased demand for producer services. Second, the liberalisation of the financial sector provided an environment for faster growth of the financial services. Third, reforms in certain segments of infrastructure services also contributed to the growth of services. Consequently, the services sector posted a much higher growth during the reform period as compared with the pre-reform period with its share touching nearly the 50 per cent mark. Finally, the rapid growth in services sector appears to have benefited from external demand; the typical example of which is the software industry and call centres. Interestingly, the decelerating trend in manufacturing and overall GDP seems to have been much less pronounced in case of services. Nevertheless, there are apprehensions about its sustainability in view of the contribution of “public administration and defence” to growth in services.

3.124 Against the above backdrop, the present section broadly looks into the following two issues: First, the performance of the services sector and second, the

16. While in the discussion of growth in Section I, “construction” is included under the services sector, for a detailed sectoral analysis, “construction” is excluded from services in this section.

REPORT ON CURRENCY AND FINANCE

sustainability of services growth. After analysing the relative performance of the services sector in the reform period, the supply-side sources of services growth are examined followed by a discussion on the decomposition of services into three segments, viz., producer services, consumer services and Government services.

Performance of the Services Sector

3.125 Since the 1980s, services sector has come to occupy a position of dominance in the composition of GDP. The average share of services sector increased to 45.4 per cent during the reform period as against 38.9 per cent in the pre-reform period. In terms of growth, services sector posted a higher growth of 7.8 per cent during the reform period as against 6.7 per cent during the preceding period. However, services sector is actually an amorphous entity; on the one hand, it includes sectors like 'public administration and defence', largely independent of the level of economic activity, and on the other, it has sectors like 'trade, hotels and restaurants'. At the sub-sector level, 'trade, hotels and restaurants' continued to be the major segment in terms of its share in services. The growth performance improved for all segments during the reform period barring 'financing, insurance, real estate and business services'. However, the 'financing, insurance, real estate and business services' improved its share during the reform period when all other segments witnessed shrinkage in their respective shares, which seems to be the result of the financial sector reforms that led to emergence of new participants, instruments and markets. The poor performance of the non-banking sector, among others,

has been the cause for the deceleration in growth of this sector. Nevertheless, the relative contribution of this sub-sector to the services growth has been maintained across the periods (Table 3.27).

Factors underlying the Services Growth

3.126 Growth of services stemming from capital productivity/total factor productivity could be seen as an encouraging development in a capital scarce economy like India. The gross value added from services registered a higher growth in the reform period even though the trend growth of Gross Capital Formation (GCF) in services decelerated to 5.7 per cent from 5.9 per cent in the pre-reform period. This could imply an improvement in capital productivity and/or total factor productivity in services. There is a broad consensus that the recent surge in services has been contributed, among others, by the skill-intensive and high productivity activities such as Information Technology (IT) services, which have emerged as one of the fastest growing segments in the 1990s. The labour productivity in software services is estimated to be twice that of the manufacturing sector (Arora and Athreye, 2001). The ascendancy of services can also be seen as an outcome of the economic liberalisation and encouragement of private investment in industry and infrastructure (Government of India, 2002c). Besides, increased expenditure on public administration and defence, social services and rural extension services has had a positive impact on the services growth in the 1990s.

3.127 Given the inter-sectoral linkages of services sector with other sectors, particularly industry,

Table 3.27 : Share and Growth of Sub-Sectors of Services

(Per cent)

Sector	1981-82 to 1990-91		1992-93 to 2001-02		Growth during the three phases of 1992-93 to 2001-02		
	1	2	3	4	1992-93 to	1994-95 to	1997-98 to
					1993-94	1996-97	2001-02
Share	Growth	Share	Growth	Growth	Growth	Growth	
Trade, hotels and restaurants	32.2	5.9	30.7	8.1	6.6	10.9	7.1
Transport and communication	16.1	5.6	15.8	8.9	5.9	9.7	9.6
Financing, insurance, real estate and business services	21.0	9.9	26.1	7.8	9.6	6.9	8.1
Community, social and personal services	30.7	6.1	27.3	7.1	4.0	5.8	9.1
Services	100.0 (38.9)	6.7	100.0 (45.4)	7.8	6.5	8.2	8.1

Note : Figures in brackets are share of services in GDP.

Source : Central Statistical Organisation.

THE REAL ECONOMY

performance of the commodity producing sectors has implications for the growth performance of services sector. To explore such inter-linkages, a demand function for services sector has been estimated using GDP from industry, exports of services and prices of services as explanatory variables. The estimates reveal a significant positive impact from the industrial sector as is evident from its elasticity at 0.11. Export of services also has a positive effect on the services demand with its elasticity at 0.02 while the impact of services prices turns out to be negative, as expected.¹⁷

Composition of Growth in the Services Sector

(i) Intermediate versus Final Consumption of Services

3.128 For a meaningful analysis, the issue of absorption of services as intermediate *vis-à-vis* final consumption is examined by classifying them into producer, consumer and Government services. Their relative roles can provide insights as regards the sustainability of services growth. Activities like 'trade, 'transport, storage and communication', 'financing, insurance, real estate and business services', which are more of intermediate nature, are taken as producer services. Activities like 'hotels and restaurants' and 'other services', having the nature of final consumption, are classified as consumer services whereas 'public administration and defence' (PAD) are treated as Government services.

3.129 The stylised facts on intermediate *versus* final consumption of services along with Government services during the pre-reform and reform period are presented in Table 3.28. While producer and consumer services have recorded a higher growth in the reform period, the Government services have witnessed a marginal decline. This has implications for growth dynamics, not only for services sector but also for the overall growth process.

Table 3.28 : Growth of Gross Value Added in Services Sector

Services	(Per cent)			
	1981-82 to 1990-91	1992-93 to 1994-95	1995-96 to 2001-02	1992-93 to 2001-02
	1	2	3	4
1. Producer Services	7.0 (67.6)	7.9 (70.1)	8.2 (71.0)	8.1 (70.7)
2. Consumer Services	5.8 (18.1)	4.9 (16.8)	9.3 (16.9)	8.0 (16.9)
3. Government Services	6.5 (14.3)	2.9 (13.0)	7.8 (12.1)	6.3 (12.4)

Note : Figures in the brackets are the shares of sub-sectors in GVA of services.

(ii) Producer Services

3.130 The increased share of producer services in total services in the reform period can be explained by, *inter alia*, the phenomenon of increasing relevance of outsourcing by the Indian industry. Peripheral service-oriented activities, which were carried out earlier in-house, are being contracted out to the outside agencies in order to focus on core competencies in an increasingly competitive environment in the reform period. Furthermore, the increasing share of producer services reflects the growing complementarity between services and manufacturing (RBI, 2002). The expansionary potential of services can be viewed from the fact that 50 per cent of the industries are directly or indirectly services-intensive (Bhowmik, 2000). The major demand for producer services emanates from the manufacturing sector as well as exports. The estimates of demand function for the producer services show that a rise in manufacturing output drives up the demand for producer services (elasticity 0.18). The export growth also leads to a rise in demand for producer services (elasticity 0.06). Increase in the price of producer services expectedly has a negative impact on demand (elasticity -0.24)¹⁸.

17. Demand Function for Services Sector (Sample 1970-71 to 2000-01)

$$Y_{sc} = -1.246 + 0.1142 Ly_{ind} + 0.018 Lx_{ser} - 0.138 Lp$$

(4.17) (1.947) (-4.309)

$$R^2 = 0.63 \quad DW = 1.71 \quad F = 11.29$$

where, Y_{sc} = Cyclical demand component of services, Ly_{ind} = Log of industrial output, Lx_{ser} = Log of services export, Lp = Log of prices of services.

18. Demand Function for Producer Services (Sample 1970-71 to 2000-01)

$$Y_{ps} = 0.065 + 0.18 Lmfg + 0.055 Lx_{ser} - 0.236 Lps$$

(2.22) (1.864) (-3.56)

$$R^2 = 0.53 \quad DW = 2.0 \quad F = 6.90$$

Where, Y_{ps} = Growth of GDP from producer services, $Lmfg$ = Log of manufacturing output, Lx_{ser} = Log of services exports and Lps = Log of prices of services.

REPORT ON CURRENCY AND FINANCE

However, as some of the producer services such as 'transport, storage and communication' are used as input for industrial production, a bi-directional relationship between industry and services sector cannot be ruled out.

Consumer Services and Private Final Consumption Expenditure

3.131 An upward trend was observed in consumer services, which recorded a growth of 8.0 per cent in the reform period as compared with 5.8 per cent in the preceding period. The increased growth in consumer services in the reform period has been accompanied by a similar growth pattern in private final consumption expenditure (PFCE) on services. The share of services in PFCE has moved up to 24.9 per cent in the reform period from 18.0 per cent in the preceding period. A disaggregated analysis of PFCE on services shows that medical care and hotels have recorded significant increases in growth during the reform period while growth in transport and communication has slowed down over the same period.

(iii) *Government Services*

3.132 Government services, comprising PAD is often singled out for the high growth in services since increased expenditure of the Government in the form of wage bill gets directly reflected in its value added even without any addition to services. An examination of the issue of faster growth of this sub sector in the 1980s showed that the tertiary sector growth was not solely due to increase in the growth of GDP originating from PAD (Nagaraj, 1990; Kumar, 1992). The steep wage hike in 1990s in line with the Fifth Pay Commission's recommendations brought back the issue into focus once again (Acharya, 2002). It is also observed that one percentage point of growth of 5.0 per cent in GDP for 1997-98 is attributed to the 20 per cent increase in real value added in the PAD sub sector arising chiefly from pay increases to Government servants (Government of India, 1999).

3.133 The growth in PAD, during the period 1997-98 through 1999-2000, has been far higher than growth in services excluding PAD and therefore PAD undoubtedly contributed to the overall growth of services. During the reform period as a whole, an assessment of services excluding PAD, however, contradicts the perception that PAD alone is responsible for higher services growth. Although the Fifth Pay Commission related pay increases might have distorted estimates of GDP originating from services for a few years, they do not affect the trend

growth which remains at 8.2 per cent during the reform-period even if Government administration is excluded altogether. The log-linear trend growth of services with and without PAD has been broadly the same during the reform period (Table 3.29). On the whole, the services sector growth appears to have accelerated in the reform period, with the impetus coming from sources other than PAD.

Table 3.29 : Growth in Public Administration and Defence (PAD)

Year	PAD	Services Sector without PAD	Services Sector
	1	2	3
1992-93	4.9	5.4	5.1
1993-94	2.6	8.5	7.1
1994-95	1.3	8.0	6.6
1995-96	6.8	11.0	9.5
1996-97	4.1	7.6	6.7
1997-98	14.5	9.1	8.9
1998-99	10.3	7.9	7.6
1999-00	12.2	9.3	8.8
2000-01	2.5	6.9	6.5
2001-02	2.9	7.3	6.8
1992-93 to 2001-02*	7.2	8.2	8.0
1981-82 to 1990-91*	7.4	6.7	6.8

* Log-linear trend rate of growth.
Source : Central Statistical Organisation.

External Demand for Services

3.134 The growing role of tradable services in international trade and exchange has come to be recognised with the General Agreement on Trade in Services (GATS). India's share in world exports of commercial services has doubled from 0.6 per cent in 1990 to 1.2 per cent in 2000, while the share in world merchandise exports has gone up marginally from 0.5 per cent to 0.7 per cent during the same period. Interestingly, there has been a consistent surplus on account of trade in services. The compositional shifts in foreign trade in favour of services in the reform period has helped in the emergence of new sources of earnings in India's balance of payments. Earnings from software exports have increased from negligible levels in early 1990s to a level of US \$ 7.5 billion in 2001-02. These are likely to surge by 30 per cent during 2002-03 as per the NASSCOM estimates. Thus, while the 1980s was dominated by tourism earnings, the second half of 1990s witnessed an unprecedented jump in India's earnings from new economy activities like software services exports and other information technology

THE REAL ECONOMY

related skill intensive exports. The services exports thus, provided some element of stability to the external balance of the country and also positively impacted on the overall demand in the services sector.

Summing Up

3.135 The services sector has exhibited a strong trend component that has provided an element of stability to the growth process. The sector seems to have grown in the reform period, sustained by an increasing demand for producer and consumer services coupled with the external demand. The role of public administration and defence appears to have been limited in the growth process. The emergence of producer services as an important source of services growth reflects strong inter-linkage with commodity producing sectors of the economy. Apart from providing inputs, services contribute to the outward shift of the industrial sector's production frontier by enhancing productivity growth. Conversely, services growth could be sustained provided adequate demand impulses are generated in industry or agriculture. Given India's comparative advantage in information technology, services growth momentum can be sustained by exploiting new opportunities in international trade in services, particularly, in the area of communication and information services, technology transfer and software.

V. CONCLUDING OBSERVATIONS

3.136 The heuristic description of the growth experience of the Indian economy since the initiation of the reform measures in the early 1990s brings out a number of empirical regularities. At a broad aggregate level, there is evidence of a distinct, but not necessarily substantial improvement in growth of the economy during the reform period. Nevertheless, the silver lining of improved growth loses some of its gloss in view of the deceleration in the growth witnessed since the mid-1990s. The achievement of higher economic growth hinges on the attainment of both higher saving and investment. While saving in general and household saving in particular have exhibited rising trend during the reform period partly emanating from relatively higher income growth (despite the downward alignment of interest rates), public sector saving has fallen dramatically and has become negative. It is the poor performance of the public sector saving as a whole that has eroded the investment capacity of the country for generating higher economic growth. The deteriorating saving has led to erosion in public sector investment and deterioration in the availability and quality of public infrastructure services including transport, railways and electricity. Thus, the major challenge to economic

growth in future is the reversal of the public sector dis-saving to achieve the level of saving recorded in the late 1980s. This requires action on two fronts. First, a major improvement has to come about in the tax-GDP ratio which has deteriorated during the 1990s. Second, large-scale improvement in the operation of the public enterprises would be required by rationalising user charges on the services rendered. It would then be possible to invest adequately on provision of such infrastructure services which are necessary for higher growth. Another concern for achieving higher growth emanates from the indications of declining productivity growth in the latter half of the reform period (as reflected in the ICOR). This reinforces the need for accelerating the pace of structural reforms.

3.137 The growth performance of the commodity producing sectors is critical for improving overall growth rate of the economy. It is apparent that the agricultural sector in the 1990s witnessed slowdown but at the same time recorded unprecedented accumulation of foodstocks due to persistent price distortions. While there have been successive increases in MSPs of rice and wheat, their international prices have witnessed declining trend, thus reducing the export competitiveness of Indian rice and wheat. These factors together have led to higher procurement. As against higher procurement, the off-take has remained low due to rise in CIPs on the one hand and shifts in the consumption pattern away from cereals to non-traditional food items, on the other. The cumulative impact has been burgeoning food stocks, with attendant fiscal and monetary implications. This predicament of mounting foodstocks has occurred despite a deceleration in agricultural growth. It is quite possible that the problem would have been more serious in terms of piling of stocks, had there been higher growth in agricultural production. Notwithstanding the current reduced export competitiveness of Indian cereals and the piling up of foodgrain stocks, Indian cereals could still be competitive, provided the AMS in the US and European countries is reduced. The subdued growth of agricultural sector could be attributed to limited reforms directly affecting this sector. Furthermore, within the limited reforms in this sector, while the foreign trade was liberalised, the inter-state restrictions prevailed. This reflects the lack of proper sequencing of reforms. At the same time, lack of technological improvements is manifested in plateauing of yield gains across crops.

3.138 A higher growth in agriculture, thus, needs a comprehensive revamp of agriculture policy with reorientation towards rapid diversification of this sector. A progressive correction is required in the incentive

structure for agriculture so that the excessively high minimum support prices do not continue to distort resource allocation in agriculture. This will ensure that farmers diversify towards high value added segments of agriculture in response to the new demand structure. As the non-foodgrain commodities have inherent heterogeneity, policies regarding these have to be regionally more dispersed and market responsive. Agriculture growth will be hampered further unless the current approach to input subsidies, particularly relating to fertiliser, power and water is reoriented. Rationalisation of subsidies and economically viable user charges would be required to augment resources for productive investment in rural infrastructure. The lack of adequate storage facilities acts as a major bottleneck in the development of food processing industry. Furthermore, lack of standardisation of product quality hampers export competitiveness. The supportive rural infrastructure can be best developed in a decentralised private sector framework which would need appropriate policies and financing facilities.

3.139 Responding to the structural reforms introduced in the industrial sector during the initial years of the 1990s, the industrial sector grew at a remarkable rate. However, there was marked deceleration since the mid-1990s. The package of reforms carried over the past decade was expected to lead to significant restructuring in the industrial sector. The slow pace of industrial restructuring and the resultant loss of competitiveness in a liberalised trade environment, thus, led to current protracted manufacturing slowdown. The signs of reduced competitiveness are thus, observed in declining productivity growth, more particularly in the latter part of the 1990s. An overall growth impulse in the industrial investment, exports and employment can be generated provided coordinated reform measures are taken allowing rapid bankruptcy procedures, faster transformation of urban land use and flexibility in labour market. Further, existing restrictions on small scale sector in the form of size and scale of operation need to be removed to ensure new investments and technology upgradation in this segment to withstand competition.

3.140 It is apparent that the industrial performance continues to suffer from physical infrastructure bottlenecks with demand-supply imbalances persisting during the reform period. The deteriorating infrastructure services have been a direct fall-out of shrinkage in infrastructure investment in the context of inadequate internal resources of public infrastructure entities and dwindling Plan outlay for infrastructure.

The declining public investment in infrastructure has not been offset by private investment, primarily on account of inadequate institutional reforms; there are, however, signs of improvement for a few sectors, like communication. The adequate response of the private sector in basic infrastructure would primarily require economically efficient user charges to ensure the reasonable return on investment.

3.141 Apart from infrastructure, lack of adequate credit is often cited as a factor behind the slowdown. While the nominal interest rates have fallen, the real lending rates continue to remain high. The development has adverse implications for the industrial sector as interest cost-sales ratio remains much higher as compared to many emerging economies. Given the downward rigidity of medium and long-term interest rates and real GDP growth from industry falling much below the real interest rates, industrial investment becomes increasingly unsustainable over a longer horizon. It may be noted that in a liberalised interest rate scenario, policy measures have limited role to influence the cost of credit. While the credit flow to industry from both the banking system as well as the AFIs has significantly slowed down in the recent past, it is not clear whether the reduced credit flow is an outcome or the cause of industrial deceleration. Notwithstanding the unsettled status of the alleged "credit constraint" facing the industry, there are some concerns about the credit delivery mechanism. All these continue to pose challenges for achieving the much needed higher growth in the economy.

3.142 The services sector stands in a somewhat isolated position. Not only did it improve its performance during the reform period, to a large extent, it withstood the onslaught of deceleration. Furthermore, a sector-wise analysis of growth in the services sector has revealed that much of the alleged misgiving about its unsustainability is misplaced, as its growth performance was indeed robust and not necessarily dependent on 'Government services', like 'public administration and defence'. Nevertheless, the emergence of producer services as an important source of services growth, reflecting strong inter-linkages with commodity producing sectors, raises questions about the continuance of services growth, in the absence of an industrial revival. Although the services sector can continue to grow at higher rates, the acceleration in the overall growth rate of the economy over a medium term would necessitate a distinct improvement in the growth performance of the commodity producing sectors from their present levels.

IV

FISCAL POLICY

Introduction

4.1 The external payments crisis of 1991 was, to a large extent, an inevitable consequence of the deteriorating fiscal situation during the 1980s. The 1980s, especially the second half, was marked by high and persistent fiscal deficits, accompanied by large revenue deficits. This had led to a significant enlargement of the debt-servicing obligations. In order to contain the burgeoning debt-service obligations, Government tapped financial surpluses of the household sector through statutory pre-emptions from financial intermediaries at below market clearing interest rates. This gave rise to a degree of financial repression. At the same time, increased financing of the Government deficit through automatic monetisation compromised the effectiveness of monetary policy and fuelled inflation. Against this background, when the Indian economy faced an unprecedented macroeconomic crisis in 1991, not surprisingly, fiscal consolidation constituted a major plank of the policy response.

4.2 The primary objective of the fiscal reforms as announced in the Union Budget 1991-92, was essentially to achieve a reduction in the size of deficit and debt in relation to GDP. It was envisaged that this would be achieved through revenue enhancement and curtailment in current expenditure growth while enlarging spending on investment and infrastructure so as to provide momentum to the growth process. These measures were also intended to curb the pre-emption of institutional resources by the Government and simultaneously to provide a level-playing field to the private investors. Accordingly, fiscal reforms in India were initiated in three distinct but interrelated areas: i) restoration of fiscal balance; ii) restructuring of public sector; and iii) strengthening of the fiscal-monetary co-ordination. The strategy for restoring fiscal balance comprised tax and non-tax reforms, expenditure management and institutional reforms. Public sector restructuring mainly involved divestment of Government ownership. Contemporaneously, the steps towards improving fiscal-monetary coordination encompassed deregulation of financial system, elimination of automatic monetisation, and reduction in pre-emption of institutional resources by the Government. At the sub-national level, fiscal

adjustments began as a consequence of the deterioration in States' finances, which exacerbated in the latter half of the 1990s. With a view to promoting State reforms, access to Central assistance as well as to guarantees for loans from multilateral agencies has been linked to their reform efforts.

4.3 The fiscal performance during the reform period, however, was characterised by a clear divide in the mid-1990s in the attainment of fiscal targets. There was evidence of the successful fiscal correction during 1991-92 to 1996-97 (except for 1993-94) in terms of a significant fall in the fiscal deficit and in public debt as a proportion of GDP. Since then, there has been a significant reversal of trend. Indeed, many deficit indicators presently are even higher than the levels prevailing at the time of the crisis in 1991. The revenue deficit has not only persisted, but has grown in size during this period. The resultant dissaving arising from the revenue deficit has reduced the aggregate saving and investment capacity in the economy. Consequently, there was a steady fall in the share of capital expenditure, impacting on the infrastructure investment and thereby threatening the growth potential of the economy. Several pointers indicate a reversal of the fiscal consolidation process in the recent years. These include decline in tax to GDP ratio, downward rigidity in current expenditure, steady deterioration in public investment in productive sectors, slow progress of Public Sector Undertakings (PSUs) restructuring and faster accumulation of public debt. A major drag on State finances has been the poor performance of State Public Sector Undertakings (SPSUs), particularly the State Electricity Boards (SEBs) and State Road Transport Undertakings (SRTUs). Thus, even after a decade of reforms, sustained fiscal consolidation remains unattained.

4.4 This Chapter reviews the fiscal situation that emerged in the reform period and contrasts it with the 1980s. It also evaluates and identifies major constraints in the process of fiscal consolidation. Section I briefly sets out the international experience on fiscal reforms in order to situate the Indian fiscal reforms in an international perspective. Section II reviews the fiscal situation during the 1980s in terms of alternative fiscal indicators. In the backdrop of

deteriorating fiscal indicators, this section explains the reform strategy adopted in the 1990s setting out key measures that were undertaken. The fiscal performance during the 1990s, broadly conforming to the reform period starting 1991, is examined in terms of various indicators in Section III. Achievements as well as shortcomings of the reforms are spelt out on the basis of these indicators. Drawing on the preceding sections, Section IV makes an assessment of the fiscal reforms and identifies some of the emerging issues. Policy perspectives to further fiscal restructuring are set out as concluding observations in Section V.

I. FISCAL REFORMS - INTERNATIONAL EXPERIENCE

4.5 Fiscal sector reforms have emerged as an integral part of the overall macroeconomic policy framework in several countries belonging to both the advanced economies and the developing world since the late 1970s. A shift in the thinking on the role of fiscal policy arose, *inter alia*, from the competitive pressures from growing international integration of goods and capital markets and the consequent need for maintaining lower rates of inflation, which had constrained the Government's ability to raise taxes and monetise deficits. Recent evidence suggests that fiscal contraction can be expansionary for growth as fiscal multipliers could not only be small, but negative as well. Endogenous growth models show that Government's tax and expenditure policies can affect steady-state growth rates in either direction. Evidence on expansionary fiscal contraction has given more weight to the need for fiscal consolidation.

4.6 The strategy of fiscal adjustment followed by different countries could broadly be categorised into two types, *viz.*, 'Type 1' and 'Type 2' (Alessina and Perotti, 1996). 'Type 1' (followed by most of the European countries in the 1990s) relies primarily on cuts in expenditure on transfers, social security and Government wages and employment. Tax increases are not emphasised and taxes on households either are not raised or are even reduced. On the contrary, 'Type 2' adjustments (as followed by most of the European countries in the 1980s) rely mostly on broad-based tax increases, and often the largest increases are on taxes on households and social security contributions. Expenditure cuts are almost all on public investment, while Government wages, employment, and transfers are completely untouched, or only slightly affected. There are episodes of fiscal consolidation where countries (e.g., in Ireland and Italy), which began with 'Type 2' kind of fiscal adjustment later switched over to 'Type 1'.

4.7 Empirical results show that for the same size of fiscal adjustment, 'Type 1' adjustments induce a more lasting consolidation of the budget and are also expansionary. 'Type 2' adjustments, on other hand, are often reversed soon due to further deterioration of the budget, which have contractionary consequences on the economy. In a study of 20 OECD countries for the period 1960 to 1994, it was observed that of the total 60 episodes of fiscal consolidation efforts during the period, only 16 were successful, and among the successful cases, 73 per cent of the cases of adjustment were on the expenditure side as against only 44 per cent in case of unsuccessful cases (Alessina and Perotti, *op. cit.*). Similarly, of the 74 episodes of fiscal adjustment in 20 countries during 1970 to 1995, it was observed that out of the 17 cases where adjustment was of 'Type 1', little less than half the cases were successful, while out of 37 cases of 'Type 2' adjustment, only one out of six cases was successful (Mcdermott and Wescott, 1996) (Table 4.1).

Table 4.1: Types of Fiscal Adjustment

Parameter	Type 1	Type 2
	1	2
Expenditure cuts	Primarily through expenditure cuts	Not so important
Items of expenditure cuts	On transfers, social security and wages and employment	Mostly cuts on public investment
Tax increase	A small fraction of adjustment with concentration on business and indirect taxes	Mainly through broad based tax increase spread on all components
Tax on households and social security	Not raised or even reduced	Largest tax increase is on households and social security contributions
Prevalent during which period	In the 1990s	In the 1980s
Expansionary or contractionary	Mostly expansionary	Often contractionary
Success rate	More successful	Less successful
Source: Alessina and Perotti (1996) and Mcdermott and Wescott (1996).		

4.8 Apart from the type of adjustment, the size of fiscal adjustment has been a crucial element in the success of the fiscal adjustment efforts. This is because the size of fiscal consolidation is related to the overall scope of the reform programme and enhances the credibility of the Government's commitment to the consolidation. It was observed that fiscal consolidation

FISCAL POLICY

was sustainable in those cases where fiscal correction in terms of reduction of fiscal deficit was higher (4.0 per cent of GDP in a two-year period). In other cases, where the extent of correction was smaller, fiscal consolidation could not be sustained (Mcdermott and Wescott, *op. cit.*). It has also been found that fiscal corrections do not have intended effects if they fail to indicate a permanent and decisive change in the stance of fiscal policy (Giavazzi and Pagano, 1996).

4.9 A noteworthy feature of the process of fiscal consolidation carried out in the 1990s was the introduction of a sound fiscal framework supported by institutional reforms, intended to reinforce political commitment to fiscal restraint in the face of pressure for expansion. The main justification for these institutional reforms is that they strengthen fiscal discipline and transparency, and therefore, increase accountability for the design and implementation of fiscal policy, while minimising the problems caused by lax fiscal policy. The "Maastricht Treaty" followed by the "Stability and Growth Pact" in the euro area, operation of the golden rule - borrowing only to finance capital spending - in UK since 1997 and the Fiscal Responsibility Act of 1994 in New Zealand are some of the examples of institutional reforms accompanying fiscal consolidation. The key elements that these frameworks share include an explicit legal basis, an elaboration of the guiding principles of fiscal policy, a clear statement of the objectives, an emphasis on the need for a long-term fiscal policy, and requirements for fiscal reporting to the public leading to improvement in fiscal performance.

4.10 The cross-country experience suggests that several important issues arise in the context of fiscal adjustment. These include:

- the size of the fiscal adjustment to be made;
- the composition of fiscal adjustment in terms of whether the adjustment needs to be carried out through cuts in expenditure or by raising revenue or a combination of both, and the components of expenditure and revenue to be adjusted;
- the policy mix that must accompany a major fiscal adjustment;
- concern for non-policy factors such as global economic growth which effects the consolidation process;
- reversibility of the fiscal consolidation process;
- the possible adverse macroeconomic impact of fiscal adjustment; and

- adoption of appropriate accounting standards and adherence to a fiscal rule framework, that make for transparent and accountable budgeting.

II. BACKGROUND AND APPROACH TO FISCAL REFORMS IN INDIA

Background to Fiscal Reforms

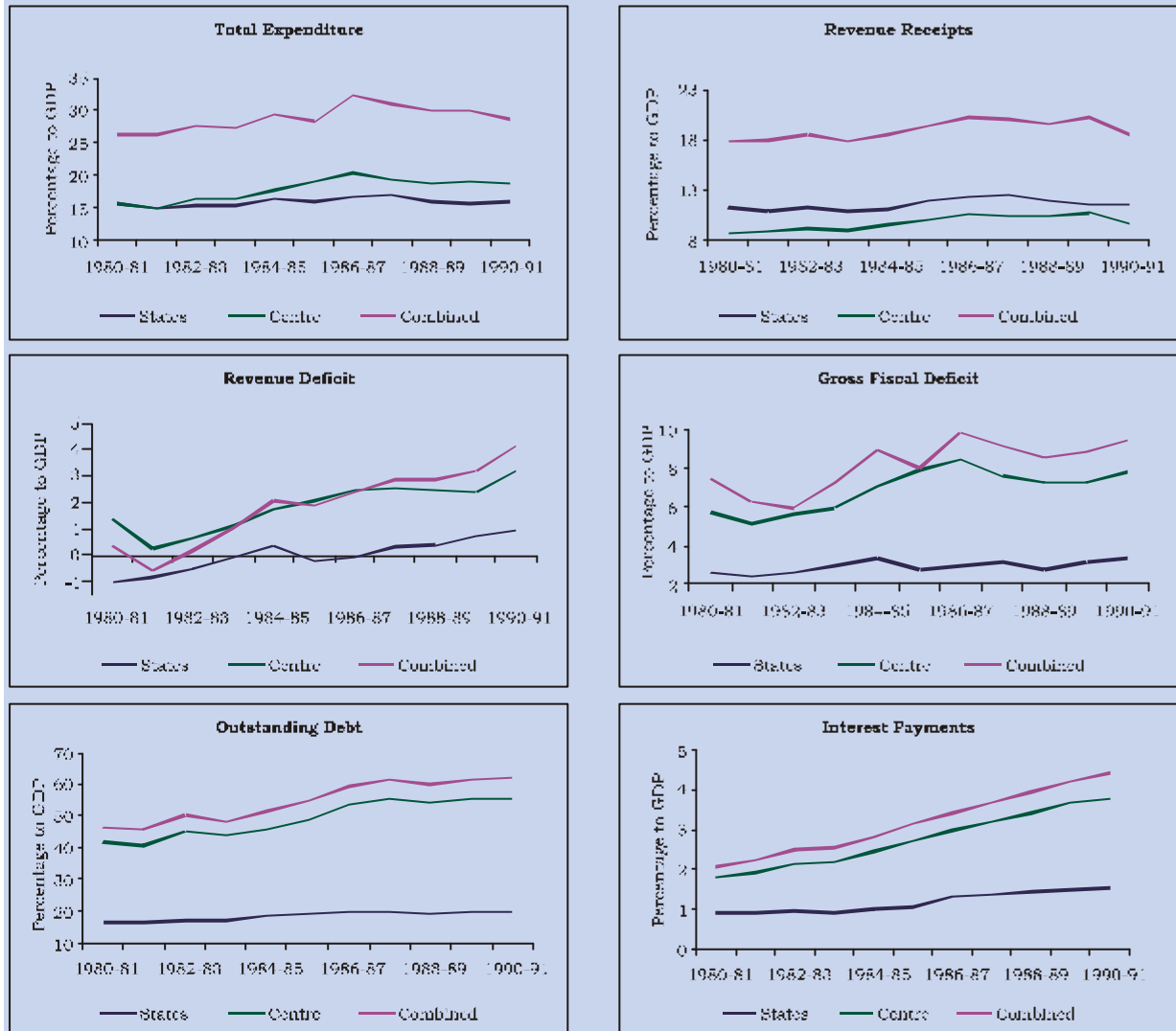
4.11 The need for comprehensive fiscal reforms in India was apparent during the late 1980s, as there was rapid deterioration in Government finances. During this period, the expenditure of the Central Government rose much faster than its revenue leading to a steep rise in the Centre's fiscal deficit to GDP ratio. For the States, given the restrictions on their capacity to borrow, the increase in expenditure was relatively aligned to the corresponding rise in revenue. Consequently, the rise in the fiscal deficit of States was relatively less steep (Chart IV.1). The sharp increase in revenue deficit of the Central Government and the emergence of such deficits in State finances were the most worrisome developments in the fiscal scenario during the 1980s.

4.12 Reflecting these developments, there was a sharp increase in the outstanding liabilities of both Central and State Governments as ratio to GDP from 41.6 per cent and 16.7 per cent, respectively, in 1980-81 to 55.3 per cent and 19.4 per cent, respectively, in 1990-91. The growing size of liabilities eventually generated a considerable debt-service burden, with interest payments as ratio to GDP rising from 1.8 per cent to 3.8 per cent in case of the Centre and from 0.9 per cent to 1.5 per cent in case of States during the same period (Chart IV.1).

4.13 The underdeveloped nature of the Government securities market and the heavy dependence of Small Saving collections on the level of income resulted in an implicit upper ceiling on Government's access to the market resources.¹ This necessitated a large order of monetary accommodation from the Reserve Bank with its attendant monetary implications. The outstanding net Reserve Bank credit to the Government as ratio to GDP rose from 11.4 per cent as at end-March 1981 to 15.6 per cent as at end-March 1991 (Chart IV.2). In order to partially abate the inflationary pressure emanating from growing monetisation of fiscal deficit, discrete upward changes in Cash Reserve Ratio (CRR) were necessitated. With both CRR and Statutory Liquidity Ratio (SLR)

1. Government securities had a captive market of banks & financial institutions.

Chart IV.1: Major Fiscal Indicators during the 1980s



Source: Union and State Governments' Budgets.

approaching their statutory upper limits at the time of the onset of unprecedented macroeconomic crisis of 1991, and given the deleterious macroeconomic consequences of high fiscal deficit, the only option available was to adopt a quick fiscal restructuring programme along with other macroeconomic and institutional reforms.

Fiscal Reforms in India: Policy Measures and Developments

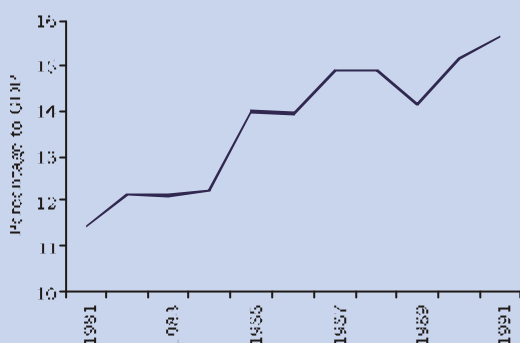
4.14 While a move towards fiscal adjustment was discernible in the pronouncements made as a part of

long-term fiscal policy announced in the mid-1980s, a comprehensive fiscal reform programme at the Central Government level was initiated only at the beginning of the 1990s as part of the economic adjustment programme initiated in 1991-92. On the other hand, in the case of States, efforts towards fiscal adjustment began only in the late 1990s. Fiscal reforms in the States were, *inter alia*, necessitated by:

- growing fiscal imbalances;
- sluggishness in Central transfers resulting from falling tax to GDP ratio;

FISCAL POLICY

Chart IV.2: Outstanding Net RBI Credit to the Government (as at end-March)



Source: Handbook of Statistics, Reserve Bank of India.

- introduction of reform-linked assistance as a part of Medium-Term Fiscal Reform Programme on the basis of the recommendation of the Eleventh Finance Commission; and
- adjustment programme undertaken in some of the States which are linked to borrowings from multilateral agencies.

Central Government

4.15 Fiscal reforms at the Centre covered tax reforms, expenditure pruning, restructuring of PSUs, and better coordination between monetary and fiscal policies.

(i) Tax Reforms

4.16 Restructuring of the tax system constituted a major component of fiscal reforms with the aim of augmenting revenues and removing anomalies in the tax structure. The main focus of the reforms was on simplification and rationalisation of both direct and indirect taxes drawing mainly from the recommendations of the Tax Reforms Committee, 1991 (Chairman: Raja J. Chelliah). Since the rates were very high and the structure of indirect taxes highly complex, it was considered undesirable to augment revenues merely by raising tax rates. The Committee had recommended adoption of a small number of simple broad-based taxes with moderate and limited number of rates, and with very few exemptions and deductions.

4.17 Accordingly, the tax rates were significantly rationalised and progressively brought down to the levels comparable to some of the developed economies. The key tax reforms have been:

- lowering of the maximum marginal personal income tax rate from 60 per cent in 1980-81 to the present level of 33 per cent (inclusive of 10 per cent

surcharge on annual income of above Rs.8.5 lakhs, announced in the Union Budget 2003-04);

- widening of the tax base by way of a series of steps including introduction of presumptive taxes, adoption of a set of six economic criteria for identification of potential tax payers in urban areas and taxation of services;
- reducing the corporate tax rate on both domestic and foreign companies to the current level of 35 per cent and 40 per cent, respectively, from a level of 65 per cent and 70 per cent in 1980-81;
- unification of tax rates on closely held as well as widely held domestic companies;
- rationalisation of capital gains tax and dividend tax;
- progressive reduction in the peak rate of customs duty on non-agricultural products from a level of more than 300 per cent during the period just prior to reforms to the level of 25 per cent as announced in the Union Budget 2003-04; and
- reduction of 11 major *ad-valorem* excise duties to three *viz.*, central rate of 16 per cent, merit rate of 8 per cent and demerit rate of 24 per cent in year 1999-2000, introduction of a uniform 16 per cent CENVAT effective from 2000-01, while retaining special excise duties on specified goods and in the Union Budget 2003-04 rationalisation of excise rate structure by proposing a 3-tier structure of 8 per cent, 16 per cent and 24 per cent which are, however, not applicable to goods attracting specific duty rates.

4.18 The concern with tax rationalisation has been reflected in the appointment of a number of committees to review the tax system in the last few years. The Advisory Group on Tax Policy and Tax Administration for the Tenth Plan, 2001 (Chairman: Parthasarathi Shome) recommended deletion of a number of exemptions and deductions which have become redundant and are not in harmony with a modern tax regime (Government of India, 2001a). Similarly, the Expert Committee to Review the System of Administrative Interest Rates and Other Related Issues, 2001 (Chairman: Y.V. Reddy) recommended the withdrawal of tax concessions available on small savings (Government of India, 2001b). Furthermore, the Task Force on Direct Taxes and Indirect Taxes, 2002 (Chairman: Vijay Kelkar) has reiterated the need to withdraw exemptions and concessions to widen the tax base (Government of India, 2002a; 2002b).

(ii) Expenditure Management

4.19 Successive Central Government budgets in the 1990s contemplated a host of measures to curb

built-in growth in expenditure and to bring about structural changes in the composition of expenditure. These included subjecting all ongoing schemes to zero-based budgeting and assessment of manpower requirements of Government departments. This was sought to be achieved by reviewing norms for creation of posts and fresh recruitment and introduction of a Voluntary Retirement Scheme (VRS) for surplus staff. The process also involved review of all subsidies with a view to introducing cost-based user charges wherever feasible, review of budgetary support to autonomous institutions and encouragement to PSUs to maximise generation of internal resources. These measures, by and large, focused on downsizing Government and reducing its role and administrative structure. Further, as an institutional arrangement, the Government constituted an Expenditure Reforms Commission (ERC) to look into areas of expenditure correction. Areas identified by the ERC include, *inter alia*, creation of a national food security buffer stock and minimisation of cost of buffer stock operations and rationalisation of fertiliser subsidies through dismantling of controls in a phased manner. It also included optimising Government staff strength by a ban on the creation of new posts for two years, introduction of VRS and redeployment of surplus staff in various Government departments and autonomous institutions, to which the Government provides budgetary support through grants. With a view to promoting transparency and curbing the growth of contingent Government liabilities, a Guarantee Redemption Fund has been set up as a part of expenditure management strategy. Steps undertaken in the light of above proposals included:

- dismantling of the Administered Price Mechanism (APM) in the petroleum sector and the Oil Pool Account effective from April 2002;
- restriction on fresh recruitments to 1 per cent of the total civilian staff strength over the 4 years beginning fiscal 2002-03; and
- introduction of a new pension scheme of defined contribution for new recruits in the Budget for 2003-04.

(iii) Restructuring of the Public Sector

4.20 During the reform period, there has been a distinct change in the public perception in favour of reducing the size of public sector and improving private participation. With these underlying objectives, a two-pronged strategy was adopted by the Central Government – reduction in budgetary support to the PSUs and privatisation of existing PSUs.

(iv) Fiscal-Monetary Coordination

4.21 Another important objective of the reform process has been to improve fiscal-monetary coordination [Also see paras 5.27 to 5.29]. This involved steps to ensure wider participation in the Government securities market so as to facilitate elimination of automatic monetisation and pre-emption of institutional resources by the Government. During the 1990s, the Reserve Bank undertook a series of steps towards deepening and widening the Government securities market. Some of the major steps in this direction included aligning of coupon rates on Government securities with market interest rates, introduction of an auction system, introduction of primary dealers and setting up of Delivery *versus* Payment (DvP) system. Furthermore, following the ‘Supplemental Agreement’ between the Government of India and the Reserve Bank in September 1994, the abolition of *ad hoc* Treasury Bills was made effective from April 1997, thereby replacing the automatic monetisation of deficit by a system of Ways and Means Advances (WMA) to meet only the temporary mismatches in cash flows of the Central Government. Concomitant to these measures, Statutory Liquidity Ratio (SLR) was reduced to 25 per cent by 1997 and Cash Reserve Ratio (CRR) was reduced in phases to 4.75 per cent by November 2002.

(v) Institutional Measures

4.22 As an institutional mechanism to strengthen fiscal discipline, the Central Government is contemplating enactment of Fiscal Responsibility and Budget Management Bill (FRBM), 2000 (Government of India, 2000b). The Bill stresses on inter-generational equity in fiscal management and long-term macroeconomic stability. The original Bill envisaged a complete elimination of revenue deficit and reduction of the fiscal deficit-GDP ratio to 2 per cent by the Central Government by end-March 2006. The Bill also envisaged a reduction in total liabilities of the Centre to no more than 50 per cent of GDP by March, 2011. The Bill, introduced in the Parliament in 2000, was referred to the Standing Committee on Finance for examination and report. A revised Bill is expected to be introduced in Parliament soon.

State Governments

4.23 Measures initiated by the States may be broadly grouped under revenue mobilisation, expenditure containment, public sector restructuring and institutional reforms. In addition to States’ own efforts, the Centre has also taken initiatives to

FISCAL POLICY

strengthen the reform process at the State level. Further, the policy initiatives undertaken by the Reserve Bank have a bearing on State finances as well. These measures are reviewed next.

(i) Tax Reforms

4.24 Recognising the need for strengthening their finances, States have initiated measures towards enhancement/restructuring of various taxes within their fold, such as, land revenue, vehicle tax, entertainment tax, sales tax, betting tax, electricity duty, tax on trades, professional tax and luxury tax. It was recognised that competitive sales tax reductions by States aimed at attracting investment led to revenue losses without commensurate gains. With a view to harmonising inter-State taxes and ultimately switch over to State-level value added tax (VAT), States introduced uniform floor rate during 2000. Currently, preparations are underway for the introduction of Value Added Tax (VAT) in April 2003.

(ii) Non-tax Measures

4.25 States have also undertaken measures to enhance non-tax revenues by reviewing/rationalising the royalties payable to them, including those on major and minor minerals, forestry and wildlife, revision of tuition fees, medical fees, irrigation water rates and tariffs on urban water supply. The issue of raising user charges commensurate with the cost of public services rendered, however, has not been given serious consideration yet. Recognising this aspect, the Medium Term Fiscal Reform Programmes finalised by several States have emphasised the cost effectiveness and raising of user charges of services rendered by them.

(iii) Expenditure Management

4.26 The State Governments' measures to contain expenditure, *inter alia*, include restrictions on fresh recruitment/creation of new posts, review of manpower requirements and cut in establishment expenses and reduction in non-merit subsidies through better targeting.

(iv) Public Sector Restructuring

4.27 Several States have shown interest in undertaking a comprehensive review of the functioning of the State Public Sector Undertakings (SPSUs), including the possibility of closing down of non-viable units after providing for suitable safety-nets to the employees including VRS. States such as Tamil Nadu, Kerala, Haryana, Karnataka, Himachal Pradesh, Goa and Orissa have encouraged private sector participation in the transport and power generation

sectors. In their recent budgets (2002-03), Karnataka has come out with a Policy Paper on restructuring of SPSUs, while Maharashtra has introduced a Bill for setting up a Board for Restructuring of the SPSUs. In order to strengthen the administrative machinery, many States have initiated measures to computerise their records as well as their day-to-day functioning.

4.28 Several States have also initiated measures to reform the power sector, which is crucial for the fiscal reforms. The main objective of these reforms was to mobilise private sector resources for augmenting power generating capacity. The additional capacity through independent power producers has, however, been far short of expectations. Recognising the need for transmission and distribution reforms, 21 States, have either constituted or notified the constitution of State Electricity Regulatory Commission (SERC).² A majority of these States have also proposed to unbundle or corporatise the SEBs. One of the major tasks being entrusted to SERCs is to rationalise tariff rates. Further, 20 States have signed Memorandum of Understandings (MoUs) with the Union Ministry of Power to undertake reforms in a time-bound manner.

(v) Institutional Reforms

4.29 The institutional reforms undertaken by the States are also aimed at facilitating the fiscal consolidation process. Four States have initiated proposals to provide statutory backing to the fiscal reform process through enabling legislation. While Karnataka has already enacted the Fiscal Responsibility Bill in August 2002, Maharashtra and Punjab have introduced Fiscal Responsibility Bills in their legislatures. The Kerala Government has also proposed to introduce a Fiscal Accountability Bill.

4.30 In recent years, initiatives have been taken by some States to enhance transparency of budgetary operations. The Core Group on Voluntary Disclosure Norms for State Governments submitted its report in January 2001. The transparency in State budgets is sought to be enhanced in stages and a model format of the disclosure norms has been prescribed for the States by the Group. The States are being sensitised to the principle of transparency in Government operations so as to ensure macro fiscal sustainability and fiscal rectitude. In the Budgets for 2002-03, several States have published 'Budget at a Glance' along the lines of the Union Budget as a first step. Some of the

2. The States are: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttaranchal, Uttar Pradesh and West Bengal.

REPORT ON CURRENCY AND FINANCE

States also provide details on outstanding guarantees. In addition, a few States have started disseminating information on consolidated budgetary position, which are inclusive of off-budget borrowings.

(vi) Centre's Initiatives

4.31 In pursuance of the recommendations of the Eleventh Finance Commission (EFC), an Incentive Fund for State fiscal reforms has been set up at the Centre. The disbursements from the Incentive Fund will be based on a single monitorable fiscal objective. Accordingly, each State would need to achieve a minimum improvement of 5 percentage points in the revenue deficit as a proportion of their revenue receipt each year till 2004-05. For States with a revenue surplus, 3 percentage points improvement in the balance in the current revenue (BCR) is required for release of funds under this facility. Accordingly, several State Governments have drawn up Medium-Term Fiscal Reforms Programme (MTFRP) and entered into MoUs with the Union Ministry of Finance. The MTFRP of States cover various areas such as fiscal consolidation, public sector enterprises reform, power sector reforms and fiscal transparency.

4.32 The Union Budget 2002-03 made provisions for reform-linked assistance of Rs.12,300 crore for States under various schemes such as Accelerated Power Development and Reform Programme (APDRP), Accelerated Irrigation Benefit Programme (AIBP), Urban Reforms Incentive Fund (URIF), and Rural Infrastructure Development Fund (RIDF). In addition, a lump-sum amount of Rs.2,500 crore has been proposed for implementing policy reforms in sectors constraining growth and development.

(vii) Reserve Bank's Initiatives

4.33 In the recent past, the Reserve Bank has initiated a close and intensive interaction with State Governments on a regular basis, and on a wide range of issues. Accordingly, several significant initiatives have been taken during the reform period:

- In its role as a banker to States, the Reserve Bank had examined the implications of contingent liabilities/guarantees extended by States. The Technical Committee on State Government Guarantees, 1999 has recommended placing limits on Government guarantees;
- Since 1999, States have also been encouraged to access the market for a part of their market borrowings. Within the approved borrowing programme, State Governments are provided with the option of raising resources in a flexible manner in terms of method, timing and maturity. State Governments can borrow from the market

between 5 per cent to 35 per cent of the approved borrowing limit under the new scheme. So far, 12 States have raised funds directly from the market. The gains from the auction mechanism were seen from the fact that the weighted average interest rates were below the pre-announced rates;

- The Reserve Bank has been advising the State Governments in areas such as cash management, funds management and reforms in budgetary practices;
- Mounting debt of the State Governments is increasing the interest burden on State finances. To achieve a sustainable level of debt, since 1999-2000, a Consolidated Sinking Fund has been set up in the Reserve Bank, which is optional for State Governments. Eleven States have so far started operating the Consolidated Sinking Fund to meet redemption of their market loans. Each State is required to contribute 1 to 3 per cent of its outstanding market loans each year to the Fund; and
- The Reserve Bank constituted a Group of State Finance Secretaries on State Government Guarantees in 2001 to analyse and classify different type of guarantees including letters of comfort issued by the States and to examine the fiscal risk under each type of guarantees.

III. PERFORMANCE DURING THE 1990s

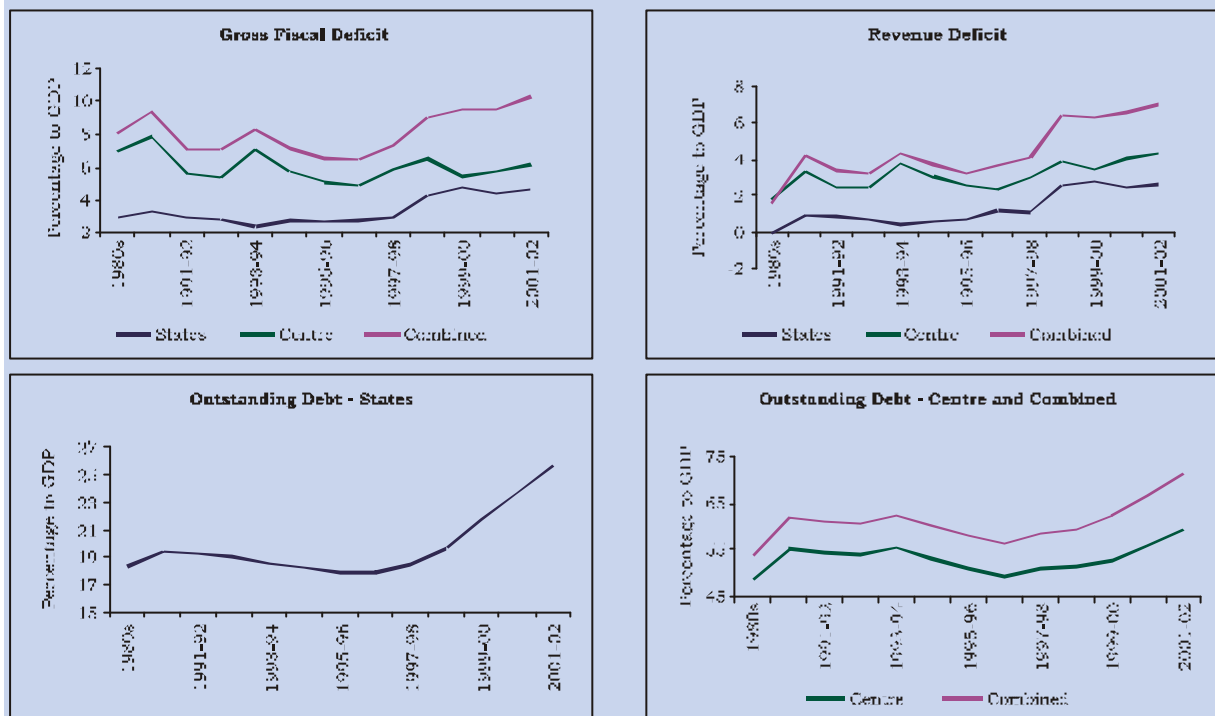
4.34 Corrective measures on the fiscal front initiated at the beginning of the 1990s produced some promising results during the first half of the decade. Expenditure growth could be curtailed leading to a decline in the fiscal deficit and the outstanding liabilities of the Government to GDP ratio. During 1990-91 to 1996-97 (excluding 1993-94), the reduction in total expenditure to GDP ratio by more than 3.5 percentage points narrowed the fiscal gap by 3 percentage points and reduced the debt-GDP ratio by over 5 percentage points. However, the fiscal consolidation even during the first half of the 1990s was brought about primarily through curtailment in capital expenditure. Decline in consumption expenditure was relatively small. From 1997-98, expenditure started rising once again, and by the year 2001-02, all the major fiscal parameters, viz., revenue deficit, fiscal deficit, and public debt rose to levels higher than those prevalent at the beginning of the reform process (Chart IV.3, Table 4.2).

Trends in Revenue

4.35 The efficacy of tax reforms for augmentation of tax revenue, expenditure correction, restructuring of public sector, public debt management policies and institutional reforms appears to be rather limited so far.

FISCAL POLICY

Chart IV.3: Major Fiscal Indicators during the 1990s



Source: Union and State Governments' Budgets.

Table 4.2: Major Fiscal Indicators of the Government Sector*

(Per cent)

Item	1981-82 to 1989-90		1990-91 to 1996-97		1997-98 to 2001-02	
	Average Growth	Ratio to GDP	Average Growth	Ratio to GDP	Average Growth	Ratio to GDP
	1	2	3	4	5	6
Revenue Receipts	16.14	19.01	14.17	18.57	11.64	17.72
Total Expenditure	16.21	28.84	13.12	27.01	14.62	27.68
Capital Expenditure	12.93	8.23	6.59	4.81	16.29	3.96
Revenue Expenditure	17.78	20.62	14.61	22.20	14.43	23.73
Gross Fiscal Deficit	17.83	8.03	11.60	7.38	21.48	9.13
Revenue Deficit	31.39	1.65	19.93	3.63	31.48	6.07
Development Expenditure	15.59	18.11	11.00	15.32	13.43	14.33
Non-Developmental Expenditure	17.23	10.45	16.13	11.69	16.03	13.35

* Government sector refers to finances of Central and State Governments.

Source: Union and State Governments' Budgets.

Trends in Tax Revenue

4.36 Tax reforms have generally led to a rise in tax revenue to GDP ratio across countries (Shome, 1992; Shome, 1995). In the Indian context, the expected increase in tax buoyancy *a la* 'Laffer curve effect' did not occur. Since the onset of tax reforms, the tax-GDP ratio of the Central Government has suffered a persistent decline. This has been a major drag on the reform process. The tax-GDP ratio declined from an

average of 9.9 per cent during the 1980s to 9.7 per cent in the first half of the 1990s and further to 9.0 per cent in the second half of the 1990s. The pattern is, however, not the same across different types of taxes. Direct tax collection to GDP ratio rose steadily from 2.0 per cent in the 1980s to 2.3 per cent in the first half of the 1990s and further to 2.9 per cent in the latter half of the 1990s. On the other hand, the ratio of indirect tax collection to GDP declined from

REPORT ON CURRENCY AND FINANCE

7.9 per cent in the 1980s to 7.3 per cent and 6.1 in the first and second halves of the 1990s, respectively (Chart IV.4).

4.37 The decline in the tax to GDP ratio is explained by a combination of factors that led to a sharp fall in total tax buoyancy from 1.07 for the period 1981-93 to 0.96 for 1981-2001, implying buoyancy could be less than unity during the post-tax reform period 1994-2001.^{3, 4} While the buoyancy of direct taxes is estimated to be higher at 1.19 for the period 1981-2001 as compared with 1.07 for the pre-tax reforms period (1981-1993), the buoyancy of indirect taxes dipped considerably to 0.88 from 1.07 in the corresponding period (Table 4.3).

Table 4.3: Buoyancies of Central Taxes

Tax	1981 to 1993	1981 to 2001
	1	2
1. Total Tax to GDP	1.07	0.96
2. Direct Tax to GDP	1.07	1.19
3. Corporate Tax to GDP	1.02	1.13
4. Personal Tax to GDP	0.92	1.23
5. Indirect Tax to GDP	1.07	0.88
6. Excise Tax to Manufacturing	0.96	0.83
7. Excise Tax to GDP	0.97	0.84
8. Customs Tax to Imports	1.20	0.77
9. Customs Tax to GDP	1.24	0.93

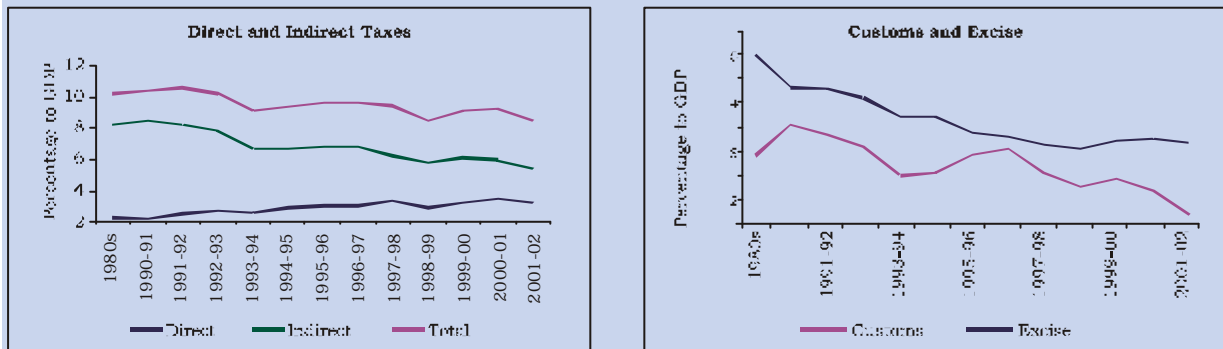
Note : Separate estimates for 1994-2001 were not attempted to ensure that adequate degrees of freedom are available.

Source : Computed using data on taxes from Union Budget documents and gross domestic product from National Accounts Statistics.

4.38 The increase in direct tax collections despite a significant cut in marginal tax rates could be attributed to the combined effect of better compliance, broadening of the tax base and increase in income. The introduction of presumptive tax, adoption of economic criteria for identification of potential taxpayers and removal of some exemptions helped in base widening. Measures such as rationalisation and simplification, both in personal tax and corporate tax, would have induced better compliance. This apart, the revision in public sector wages following the recommendation of Pay Commission is also ascribed as a contributing factor in strengthening the direct tax collection (Rao, 2000). The estimate of personal income tax buoyancy does indicate that while there was a positive impact of pay hike, it has not been statistically significant at the conventional level.⁵

4.39 Unlike direct taxes, rate cuts have been important factors in reducing the indirect tax collection, as there was no commensurate gain in terms of base expansion or better compliance. It was expected that the sharp cut in custom duties from a peak rate of more than 300 per cent in the period just prior to reforms to about 30 per cent in 2002-03 would lead to a net fall in custom duty collections. Fall in excise duty collections, however, came as a surprise as the rate cuts were expected to boost growth in industrial output. The less than expected buoyancy in the excise tax seems to follow from slower than expected growth in

Chart IV.4: Tax-GDP Ratio of Central Government



Source: Union Government Budgets.

- All important tax reform measures were initiated since 1992-93, therefore, separate estimates have been made for period from 1980-81 to 1992-93 and from 1980-81 to 2000-01.
- Tax buoyancy is defined as percentage change in tax collection as a ratio to percentage change in tax base, i.e., $(\Delta X / X) / (\Delta Y / Y)$ where X is the tax collection and Y is the tax base.
- Estimate with a dummy which is 1 for the period 1997-98 to 2000-01 to account for pay hike shows that the coefficient of the dummy is positive but not significant at 90 per cent confidence level.

$$\text{Personal Tax} = -6.79 + 1.06 \text{ GDP} + 0.44 \text{ DUMMY}$$

(7.92) (1.65)

 $R^2 = 0.9 \qquad \qquad \qquad DW = 1.4$

FISCAL POLICY

industrial output during the major part of the reform period. The rising share of services in overall GDP which largely falls outside the tax net and progressive extension of MODVAT could have affected buoyancy estimates (Mohan, 2000). Ideally, credit extended to inputs under VAT system needs to be neutralised through increase in tax rates on end-products. Instead tax rates have been scaled back leading to a fall in excise tax collection (Shome, 1997). Another important reason for reduced revenue collection from both custom and excise duties is that the reduction in rates were not accompanied by removal of concessions and exemptions (Government of India, 2001a).

4.40 A comparison of alternative buoyancy estimates with respect to GDP and the actual base indicates that though there was a marked decline in buoyancy in case of both customs and excise during the reform period, the fall was partly made up by the pick up in imports in case of customs and some base expansion or better compliance in respect of excise. In the case of custom duties, the decline in buoyancy in terms of imports was much more than in terms of GDP. On the other hand, in case of excise, there was hardly any divergence between its buoyancy in terms of manufacturing output (which is the base for excise tax) and that in terms of GDP (Table 4.3).

4.41 Under the existing federal fiscal structure, the States' rights to collect taxes are largely confined to indirect taxes, predominantly commodity taxes like sales tax and other indirect levies, such as State excise duties, service tax on entertainment, on betting and gambling and on passengers and goods. Direct taxes

include few items like land revenue and agricultural income tax. Buoyancy estimates of sales tax (which accounts for around 60 per cent of States' own revenue) and own tax for 15 major States during 1981 to 2000 show that the buoyancies of sales tax and own tax during the sub-period 1981 to 1993 were uniformly higher than the respective buoyancies for the full period, indicating significant fall in buoyancies during the reform period. An important reason for the fall in tax buoyancies is the competitive tax reductions by States to attract trade and industry (Government of India, 2000c). The decline in buoyancies also follows from higher growth in services, which are not adequately taxed but raises the Net State Domestic Product (NSDP). However for most of the States, buoyancies for both sales tax and own tax continued to be more than unity during the reform period (Table 4.4). Contemporaneously, for all the States combined, own tax revenue as a percentage to GDP increased from 5.1 per cent during the 1980s to 5.4 per cent during the first half of the 1990s. Though the ratio marginally declined from 5.5 per cent in 1994-95 to around 5.1 per cent in 1998-99, it improved to 5.6 per cent by 2000-01. Thus, on average, tax-GDP ratio for States during the reform period was higher than that of the 1980s.

Trends in Non-Tax Revenue

4.42 A key objective of the reform process was the augmentation of non-tax revenue by way of enhancement of user charges and returns on Government investments through restructuring of PSUs. The intention of restructuring PSUs was to

Table 4.4: Buoyancy of State Taxes

(Per cent)

	Own Tax Revenue				Sales Tax			
	Buoyancy		Ratio to NSDP		Buoyancy		Ratio to NSDP	
	1981 to 1993	1981 to 2000	1981 to 1993	1994 to 2000	1981 to 1993	1981 to 2000	1981 to 1993	1994 to 2000
	1	2	3	4	5	6	7	8
Andhra Pradesh	1.03	0.93	9.23	7.71	1.08	1.07	4.81	5.18
Assam	1.30	1.22	3.95	4.74	1.35	1.23	2.46	2.92
Bihar	1.13	1.14	4.76	5.58	1.12	1.10	3.26	3.63
Gujarat	1.17	1.03	9.27	9.26	1.21	1.03	6.27	6.14
Haryana	1.08	0.98	8.80	8.20	1.08	1.07	4.09	4.42
Karnataka	1.14	1.07	10.11	10.84	1.22	1.13	5.53	6.45
Kerala	1.17	1.08	10.46	11.60	1.23	1.14	6.72	8.03
Madhya Pradesh	1.13	1.08	6.87	7.33	0.99	0.98	3.37	3.25
Maharashtra	1.03	0.98	8.79	8.52	1.00	0.95	5.59	5.12
Orissa	1.32	1.17	4.93	5.60	1.30	1.25	2.75	3.59
Punjab	0.96	0.92	8.09	7.23	0.98	0.93	3.71	3.34
Rajasthan	1.10	1.07	7.09	7.70	1.02	1.00	4.06	4.02
Tamil Nadu	1.05	1.03	10.65	11.06	1.06	1.02	7.01	7.25
Uttar Pradesh	1.17	1.10	5.65	6.18	1.14	1.09	3.03	3.27
West Bengal	1.19	0.98	6.23	5.85	1.17	1.02	3.62	3.62

Note : See note to Table 4.3.

Source : Computed using data on taxes from State Budget documents and net state domestic product from National Accounts Statistics.

REPORT ON CURRENCY AND FINANCE

improve their efficiency and thereby enhance the capacity to generate returns on Government investments. Non-tax revenue of the Central Government as a proportion to GDP recorded an improvement from 2.1 per cent in 1990-91 to 3.0 per cent in 2001-02 (Chart IV.5). The trends in components of non-tax revenue reveal that increase in dividend and profits, and economic services, fully account for the improvement in Centre's collection of non-tax revenue, as growth in other components continued to be stagnant during the reform period. Surplus transfers from the Reserve Bank, which is a major component of dividend and profits, increased from Rs.210 crore in 1990-91 to Rs.10,320 crore in 2001-02, thereby raising its share in the total from 1.8 per cent to 15.2 per cent (Table 4.5). The size of the transfer from the Reserve Bank, *inter alia*, grew on account of earnings from the deployment of foreign currency assets, conversion of 4.6 per cent Treasury Bills into marketable securities and discontinuation of the practice of crediting large sums to the National Industrial Credit (LTO) Fund.

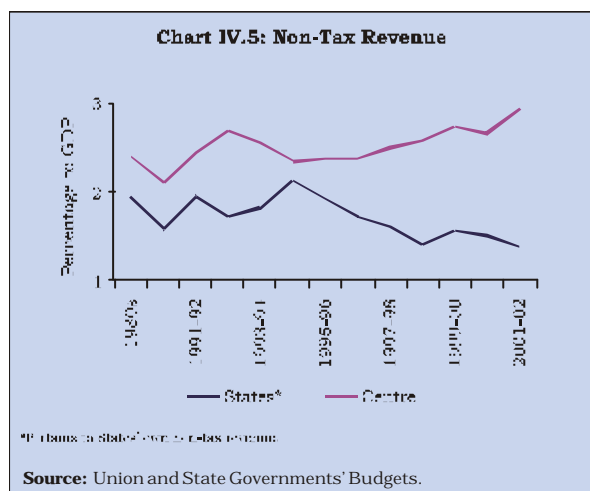


Table 4.5: Composition of Non-Tax Revenue of the Central Government

Item	(Per cent)			
	1980s	1990-91	1996-97	2001-02
	1	2	3	4
1. Interest Receipts	68.5	72.9	67.9	52.4
2. Dividends & Profits	8.2	6.5	11.8	25.5
of which				
Reserve Bank Profits	4.1	1.8	4.6	15.2
3. General Services	3.5	4.2	4.0	4.2
4. Social Services	3.2	0.5	0.4	0.4
5. Economic Services	9.0	7.2	10.2	13.7
6. Fiscal Services	5.5	2.6	1.3	0.5

Source: Union Government Budgets.

4.43 For the States, the decline in the non-tax to GDP ratio was from 1.6 per cent in 1990-91 to 1.4 per cent in 2001-02 (Chart IV.5). No significant changes in their composition are discernible, barring a rise in the share of interest receipts and a distinct fall in the share of economic services (Table 4.6).

Table 4.6: Composition of Own Non-Tax Revenue of State Governments

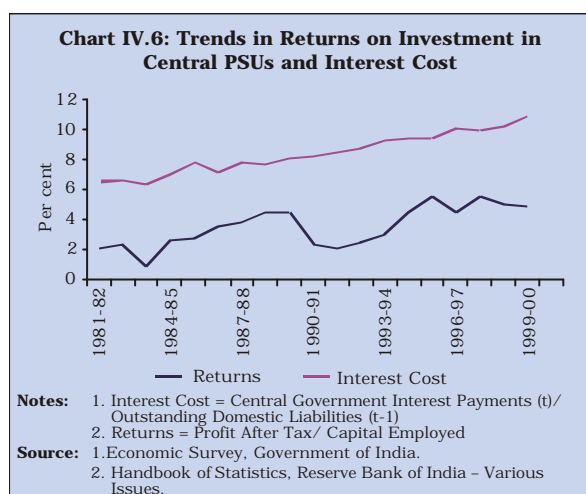
Non tax revenue	(Per cent)			
	1980s	1990-91	1996-97	2000-01
	1	2	3	4
Interest Receipts	28.2	26.0	34.7	36.4
Dividends and profit	0.5	0.4	0.7	0.5
General Services	12.9	20.7	22.6	19.4
Social Services	8.2	6.3	5.1	7.3
Economic Services	50.2	46.6	36.9	36.4

Source: State Governments' Budgets.

4.44 The inability to raise user charges has been relatively more pressing for States than the Centre. The States account for nearly three-fourth of total spending on social services, and more than half of the total spending on economic services provided by the Government sector. User charges recovered from such services are much lower as compared with spending on such accounts. Our estimates of user charges for various services rendered by the State Governments indicate that cost recovery for education during the 1990s has been lowest at 1.2 per cent, followed by health (4.7 per cent) and irrigation (8.5 per cent), without any firm indication of improvement during the reform period.⁶

4.45 Apart from low user charges on the services rendered by the Government, the sluggishness in non-tax revenue also follows from continuing inadequate returns on public investment. The outstanding investment in Central PSUs amounted to Rs.3,03,400 crore as at end-March 2000. The State Governments' investment amounted to nearly Rs.75,000 crore in statutory corporations and another Rs.42,000 crore in the Government companies as at end-March 1999. In the case of Central PSUs, although returns on capital employed have improved from a low level of 2.5 per cent in the 1980s to 2.8 per cent in the early 1990s and further to around 5.0 per cent in the latter half of the 1990s, dividends from PSUs remain inadequate to finance future

6. User charges have been estimated as percentages of non-tax revenue to non-plan revenue expenditure. Data have been sourced from State Government Budget Documents.



investment opportunities through internal finance (Chart IV.6). Beside operational inefficiency, the poor returns on investments in, both, Central and State PSUs also reflect the limitations of pricing policies as well as heavy implicit and explicit subsidies (Box IV.1).

4.46 In the case of State-level enterprises, returns do not cover even a fraction of their cost of funds (Government of India, 2000c). Capital invested in SEBs account for the bulk of investments made by the State Governments. Although the Electricity (Supply) Act, 1948 requires SEBs to earn a minimum yield of 3 per cent on their net fixed assets, they have rather registered a persistent negative return over the years (Box IV.2). The State Road Transport Undertakings (SRTUs), the other segment attracting major public

investments, have also been a drag on the State budgets.

Resource Transfer to States from the Centre

4.47 In addition to States' own tax and non-tax revenue, the resource base of State Governments also includes transfers from the Central Government in the form of devolution of Central taxes and grants-in-aid and contribution. Both forms of transfers to States have decelerated over time. Although successive Finance Commissions recommended devolution of higher amounts through either upward revisions of the coverage of the shareable items, or by increasing the magnitude of the States' share (Tenth Finance Commission, 1994), the quantum of funds transferred to States as a ratio to GDP has been lower in the 1990s as compared to that of the 1980s, reflecting sluggishness or lower buoyancy of Central taxes (Chart IV.7). The Centre-State tax sharing system has been pointed out as one of the factors having disincentive and efficiency reducing effects on tax collection (Srinivasan, 2000). The main argument here is that the Centre's efforts in collecting income tax, which is to be shared, would be less vigorous than in the case of custom duties, which accrue fully to the Central Government. The argument, however, does not receive support from the observed recent trends. Buoyancies of direct taxes estimated above showed marked improvement while that of custom duties slumped sharply during the reform period. Moreover, changes in the transfer formula by the Eleventh Finance Commission, 2000, has further reduced this possible bias, as all the taxes have become shareable with effect from 2000-01.

Box IV.1

Fiscal Impact of the Operations of Public Sector Undertakings

Public sector undertakings (PSUs), wholly or partially owned by the Government, affect the fiscal position of the Government through their operations. While PSUs contribute to the exchequer by way of dividend payments, interest payments and through indirect taxes and other duties, there are also transfers of funds from the exchequer to the PSUs in the form of budgetary support. These modes of transfer reflect explicit impact of PSU operations on the fiscal position of the Government. There are also other implicit transfers through tax and subsidies embedded in the policies of the Government. For instance, a PSU enjoying monopoly status due to entry restrictions and pricing its products on cost *plus* basis generally amounts to an implicit tax on the public and subsidy to the PSU. On the other hand, provision of commodities to a select clientele or segment of the population at a price less than the cost would amount to a implicit subsidy to the public and a tax on the PSUs.

The fiscal impact of PSU operations depends upon, both, the efficiency levels and government policies. An efficient PSU may not only generate internal resource to finance its capital needs, but may also generate surpluses for the exchequer. On the other hand, a poor performer may be a drag on the finances of the Government. Besides efficiency, ability of the enterprise to generate surpluses/internal resources is also intimately linked with the policies of the Government. Implicit tax or subsidies can constrain or enhance the ability of the enterprise to generate additional resources. Owing to implicit subsidies to the public, an enterprise efficient otherwise can turn into a financial drag in explicit terms whereas an inefficient enterprise owing to implicit tax on the public can generate surpluses for the exchequer. Therefore, any valid assessment of the fiscal impact of the operations of the PSUs should essentially take into account both the explicit and implicit aspects of the transactions/transfers between the Government and the PSUs.

Box IV.2

The Operation of State Electricity Boards (SEBs) and State Finances

Poor financial performance of public sector undertakings (PSUs) has been the most debilitating drag on the public finances in India, as a large amount of budgetary funds are locked in these enterprises. Investment in these enterprises takes the form of equity as well as loans (Government of India, 2000). As on March 31, 2001, there were 834 State level PSUs, and total investment in them was estimated at Rs.1,72,198 crore. The State Electricity Boards (SEBs) account for the bulk of the States' investments in PSUs.

Far from yielding three per cent rate of return on their net fixed assets as stipulated in the Electricity (Supply) Act, 1948, the SEBs registered a negative return of 12.7 per cent on their capital in 1992-93, which went up to 43.1 per cent in 1999-2000, revealing a steady deterioration. The commercial losses of SEBs increased from Rs.3,083 crore in 1990-91 to Rs.26,343 crore in 1999-2000. The deteriorating financial position of SEBs has been due mainly to a high level of receivables (about 33 per cent of annual revenue in 1999-2000), low plant load factor (67.3 per cent in 1999-2000 as against an ideal PLF of 80 per cent and above), high transmission and distribution (T&D) losses (31 per cent in 1999-2000, as against about 10 per cent in advanced countries), irrational pricing policy (recovery rate of 67.8 per cent of cost of power supply in 1999-2000), high share of establishment and administration costs in total cost (13.3 per cent in 1999-2000).

Most of the SEBs are in severe financial stress. As a result, they have not been able to pay for the power, equipment and raw material supplied to them by Central Public Sector Undertakings (CPSUs). Their total outstanding dues to CPSUs have risen to more than Rs.41,000 crore as on February 28, 2001. The operations of SEBs have also impacted State finances significantly. The subsidies provided by the State Governments to partly compensate the SEBs for the subsidised sale of electricity to agriculture and domestic sectors increased from Rs.3,182 crore in 1992-93 to Rs.11,265 crore in 1999-2000 (Government of India, 2002c). State Governments have also been providing guarantees in respect of SEBs' loans from Power Finance Corporation, Life Insurance Corporation, General Insurance Corporation, Unit Trust

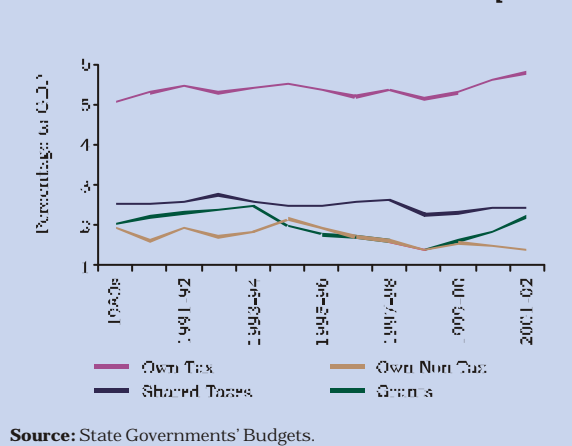
of India and Rural Electrification Corporation and payment assurances to private power projects for sale of electricity to SEBs. These guarantees have exposed the States to fiscal risk, as in the event of default, these guarantees will have to be taken on States' budgets, which will impact their finances further.

The 'Expert Group on SEBs' Outstanding Dues' (Chairman: Montek Singh Ahluwalia) submitted its report in May 2001, which was endorsed by the Empowered Group of Chief Ministers in March 2002. As per the recommendations of the Empowered Group, the outstanding dues of SEBs to the CPSUs amounting to about Rs.44,000 crore as on September 30, 2001 were to be taken on State Governments' account and securitised by the concerned States through a one-time settlement by issuing tax-free bonds with coupon rate of 8.5 per cent to CPSUs, along with the clear understanding that SEBs will henceforth pay their current dues to CPSUs. This was to enable SEBs to clean up their books and raise resources to fund their development schemes. In addition, this would also meet equity requirements of CPSUs and leverage them for their expansion schemes. The scheme is making headway as a substantial number of State Governments have consented to it in the context of meeting payment obligations of SEBs to National Thermal Power Corporation (NTPC), the CPSU which has the largest accumulated receivables from SEBs and successive utilities.

This scheme will, however, further impact the State finances as the State Governments will be required to make provision for meeting debt service obligations for the bonds issued to CPSUs on the one hand and ensuring payment of SEBs' current dues to CPSUs on the other in their budgets in the coming years.

As a medium-term strategy to make SEBs viable, it is useful to adopt cost-based pricing for each consumer segment and to raise the average tariff levels as recommended by the Report of the Expert Group on Commercialisation of Infrastructure Projects (NCAER, 1996). Further reforms in this area could also include introduction of 'time-of-day' pricing, explicit targeting of subsidies and 'power pooling' arrangement.

Chart IV.7: Sources of States' Revenue Receipts



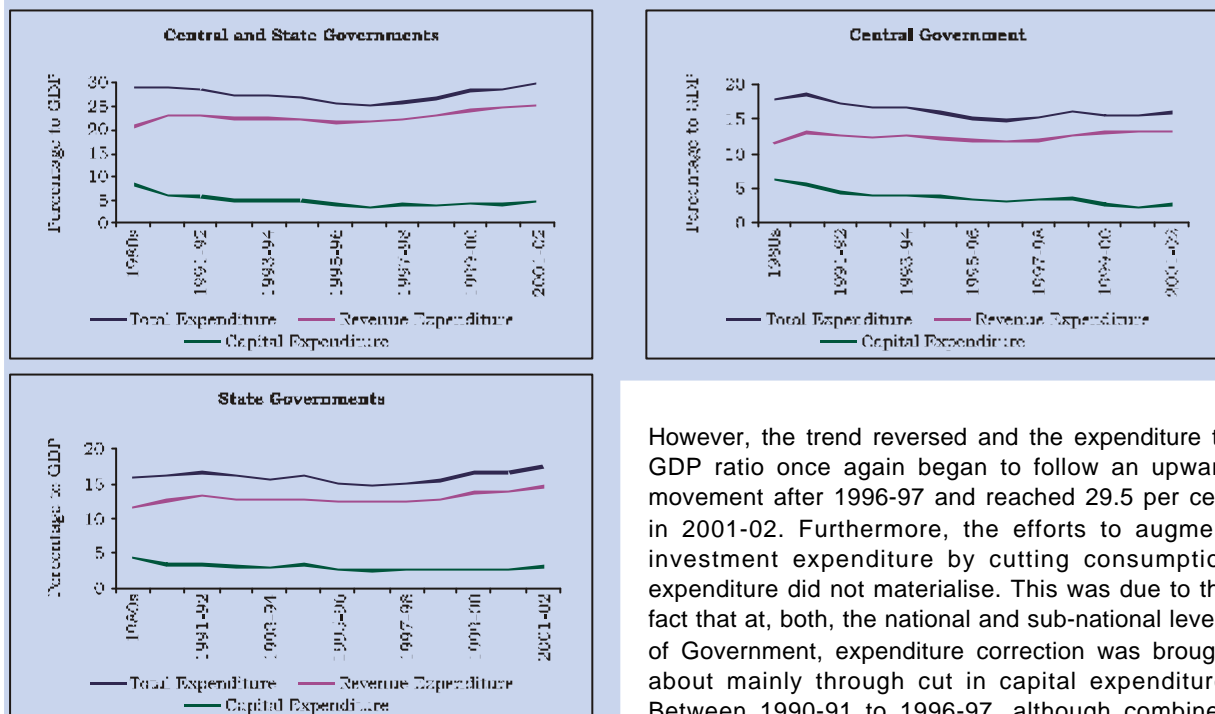
4.48 To sum up, the sluggishness in Central Government revenues was largely the result of lower buoyancy of indirect taxes caused by cut in tax rates without adequate expansion in the tax base. The inadequate growth in States' revenue, on the other hand, was the result of their inability to levy appropriate user charges and tax the services sector, combined with lower Central transfers due to falling tax buoyancy.

Trends in Expenditure

4.49 Government consumption and investment spending constitute an important part of aggregate demand in the economy. It influences growth through several channels. An increase in public spending on physical capital could positively influence the long-term

FISCAL POLICY

Chart IV.8: Expenditure Pattern of Central and State Governments



Source: Union and State Governments' Budgets.

However, the trend reversed and the expenditure to GDP ratio once again began to follow an upward movement after 1996-97 and reached 29.5 per cent in 2001-02. Furthermore, the efforts to augment investment expenditure by cutting consumption expenditure did not materialise. This was due to the fact that at, both, the national and sub-national levels of Government, expenditure correction was brought about mainly through cut in capital expenditure. Between 1990-91 to 1996-97, although combined revenue expenditure fell by 1.2 percentage points, it increased again by about 3.6 percentage points between 1996-97 and 2001-02. On the other hand, there was a steep fall of 2.5 percentage points in the capital expenditure to GDP ratio between 1990-91 and 1996-97, though it rose marginally by 0.8 percentage point between 1996-97 to 2001-02. Thus, since the beginning of the 1990s upto 2001-02, while the revenue expenditure to GDP ratio increased from 22.8 per cent to 25.2 per cent, the capital expenditure to

growth. The impact of such spending in human capital formation could be larger but benefits require longer gestation period. So is the case with Government spending on research and development (R&D). As such, any programme of stabilisation-cum-adjustment, has to give considerable attention to the expenditure side of fiscal restructuring. It is important to plan expenditure reduction while improving quality of public spending to aim simultaneously at supporting growth with equity and improving fiscal balances. In India, expenditure/GDP ratio of the Centre had risen from about 12.3 per cent in 1970-71 to around 20 per cent in the latter half of the 1980s. This had placed a difficult burden on budgetary balances. With a view to narrowing down the fiscal gap, particularly by bridging the revenue deficit, a cut in current expenditure was considered essential.

4.50 The steps taken to compress expenditure led to a reduction in the size of overall public expenditure as a ratio to GDP in the initial years of the 1990s. The combined expenditure of Centre and State Governments as a ratio to GDP declined from 28.8 per cent in 1990-91 to 25.1 per cent in 1996-97.

Table 4.7: Trends in Government Expenditure

		(Percentage to GDP)		
		1980s	1990-91	1997-98 to 2001-02
		1	2	3
Centre	Total Expenditure	17.74	16.29	15.59
	Revenue Expenditure	11.49	12.28	12.70
	Capital Expenditure	6.25	4.01	2.89
States	Total Expenditure	15.90	15.64	15.77
	Revenue Expenditure	11.61	12.67	13.07
	Capital Expenditure	4.29	2.97	2.70
Combined	Total Expenditure	28.84	26.01	27.68
	Revenue Expenditure	20.62	22.20	23.73
	Capital Expenditure	8.23	4.81	3.95

Source : Union and State Governments' Budgets.

REPORT ON CURRENCY AND FINANCE

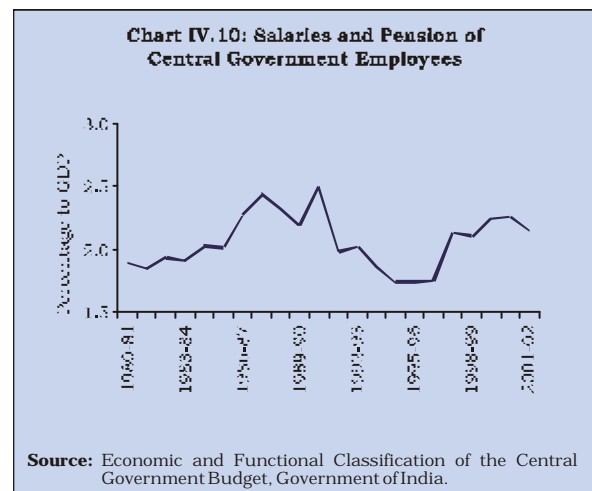
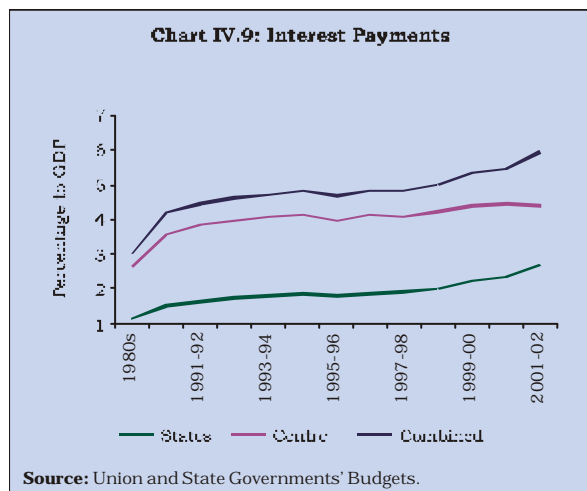
GDP ratio declined from 6.0 per cent to 4.4 per cent (Chart IV.8, Table 4.7). The deterioration in capital expenditure contributed to the decline in the share of public investment from 9.3 per cent of GDP in 1990-91 to 6.3 per cent in 2001-02.

4.51 The major contributing factor imparting a downward rigidity to the revenue expenditure relates to items of committed expenditure, of which, interest payments and expenditure on wages and salaries are prominent. Interest payments as a ratio to GDP increased from 3.8 per cent in 1990-91 to 4.7 per cent in 2001-02 for the Central Government, while for the States, the corresponding rise was steeper from 1.5 per cent to 2.8 per cent (Chart IV.9). During the phase of fiscal consolidation, even though the debt to GDP ratio for the Central and State Governments fell from 61.7 per cent in 1990-91 to 56.5 per cent in 1996-97, the rise in the weighted average interest rate on Central Government and State Governments market borrowings, following the progressive alignment of coupon rates with market interest rates, led to the rise in interest payments. On the other hand, in the latter half of the 1990s, though the cost of borrowings declined consistently due to fall in market interest rates, interest payments continued to rise unabated. This essentially reflects the impact of sizeable outstanding liabilities contracted at higher interest rates during the first half of the 1990s, and also the return to rising deficit, and consequent, increase in public debt to GDP ratio to 71.1 per cent by 2001-02.

4.52 The rising wage bill has been considered as an important element in fiscal deterioration in recent

years. One view is that the rise in spending on wages and salaries and pension was the prime factor for the abnormal rise in revenue expenditure during the 1990s (Acharya, 2001; Rao, 2000). The Eleventh Finance Commission (EFC), on the other hand, notes that the surge in revenue expenditure towards the late 1990s cannot be attributed only to salary and pension revision, though it led to immediate and acute fiscal stress all round (Government of India, 2000c). A similar view is expressed by Mohan (2000) who notes that, for the Central Government, spending on salaries and pension as a proportion to GDP during the 1990s was much lower than that in the 1980s.

4.53 The growth in Central Government spending on wages and salaries and pension was restrained during the period from 1990-91 to 1996-97. As a proportion to GDP, it dropped by around 0.8 percentage point. With the implementation of the Fifth Pay Commission award towards the late 1990s, the wage bill could not be kept constricted (Chart IV.10). Though the present expenditure on salaries and pensions for the Central Government employees as a percentage to GDP is still lower than it was at the end of the 1980s, the sharp rising trend is worrisome. It may be added that with downsizing of the Government as part of the reform process, the share of its wage bill in GDP should decline substantially. As liberalisation of the economy puts upward pressure on wage rates in competitive sectors that attract fresh domestic and foreign capital, preferred strategy would be to redeploy the surplus labour from the public sector to more productive sectors. This will reduce the wage bill burden in a much more meaningful way.



FISCAL POLICY

4.54 Downward rigidity has also been discernible in expenditure on subsidies, which is another major constituent of the revenue expenditure. Subsidies are an important policy instrument. Apart from impacting the expenditure side of the fisc, these affect domestic resource allocation, income distribution and expenditure efficiency. Subsidies can also affect international competitiveness by introducing distortions in international trade. Apart from providing implicit subsidies through under-pricing of public goods and services, Governments also extend subsidies explicitly on items such as exports, interest on loans, food and fertilisers. Owing to the conscious efforts made by the Government, total explicit subsidies of the Central Government, which constituted 2.14 per cent of GDP in 1990-91 were reduced to nearly 1 per cent by 1995-96. Cut in subsidies in the beginning of the reform period was brought about largely through the phasing out of export subsidies (cash compensatory support) which amounted to nearly Rs. 2,750 crore (0.5 per cent of GDP) in the year 1990-91. During the second half of the 1990s, the size of subsidies again started rising and increased to 1.36 per cent of GDP by 2001-02 (Table 4.8).

Table 4.8: Central Government Expenditure on Subsidies – Major Heads

(Figures in rupees crore)

Year	Food	Fertilisers	Interest	Exports	Total
	1	2	3	4	5
1990-91	2,450 (0.43)	4,389 (0.77)	379 (0.07)	2,742 (0.48)	12,158 (2.14)
1995-96	5,377 (0.45)	6,735 (0.57)	34 (-)	318 (0.03)	12,666 (1.07)
2001-02	17,499 (0.76)	12,595 (0.55)	210 (0.01)	N.A.	31,207 (1.36)

Figures in parentheses are ratios to GDP.

– negligible.

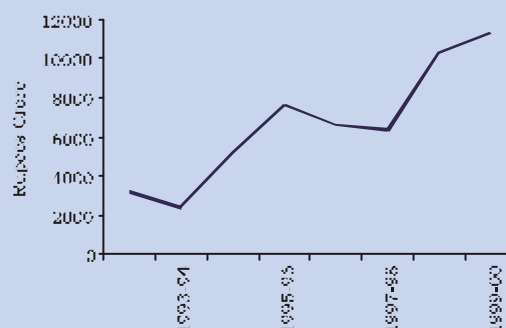
Source: Union Government Budgets.

4.55 Details on State Government subsidies are not available in their budget documents but the indications are that the trend is similar to that of the Central Government, as reflected from the quantum of subsidies extended to some of the SEBs by the respective State Governments (Chart IV.11).

4.56 The downward inflexibility in the subsidies was essentially on account of the growing size of food subsidy, which recorded nearly a six-fold rise over the reform period. It has been observed that a sizeable

proportion of food subsidy is due to the carrying cost of the food stock (Balakrishnan and Ramaswami, 2000). Thus, a significant part of subsidies goes to make up for the inefficiencies embedded in institutional arrangements meant for providing subsidy rather than benefiting the targeted group. Although subsidies are extended by the Government on the grounds that the poor are benefited, evidence shows that impact on poverty and nutritional status of the population is very limited (Srinivasan, 2000; Government of India, 1997). Expressing similar concerns, it has been stated that the argument that subsidies are meant for the poor has little basis in actual practice. The better-off sections of the society consume most of such services (Mohan, 2000). It has been shown that during 1986-87, the public distribution system (PDS) and other consumer subsidy programmes accounted for less than 2.7 per cent of per capita expenditure of the poor in rural areas and 3.2 per cent in urban areas (Radhakrishna and Subbarao, 1997). This indicates that phasing out of subsidies would have a very limited impact on the poor and less so in rural areas. However, there is a need for ensuring safety-net for the poor segment of population, whose ability to adjust to areas of work in the face of restructuring is rather limited. In order to ensure availability of food to the poor, the Government launched the Targeted Public Distribution System (TPDS) in June 1997. The Scheme was targeted to families Below Poverty Line (BPL)/ *Antyodaya Anna Yojana* (AAY) families in a transparent and accountable manner. The ability of the scheme to make a lasting dent on poverty would depend on the ability to create adequate entitlements through employment opportunities for the poor. Such policies

Chart IV.11: Subsidies by State Governments to SEBs



Source: Annual Report 2001-02 on the Working of State Electricity Boards and Electricity Departments, Planning Commission, May 2002, Government of India.

would support income improvement without the burden of large fiscal subsidies.

4.57 In sum, it seems that the reversal in expenditure correction followed from the downward rigidity in consumption expenditure, particularly, in the interest payments for both the Central and the State Governments. The pay revision in the late 1990s further compounded the problem, while provision of subsidies continued to remain inefficient. In the event, capital expenditure had to bear the brunt of restraint placed on expenditure.

Restructuring of Public Sector

4.58 A major source of revenue imbalances, reflected in dissaving of the public sector is rooted in the poor profitability of the PSUs. The operations of PSUs have been on non-commercial lines. The returns on capital invested by the Government have been low. As a result, adequate resources in the form of profit and dividends are not forthcoming. With poor internal resource generation, PSUs had to depend on external financing from budgetary and non-budgetary sources.

4.59 Against this backdrop, public sector restructuring had two-fold objectives - to provide fiscal support to the Government in terms of additional resources and to improve the efficiency of these enterprises. Given the need to expand activities such as education, health and medicine, it was envisaged that substantial additional resources could be generated through a programmed disinvestment of some PSUs. With disinvestment, private shareholders are expected to enhance discipline by their monitoring. Managers, who act as agents of the shareholders, are forced to act in their interests by increasing the value of the firm. This would transform the PSUs on more efficient lines.

4.60 During the 1990s, there was a significant decline in the budgetary support available to the PSUs. Budgetary support to the total capital expenditure of Central Government PSUs declined sharply from 39.7 per cent during the Seventh Plan period to 12.7 per cent during the Eighth Plan period and further to 11.9 per cent by 1998-99 (Table 4.9). Furthermore, allocation of SLR bonds was completely phased out and the issue of tax-free and Government guaranteed bonds was also considerably reduced.

Table 4.9: Explicit Fiscal Impact of Operations of Public Sector Undertakings

(Rs. crore)

Item	Seventh Plan	Eighth Plan	1998-99
	1	2	3
Net Internal Resources	20,755 (32.3)	64,761 (42.3)	19,295 (53.9)
Extra Budgetary Resources	18,054 (28.1)	68,766 (45.0)	12,281 (34.2)
Budgetary Support	25,537 (39.7)	19,455 (12.7)	4,250 (11.9)

Note : Figures in parentheses are percentages to the total.
Source : Public Sector Enterprises Survey, various issues.

4.61 Although there is a considerable improvement as regards the direct impact of PSU operations on the budget, they continue to be a drag on the fisc. As stated earlier, the returns on the investment in these units do not cover even the cost of borrowed funds invested by the Government in these units. The profits after tax earned by PSUs on their capital are far lower than the implied average interest rate paid by the Central Government on its outstanding domestic liabilities (Table 4.10). Moreover, aggregate profitability measure is a bit misleading since it includes State oil and petroleum monopolies. Even for PSUs, which compete with the private enterprises, the returns have been generally lower than that of the competing firms in the private sector.

Table 4.10: Performance Indicators of Public Sector Undertakings

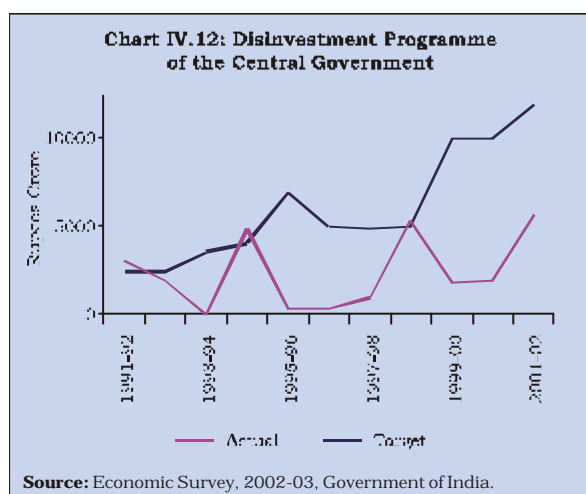
Year	Capital Employed (Rs. Crore)	Profit after Tax (Rs. Crore)	Returns on Capital (per cent)	Average Interest Paid by Government (per cent)
	1	2	3	4
1980s	43,575	1,379	2.5	7.0
1990-91 to 1995-96	1,36,439	3,974	2.8	8.8
1996-97 to 2001-02	2,62,400	12,925	4.9	10.2

Source : Economic Survey, Government of India, various issues.

4.62 The programme of divestment in PSUs had slippages due to pricing problems and sluggishness of the capital market in the late 1990s. Targets set for divestments could not be achieved in most of the

FISCAL POLICY

years (barring 1991-92, 1994-95 and 1998-99) during the decade of the 1990s (Chart IV.12). Since 1991-92, Government equity has been divested in 48 units and strategic sale was undertaken in another 16 units. Of the total amount of Rs.78,300 crore targeted to be mobilised through divestments/strategic sale, Rs.30,917 crore could be realised up to March 31, 2002. Initially the Government (with the exception of Modern Foods) sold only minority stakes in different PSUs. However, since 2000, the Government began strategic sales as these were judged to be revenue enhancing and signalled commitment to enhanced efficiency that transfer of management could bring about. To establish a systematic policy approach to disinvestments and privatisation and give fresh impetus to strategic sales of identified PSUs, the Government has established a new Department for Disinvestment.



4.63 Efforts to phase out inefficient PSUs were also made at the State level. According to available information from the Ministry of Disinvestment, 19 States have identified 290 State-level public enterprises for disinvestments; restructuring or closure has been initiated in 221 of these enterprises. So far, 69 units have been closed down, while 33 units have been privatised. It may be mentioned that an approximately 919 State-level public enterprises have run an accumulated loss of Rs.23,377 crore by end-March 2001. Furthermore, 409 out of these 919 enterprises are loss making, while 180 are non-working. The implicit subsidies in State-level enterprises are known to have risen substantially since the mid-1980s. In this context, there is a need to take the disinvestment programme for State enterprises on an accelerated footing.

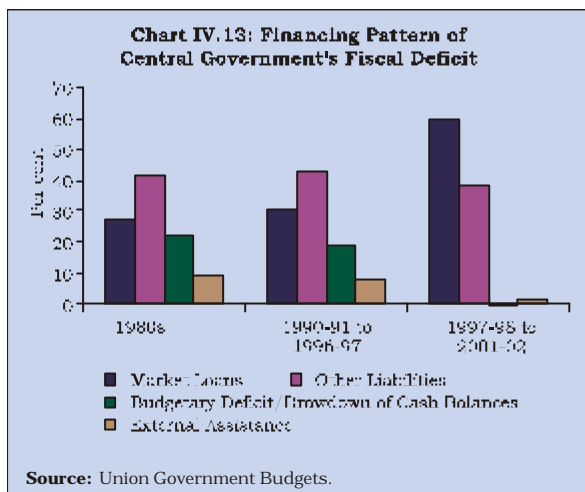
Monetary-Fiscal Coordination

4.64 As stated earlier, the growing fiscal deficit during the pre-reform period was increasingly financed through the pre-emption of institutional resources at sub-market rates by progressive increase in SLR and monetisation by the Reserve Bank. These developments eventually resulted in crowding out of private investment, growing financial repression and imposed constraints on the conduct of monetary policy. Thus, the efforts towards better monetary-fiscal coordination were aimed at elimination of automatic monetisation by the Reserve Bank and movement away from financial repression through the reduction in statutory pre-emption of banks and long-term resources to allow a level-playing field to private investors. With these underlying objectives, a series of structural and institutional reforms were initiated during the 1990s which, *inter alia*, included aligning coupon rates on Government securities with market interest rates, introduction of auction system, introduction of system of primary dealers and setting up of DvP system. These measures resulted in the emergence of an active, wide and deep Government securities market and paved the way for complete elimination of automatic monetisation and substantial lowering of statutory pre-emption of institutional resources by the Government.

4.65 These developments were also reflected in the structural change in the financing pattern of fiscal deficit during the reform period - with a marked shift towards market borrowings. Accordingly, the share of market borrowings, which constituted 26.9 per cent of gross fiscal deficit (GFD) in the 1980s rose sharply to 59.1 per cent in the latter half of the 1990s and financed about 70 per cent of the GFD by 2001-02. On the other hand, *ad hoc* Treasury Bills which financed a sizeable proportion of GFD, both in the 1980s and in the 1990s upto 1996-97, no longer exist as a financing item with their replacement by WMA in 1997-98. Similarly, the share of external finance which was around 10 per cent in the 1980s also came down sharply to an average of 2.9 per cent during 1997-98 to 2001-02. The share of other liabilities has been relatively stable and averaged around 40.0 per cent, both, in the 1980s as well as in the 1990s (Chart IV.13).

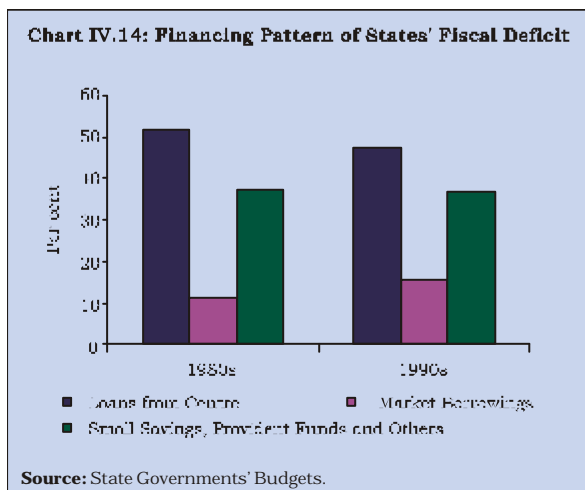
4.66 In case of State Governments, the fiscal gap is financed by way of loans from the Centre, small savings and market borrowings. Like the Central Government, the share of market borrowings in financing GFD of States has steadily increased. The

REPORT ON CURRENCY AND FINANCE



financing pattern of the GFD indicates that, on an average, the share of loans from the Centre and small savings declined from 51.9 per cent and 37.1 per cent, respectively, in the 1980s to 47.5 per cent and 36.6 per cent, respectively, during the 1990s.⁷ The share of market borrowings rose from 11.0 per cent to 15.8 per cent between these two periods (Chart IV.14).

4.67 The growing reliance on market borrowing for financing the fiscal deficit has been accompanied by restraint on reserve money growth and moderation of inflationary pressure. This has also had the effect of raising interest payments. In order for the strategy to finance fiscal deficit through borrowings at market



7. Figures from 1990-2000 have been adjusted for new accounting procedure owing to creation of National Small Savings Fund (NSSF) so as to make the data for the 1980s and the 1990s comparable.

related rates to have a favourable macroeconomic impact, some discipline on growth of the fiscal deficit is necessary.

4.68 In addition to borrowings to finance the fiscal deficit, Governments, both at the Centre and State levels, also avail WMA from the Reserve Bank to bridge short-term mismatches in revenue and expenditure. While WMA is envisaged to be a short-term funding, in many States, it is continuously rolled over. In this context, the Report of the Advisory Committee on WMA to State Governments (Chairman: C. Ramachandran) has noted that WMA has assumed the form of a long-term financing facility in many States with the progressive deterioration in their fiscal balances over the years (RBI, 2003). The Committee has recommended that States need to use the facility of WMA only for meeting the temporary liquidity mismatches rather than as a near budgetary resource.

Public Debt

4.69 The objective of fiscal reforms to prevent further accumulation of public debt is intimately linked to the objective of reining in the fiscal deficit. Since the public debt of the Government is broadly the accumulation of liabilities created by the Government to finance its deficit over the years, debt parameters in general move in tandem with the trends in fiscal deficit. Thus, reflecting the downward rigidity in the fiscal deficit, the objective to curtail growth of public debt was also not achieved, particularly since the mid-1990s. The outstanding debt of the Government sector as a proportion to GDP after witnessing improvement from 61.7 per cent in 1990-91 to 56.5 per cent in 1996-97 rose once again, and by the year 2000-01, the debt-GDP ratio at 66.4 per cent exceeded the level at the beginning of the reform process.

4.70 Although the primary deficit declined in the 1990s as compared to that in the 1980s, the growth in debt-service burden as a result of growing reliance on high cost market borrowings largely contributed to the downward inflexibility in the debt-GDP ratio. The weighted average interest rate on Central Government securities almost doubled from 7.03 per cent in 1980-81 to a peak level of 13.75 per cent in 1995-96. Since then the interest rates have declined gradually to 11.77 per cent in 1999-2000 and further to 9.44 per cent in 2001-02. Moreover, the higher implicit cost of borrowings through small savings and provident funds, owing to tax concessions, also placed additional burden on Government resources.

4.71 In addition to the size of debt appearing on the budget/balance sheets of the Governments, there

FISCAL POLICY

has been a steep rise in the off-budget liabilities arising on account of guarantees extended by the Governments. The guarantees given by the combined Government rose in nominal terms from Rs.1,00,603 crore as at end-March 1993 to Rs.2,61,975 crore as at end-March 2002, though as a ratio to GDP they declined from 13.4 per cent to 11.4 per cent during the same period. The Central Government outstanding guarantees increased from Rs.58,088 crore in 1993 to Rs.95,859 crore in 2002. As a percentage of GDP, these guarantees dropped from 7.8 per cent to 4.2 per cent over the same period. Thus, in terms of contingent liabilities, there are clear signs of fiscal prudence by the Centre in the reform period. In contrast, State Governments' (17 major States) outstanding guarantees increased sharply from Rs.42,515 crore in 1993, comprising 5.7 per cent of GDP, to Rs.1,66,116 crore in 2002, comprising 7.2 per cent of GDP (Table 4.11).

recommendation of the Technical Committee on State Government Guarantees (1999). Besides, some States have also taken decision to charge guarantee commission on outstanding guaranteed amount.

IV ASSESSMENT AND ISSUES

4.74 The conceived strategy of fiscal consolidation as reflected in various official pronouncements focused on compressing consumption expenditure and augmenting revenue. This is akin to 'Type 1' approach of fiscal consolidation experimented elsewhere as enumerated in Alessina and Perotti (1996). In terms of actual outcome, however, the adjustment was predominantly brought through cuts in capital expenditure. This is similar to Alessina and Perotti's 'Type 2' approach, though the essential difference in the Indian case has been that household taxes have been reduced but the tax base has not widened significantly. The inability to effect a large cut in

Table 4.11: Outstanding Government Guarantees

(Amount in Rs. crore)

Year	Centre		States		Total	
	Amount	% to GDP	Amount	% to GDP	Amount	% to GDP
	1	2	3	4	5	6
1993	58,088	7.8	42,515	5.7	1,00,603	13.4
1994	62,834	7.3	48,866	5.7	1,11,700	13.0
1995	62,468	6.2	48,479	4.8	1,10,947	11.0
1996	65,573	5.5	52,631	4.4	1,18,204	9.6
1997	69,748	5.1	63,409	4.6	1,33,157	9.7
1998	73,877	4.9	73,751	4.8	1,47,628	9.7
1999	74,606	4.3	97,454	5.6	1,72,060	9.9
2000	83,954	4.3	1,32,029	6.8	2,15,983	11.2
2001	86,862	4.1	1,68,712	8.0	2,55,574	12.1
2002	95,859	4.2	1,66,116	7.2	2,61,975	11.4

Sources :1. Data on Centre's guarantees are sourced from finance accounts and budget documents of the Central Government.

2. Data on States' guarantees are based on information received from State Governments. Data pertain to 17 major States.

4.72 A rise in contingent liabilities, particularly in case of State Governments, essentially reflects the practice followed by the State Governments to set up corporations to borrow from the market to undertake departmental jobs. In view of low user charges and inefficient operations of PSUs, these contingent liabilities are a potential threat to the stability and sustainability of the fiscal system.

4.73 To overcome such disquieting trends in State Governments' finances, many States in their budgets have initiated fiscal measures such as setting up of consolidated sinking fund, guarantee redemption fund, statutory and administrative limits on guarantees and restructuring of PSUs. This follows the

consumption component of expenditure resulted in an increasing proportion of borrowed funds being pre-empted by such expenditure. This could slow down future revenue growth. Inadequate returns on Government expenditure get reflected in rising debt-service obligations. This gives rise to the emergence of a vicious cycle of deficit and debt.

4.75 The detailed analysis of the fiscal performance during the reform period drew attention to the downward rigidity in current expenditure. In the face of sluggish revenue growth, this results in a persistent increase in revenue deficit. This has been a critical factor in the resurgence of fiscal deficit during the latter half of the 1990s. Although the tax reform

REPORT ON CURRENCY AND FINANCE

measures initiated have imparted rationality to the tax structure, the revenue buoyancy expected through a Laffer-curve effect has not come through. This is because cuts in indirect tax rates were not accompanied by removal of concessions and exemptions. Therefore, there has been neither significant increase in the tax base nor has tax compliance improved. With the result, the improvement in direct tax collection on account of an expansion of tax base and perhaps better compliance was not adequate to compensate the drop in customs and excise duty collections. Eventually, the tax-GDP ratio suffered deterioration during the reform period. The non-tax revenue of the Centre as a proportion to GDP recorded some rise, whereas the same in the case of States registered a decline during the 1990s. Poor cost recovery for the services provided by the Governments has been responsible for this trend. Inadequate progress in public sector restructuring, specifically reflected in the inability to raise user charges and continued low returns on investments, have also resulted in stagnation in non-tax revenue at, both, the Central and State Governments level. Thus, on the whole, reforms did not result in adequate pick up in revenue growth in relation to growing expenditure requirement during the 1990s.

4.76 The faster growth in committed expenditure like interest payments, wages and salaries and subsidies has imparted downward inflexibility in revenue expenditure. More importantly, expenditure on interest payments continued to grow unabated, reflecting the impact of sizeable outstanding liabilities contracted at higher interest rates in the first half of the 1990s.

4.77 Progress towards better fiscal-monetary coordination during the reform period was an important achievement. The major policy initiative in this direction was the elimination of automatic monetisation of Central Government fiscal deficit. This, together with structural and institutional reforms undertaken by the Reserve Bank in the 1990s, has strengthened the public debt management process enabling wider market participation in the Government securities market and significant reduction in the pre-emption of institutional resources by the Government to finance fiscal gap. The Government borrowings at market related rates have intended to provide level-playing field for the private investor. It was also expected to induce fiscal discipline. The overall reform experience has been that, while the public debt management has been made market-based, fiscal deficits remain unrestrained. Market based regime with unrestrained

fiscal deficit could worsen the fiscal situation. The above development unfolds certain important issues for the Indian fiscal system.

Emerging Issues

4.78 The analysis shows that the level of fiscal deficit relative to GDP in India at present is higher than not only that of most internationally comparable benchmark levels (e.g. the Maastricht Treaty requires fiscal deficit to be 3.0 per cent of GDP) but also the levels recommended by the Eleventh Finance Commission (6.5 per cent of GDP for Government sector, 4.5 per cent for Central Government and 2.5 per cent for States). Furthermore, the present level has also exceeded the levels witnessed on the eve of the 1991 crisis. Notwithstanding these developments, most other macroeconomic parameters have been sustainable. As a result, the higher fiscal deficit has not spilled over to the external sector. In this setting, questions have been raised whether the high fiscal deficit should be a matter of much concern. A judgement on this issue over a longer horizon would have to factor in the possibility of adverse movements in the interest rates and inflation rates.

4.79 An important observation that could be made from a comparative analysis of the finances of the Centre and State Governments is that deterioration of finances during the latter part of the reform period was much sharper for the States than that for the Central Government. Although the growth of revenue for the States and the Central Government was comparable, expenditure growth was much steeper for the States than that for the Central Government. Consequently, the rise in fiscal deficit of States was sharper than that of the Central Government. Data show that during 1996-97 to 2001-02, States accounted for more than half of the rise in the fiscal deficit of the combined Government. In this context, it is important to consider whether worsening fiscal situation of States is on account of their own operations or owing to the factors such as central transfers and rising interest payments, which are not fully under their control.

4.80 Another issue which emerges in the context of downward rigidity exhibited by the fiscal deficit is the rise in debt-GDP ratio. It needs to be reviewed whether the fiscal stance and the debt accumulation process is sustainable or not. This is particularly so as the debt-servicing of market loans now accounts for more than 70 per cent of the gross market borrowings.

4.81 As stated earlier, the underlying objective of improving monetary-fiscal co-ordination by eliminating

FISCAL POLICY

automatic monetisation and reducing pre-emption of institutional resources was to contain crowding-out arising from pre-emption of funds by the Government and, thus, allow level-playing field to the private investor. Although the Government at present borrows from the market on equal terms with private borrowers, the crowding-out effect of Government borrowings still remains a critical issue in view of the high fiscal deficit.

4.82 In the context of role of fiscal policy in reinvigorating growth, it needs to be recognised that the fiscal stance affects output itself as well as the variability of output. Imbalances between aggregate demand and aggregate supply feed back into the realised fiscal deficit. Given this simultaneity, an important question is to examine the design of fiscal policy to see whether fiscal policy automatically smoothens the business cycle or discretionary interventions are required. This aspect is usually examined by looking at built-in automatic stabilisers and by decomposing the actual fiscal deficit into a structural component (unresponsive to cycles in the economy) and a cyclical component (responsive to cycles). Previous research has shown that fiscal deficits in India have been predominantly structural with cyclical component almost negligible (RBI, 2002). This suggests that discretionary policy had an important role to play in counter-cyclical measures in the Indian context.

4.83 Of the above issues, three viz., (i) macroeconomic impact of fiscal deficit, (ii) worsening of State finances and (iii) debt-sustainability are addressed in remaining part of the section.

Macroeconomic Impact of Fiscal Deficit

4.84 The high fiscal deficit and sharp increase in the size of outstanding liabilities of the Government during the 1990s did not have any adverse macroeconomic impact as witnessed in the beginning of the 1990s. This has led to the revival of the view that higher fiscal deficits should not be a matter of much concern. It is argued that fiscal deficits would be inflationary only if the system is at full employment or is characterised by supply bottlenecks in certain sectors. Given the fact that there is excess industrial capacity along with large food stocks, large foreign exchange reserves and low inflation, a monetised deficit is not only non-inflationary, but virtuous from the point of view of growth (Chandrasekhar, 2000).

4.85 At the first look, the argument appears plausible as it could be observed that the spill-over effect of the high fiscal deficit in the external sector did not

occur. However, this period was marked by dampened investment demand from the private sector with recessionary conditions. The overall saving-investment gap was narrowed as a result and this was reflected in low current account deficit. Furthermore, the recessionary conditions coupled with the availability of sizeable forex reserves, large food stocks and downward trend in global prices helped in containing inflationary pressures in the Indian economy. Continuing foreign exchange inflows and the recessionary conditions enabled the Reserve Bank to move to a softer interest rate regime in spite of a rising fiscal deficit.

4.86 It has, however, been shown that while public investment spending crowds in private investment and is expansionary in nature, consumption spending by the Government causes economic contraction (RBI, 2002). In fact, considerable scepticism has been expressed towards the success of expansionary fiscal policy, which does not consider the quality of expenditure (Chelliah, 2001). The Report of the Economic Advisory Council, Government of India, 2001 stresses that a high fiscal deficit, by raising real interest rates, crowds out private investment as Government borrowing is predominantly used to finance the revenue deficits. Relying on the reduced form evidence pertaining to the 1990s, fiscal expansion in the Indian context is observed to be contractionary (Khatri and Kochhar, 2002). It may be added that fiscal consolidation in the first half of the 1990s was accompanied by high income growth. Also, a deterioration in fiscal position in the second half of the 1990s occurred along with deceleration in income growth. It has also been shown that in India, during the eleven year period since 1986-87, an increase in the Central Government's fiscal deficit (inclusive of oil pool account) by one per cent of GDP was associated with a reduction in private corporate investment by one per cent of GDP (Srinivasan, 2000).

4.87 It needs to be recognised that the fortuitous conditions that have restricted the adverse macroeconomic impact of high fiscal deficit are transitory in nature. With a revival of economic activity, spurred by a pick-up in the private investment demand, rise in fiscal deficit could raise the saving-investment gap and eventually raise interest rate and widen current account deficit. The problem could be compounded if inflationary pressures reemerge due to buoyant economic activity or some exogenous shock. In view of this, sustainability of deficit and debt and fiscal consolidation continues to be a matter of serious concern.

REPORT ON CURRENCY AND FINANCE

Worsening State Finances

4.88 The down slide in the fiscal performance of the States has assumed serious proportions. Several factors have been identified by a number of studies for the widening fiscal gap of the State Governments. Evidence set out in Box IV.3 indicates that expenditure on wages, salaries and pension, growing size of interest payments, inability to levy adequate user charges and falling buoyancy in Central transfers are the prominent reasons for the deterioration of State finances.

4.89 Analysis of the data since 1980-81 suggests that an inverse relationship prevails between cost recovery and the fiscal deficit (Chart IV.15). On the other hand, co-movements between expenditure (on both interest payments and on wages and salaries) and the fiscal deficit indicated positive relationship. A

rise in interest payments or wages and salaries generally exert upward pressure on fiscal deficit. The positive relationship between interest payments and GFD was, however, not observed during the first half of the 1990s. Similarly, transfer ratio, which is defined as the proportion of total expenditure which is not met by Central transfers also exhibits a positive relationship showing that with a fall in Central transfers, the fiscal deficit of the States, in general, worsens.

4.90 Although the studies surveyed identify nearly the same set of factors, they differ in terms of the relative importance attached to each of the factor. There are large disparities across the States in terms of level of income and the tax and expenditure policies pursued by the respective Governments.

Box IV.3**Worsening of State Finances – A Survey**

Studies analysing the fiscal situation of the State Governments have identified a number of factors responsible for the disparity in the growth of receipts and expenditure, and the consequent widening of fiscal gap.

The inability to contain consumption expenditure due to explicit and implicit subsidies, which are mostly cornered by the influential segments of the society, and the reluctance to raise additional resources on the part of the States have been the main causes for the deterioration of fiscal situation in States (Kurian, 1999). Another important factor is the competitive reduction in taxes leading to mere redistribution of existing capital among the States at the cost of significant revenue foregone, while not being able to levy taxes on services and agricultural income (Rao, 2002).

It has, however, been argued that inadequate revenue mobilisation efforts is not across all the States, and is limited only to high-income category States. The increase in non-developmental expenditure on the other hand is principally due to rising interest payments, which are not strictly under the control of State Governments. Instead, the sluggishness in Central transfers is the major factor, which has contributed to the increase in the resource gap in the revenue account, and consequently, led to increasing reliance on higher cost borrowings thereby mounting the interest burden of States and further widening the revenue gap (Chakraborty, 1999). Among the various revenue receipt items, central transfers have grown at the slowest rate, reflecting the precariousness of Centre's own finances (Rao, 2002).

Another view points out that there is no link between capacity to borrow and the return on services provided by the Government. Since there is not enough incentive for the Government to undertake appropriate levy of user charges, States are encouraged to become fiscally irresponsible and to subject user charges to populist considerations (Mohan, 2000; Acharya, 2002).

Pay revisions following recommendations of the Fifth Pay Commission for the Central Government have also been identified as the trigger point for the sharp deterioration in States finances. The impact of pay revision has been much more severe on the

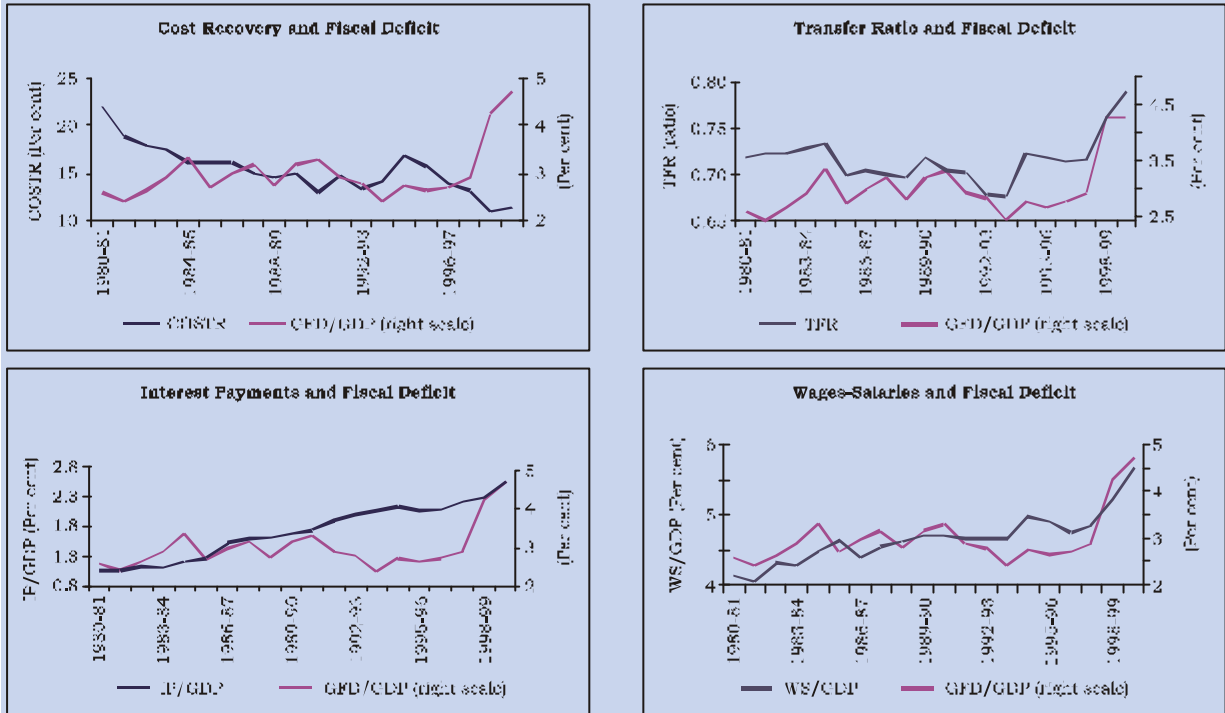
States than on the Centre as the share of salary expenditure in total expenditure is much higher in the case of States (Rao, 2002; Acharya, 2002). The impact of pay revision have been so significant that in Madhya Pradesh, Maharashtra and Uttar Pradesh, the total additional expenditure on account of salary revision would exceed the capital outlays of States. Thus, they cannot provide more resources for physical and social infrastructure (Bajaj, 1999).

On the other hand, it is suggested that State finances remained relatively stable prior to the 1990s, as the Centre was in a position to exercise effective control through system of fiscal transfers, investment licensing and lending policies of the financial institutions. The control was effective as long as interest rates were repressed permitting borrowings at low cost, the supply of subsidised services like power to agriculture were limited and flow of private investment was controlled through the 'license Raj'. In the post-reform period, with liberalisation, the internal logic of the control system began to collapse and the State finances deteriorated continuously (McCarten, 2002). In the context of this argument, it needs to be noted, however, that State finances had started deteriorating prior to the launching of economic reforms.

Deterioration of State finances is also analysed by identifying the demand side and supply side factors. On the demand side are the factors relating to fiscal populism, while on the supply side is the softening of budget constraint implicit in constitutional restrictions on borrowings. The hard budget constraint faced by the States in the past restricted the growth of deficits of State Governments. Given the increasing demand for expenditure, the States have softened the hard budget constraint through several ways thereby contributing to deterioration in their finances. At least three factors are identified, which are: growth of small savings which used to be on-lent by the Centre /National Small Savings Fund (NSSF) to the State of origin up to a specified proportion (100 per cent since 2002-03) of the net accretion, borrowing through State level public sector enterprises, accumulation of large arrears by State Electricity Boards to central agencies and rolling over of short-term accommodation provided by RBI in the form of WMA.

FISCAL POLICY

Chart IV.15: State Finances during 1980-81 to 1999-00



Source: Based on the data from State Governments' Budgets and National Accounts Statistics.

Accordingly, the impact of various factors (as enumerated above) are likely to vary across the States. Any sluggishness in central transfers would impact more on the States whose fiscal conditions are weak. Similarly, the level of revenue receipts in each State would depend upon the level of income, quality of tax administration and the policies pursued by the Government regarding user charges. Therefore,

recognising that there is a need to track the changes, both, over the period and across the States, a panel data exercise for the 15 major States over the period from 1980 to 2000 has been undertaken to assess the relative strength of factors affecting the State finances. The methodology and other technical details have been set out in Box IV.4.

Box IV.4

Factors Causing Deterioration in State Finances – An Assessment

Following the discussion above, four factors responsible for the deterioration of fiscal condition of the State Governments have been identified. These are rising interest payments (IP), inadequate recovery of costs or lower user charges (COSTR), rising expenditure on wages and salaries (WS) and sluggishness in the Central transfers to States (TFR).^{8, 9, 10} All these factors, except

COSTR are expected to have a positive sign. The estimated panel regressions take the following form:

$$GFD/NSDP = f (IP/NSDP, WS/NSDP, TFR, COSTR)$$

Equations have been estimated in double log form. In order to assess the impact of reforms and decipher the relative importance of the factors responsible for the deterioration, the estimates have

- 8. User charges or cost recovery are not available directly, therefore, they are captured through a proxy variable (COSTR) computed as non-tax revenue as a ratio to revenue expenditure.
- 9. Expenditure on wages and salaries is also not available directly, therefore, it is captured through a proxy variable (WS) computed from administrative expenditure plus non-plan revenue spending on education plus spending on pensions.

- 10. Central transfers were captured through a variable transfer ratio (TFR) defined as total expenditure minus Centre's transfers to States as a ratio to total expenditure.

(Contd...)



REPORT ON CURRENCY AND FINANCE

(Concl...)

been made for the 15 major States, separately for the period, 1980-81 to 1989-90, and for the period, 1990-91 to 1999-2000¹¹.

Results of estimated fixed effect models are presented below.

Period 1980-81 to 1989-90

$$\text{GFD/NSDP} = 0.06\text{IP} + 3.08\text{TFR} - 1.18\text{COSTR} + 0.88\text{WS}$$

$$(0.56) \quad (3.54)^{**} \quad (-2.95)^{**} \quad (2.15)^{**}$$

$$R^2 = 0.53, \chi^2 = 4.48$$

Period 1990-91 to 1999-2000

$$\text{GFD/NSDP} = 0.35\text{IP} + 2.50\text{TFR} - 0.35\text{COSTR} + 0.25\text{WS}$$

$$(2.18)^* \quad (5.12)^{**} \quad (-3.75)^{**} \quad (1.81)^{\#}$$

$$R^2 = 0.68, \chi^2 = 24.0$$

** significant at 1 per cent level, * significant at 5 per cent level, # significant at 10 per cent level.

11. For the pre-reform period, data for 14 States has been used as Goa gained statehood only in late 1980s.

4.91 The exercise does reveal that spending on interest payments, which had no significant impact during the 1980s turned into a prominent determinant of the fiscal deficit of States during the 1990s. On the other hand, all other factors *viz.*, the transfer ratio, user charges and spending on wages, salaries and pension, while continuing to be significant factors determining the fiscal deficit of States in both the periods, were relatively less important (in terms of value of coefficients) during the 1990s. Notably, this finding is contrary to the general belief that rise in expenditure on wages and salaries has been the major cause for deterioration in the fiscal condition of the State Governments during the 1990s.¹²

Debt Sustainability

4.92 The underlying theoretical notion of fiscal stability and sustainability is that real interest rate must not exceed the real output growth of the economy to ensure that debt/output ratio does not grow to explosive proportions. If the interest rate exceeds the output growth rate, and the larger is the gap between the two rates, the higher would be the growth in debt-GDP ratio. This would require generation of adequate primary surplus equivalent to the gap between the interest rate and the output growth rate to stabilise the debt-GDP ratio. Conversely, by this condition, even if the rate of output growth exceeds the interest rate, a large primary deficit can still lead to rise in the debt-GDP ratio. Thus, the positive differential between the output growth rate and the interest rate is not the sufficient condition for sustainability. Sufficient condition for sustainability requires that the initial debt stock equals the present discounted value of primary surpluses in

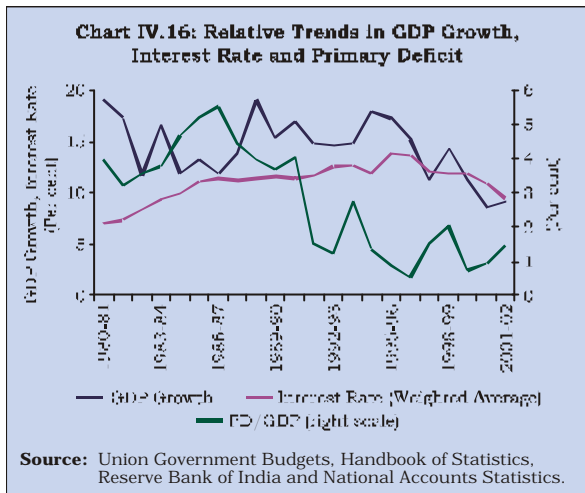
12. Results need to be seen in the context that wages, salaries and pension as a proportion to GDP were generally stable during most part of the 1990s. Sharp increase occurred only in the late 1990s subsequent to fifth pay commission award.

the future (Blanchard, 1980). The latter condition which is popularly termed as the inter-temporal budget constraint or the 'present value constraint approach' ensures that the debt-GDP ratio does not grow inexorably. This approach essentially brings to the fore that it is the behaviour of the lenders to the Government that ultimately determines the sustainability of fiscal policy. The underlying notion is that, in the wake of explosive rise in debt-GDP ratio, lenders may lose confidence in the ability of the Government to honour its commitments and may become unwilling to subscribe to Government debt any more.

4.93 In the Indian context, a number of studies have empirically tested sustainability of public debt. Amongst the earlier studies, Seshan (1987) found that the internal debt of the Government that had evolved by the mid-1980s was unsustainable. Analysing the alternative modes of financing Government deficit, it was shown that while the debt financing was unsustainable, resorting to monetary financing would lead to a vicious circle of large deficit, higher monetary financing and more inflation leading again to a higher deficit (Rangarajan, Basu and Jadhav, 1989). Many other studies in the 1990s, and thereafter, also show the unsustainability of Indian public debt (Butter and Patel, 1992; Jha, 2001).

4.94 The sustainability of the public debt in terms of both the approaches *viz.*, accounting approach or Domar's stability condition and the 'present value constraint approach' is assessed in this section. In the accounting approach, a comparison of weighted average interest rate on the Government borrowings and the GDP growth rate indicates that the differential between the two rates has narrowed down considerably. During 1990s, at least on three occasions, the weighted average interest rate on Central Government securities exceeded the output growth rate (Chart IV.16). Although these results point towards pressure on the sustainability of the public debt during

FISCAL POLICY



the second half of the 1990s, the concomitant fall in primary deficit as a proportion to GDP has enhanced the zone of comfort.

4.95 In the second approach, the hypothesis in the tradition of Buiter and Patel (1992) was tested. The method involves discounting the nominal stock of Government debt with an appropriate interest rate and assessing the stationarity of the resultant discounted series. Since the interest rate on public account liabilities are not market determined, total internal liabilities excluding public account liabilities were discounted with the weighted average interest rate on Government dated securities (Chart IV.17). The discounted series was tested for stationarity by alternative tests, viz., Augmented Dicky-Fuller and Phillips-Perron Unit root tests. Both the unit root tests show non-stationarity of the discounted series (Table 4.12).

Table 4.12: Test of Stationarity for Central and State Government Debt

	ADF		Phillips-Perron	
	No Trend	Trend	No Trend	Trend
	1	2	3	4
Central Government	0.50	-2.66	1.55	-2.64
State Government	1.23	-2.06	1.90	-1.97

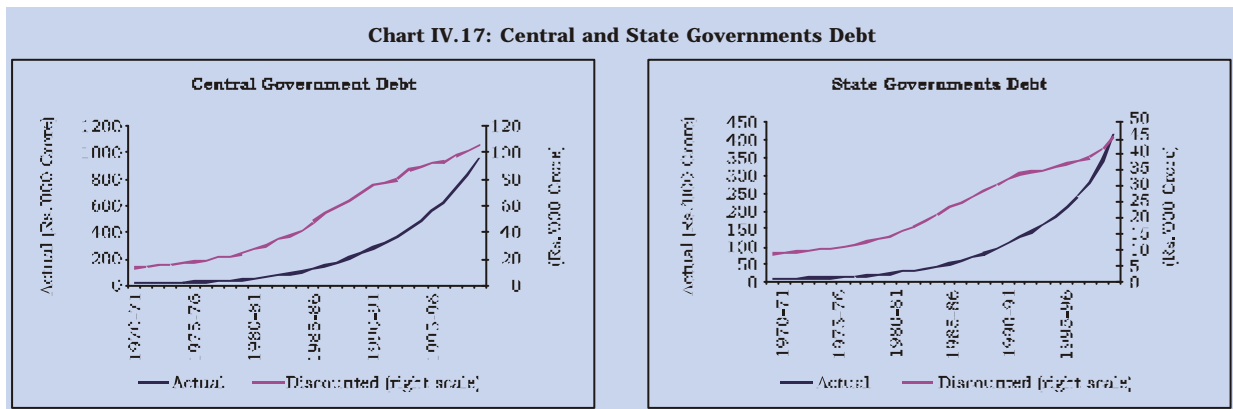
Note : All the values are insignificant at 5 per cent significance level.

4.96 Since the above results could be biased, as they do not account for any possible structural break following reforms, unit root tests with structural break were also conducted. Three alternative models were tested: (i) change in intercept (model 1); (ii) change in intercept and in the slope (model 2); and (iii) change in slope but both segments of the trend function are joined at the point of break (model 3) (Perron, 1997). In none of the models, the discounted debt series was stationary. These results indicate that the continuation of current fiscal stance could make public debt of both the Central and State Governments unsustainable unless corrective measures are undertaken to rein in the fiscal deterioration (Table 4.13).

Table 4.13: Test of Stationarity for Central and State Government Debt with Structural Break

	Model 1	Model 2	Model 3
	1	2	3
Central Government	-4.15	-2.99	-2.59
State Government	-2.54	-3.04	-3.34

Note : All the values are insignificant at 5 per cent significance level.



V CONCLUDING OBSERVATIONS

4.97 The analysis and assessment in the preceding sections clearly revealed that the significant fiscal consolidation in the immediate aftermath of the fiscal reforms was essentially brought about through cut in investment expenditure, as rise in committed revenue expenditure could not be curtailed. Within a short span, it became increasingly obvious that the Indian approach to fiscal correction was not sustainable. While reduction in investment spending affected future growth prospects with consequent slowdown in revenue receipts, the interest payments and public debt continued to grow, resulting in reversal of fiscal consolidation process in the latter half of the 1990s. Downward rigidity in the revenue deficit, which amounts to dissaving by the Government sector, has significant implications for the growth target of 8 per cent set in the Tenth Five Year Plan. This would require an investment rate of about 32 per cent, whereas, over the years, the investment rate has stagnated at around 24 to 25 per cent of GDP. Acceleration of saving and investment rate would critically depend upon the efforts to restore balance on the revenue account of both the layers of Governments.

4.98 The key factors underlying the growing resource gap across the States are uneconomical level of user charges particularly in the power sector, sluggishness in the Central transfers due to low buoyancy of Central taxes and the rising interest payments. Restoration of revenue balance both at the Central and the State level would require that user charges are adequately raised, the tax collection machinery is overhauled to achieve better tax compliance, returns on Government investment in PSUs are raised through appropriate pricing policies eliminating implicit subsidies and the burden on the fisc is lowered through phasing out of unviable public sector units. The introduction of VAT should eliminate the practice of competitive tax concessions, which has seriously dampened tax buoyancies.

4.99 The sizeable outstanding liabilities contracted at higher rates during the late 1980s and the early 1990s and the resultant mounting interest payments have contributed to the widening fiscal gap. The scheme of swapping States' outstanding liabilities to the Central Government on account of small savings could make a major dent in the growth of interest payments. For the Central Government, aggressive restructuring and divestment in unviable public sector units could bring in sizeable resources to redeem a part of outstanding liabilities and consequent reduction in interest payments.

4.100 The elimination of automatic monetisation and reduction in pre-emption of institutional resources by the Government has provided a conducive environment to generate market liquidity and softening of interest rates in the economy. However, with a widening of the fiscal gap, it would be increasingly difficult to maintain a softer interest rate regime. In such an eventuality, it would not only crowd out the private investment initiative, but would also make public debt highly unstable given the level of returns on Government investments.

4.101 The institutional support in the form of fiscal rules should be the prime mover of future agenda of fiscal consolidation programme. Such fiscal rules could prescribe quantitative limits for elimination of the revenue deficit, reduction in the fiscal deficit and the public debt over a specific period in a phased manner. Advocates of expansionary fiscal policy have, however, cautioned against the stringent fiscal rules to avoid impairment of future growth prospects (Rakshit, 2001; Patnaik, 2001, Shetty, 2001). In a recessionary environment along with low inflation, growing forex reserves and comfortable level of food stocks, there is a definite role for the expansionary fiscal policy. The apprehension is that the stringent fiscal rules may hinder appropriate steps by the Government. However, it may be noted that such rules generally make a clear distinction between public consumption and public investment expenditure while envisaging a complete elimination of revenue deficit. Rule based fiscal policy would facilitate the path for durable fiscal consolidation through mandatory fiscal discipline, enhanced accountability and improved transparency in fiscal operations.

4.102 In the above context, it may be mentioned that the RBI Annual Reports 2000-01 and 2001-02 have set out a policy prescription for further fiscal consolidation. According to these Reports, the path of durable fiscal consolidation is through fiscal empowerment *i.e.*, by expanding the scope and size of revenue flows into the Budget. Furthermore, a fiscal strategy based on revenue maximisation would also provide the necessary flexibility to shift the pattern of expenditures and redirect them productively. Revenue maximisation requires that the tax system be reformed through widening the tax base, simplification of tax rules, review of exemptions/incentives and strict tax compliance.

V

MONEY, CREDIT AND PRICES

Introduction

5.1 In India, the monetary policy framework underwent a significant transformation during the 1990s. Monetary policy emerged as the chief instrument of macroeconomic stabilisation as well as a vehicle for the subsequent structural reforms in the financial system. The objective was to create a competitive environment in the financial sector while ensuring price stability and growth. The growing integration of various markets and increasing globalisation called for reforms in the monetary policy operating framework in terms of instruments, procedure and institutional architecture.

5.2 The efforts towards better fiscal-monetary coordination through the replacement of *ad hoc* Treasury Bills by a system of ways and means advances provided monetary policy the necessary flexibility. While the twin objectives of the conduct of monetary policy remained the pursuit of price stability and credit availability, the operating procedure shifted from administered and direct instruments of monetary control towards indirect instruments in order to improve the efficiency of resource allocation. Moreover, monetary management had to contend with vicissitudes in capital flows while maintaining orderly conditions in the financial markets during the 1990s. The shifts in the channels of policy transmission as a result of financial liberalisation necessitated a move from the existing monetary targeting framework to a multiple indicator approach. This called for a carefully crafted strategy in which an array of monetary levers – quantum and rate - had to be honed up to harness liquidity conditions to macroeconomic objectives.

5.3 This Chapter undertakes an assessment of the changes in the monetary policy framework in the 1990s. Section I places the imperatives of the reform process in perspective. Section II analyses the changes in the monetary policy framework, in terms of a shift from direct to indirect instruments of monetary control and the enabling structural reforms, including issues in monetary-fiscal co-ordination. Section III evaluates the monetary policy reforms in terms of the inflation outcome and credit availability as well as the maintenance of orderly conditions in the financial markets. It also focuses on key issues like the management of capital flows, the interest rate

pass-through and the real interest rate. Section IV examines the impact of reforms on the monetary policy transmission channels. Finally, Section V concludes with a few emerging issues.

I. IMPERATIVES OF MONETARY REFORMS

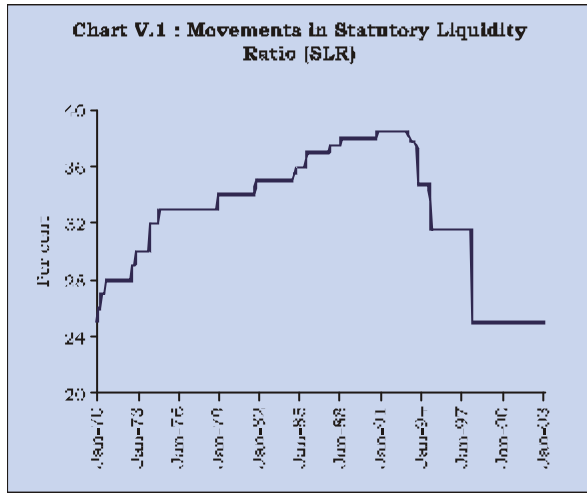
5.4 India, like most developing economies, followed the path of planned development after Independence, based on the assumption that public savings would fund higher levels of investment. Monetary and credit policy was, therefore, geared to fund the requirements of the fisc, channelising public saving to “socially purposive” investment. The public sector, however, instead of being a source of savings for the community’s good became, over time, a consumer of community’s savings (Jalan, 2002a). As a result, the Government had to take increasing recourse to a draft of resources from the Reserve Bank and the banking system by *fiat*.

5.5 Fiscal dominance affected the conduct of monetary policy and resource allocation in a number of ways. First, although interest rates on government borrowings were raised during the 1980s – with the weighted yield on government borrowing climbing to 11.41 per cent during 1990-91 from 7.03 per cent during 1980-81 - they were still not high enough to attract voluntary subscriptions (RBI, 1991). As a result, the statutory liquidity ratio (SLR), originally a prudential norm mandating banks to earmark a portion of their liabilities in risk-free instruments, was increased steadily to provide a captive market for government borrowings, constricting portfolio choice (Chart V.1). The SLR was hiked to a peak of 38.5 per cent of net demand and time liabilities (NDTL) in September 1990 from 25.0 per cent in September 1964.

5.6 Second, as the higher SLR was still not sufficient to fund the fiscal deficit, the gap was filled by an almost monotonic increase in the monetisation of the fiscal deficit, with the ratio of monetisation to GDP almost doubling from 1.1 per cent during the 1970s to 2.1 per cent during the 1980s (Chart V.2).

5.7 Third, by the end of the 1980s, there was increasing empirical evidence that the excessive monetary expansion, emanating from the monetisation of the fiscal deficit, was beginning to spill over into

REPORT ON CURRENCY AND FINANCE



inflation (Rangarajan and Arif, 1990). Given a higher elasticity of government expenditure with respect to prices relative to receipts, the higher inflation further widened the fiscal deficit. The consequent necessity of higher monetisation thus brought the inflation-fiscal-monetary nexus into sharp focus (Rangarajan, Basu and Jadhav, 1989; RBI, 2002a).

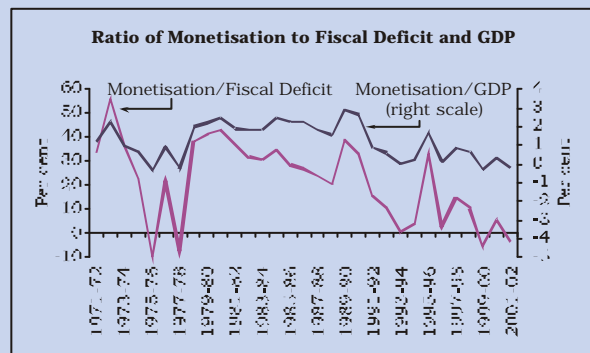
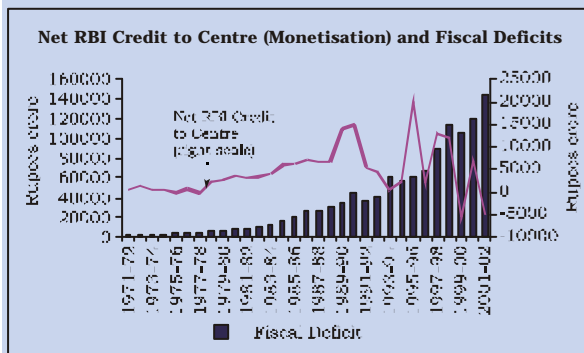
5.8 Fourth, from the viewpoint of monetary management, the Reserve Bank had to hike the cash reserve ratio (CRR) to contain the inflationary impact of the monetisation of the fiscal deficit, thereby imposing an indirect tax on the banking system. The CRR was raised from the statutory minimum of three per cent of NDTL in September 1962 to 15 per cent in July 1989. By March 1991, commercial banks had to, therefore, set aside over 60 per cent of their incremental resources for meeting statutory pre-emptions (after factoring in a 10 per cent incremental CRR).

5.9 Finally, the need to contain the interest burden of public debt necessitated a regime of administered interest rates, both on the lending and the deposit side, resulting in a degree of financial repression. This blunted the interest rate channel of monetary policy transmission by the 1960s. The Bank Rate, in particular, as an instrument of monetary policy fell into disuse by the mid-1970s.

5.10 The imbalances emerging from deficit financing began to be recognised from the 1960s onwards. It was realised that "...a sizable deficit financed by recourse to the Reserve Bank credit creates difficulties for the Bank in maintaining monetary stability..." (Iengar, 1960). It was also recognised that deficit financing "...should be substantially cut down if not perhaps altogether eliminated for some years ahead, as the capacity of the economy to bear deficit financing has been weakened by continuous recourse to this form of finance..." (Bhattacharya, 1966). The Report of the Committee to Review the Working of the Monetary System (Chairman: S. Chakravarty) (RBI, 1985) emphasised the need to rein in deficit financing "within safe limits" through a mix of improved management of public finances and an increase in productivity of public enterprises.

5.11 Another integral feature of the monetary and credit policy before the 1990s was the regulation of credit with the stated objectives of curbing inflationary pressures, promoting its effective use, preventing the large borrowers from pre-empting the use of scarce credit and enlarging the spectrum of borrowers covered by banks in the overall context of national policies (RBI, 1985). Public sector banks (and subsequently private sector banks) were advised in 1974 to attain a priority sector lending target of not less than one-third of the outstanding credit by 1979 (40 per cent by March 1985). Although "social control" enabled deepening of bank finance, the directed credit and investment requirements along with the administered interest rate

Chart V.2: Monetisation of Fiscal Deficits



regime, *inter alia*, led to a decline in the productivity and efficiency of the banking system (RBI, 1991).

II. CHANGES IN THE MONETARY POLICY FRAMEWORK

5.12 The overarching objective of monetary and financial sector reforms was to set free the process of price discovery with a view to enhancing the allocative efficiency of the financial markets, while at the same time, ensuring macroeconomic stability (RBI, 1993; Rangarajan, 1997). The operating procedure of monetary policy, in terms of targets and instruments, saw substantial changes in response to the challenges of financial liberalisation. The deregulation of interest rates, for instance, sharpened the Reserve Bank's dilemma of funding both the Government and the commercial sector at a reasonable cost, without stoking inflationary pressures. Besides, following the opening up of the external sector, the need to maintain orderly conditions in the foreign exchange market, at times, required higher interest rates, while the pursuit of the growth objective required a softer interest rate regime. Finally, the shifts in the channels of transmission of monetary policy, as a result of freeing

of financial prices, necessitated monetary operations in terms of both the price and quantum of liquidity.

Final Objectives: Price Stability and Growth

5.13 The twin objectives of monetary policy remained the pursuit of price stability and ensuring the availability of sufficient credit for the productive sectors of the economy during the 1990s. However, the relative emphasis varied from year-to-year depending on the evolving price-output situation.

5.14 The intellectual edifice of the reigning monetary policy framework the world over was essentially developed in the backdrop of high inflation of the 1960s and 1970s. In view of the ensuing anti-inflationary stance, an inflation-targeting framework with price stability as the single objective of monetary policy, gained increasing currency worldwide during the 1990s (Box V.1). In the Indian context as well, the Advisory Group on Transparency in Monetary and Financial Policies (Chairman: M. Narasimham) (RBI, 2000c) recommended that it would be best to veer towards prescribing to the Reserve Bank a single medium-term inflation objective. There are, however, several constraints in pursuing a single price stability objective (RBI, 2000a; Jalan 2002b):

Box V.1

Inflation Targeting as a Monetary Policy Rule

With the money demand function becoming increasingly unstable in a number of advanced economies, the monetary policy framework began to shift away from a monetary targeting regime towards using short-term interest rates as an intermediate target of monetary policy. The framework underwent a further significant transformation as central banks, starting with New Zealand in 1989, began to target the final objective of monetary policy, *viz.*, the inflation rate, rather than focussing on a monetary aggregate or an interest rate as an intermediate target. During the 1990s, a number of emerging economies also adopted inflation targeting (IT), especially as a device to stress their commitment to lowering the inflation rate. At present, 18 countries follow IT (IMF, 2003). Full-fledged IT is based on five pillars (an institutional commitment to price stability, absence of other nominal anchors, absence of fiscal dominance, policy instrument independence, and policy transparency and credibility) although some countries adopted IT without satisfying all of them (Mishkin and Schmidt-Hebbel, 2001). For instance, Chile and Israel adopted IT even as they had another nominal target (exchange rate) while the Bank of England adopted IT before attaining instrument independence.

Most of the central banks which have adopted IT have chosen an inflation target in the vicinity of two per cent. Almost all central banks are known to follow a 'flexible' rather than 'strict' IT, *i.e.*, deviations of output from the potential are also taken into account. This is clearly reflected in the fact that the horizon over which deviations from the inflation target are tolerated is usually close to eight quarters. Too short a horizon and a very narrow range of the inflation target can induce undesirable output fluctuations. Alternatively, to overcome the deviations on account of supply shocks, a number of IT central banks have put escape clauses or focus on core measures of inflation, the latter in turn leading to

problems of understanding by the public. This is indicated in the preference of the emerging market IT central banks for the headline consumer price index (CPI) although the industrial countries appear to have a preference for core inflation. In the latter case, a few countries (Australia and New Zealand) have also switched towards headline CPI, with their statistical agencies redefining the headline CPI by excluding, *inter alia*, interest charges.

IT does not purport to be an iron-clad policy rule; rather, it represents constrained discretion. The advantages of IT, *vis-à-vis* the monetary aggregate- or exchange rate-anchored framework, with its focus on low and stable inflation, are: its support to macroeconomic stability and growth; an enhancement in the transparency and accountability of the monetary as well as fiscal policies; a scope to the central bank for short-run stabilisation; and, an impetus for institutional and structural reforms in the economy. Available evidence suggests that IT matters as it enabled the former high-inflation countries to achieve low inflation coupled with low volatility though not necessarily below that achieved by some non-IT industrial economies. Sceptics have, however, pointed out that the 1990s did not face severe adverse shocks and as such, IT remains an untested framework. Moreover, many countries succeeded in reducing their inflation rates without a change in the monetary policy framework (Friedman and Knutner, 1996). The evidence, thus, does not support the superiority of IT over that of the US Federal Reserve policy or that of the monetary targeting regime of the Bundesbank (before the formation of the European Central Bank) and the Swiss National Bank (until recently). This is attributed to the fact that the monetary targeting banks like the Bundesbank had also an inflation objective in mind and were quite willing to miss their monetary targets as and when they conflicted with their inflation objectives.

REPORT ON CURRENCY AND FINANCE

- The recurrence of supply shocks limits the role of monetary policy in the inflation outcome. Structural factors and supply shocks from within and abroad make inflation in India depend on monetary as well as non-monetary factors.
- The persistence of fiscal dominance implies that the debt management function gets inextricably linked with the monetary management function while steering liquidity conditions.
- The absence of fully integrated financial markets suggests that the interest rate transmission channel of policy is rather weak and yet to evolve fully. In particular, the lags in the pass-through from the policy rate to bank lending rates constrain the adoption of inflation targeting.
- The high frequency data requirements including those on a fully dependable inflation rate for targeting purposes are yet to be met.

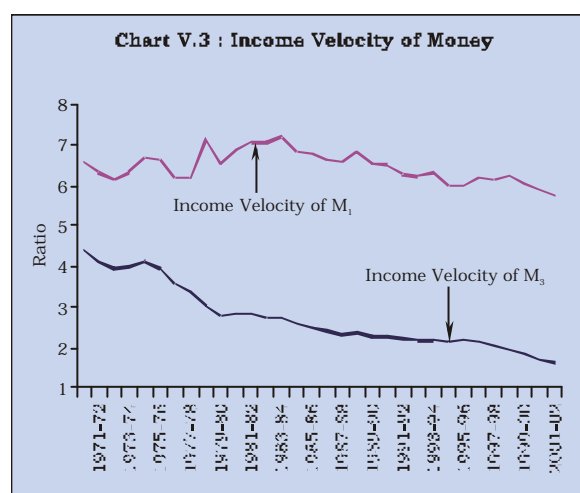
5.15 The present co-existence of low inflation and low growth in large parts of the world economy presents a fresh challenge to the conduct of monetary policy. At one end of the spectrum lies the “continuity view” which essentially treats the present economic slowdown as an unusual supply shock within the context of the present anti-inflationary monetary stance. At the other end is the “new environment view” which enjoins central banks a much greater pre-emptive role in smoothening output fluctuations, especially as financial imbalances are increasingly able to create disturbances in the real economy without necessarily showing up in overt inflation rate at the initial stages (Borio, English and Filardo, 2003). Notwithstanding the lively academic debate over the policy rules regarding the inflation-growth trade-off, the more standard central banking practice often lies in the “middle ground” of constrained discretion (Bernanke, 2003). This is built on the parsimonious principle that within its strong commitment to price stability, monetary policy should strive to limit cyclical swings in effective demand. This broadly corresponds to the Reserve Bank’s current monetary policy stance of ensuring easy liquidity conditions to facilitate the revival of industrial growth while maintaining a constant vigil over the price level. Given properly designed monetary policy rules, the key socially important objectives of price stability and growth, thus, tend to be mutually reinforcing rather than competing goals.

Intermediate Target: From Monetary Targeting to a Multiple Indicator Approach

5.16 The Reserve Bank broadly followed a monetary targeting rule with feedback from the mid-1980s onwards till around 1997-98. Broad money (M_3) served as the intermediate target with the CRR as the

operating instrument. The intellectual underpinnings of monetary targeting, laid by the Chakravarty Committee (RBI, 1985), were based on a stable relationship between money, output and prices. In the Indian case, money demand was generally found to be stable, providing reasonable predictions of average changes in prices over a medium-term horizon of 4-5 years, though not necessarily on a year-to-year basis (Rangarajan and Arif, 1990; Jadhav 1994). Financial innovations that were supposed to have imparted instability to money demand in some industrial economies were not considered relevant for the Indian economy at that stage (Arif 1996; Joshi and Saggarr, 1995).¹ Finally, the money stock target was believed to be relatively well-understood by the public at large. All these factors provided a rationale for monetary targeting in the Indian context (Rangarajan 1988; 1997).

5.17 The behaviour of the velocity of money provides a gauge of the underlying monetary dynamics of the economy. Theoretically, while the increased monetisation of the economy is expected to lower the velocity, financial innovations are expected to raise it (Bordo and Jonung, 1987). The M_3 income velocity, for instance, declined from an average of 3.7 during the 1970s to 2.6 during the 1980s, reflecting the role of institutional factors, such as, financial deepening in the economy. The declining trend persisted throughout the 1990s, *albeit* at a slower pace (Chart V.3). Although deregulation and diversification of the Indian financial system tended to arrest the decline in velocity of money,



1. See, for example, Goldfeld and Sichel (1990). Recently, some studies have argued that money demand function continues to be stable, once appropriate opportunity cost of money (Ball, 2001 and 2002) or decline in transactions costs induced by financial innovations are taken into account (Duca, 2000).

MONEY, CREDIT AND PRICES

this was simultaneously counterbalanced by the fact that most of the ensuing transactions continue to be conducted through the banking channel and occasional flights to safety of bank deposits, especially in the late 1990s (Jadhav, 1994; RBI, 2000b, 2002d).

5.18 The growing complexities of monetary management, by the latter half of the 1990s, in the context of the ongoing liberalisation of financial markets and the opening up of the economy, required that the process of policy formulation should be based on a wider range of inputs rather than being predicated on a single M_3 aggregate. The Working Group on Money Supply (RBI, 1998b) reported that real GDP and broad money balances continued to be co-integrated, reflective of a long-run equilibrium relationship. At the same time, unidirectional short-term deviations from the long-run equilibrium path suggested that monetary policy exclusively based on the demand function for money could lack precision. The Reserve Bank's Monetary and Credit Policy for the first half of 1998-99 pointed out that, although most studies in India have shown that money demand functions have so far been fairly stable, "...the financial innovations that have recently emerged in the economy provide some evidence that the dominant effect on the demand for money in near future need not necessarily be real income, as in the past. Interest rates too seem to exercise some influence on the decisions to hold money" (RBI, 1998a).

5.19 The Reserve Bank, accordingly, formally switched to a multiple indicator approach effective 1998-99. A host of macroeconomic variables, including interest rates or rates of return in different markets (money, capital and government securities markets) along with such data as on currency, credit extended by banks and financial institutions, fiscal position, trade, capital flows, inflation rate, exchange rate, refinancing and transactions in foreign exchange available on high frequency, are now juxtaposed with output trends for drawing policy perspectives. In this framework, although the exclusive use of M_3 as an intermediate target has been de-emphasised, it remains an important indicator of the monetary policy stance. The multiple indicator approach allows a correct assessment of potential inflationary pressures when alternative indicators of inflation emit differing signals as for instance in the second half of the 1990s (RBI, 1999a).

5.20 The increasing complexities of macroeconomic management are gradually leading a number of central banks, as in the Indian case, to abandon the traditional monetary strategy which was woven around individual nominal anchors - money, interest rates or exchange rates - closely related to the ultimate objectives of price stability and growth. The management information system of monetary policy formulation now spans a large set of macroeconomic variables rather than a single monetary or interest rate target in the case of most central banks (Table 5.1).

Table 5.1: Multiple Indicators of Monetary Policy

Country	Objective	Target	Key Policy Indicators
	1	2	3
European Central Bank	Price stability		Money and a broadly based assessment of the outlook for price developments and the risks to price stability using financial and other economic indicators.
Japan	Price stability	Current account balances	Overall economic and financial indicators, such as, wholesale prices, corporate service prices and money stock.
Mexico	Price Stability		Money, credit, interest rates, exchange rate, inflation expectations, employment contracts, producer prices and balance of payments.
South Africa	Price stability		Money, credit, international interest rates, yield curve, nominal and real salaries and wages, employment, nominal unit labour costs, output gap, money market conditions, asset prices, balance of payments, terms of trade, exchange rate and public sector borrowing requirement.
USA	Maximum employment, stable prices and moderate long-term interest rates	Federal funds rate	A number of indicators of current and prospective economic developments.

Source: Websites of respective central banks.

REPORT ON CURRENCY AND FINANCE

Changes in the Operating Procedure of Monetary Policy

5.21 The operating procedure of monetary policy changed dramatically in the 1990s driven by three inter-related factors:

- Need for a market-oriented policy mix of open market operations and interest rate signals consistent with the process of price discovery.
- Need to sterilise capital flows following the opening up of the economy.
- Need for swift policy reactions to maintain orderly conditions in the financial markets.

5.22 The Reserve Bank introduced open market (including repo) operations in an attempt to move from direct to indirect instruments of monetary control in 1992-93 (Table 5.2; RBI, 1993). Following the recommendations of the Report of the Committee on Banking Sector Reforms (Chairman: M. Narasimham) (Government of India, 1998), an Interim Liquidity Adjustment Facility (ILAF) was introduced initially in April 1999. This later transited into a full-fledged LAF, put in place on June 5, 2000. The Reserve Bank is now able to adjust market liquidity on a daily basis through repo/reverse repo auctions of varying frequencies under the LAF. While interest rates in the repo/reverse repo auctions usually emerge out of the bids, the Reserve Bank occasionally conducts fixed interest rate auctions to send signals to the markets. In the process, the interest rates emerging out of the repo and reverse repo auctions provide a corridor for the call money and other short-term interest rates. The LAF is gradually emerging as the principal operating instrument of monetary policy, replacing all other windows of liquidity support to the market.

Table 5.2 : Monetary Policy Instruments

Instrument/Decade	1950s	1960s	1970s	1980s	1990s
	1	2	3	4	5
Cash Reserve Ratio			✓	✓	✓
Standing Facilities	✓	✓	✓	✓	Sector-specific refinance de-emphasised.
Credit Control	✓	✓	✓	✓	Phased out.
Open Market Operations	✓	✓	✓		Reactivated in 1992-93
Bank Rate	✓	✓	✓		Reactivated in 1997-98

Note : ✓ denotes an active use of the instrument.

5.23 Another major step towards a market-based monetary policy was the reactivation of the Bank Rate in April 1997 (Chart V.4 and Table 5.3). The interest rate on the majority of the accommodation extended by the Reserve Bank was initially linked to the Bank Rate. As the price of primary money is now increasingly market-determined, essentially at rates emerging out of the LAF auctions, the Bank Rate is now used, more or less, as a signalling instrument of monetary policy in line with the evolving macroeconomic and liquidity conditions.

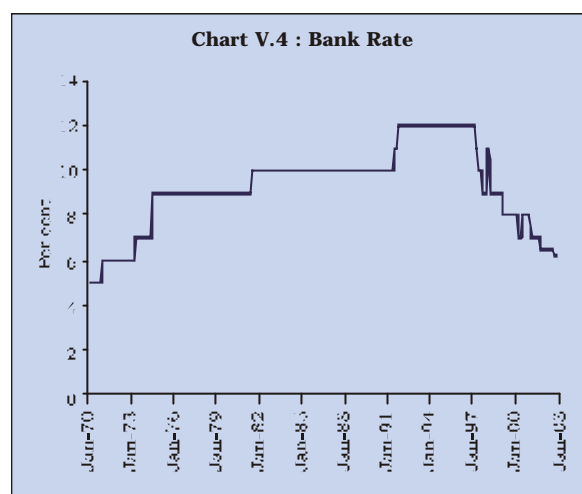


Table 5.3 : Use of the Bank Rate

(Per cent)

Decade	Bank Rate		Inflation Rate	
	Number of times changed	Range	Average	Range
	1	2	3	4
1950s	2	3.0-4.0	1.7	(-)12.5-14.0
1960s	4	4.0-6.0	6.4	(-)1.2-13.9
1970s	3	5.0-9.0	9.0	(-)1.1-25.2
1980s	1	9.0-10.0	8.0	4.4-18.2
1990s	10	8.0-12.0	8.1	3.3-13.7
April 2000 –Feb 2003	6	6.25-8.0	4.6	3.0-7.2

5.24 The Reserve Bank now manages liquidity through open market (including repo) operations, reinforced by direct interest rate signals through changes in the policy rates such as the Bank Rate/repo rates, besides the traditional tools of changes in reserve requirements and standing facilities. While CRR continues to be used as a monetary policy instrument, the adverse impact of impounding lendable resources has been minimised by bringing it down to 4.75 per cent of NDTL, in line with the medium-term

goal of reducing it to the statutory minimum of 3.0 per cent. Furthermore, the banks are now remunerated for CRR balances (above the statutory minimum) at the Bank Rate.

5.25 The liquidity management framework is in line with the cross-country experience which suggests that the operating procedures of monetary policy during the 1990s are gradually coalescing into a process of estimating market liquidity, before initiating policy action through a mix of open market operations and interest rate signals. This helps steer monetary conditions to a trajectory consistent with the macroeconomic objectives (Borio, 1997; Schaechter, 2002).

The Reserve Bank Balance Sheet in the 1990s

5.26 In view of the increasing market orientation of monetary policy, the Reserve Bank undertook several steps to impart greater transparency and resilience to its balance sheet. First, the foreign currency assets are valued every Friday in respect of exchange rate changes and gains/losses from valuation are not booked in the profit and loss account. The revaluation is parked in the capital account to meet fluctuations in foreign exchange markets. The Reserve Bank marks its investment portfolio, both domestic and foreign securities, to the market on a monthly basis and on the balance sheet date (i.e., June 30) in terms of the prudential policy of valuing investments at the lower of book or market value. Second, the Reserve Bank has set an indicative target of building up the Contingency Reserve to 12.0 per cent of assets by June 2005 (11.7 per cent as at end-June 2002) and the Asset Development Reserve to 1.0 per cent of assets (within the 12.0 per cent indicative target) to meet unforeseen contingencies in line with best international practices (Stella, 2002). Third, the ratio of net foreign assets to currency (123 per cent as on March 14, 2003), an indicator of external vulnerability, by far exceeds the 70 per cent benchmark set by the Committee on Capital Account Convertibility (Chairman: S.S.Tarapore). Finally, apart from releasing a weekly statement of its assets and liabilities and annual audited accounts in fulfilment of the statutory obligations, the Reserve Bank releases data on i) commercial banks' cumulative balances with it and money market operations, on a daily basis, ii) foreign exchange reserves, on a weekly basis and iii) outstanding forward liabilities, on a monthly basis. The Advisory Group on Transparency in Monetary and Financial Policies (RBI, 2000c) opined that the Reserve Bank's accounting disclosure norms are in consonance with the best international practices.

Monetary-Fiscal Co-ordination

5.27 The monetary policy reforms during the 1990s hinged on easing the fiscal constraint. The first important step was introduction of an auction system for the Central Government's market borrowings in June 1992. This enabled an increasing proportion of the fiscal deficit to be financed by borrowings at market-related rates of interest. This, in turn, enabled the Reserve Bank to scale down the SLR to the targeted statutory minimum level of 25.0 per cent by October 1997 (see Chart V.1).

5.28 The second major step was the historic accord between the Government and the Reserve Bank in September 1994, eliminating the automatic monetisation of the Centre's fiscal deficit by gradually phasing out *ad hocs* by April 1997. A system of ways and means advances (WMA) to the Central Government, subject to mutually agreed limits at market-related rates, was put in place instead to meet mismatches in cash flows. Since the Reserve Bank reserves the right to trigger floatation of fresh government loans as and when the actual utilisation crosses 75 per cent of the limit, the WMA does not acquire the cumulative character of *ad hocs*. This enables the Reserve Bank to accommodate the Government at its discretion and helps impose a market discipline on fiscal activism.

5.29 Finally, the Reserve Bank instituted a conscious strategy of providing primary support to the Government through private placements and devolvments in government securities auctions when liquidity is tight. Such acquisitions are later offloaded through secondary market operations [such as open market (including repo) operations] depending upon capital flows, credit growth and requirements of monetary management. This allows the Reserve Bank to contain volatility in the market and facilitate the smooth progression of market borrowings. The net effect on the Government budget and the balance sheet of the Reserve Bank remains unchanged because of the increased transfer of profits from the Reserve Bank to the Government and consequently the beneficial effects are being realised with virtually no extra costs to the Government (Reddy, 2000).

Interest Rate Deregulation

5.30 The deregulation of interest rates was central to the new market-oriented monetary strategy in terms of rejuvenating the price discovery process, on the one hand and in terms of developing an interest rate channel of monetary transmission on the other. The process of interest rate liberalisation began in the mid-

1980s. The initial initiative to introduce a degree of flexibility by allowing banks to set interest rates for maturities between 15 days and up to one year subject to a ceiling of 8.0 per cent, effective April 1985, however, had to be withdrawn in the face of an ensuing price war by end-May 1985.

5.31 The dismantling of the administered interest rate structure gathered momentum during the 1990s. The first step in this direction was taken in September 1991 with the discontinuation of sector-specific and programme-specific prescriptions excepting for a few areas like agriculture and small industries, the Differential Rate of Interest (DRI) scheme and export credit. Loans above Rs.2 lakh were freed from various prescriptions, subject to the minimum lending rate prescribed by the Reserve Bank. By linking the concessionality in interest rates to the size of the loan, the new structure ensured that the basic societal concerns were taken care of while significantly reducing the multiplicity and complexity of the rate structure.

5.32 The process of deregulation was carried forward with the withdrawal of the minimum lending rate in October 1994, thereby providing banks full freedom to determine lending rates for loans above Rs.2 lakh. Banks were only required to announce their prime lending rates (PLR); subsequently, in October 1996, in view of the high spreads over the PLR and to impart a degree of transparency, banks were advised to announce the maximum spread over the PLR. Banks were later permitted to operate different PLRs for different maturities and lend at sub-PLR to creditworthy borrowers.

5.33 Deposit rate deregulation was more gradual as it was considered prudent to free deposit interest rates at the end of the process of deregulation and at a time when inflation was under control. The process began in April 1992 by replacing the existing maturity-wise prescription by a single ceiling rate, which was subsequently varied in line with the modifications in the minimum lending rate and the evolving macro-economic developments followed by complete deregulation in October 1997 (Table 5.4). At present, the only domestic deposit rate that continues to be prescribed is the savings deposit rate (fixed at 3.5 per cent, effective March 2003). The deposit rates in respect of non-resident rupee deposits were also deregulated on broadly similar lines while that on foreign currency deposits are subject to a ceiling rate linked to LIBOR.

Table 5.4 : Interest Rates on Domestic Term Deposits : Deregulation

Month	Measure
April 1992	The existing maturity-wise prescription replaced by a single ceiling rate of 13 per cent for all deposits above 46 days of maturity.
November 1994	The ceiling rate brought down to 10.0 per cent.
April 1995	The ceiling rate raised to 12.0 per cent
October 1995	Deposits of maturity of over two years exempted from the ceiling.
July 1996	Deposits of maturity of over one year exempted from the ceiling.
April 1997	The ceiling rate for deposits of '30 days up to one year' linked to the Bank Rate less 200 basis points.
October 1997	Deposit rates fully deregulated by removing the linkage to the Bank Rate.
April 1998	Banks allowed to offer differential rates of interest depending upon the size of the deposit.

5.34 While bank term deposit rates stand deregulated, small savings continue to be administered, thereby imparting a degree of rigidity to the interest rate structure. The Expert Committee to Review the System of Administered Interest Rates and Other Related Issues (Chairman: Y.V. Reddy) (RBI, 2001c) recommended that interest rates on small savings and other administered instruments of various maturities needed to be benchmarked to the secondary market yields of government securities of corresponding maturities. In pursuance of these recommendations, the Union Budget 2002-03 announced that interest rates on small savings would be henceforth linked to the average annual yield of government securities in the secondary market for the corresponding maturities, with an annual adjustment on an automatic and non-discretionary basis. This measure is expected to enhance the flexibility of the interest rate structure in the economy. Interest rates on small savings instruments were cut by 50 basis points in the Union Budget, 2002-03 and by another 100 basis points in the Union Budget, 2003-04.

Deregulation of Credit

5.35 The reforms in credit regulation, which began in the mid-1980s, intensified in the 1990s with a shift in focus from micro-regulation towards macro-management of credit. These included a scaling down of pre-emptions in the form of statutory stipulations to expand the pool of lendable resources, rationalisation of priority sector requirements, phasing out of directed



credit programmes and relaxation of balance sheet restrictions to improve the credit delivery system.

5.36 The cash credit system in the Indian banking system, by allowing the borrowers to utilise credit limits at their discretion, passed the onus of cash management to banks. In order to introduce an element of credit discipline for borrowers under the cash credit system and better control over the credit flow, the Reserve Bank gradually introduced a "loan system" effective April 1995 in which fund management reverted to the borrower. This, along with the phasing out of on-tap Treasury Bills, provided a fillip to the development of a market for short-term funds.

5.37 The liberalisation of investment norms in the 1990s, following initial relaxations in the mid-1980s, gradually transformed banks into active players in the emerging financial markets. This took two forms. First, the ambit of eligible investments was enlarged to cover commercial paper, units of mutual funds and the secondary equity market. Second, the limit on investments in the capital market was gradually raised to five per cent of the previous year's deposit mobilisation in October 1993. The sub-ceiling in respect of corporate equity was withdrawn in May 1994. Effective May 2001, the total exposure of a bank to stock markets with sub-ceilings for total advances to all stock brokers and market makers as well as individual stock broking entities and their associate/interconnected companies was limited to 5.0 per cent of the total advances (including CPs) as on March 31 of the previous year. At the same time, the scope of the ceiling was enlarged by gradually excluding several categories of investments.

Payment and Settlement Reforms

5.38 The Reserve Bank, like many central banks in emerging market economies, initiated payment reforms to enhance the operational efficiency of the financial system. This essentially involves a three-pronged strategy of i) developing an institutional framework to oversee the payments systems, ii) operationalising information technology applications and iii) instituting satellite- and terrestrial-based communications infrastructure. The Reserve Bank is also introducing a full-fledged real time gross settlement system, in line with international best practices, which would minimise risks arising out of *domino* effects of individual defaults.

III. MONETARY POLICY REFORMS: AN ASSESSMENT

5.39 Against the backdrop of these monetary policy changes, this Section begins with some stylised facts

followed by an assessment of the reforms in terms of the macroeconomic objectives of price stability and credit availability. In addition, the changes in the liquidity management framework are evaluated in terms of the management of capital flows and maintaining orderly conditions in the money market.

5.40 The 1990s opened with a severe balance of payments crisis and a high rate of inflation, reflecting the growing internal imbalances of the 1980s. The Reserve Bank responded swiftly with monetary and credit measures aimed at import compression and demand containment. Following the success of the initial stabilisation efforts and the liberalisation of the external sector, the management of capital flows posed a fresh challenge to monetary management. The Reserve Bank absorbed surplus capital flows in its balance sheet in order to maintain the export competitiveness of the economy and at the same time, attempted to sterilise the monetary impact (RBI, 1994).

5.41 With the downturn in economic activity beginning 1997-98, the revival of growth emerged as an overriding concern of monetary policy, although with a constant vigil on the inflation front. Besides, in contrast to sustained capital flows in the earlier years, the latter half of the 1990s saw periodic episodes, *albeit* short-lived, of capital outflows, leading to bouts of volatility in the financial markets, necessitating swift policy action to restore orderly conditions.

Inflation Record

5.42 The pursuit of price stability was central to the process of financial sector reforms initiated in the 1990s. Although inflation is not targeted *per se*, monetary policy was formulated with the stated objective of curbing inflationary expectations. The projected inflation rate was gradually scaled down to 4-5 per cent in the last few years from around 7-9 per cent indicated in the early part of the 1990s.

5.43 The Indian inflation record over the past five decades can be considered satisfactory as compared with many developing economies. This can be attributed to relatively appropriate monetary management coupled with measures to contain the adverse effects of supply shocks through adequate buffer stocks of foodgrains and other sensitive commodities (Singh, 1982). The guiding principle in respect to inflation management continues to be that, in the medium to long-run, the increase in prices is largely sustained by monetary expansion. In the short-run, however, inflation could be affected by non-monetary, essentially supply-side, factors (RBI, 2001a).

Trends in Wholesale Prices

5.44 The inflation rate (measured by variations in annual average wholesale price index, WPI) over the past five decades averaged 6.6 per cent per annum. However, decade-wise, the inflation rate accelerated steadily from an annual average of 1.7 per cent during the 1950s to 6.4 per cent during the 1960s and further to 9.0 per cent in the 1970s before easing marginally to 8.0 per cent in the 1980s (Chart V.5). On the other hand, the volatility in the inflation rate, as measured by the coefficient of variation, which was fairly high in the 1950s (4.4 per cent), moved in a narrow range of 0.4–1.0 per cent in the subsequent decades. The pick-up in inflation from 1970s onwards coincided with a sharp rise in M_3 growth, partly reflecting fiscal dominance. At the same time, the inflationary dynamics also reflected supply shocks, such as the two wars (1962 and 1965), hike in crude oil prices (1973-74 and 1979-80) and crop failures. Demand pressures, emanating partly from the widening fiscal imbalances, sustained the inflation in the 1980s.

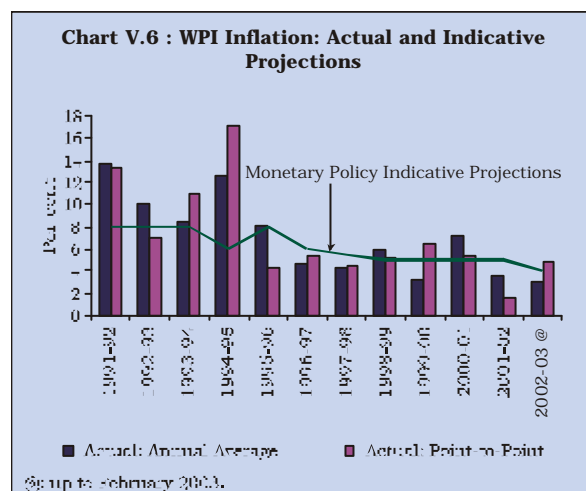
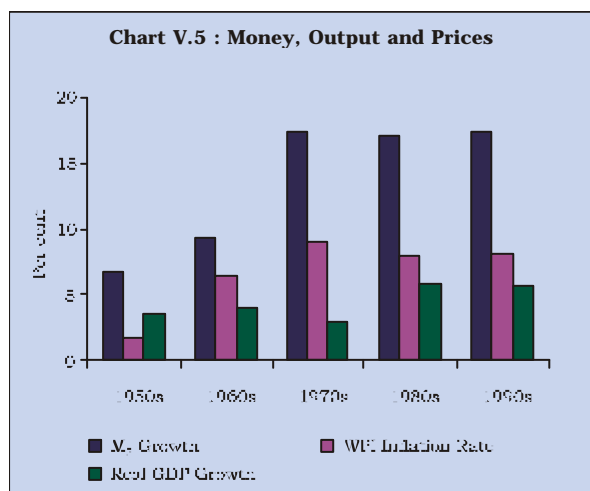
5.45 The first half of the 1990s saw a sharp increase in inflation. The decade began with double-digit inflation attributable to the large-scale monetisation of fiscal deficits. This was intensified by hikes in procurement prices as well as supply-demand imbalances in essential commodities like pulses, oilseeds and edible oils. The severe foreign exchange shortage that the country faced at the time constrained the ability of the authorities to augment the supply position through imports and also contributed to inflationary pressures. Increases in fuel prices and other administered items also fed higher inflation. The inflationary pressures continued during 1993-94 and 1994-95 in the wake of unprecedented

capital inflows and the consequent higher monetary expansion. The focus of monetary policy, therefore, shifted to the moderation of money supply with the objective of containing inflation to create an enabling environment for the process of structural adjustment.

5.46 The second half of the 1990s was marked by a significant turnaround in the inflation outcome. The inflation rate declined from an average of 11.0 per cent during 1990-95 to 5.3 per cent during the second half of the 1990s. In the first three years of the current decade (2000-01 to 2002-03), the inflation rate continued to be benign, despite a continued volatility in the international crude prices. The actual inflation rates since the second half of the 1990s were, thus, broadly in line with the indicative projections set out in monetary policy statements (Chart V.6).

5.47 The low inflation rate since the second half of the 1990s, despite an unchanged GFD/GDP ratio, sustained external capital flows and continued double-digit fuel price increases can be attributed to a number of factors (Table 5.5):

- There was a perceptible deceleration in the M_3 growth rate from 17.5 per cent during 1990-95 to 16.2 per cent during 1998-2002 even as the real GDP growth accelerated from 5.0 per cent to 5.6 per cent over the same period (Chart V.7). This was facilitated by the increased flexibility in monetary policy due to the improved monetary-fiscal interface. At the same time, as noted below, monetary policy was able to sterilise the capital flows. This also enabled a deceleration in broad money growth consistent with the objective of containment of inflationary pressures.



MONEY, CREDIT AND PRICES

Table 5.5 : Inflation and Its Major Determinants

(Annual averages in per cent)

Variable/Period	1980-85	1985-90	1990-95	1995-2002	1998-2002
	1	2	3	4	5
WPI Inflation Rate	9.3	6.7	11.0	5.3	5.0
CPI Inflation Rate	10.1	8.0	10.5	7.3	6.2
Food Articles Inflation	10.7	6.4	11.9	6.6	6.0
Increase in Procurement Prices:					
Paddy	7.6	6.3	13.0	6.6	6.3
Wheat	6.1	6.6	11.2	8.3	5.0
Fuel Inflation	12.5	6.0	12.8	11.3	12.5
M ₃ Growth @	16.8	17.6	17.5	16.8	17.2
				(16.3)	(16.2)
GFD/GDP @@	5.9	7.7	6.3	5.6	5.9
			(5.5)	(5.1)	(5.6)
GDP Growth	5.6	6.0	5.0	6.1	5.6
Increase in Unit Value Index of Imports	5.6	8.0	7.6	6.3	5.2

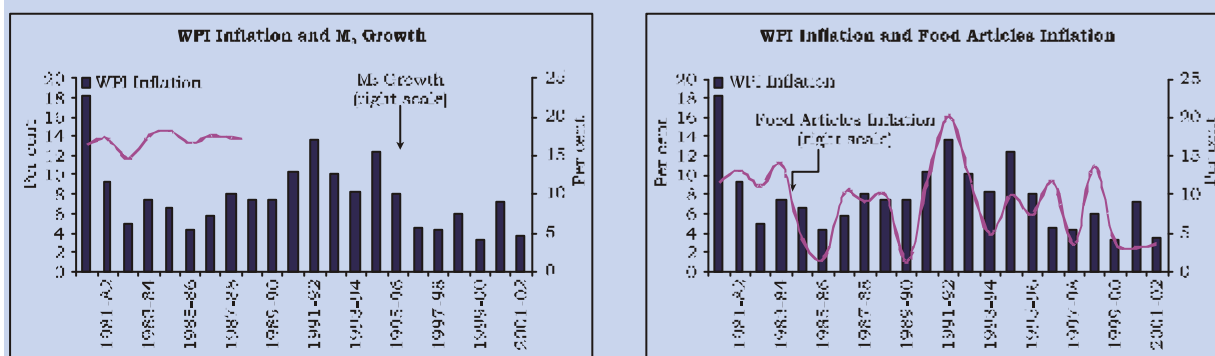
@ : Figures in brackets are growth rates excluding RIBs/IMDs. ²

@@ : Figures in brackets exclude States' share in small savings.

- Food articles inflation halved during the period from 11.9 per cent to 6.0 per cent, led by a deceleration in procurement price increases (Chart V.7).
- External pressure on domestic prices (as measured by unit value index of imports in rupees) was lower than that in the first half of the 1990s.
- Negative output gap (as measured by the HP filter method) prevailed in the recent three years (2000-01 to 2002-03) implying that actual output trailed potential output.
- While increased capital flows and higher foreign exchange reserves have inflationary implications through monetary expansion, at the same time, they provide a greater flexibility in supply management in the face of supply shocks.

5.48 The role of these factors in containing inflationary pressures also emerges from a formal econometric analysis. A common approach to modelling inflation is the short-run Phillips curve relating inflation to lagged inflation (assuming adaptive expectations) and output gap augmented by supply shocks (Gordon, 1998; Stock and Watson, 1999; RBI,

Chart V.7: WPI Inflation, Food Articles Inflation and M₃ Growth



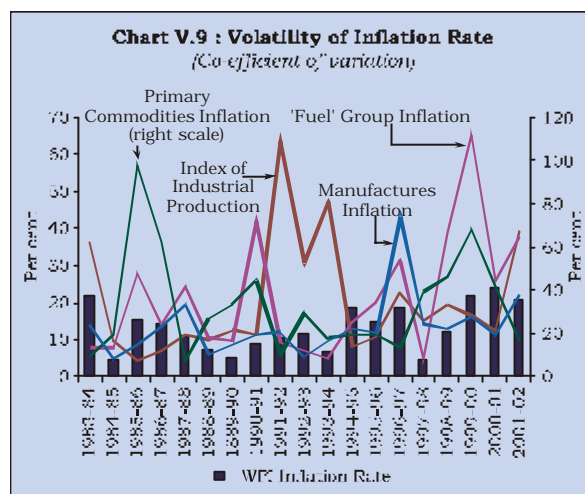
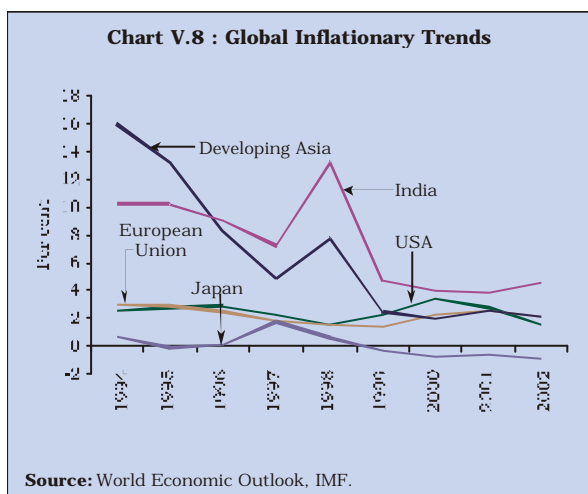
- The Working Group on Money Supply recommended that in line with the residency criteria evolved by the International Monetary Fund (IMF), non-resident foreign currency repatriable fixed deposits should not be directly accounted in the monetary aggregates so that the monetary impact of capital flows depends on their net effect on the monetary base (RBI, 1998b; Rath and Sen Gupta, 1999). It is, therefore, necessary to adjust the existing monetary data for inflows, such as, Resurgent India Bonds and India Millennium Deposits.

REPORT ON CURRENCY AND FINANCE

2002a). The estimated coefficients have the expected signs and are statistically significant.³ The estimates suggest that aggregate demand at one per cent above trend output level raises the inflation rate by around 40 basis points. Similarly, nominal money at one per cent above its trend level increases the inflation rate by around 86 basis points. In brief, the decline in the inflation rate since the second half of the 1990s reflected a confluence of factors. These included better monetary management facilitated by improved fiscal-monetary co-ordination, lower pressures from administered procurement price hikes, weakness of domestic aggregate demand, presence of excess capacities, ample food stocks and foreign exchange reserves. The decline in inflation was also synchronous with the current phase of disinflation characterising the global business cycle (Chart V.8).

5.49 The objective of the monetary policy all over the world is not only to maintain low inflation but also a stable rate, *i.e.*, to minimise its deviations from the target. Moreover, a consensus is emerging that monetary policy should also minimise deviations of output from its potential level although it is recognised that a trade-off exists between the variability of inflation

and the variability of output. Increased credibility in the form of inflation expectations anchored on the inflation target can reduce the variability of both inflation and output (Svensson, 2003). Assessed against these goals, although the inflation rate witnessed a noticeable deceleration in the second half of the 1990s in India, the volatility of the inflation rate did not see a concomitant decline (Chart V.9). This could be attributed to an increased volatility in fuel group inflation - the coefficient of variation of the fuel group increased from 16 per cent in the first half of the 1990s to 32 per cent in the period 1995-2002 - reflecting volatile international crude oil prices.⁴ The primary articles inflation too was more volatile during the second half of the 1990s (Chart V.9). The persistence of volatility could hamper anchoring expectations at a low level. As regards output, its variability – as measured from growth in the index of industrial production, in the absence of high-frequency data on overall GDP growth – was lower in the post-1995 period as compared with the first half of the 1990s. The lower variability of output, however, has to be seen in the context of the industrial production getting caught in a low growth rate trajectory.



$$3. \text{DINFLX} = -0.46 \text{DINFLX}(-1) + 0.40 \text{YGAP}(-1) + 0.22 \text{DINFFOOD} + 3.67 \text{DUM88} - 5.60 \text{DUM97}$$

(3.1) (1.9) (4.8) (13.1) (8.8)

Durbin's h = -1.2; $\bar{R}^2 = 0.64$.

$$\text{DINFLX} = -0.49 \text{DINFLX}(-1) + 0.37 \text{YGAP}(-1) + 0.21 \text{DINFFOOD} + 0.86 \text{MGAP} + 4.09 \text{DUM88} - 4.95 \text{DUM97}$$

(3.8) (1.9) (4.8) (2.0) (10.9) (8.5)

Durbin's h = -0.9; $\bar{R}^2 = 0.67$.

DINFLX, YGAP, MGAP, DINFFOOD are change in WPI inflation rate, output gap (HP filtered), nominal broad money gap (HP filtered) and change in foodgrains inflation rate, respectively. DUM88 and DUM97 are dummies for 1987-88 and 1996-97 to capture drought effect and sharp disinflation, respectively. The equations have been estimated over the period 1984-85 to 2001-02; t-ratios are in parantheses.

4. The volatility measures for this exercise focus on intra-year variation, with coefficient of variation calculated from growth rates based on 12-month moving averages.

MONEY, CREDIT AND PRICES

Consumer Inflation

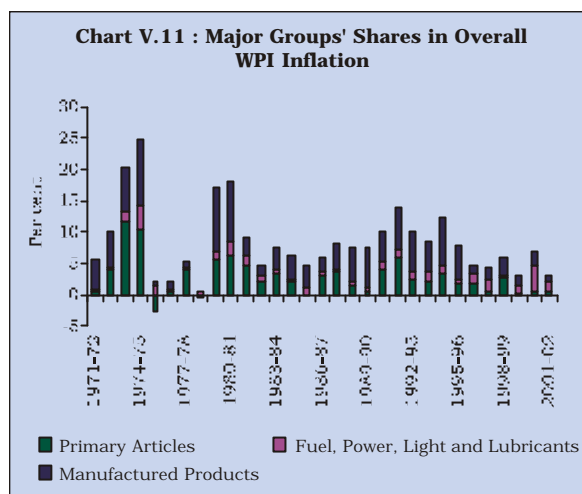
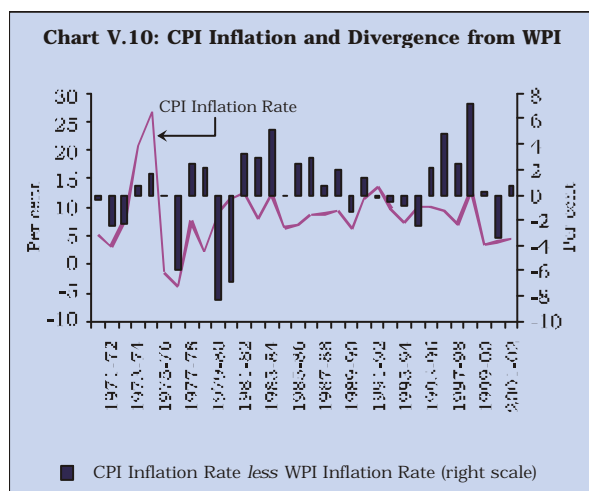
5.50 Retail inflation, as measured by variations in the consumer price index for industrial workers (CPI-IW or CPI for brevity), by and large, moved in tandem with WPI inflation. Although CPI inflation, at 7.7 per cent, remained lower than WPI inflation during the 1970s, it turned out higher at 9.0 per cent during the 1980s and 9.5 per cent during the 1990s. The divergence between the two inflation indicators widened during the second half of the 1990s with the CPI inflation at 8.6 per cent, almost three percentage points higher (Chart V.10).

5.51 The wedge between the two inflation indicators largely reflects the larger weight of the food group in the CPI and a differential movement in the inflation rates of various sub-groups. For instance, in the WPI index, the 'primary articles' inflation at 6.5 per cent was higher than that of 4.1 per cent recorded by 'manufactures' in the second half of the 1990s (Chart V.11). In addition, the divergence between the CPI and WPI could also reflect the movements in the prices of services, which are included in the CPI. The divergence between goods and services inflation appears to be a widespread phenomenon (Table 5.6). The higher services inflation can be attributed to faster productivity growth in manufacturing (King, 2002).

Table 5.6 : Goods and Services Inflation in Major Economies
(Excess of Services over Goods Inflation)

Period/Country	UK	US	Euro area	Japan
	1	2	3	4
1990-97	1.6	1.6	1.6	1.3
1990-2002	2.3	1.8	1.3	1.3

Source : King (2002).



Inflation Expectations and Core Inflation

5.52 In view of the divergence between the CPI and the WPI inflation, there may be a need for monitoring a host of other indicators to obtain a more accurate assessment of expectations of inflation for a forward-looking monetary policy. Pethe and Samanta (2001), for example, developed a 'composite leading indicator' for inflation and found manufacturing output, money stock, exchange rate, bank credit and raw material prices as possessing predictive capability for future inflation in India. Food prices, exchange rate and real money gap lead inflation expectations by one month each while yield spreads and fuel prices lead by two and six months, respectively (RBI, 2001b).

5.53 As the inflation rate in the short-run is often dominated by supply shocks emanating from the agricultural sector or fuel prices, the year-to-year headline (*i.e.*, WPI) inflation rate does not necessarily reflect the underlying inflationary pressures in the economy. This brought forth the construction of 'core' measures of inflation to eliminate the noise or transient components of the headline, especially in terms of supply shocks. Two alternatives, exclusion-based and limited influence estimators (trimmed mean), have been examined for India (Samanta, 1999; Mohanty, Rath and Ramaiah, 2000). However, the loss of information content in the construction of core inflation and the relatively greater public acceptability of the headline inflation make the core measures useful only as indicators of the underlying inflationary process rather than as policy targets. Furthermore, in developing countries, a measure of core inflation excluding food items – which can account for more than half of the weight in the index – may not be very meaningful (Jalan, 2002b).

Issues in Price Stability

5.54 There is, by now, an emerging consensus in the literature, that while money is typically neutral in the long run, monetary policy generates short-run real effects in view of price rigidities and expectation errors. Recent research in the context of developed countries suggests that monetary policy should aim at an inflation rate of 1.5-4.0 per cent (Akerlof *et al*, 1996; Krugman, 1996). In view of the possibility of a inflation-growth trade-off, a growth-maximising threshold inflation rate has been placed at around 1-3 per cent for industrialised countries and 7-11 per cent for developing countries (Sarel, 1996; Khan and Senhadji, 2001).

5.55 The Chakravarty Committee's observation of four per cent inflation rate as being acceptable can be regarded as the first illustrative benchmark on threshold inflation for the Indian economy. A number of studies have subsequently placed threshold inflation in the range of 4-7 per cent (Rangarajan, 1997; Kannan and Joshi, 1998; Vasudevan, Bhoi and Dhal, 1998; Samantaraya and Prasad, 2001; and RBI, 2002a). The estimate of threshold inflation has, however, a shifting perspective. With structural changes in the economy, prolonged price stability at the global level as well as in India and the credible anchoring of inflationary expectations at a lower level, the threshold inflation could also move downwards.

5.56 Finally, while there is little disagreement regarding the long-run benefits of low and stable inflation, a number of studies stress the possible short-run costs in the process of reducing inflation. This is discussed in the received literature in terms of the so-called sacrifice ratio, which is defined as *cumulative* output losses that an economy needs to endure to reduce average inflation, on a *permanent* basis, by one percentage point. The concept of sacrifice ratio focuses on reducing inflation on a permanent basis by the monetary authority rather than on a temporary reduction in inflation (say, due to beneficial supply shocks like lower food prices). Furthermore, the sacrifice ratio measures cumulative output losses, which could be spread over a number of periods. The output losses refer to deviations of actual output from its trend. Over time, as inflation expectations stabilise at a lower level, actual output gradually converges to its trend path. The sacrifice ratio measures such output losses in the process of disinflation. One study puts the estimate of the sacrifice ratio at around two for India (Kapur and Patra, 2000). It is necessary to emphasise here that for a proper interpretation of the sacrifice ratio, it is crucial to analyse the dynamics and sources of inflation. In particular, a clear distinction must be made

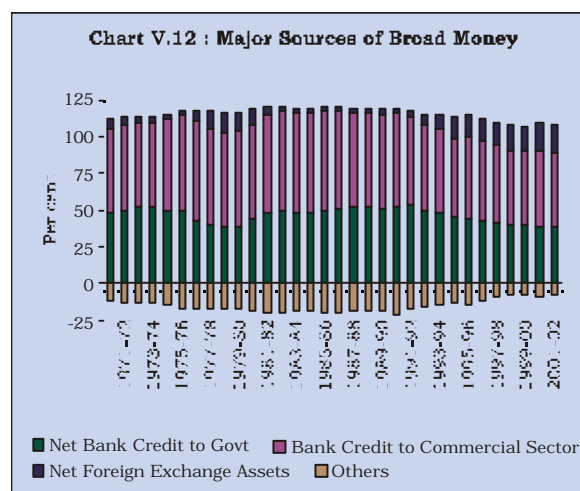
between low inflation driven by benign supply factors and a tight monetary policy.

Analytics of Bank Credit

5.57 Besides the pursuit of price stability, the Reserve Bank attempts to ensure that sufficient credit is available at a reasonable cost to the productive sectors of the economy to fund growth. At the heart of the reforms of the monetary fiscal interface lay the objective of enhancing lendable funds with the banking system by limiting the Government's draft of resources by *fiat*. Following the deregulation of interest rates, the price of credit also emerged as a focus of monetary policy attention. With the slowdown in economic activity in the second half of the 1990s, the Reserve Bank attempted to put in place a softer interest rate regime with a view to facilitating the revival of credit demand.

5.58 The 1990s witnessed a weakening of the simultaneity of the processes of money and credit creation underscoring the need for focusing greater attention on credit aggregates.⁵ The share of foreign assets of the banking sector in M_3 increased substantially, concomitantly reducing the share of domestic credit to 89.6 per cent during 2001-02 from 115.7 per cent during 1989-90 (Chart V.12). The proportion of the net bank credit to Government in domestic credit, however, increased to 45 per cent during the 1990s as compared with 43 per cent during the 1980s and the 1970s reflecting the persistence of

Chart V.12 : Major Sources of Broad Money



5. There is empirical evidence that sectoral credit aggregates (credit to the government and the commercial sector) can explain the behaviour of broad money with unidirectional causation from credit to money suggesting the feasibility of a balance sheet approach to money stock determination in India (Joshi and Bhattacharya, 1999).

MONEY, CREDIT AND PRICES

the fiscal constraint. The proportion of incremental net bank credit to the Government in the Centre's gross fiscal deficit increased from 51.7 per cent during the first half of the 1990s to 59.5 per cent during the latter half of the 1990s.

Impact of Changes in the Monetary-Fiscal Interface

5.59 The composition of net bank credit to the Government changed substantially as the declining net Reserve Bank support to the Centre was mirrored by the increasing investment by the banking system in government securities. Scheduled commercial banks' investments in government securities, as a result, increased from 25.3 per cent of deposits as at end-March 1990 to 37.3 per cent by end-March 2002 even as the SLR was brought down to 25 per cent (Chart V.13).

5.60 The banks' continued preference for government securities, almost 12 percentage points above the statutory requirements, can be attributed to a variety of factors:

- Increased resources emanating from strong capital flows on the supply side.
- Weak credit off-take on the demand side in line with the industrial slowdown as well as due to a downward rigidity in the bank lending rates. Reported shortening of the working capital cycle of manufacturing companies may be yet another reason for weak credit demand (Business Standard, 2003).
- Heightened risk aversion on the part of the banks on account of prudential guidelines requiring risk-weight for credit to the commercial sector *vis-à-vis* the credit risk-free government paper.

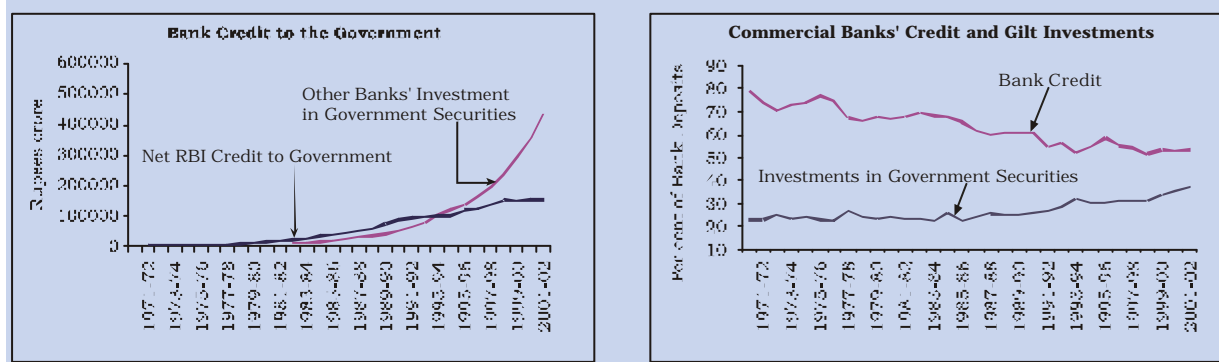
- Growing gross market borrowings of the Government in view of the large fiscal gap.

5.61 This near exclusive recourse to gilts to park investible surpluses even by strong commercial banks reflects dissipation of banking knowledge capital with regard to credit appraisals and runs a danger of the link between liquidity, credit, money and economic activity being severed in the long-run (Mohan, 2002).

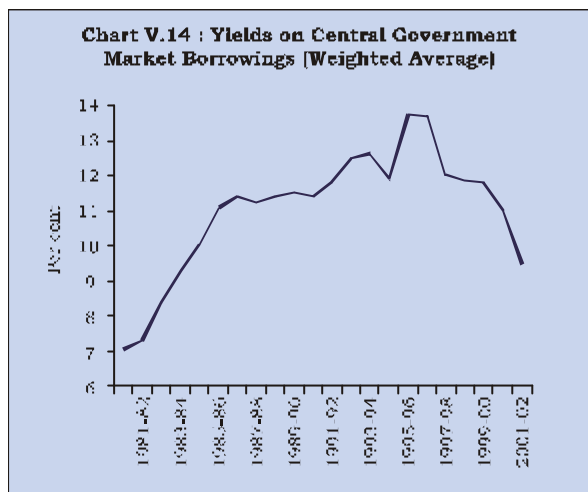
5.62 A critical concern regarding the changes in the monetary-fiscal co-ordination is the impact on the cost of public debt. Although the interest rates on market borrowings hardened with the switch to market-determined rates in the initial years of the reform process, they declined sharply from 1997-98 onwards and are now at their lowest in the last two decades. The weighted average interest rate on government borrowings followed an inverted U-curve, initially increasing from around 11.5 per cent in the late 1980s to 13.75 per cent by 1995-96 and thereafter declining to 9.44 per cent during 2001-02 (Chart V.14). The reduction in the yields continued during 2002-03, with the yield on the 10-year paper declining from 7.36 per cent at end-March 2002 to around 6.5 per cent by mid-March 2003.

5.63 An important issue in the context of the monetary-fiscal interface, drawing upon the unpleasant monetarist arithmetic (UMA) proposition, is the non-inflationary central bank financing of the gross fiscal deficit of the Centre and an optimal degree of monetisation. The decline in the ratio of net Reserve Bank credit to the Centre to GDP to 0.7 per cent during the 1990s led to a view that the degree of monetisation has been on the lower side (Rakshit, 2000; Venkitaraman 1995). On the other hand, it has been argued that while bond financing may increase real interest rates *vis-a-vis* money financing, it is still

Chart V.13: Domestic Credit



REPORT ON CURRENCY AND FINANCE



beneficial as it reduces inflation and, hence, enhances long-run welfare (Moorthy *et al*, 2000). There exists an optimal degree of monetisation for a given level of government deficit (Prasad and Khundrakpam, 2000). For the Union Budget, 2001-02, the optimal degree was about 40 per cent of the budgeted fiscal deficit (Rao, 2000). The optimal degree of monetisation has been falling in the second half of the 1990s, and the decline in monetisation may be reflecting structural changes and policy efforts to widen the financial markets to enable the absorption of government debt (RBI, 2002a). The degree of monetisation of fiscal deficits is also constrained by the fluctuations in capital flows (RBI, 2002d).

5.64 It was possible to ease the fiscal constraint on monetary management in recent years on account of a strong demand for government paper essentially emanating from a mix of strong capital flows and relatively poor credit offtake. This also implies that the burden of direct financing of the fiscal deficit

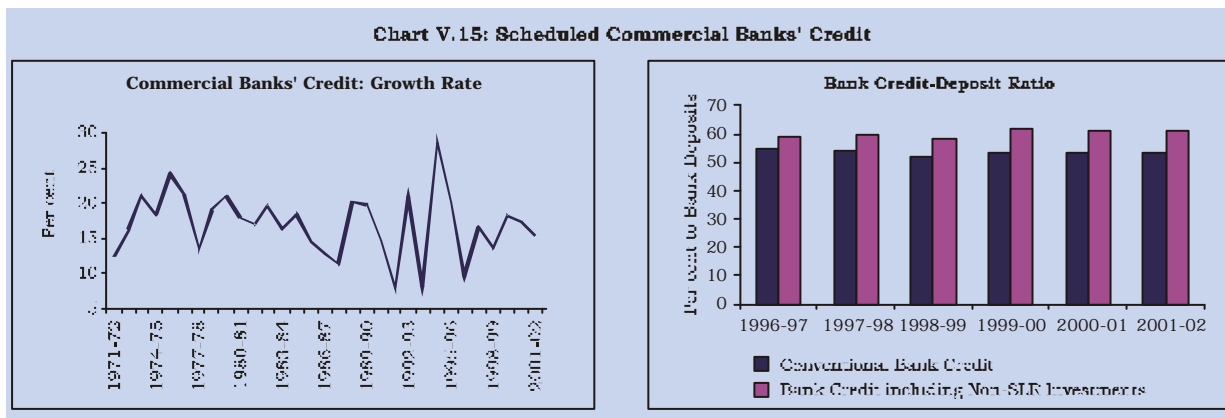
could easily revert to the Reserve Bank in case of a reversal in the liquidity conditions, especially as banks' investments in Government securities are already far in excess of their statutory SLR requirements. The overall task of monetary management, therefore, becomes more and more difficult when a large and growing borrowing programme puts pressure on the absorptive capacity of the market (RBI, 2001b).

Credit to Commercial Sector

5.65 Scheduled commercial banks' credit to the commercial sector increased by 15.9 per cent during the 1990s as compared with 16.8 per cent during the 1980s. The conventional bank credit-deposit ratio declined from 60.4 per cent as at end-March 1991 to 53.4 per cent as at end-March 2002, in line with the long-term trends. Unlike in the 1970s and 1980s, when commercial credit was squeezed by statutory stipulations, the decline in the 1990s partly reflected the growing securitisation of bank portfolios, following the easing of investment norms. It is, therefore, important to expand the concept of bank credit to include other investments in money and equity markets (RBI, 1998b). Once the data on such non-SLR sources are taken into account, the share of credit as a proportion of bank deposits increased from 58.7 per cent as at end-March 1997 to 60.8 per cent as at end-March 2002, substantially higher than that of 53.4 per cent in terms of the conventional definition (Table 5.7 and Chart V.15).

Bank Credit: Is It a Leading Indicator of Activity?

5.66 Bank credit plays a critical role in the Indian economy as the principal source of external financing for the corporate sector. Although directed credit



MONEY, CREDIT AND PRICES

Table 5.7 : Scheduled Commercial Banks' Non-SLR Investments

Variable	(Rs. crore)	
	As at end-March	
	1997	2002
	1	2
1. Commercial Paper	685	8,497
2. Shares issued by	1,252	5,914
2.1 PSUs	348	1,586
2.2 Private Corporate Sector	904	4,327
3. Bonds/debentures issued by	16,631	66,589
3.1 PSUs	14,277	39,520
3.2 Private Corporate Sector	2,354	27,069
Total Non-SLR (1+2+3)	18,568	81,000
<i>Memo:</i>		
Conventional Bank Credit	2,78,401	5,89,723
Bank Credit Including non-SLR Investments	2,96,969	6,70,723
	(58.7)	(60.8)

Note : Figures in brackets indicate the ratio of bank credit (including non-SLR investments) to aggregate deposits.

programmes have been phased out, the Reserve Bank continues to monitor credit as a driver of growth. With the growing market orientation of the Indian economy, business cycle analysis is emerging as an important input for the formulation of a forward-looking monetary policy. In this context, recent research to find robust leading indicators of activity has identified non-food credit as a potential lead indicator, notwithstanding episodic aberrations from this underlying relationship (Chart V.16).

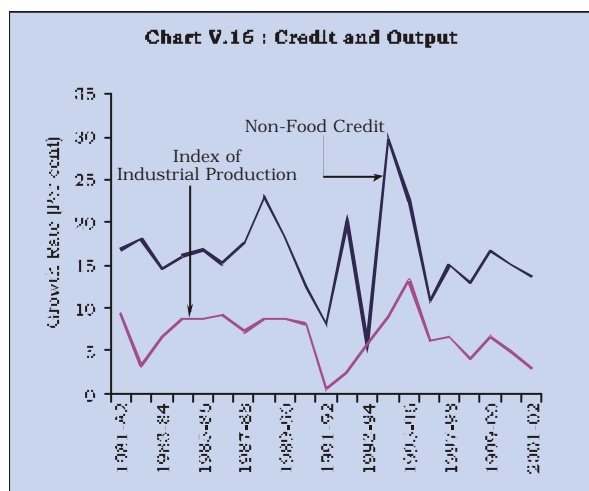
5.67 Industrial production and non-food credit are cointegrated with Granger causality tests indicating a

bi-directional causation.⁶ A component-wise analysis of industrial output shows that the bi-directional causation is relatively weaker between non-food credit and intermediate goods (RBI, 2001b). While the bi-directional causation reduces the usefulness of the leading indicator property of non-food credit, the leading property finds support from a comparative analysis of the impulse responses which indicate that the impact of a shock to IIP on non-food credit is smaller *vis-à-vis* that of a shock to non-food credit on IIP. This dynamic and complex relationship between non-food credit and industrial activity, therefore, needs to be further investigated before ascribing leading, coincident or lagging information content to non-food credit in relation to real activity (Mall, 1999; Mohanty, Singh and Jain, 2000; RBI, 2001b, 2002a, 2002b).

5.68 In brief, non-food credit and industrial production show co-movement. Cointegration analysis suggests that a 10 per cent increase in industrial production leads to an almost 15 per cent increase in real non-food credit.⁷ In view of this, the recent preference of banks to invest in government securities could be attributed, partly to the weak industrial demand. Reflecting the role of credit in the economy and its sensitivity to interest rate signals, the provision of adequate liquidity to meet credit growth and support investment demand in the economy continues to be a core policy objective of the Reserve Bank. Given the information content, credit is one of the variables in the present multiple indicator approach to monetary policy in India.

Liquidity Management

5.69 The Reserve Bank had to operate simultaneously in the money and foreign exchange markets to counterbalance domestic and external sources of monetisation following the opening up of the economy in the 1990s. Besides, the gradual evolution of inter-linked financial markets, while necessary for economic efficiency, posed challenges of rapid contagion to monetary management. With the growing market



- Using a bivariate VAR of index of industrial production (IIP) and non-food credit (NFC) (with both variables in first-difference of logs) over the period April 1994 to December 2002, the null hypothesis of Granger non-causality of IIP can be rejected at p-value of 0.00 (with chi-square of 39.7). Similarly, the null hypothesis of Granger non-causality of NFC can be rejected at p-value of 0.00 (with chi-square of 33.1). The VAR was estimated with 13 lags, with lag selection based on Schwarz Bayesian Information Criterion (SBIC).
- The cointegrating relationship between index of industrial production (IIP) and real non-food credit (NFCREAL) (the prefix L denotes that variables are in logs), over the period April 1994 to December 2002, with one lag in the VAR and a dummy for the impact of the mergers in the banking industry, is:

$$\text{LNFCREAL} = 5.39 + 1.51 \text{ LIIP.}$$

REPORT ON CURRENCY AND FINANCE

orientation, the role of the Reserve Bank moved away from exercising control and discretion towards becoming an active player in the market itself through proactive, timely and effective interventions to modulate liquidity conditions and signal the policy stance in regard to interest rates (Kanagasabapathy, 2001). The empirical evidence suggests that the Reserve Bank was able to stabilise liquidity conditions in the market for bank reserves by systematically reacting to changes in bank liquidity, autonomous of policy action, with discretionary operations (RBI, 2001b; Sen Gupta *et al*, 2000).

5.70 An episodic analysis brings out the increasing effectiveness of liquidity management. During the initial episodes of financial market volatility, the monetary policy responses induced a very sharp reaction in the bank reserves as the Reserve Bank did not possess commensurate instruments to fine-tune market liquidity on a day-to-day basis. The Reserve Bank had to first create a sufficiently large gap through a concerted hike in CRR and a cut in refinance limits, which was later funded by higher cost reverse repos and refinance drawals. For instance, monetary tightening in the wake of excess demand conditions in the foreign exchange market in end-October 1995 drove DFHI's call lending rates to a peak of 85 per cent as on November 3, 1995, which was stabilised by liquidity injection *via* reverse repos. Similarly, DFHI's call rates zoomed to a peak of 110 per cent on January 24, 1998 following the monetary measures of January 16, 1998, in the wake of the South-Asian crisis and came down thereafter as banks began to draw on the refinance window to fund their liquidity gap (Table 5.8).

5.71 With the operationalisation of the LAF by June 2000, the Reserve Bank was able to supplement the standard monetary measures by active liquidity management through a mix of primary support to Government and changes in both the price and quantum of primary liquidity on a daily basis. Reflective of the greater degree of manoeuvrability in discretionary operations, call rates remained, by and large, range-bound around the LAF 1-day repo rate during the episode of financial market volatility in August-September 2000. As a result, the volatility in the short-term money market rates was lower in the recent period (Chart V.17).

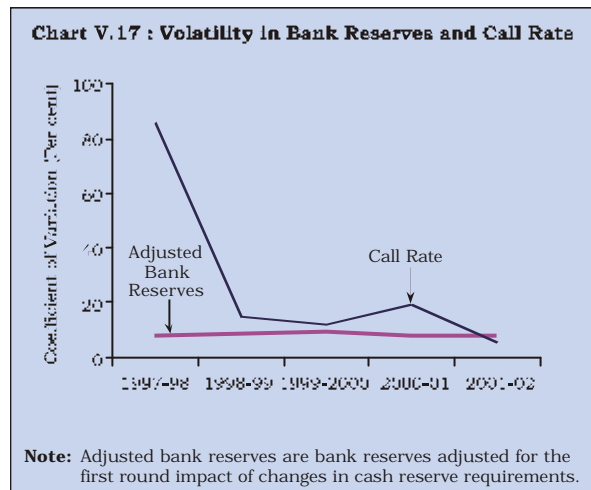


Table 5.8 : Changes in the Liquidity Management Framework: An Episodic Analysis

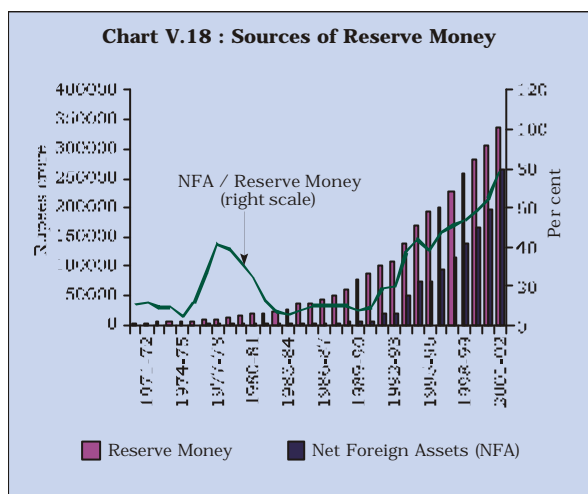
Monetary Policy Action	October 1995	January 1998	August 2000
	1	2	3
<i>Demand side measures</i>			
CRR			
Bank Rate	Not active		
Repo/reverse repo rate		(in discrete stages)	(Frequently)
Repos (net)			(Bids accepted depending on liquidity conditions)
Reverse repos (net)			- do -
Cost of import finance			
<i>Supply side measures</i>			
Foreign currency sales		@	
Cost of export credit			

Note : indicates an increase in the corresponding policy variables.
 @ Since September 1997.

Management of Capital Flows

5.72 The changes in the operating procedure of monetary policy and the growing openness of the economy during the 1990s impacted both on the size and composition of reserve money. A distinct feature during the 1990s was the growing influence of capital inflows on the conduct of monetary policy. With capital flows in excess of the current account deficit, the Reserve Bank absorbed the surplus foreign exchange in the market. As a result, the share of net foreign assets (NFA) in reserve money increased to 78.1 per cent as at end-March 2002 from 7.8 per cent as at end-March 1990, with implications for monetary expansion (Chart V.18). As on March 14, 2003, the ratio stood at 97.0 per cent. Nonetheless, the Reserve Bank could effectively sterilise such capital flows and keep reserve money under control by trading the surpluses on the external account with the fiscal deficit and thus, neutralise its own balance sheet. In this context, it may be noted that for a part of the accretion

MONEY, CREDIT AND PRICES



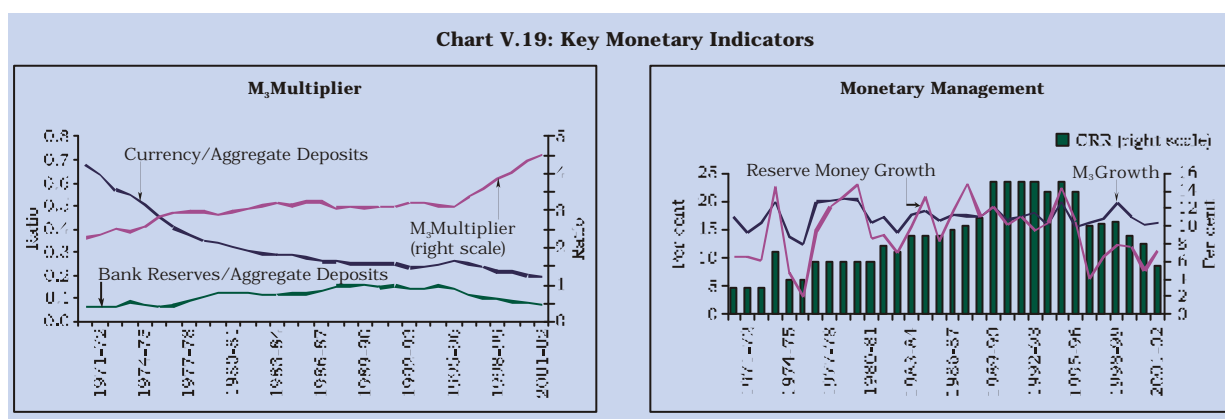
to NFA in the form of aid receipts, revaluation and income from foreign assets, there is no monetary impact and hence no need for sterilisation. For instance, such flows amounted to 64 per cent of incremental NFA during 1998-2002; in 2002-03 (up to March 14, 2003), the ratio was 31 per cent.

5.73 The share of the net Reserve Bank credit to the Centre in reserve money declined over the 1990s. More recently, the net Reserve Bank credit to the Centre has recorded a decline even in absolute terms in the face of a sustained surge in capital flows. In the process, the monetisation of the Centre's fiscal deficit (as a proportion to GDP) declined from 2.1 per cent during the 1980s to 0.7 per cent during the 1990s. As a result, reserve money expansion could

be contained to 14.3 per cent during the 1990s as compared with 16.5 per cent during the 1980s.

5.74 An additional factor behind the lower reserve money growth was a sustained cut in cash reserve requirements since the late 1990s, in line with the stated policy objective to reduce it to the statutory three per cent. As a result, the M_3 multiplier jumped to 4.4 as at end-March 2002 from 3.1 as at end-March 1995 thus amplifying the monetary impact of primary liquidity in the recent years. The overall M_3 growth rate, therefore, worked out to 17.3 per cent per annum during the 1990s, close to 17.2 per cent in the previous decade although reserve money expansion decelerated during the 1990s (Chart V.19).

5.75 A stylised fact of the 1990s, as noted earlier, was a sharp rise in net foreign assets of the Reserve Bank with a corresponding decline in net domestic assets reflecting sterilisation by the Reserve Bank. An issue that needs to be examined is whether it was the reduction in net domestic assets that caused subsequent capital inflows or whether they offset the previous capital inflows. For most of the countries, both lines of causality could be at play depending upon the degree of capital account liberalisation and sensitivity of foreign flows to interest rate differentials. An examination of the offset coefficient – the response of net foreign assets to net domestic assets - for a sample of six countries studied by Schadler *et al* (1993) showed that all, except Thailand, had scope for effective sterilisation. For India, Granger causality tests indicate a uni-directional causality from changes in NFA to net domestic assets (NDA).⁸ Moreover, the sterilisation coefficient - the response of change in NDA



8. In a bivariate VAR of net foreign exchange assets (NFA) and net domestic assets (NDA) of the Reserve Bank (with both variables in first-difference) over the period April 1994 to December 2002, the null hypothesis of Granger non-causality of NDA can not be rejected (with chi-square of 0.37 at p-value of 0.54). On the other hand, the null hypothesis of Granger non-causality of NFA can be rejected (with chi-square of 9.35 at p-value of 0.00). The VAR was estimated with one lag based on Schwarz Bayesian Information Criterion (SBIC).

REPORT ON CURRENCY AND FINANCE

to that in NFA - was (-) 0.84 during April 1994-December 2002, *i.e.*, an increase of Rs. 100 in NFA attracted a policy response of sterilisation that drained away NDA worth Rs. 84 from the system⁹. In other words, the results do not suggest that capital inflows were in response to domestic monetary conditions. This indicates scope for effective sterilisation. In theory, surges in capital flows should ease domestic money market conditions and lower interest rates. Given the estimated sterilisation coefficient for India, the authorities were largely able to steer interest rates consistent with domestic macroeconomic conditions.

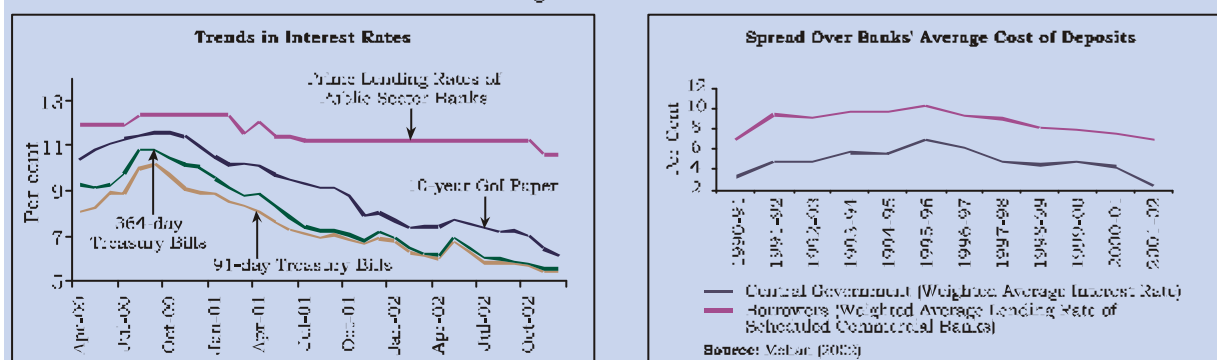
5.76 The sustained increase in the ratio of net foreign assets to net domestic assets during the 1990s reflected both the scale effect (the CRR cuts) and the substitution effect (sterilisation) of the changes in the monetary policy framework and structural changes. This has two implications. First, the reduction in NDA limits the Reserve Bank's ability to sterilise capital flows in future. Second, this also impacts the Reserve Bank's income in terms of the differential between domestic and international interest rates.

signals emanating from the changes in the policy rate is the degree of 'pass-through', *i.e.*, the speed and the magnitude of the response of the market interest rate spectrum to the monetary policy signals (RBI, 2002d). Between March 1998 and February 2003, the Bank Rate and the repo rate were cut by 425 basis points and 250 basis points, respectively. In addition, the CRR was reduced by 550 basis points over the same period. The repo rate was cut by a further 50 basis points in March 2003. The easing of the monetary policy stance was mirrored in a general softening of interest rates in the money markets (with call rates declining by almost 325 basis points) and in the government securities markets (with the yield on 10-year government securities declining by almost six percentage points). However, the prime lending rates of major banks remained sticky. This suggests a low level of pass-through of the changes in the policy rates on to the lending rates, thereby blunting the efficacy of the monetary policy. Over a medium-term horizon, the spreads of lending rates of commercial banks over their average costs of deposits reveal a marginal narrowing down since 1996-97. The spreads, however, still continue to be fairly large. The spread of the Central Government's market borrowings over the banks' average cost narrowed from 5.2 per cent during 1990-96 to 4.4 per cent during 1996-2002 while that of other borrowers declined from 9.2 per cent to 8.1 per cent over the same period (Chart V.20).

Interest Rate Pass-through

5.77 While the Reserve Bank is increasingly able to ensure orderly conditions in the financial markets, the critical issue in determining the effectiveness of the

Chart V.20: Borrowing Costs of the Government and Others



9. The estimated equation, using monthly data over April 1994 to December 2002, is:

$$DNDA = -1243 - 0.84 DNFA + 139.9 DIIP(-1) + 87.2 DWPIA(-1) + 5513 DCRRAVG.$$

(1.7)*** (10.3)* (1.7)*** (1.2) (11.7)*

DW = 2.3 $\bar{R}^2 = 0.78$

The figures in brackets are t-values; *, ** and *** denote significance at 1, 5 and 10 per cent level, respectively. DNDA, DNFA, DIIP and DCRRAVG denote monthly variations in net domestic assets, net foreign assets, index of industrial production and average CRR, respectively. DWPIA is year-on-year inflation rate. In addition, monthly dummies for March, April, May, October and November turned out to be significant and were included in the estimated equation. The variable DCRRAVG captures the reduction in NDA over the sample period that was due to the lowering of CRR.

MONEY, CREDIT AND PRICES

5.78 This relative downward inflexibility in the commercial bank interest rate structure can be attributed to a number of structural factors in the Indian banking system (RBI, 2002e):

- Average cost of deposits for major banks continues to be relatively high (6.25 to 7.25 per cent). This could be attributed partly, in turn, to the returns on alternative savings instruments in the country. Despite reductions in the administered interest rates on small savings and provident funds in the recent period, these instruments still yield higher returns than bank deposits, which are made even more attractive by tax benefits. This, therefore, constrains the banks' ability to reduce deposit rates. Furthermore, in the absence of a well-developed pension market, bank deposits continue to be the dominant source of income for senior citizens. This hinders sharp cuts in interest rates on bank deposits. Moreover, although the inflation rate has declined in the recent period, its year-to-year variability, as noted earlier, remains high. This might have prevented a commensurate decline in inflation expectations and thus, keeping nominal rates high.
- Substantial portion of bank deposits remains in the form of long-term deposits at fixed interest rates. This limits the flexibility available to banks in reducing their lending rates in the short-run without adversely affecting their return on assets.
- Relatively high overhang of non-performing assets (NPAs) further pushes up the average cost of funds for banks, particularly public sector banks.
- Non-interest operating expenses of banks work out to 2.5 to 3.0 per cent of total assets, putting pressure on the required spread over the cost of funds.
- In view of legal constraints and procedural bottlenecks in recovery of dues by banks, the risk-

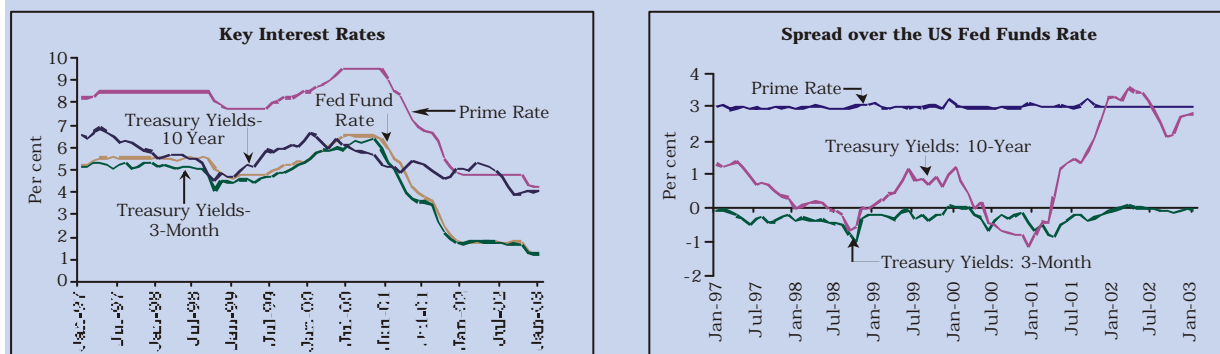
premium tends to be higher resulting in a wider spread between deposit rates and lending rates.

- In the context of the current cyclical slowdown of the economy, especially the industrial sector, the probability of defaults and late payments by borrowers increases; this could lead to an increase in risk premium and hence a stickiness in the PLR.
- The large borrowing programme of the Government, over and above SLR requirements, gives an upward bias to the interest rate structure.

5.79 In order to overcome these rigidities and to impart more flexibility to the interest rate structure, the Reserve Bank has recently initiated a number of measures. Banks were encouraged to introduce a flexible interest rate system option for all new deposits and urged to review and announce the maximum spreads over PLR. To have a greater degree of transparency with regard to actual interest rates for depositors as well as borrowers, banks were asked to provide information on deposit rates for various maturities, the effective annualised return to the depositors and maximum and minimum interest rates charged to their borrowers. These factors are expected to increase the degree of pass-through over time. For instance, the median range of interest rates at which at least 60 per cent of business is contracted narrowed from 12.75-14.00 per cent as at end-June 2002 to 12.00-14.00 per cent as at end-September 2002.

5.80 It would be useful to compare the Indian experience of pass-through with that of a developed economy. In contrast to the Indian experience, the pass-through in the USA is almost instantaneous and complete. For instance, between January 2001 and January 2003, the Fed Funds rate declined by 474 basis points; the prime rate over the same period declined by 480 basis points (Chart V.21). The correlation coefficient between the two rates was,

Chart V.21: Pass-through in the USA



Source: FRED II, Federal Reserve Bank of St. Louis.

REPORT ON CURRENCY AND FINANCE

therefore, nearly unity. The spread of the prime rate over the Fed Funds rate was almost constant at 300 basis points in the US as compared with almost 600 basis points over the Bank Rate in India at present. The pass-through is relatively lower on to the long-rates. For instance, the correlation coefficient of 10-year Treasury yields with the Fed Funds rate was 0.70 over the period January 1997 to January 2003. On the other hand, in India, although long-term yields fell in line with the monetary easing, the prime lending rate did not show much co-movement. This brings into sharp focus the importance of a faster pass-through for an effective monetary policy.

Real Interest Rates

5.81 The low interest pass-through, in the context of a decline in the inflation rate, is reflected in a hardening of the real interest rate (Table 5.9). The impact differed across various sectors in view of divergent trends in the pass-through as well as the relevant inflation rates. In particular, the appropriate real interest rate for borrowers increased significantly as manufacturing inflation declined more sharply than the headline inflation while the nominal rates remained relatively sluggish. The sluggishness of nominal rates, in turn, emanated from a combination of downward rigidity of deposit rates, low pass-through and risk-aversion by banks in view of the prudential norms. In the case of the Central Government, the increase in real interest rates could be attributed partly to the fact that the administered interest rate mechanism continued during the first few years of the 1990s. For the Central Government, real interest rates, in fact, fell sharply in

2002-03 on the back of a substantial decline in nominal yields. The key issue, in terms of the growth objective, is the impact of the structure of real interest rates, especially as the interest cost as a proportion of sales of corporates is much higher as compared with many emerging market economies (Mohan, 2002).

5.82 For India, econometric evidence suggests that a 100 basis point rise in real interest rates depresses the real GDP and hence widens the output gap (actual /less trend output) by six basis points in the short-run and almost 60 basis points in the long-run.¹⁰ Available empirical evidence also suggests that the response of output to monetary policy signals is asymmetric, with a tight monetary policy being more effective than an easy monetary policy. For the US, the short-run response of output to increases in the Fed Funds rate is estimated to be more than twice of the response to decreases in the Fed Funds rate (Piger, 2003).

IV. TRANSMISSION CHANNELS OF MONETARY POLICY

5.83 In India, as in many other developing countries, credit markets were typically segmented till the 1980s, with interest rate controls and directed lending stipulations. During the 1990s, financial sector liberalisation brought out greater linkages among the various segments of the financial markets paving the way for the emergence of an interest rate channel of monetary policy transmission. With the increasing opening of the economy, the exchange rate channel of the monetary policy transmission is also expected to reinforce the traditional interest rate channel (Box V.2). The transmission channels of monetary policy are, therefore, expected to have undergone changes, consequent upon the liberalisation of financial markets. Against the backdrop of these changes, this Section makes an attempt to examine the transmission process in the 1990s vis-a-vis the 1980s.

Monetary Transmission in India

5.84 For India, the empirical evidence showed that changes in money supply lead to changes both in output and prices, although the price effects of an increase in money supply are stronger than the output effects (Rangarajan and Arif 1990; Jadhav 1994). The Working Group on Money Supply (RBI, 1998b) found a strong unidirectional causation running from real

Table 5.9 : Real Interest Rates

Category/Period	(Per cent)	
	1990-91 to 1995-96	1996-97 to 2001-02
	1	2
Depositors	-0.3	1.9
Central Government	1.8	6.8
Borrowers	6.5	12.5

Note : Real interest rates calculated as the weighted average lending rate of scheduled commercial banks less manufacturing inflation, for borrowers; weighted average interest rate on Central Government securities less WPI inflation, for the Central Government; and average cost of time deposits less CPI-IW inflation for depositors.

Source : Mohan (2002).

$$10. \text{YGAP} = - 0.06 \text{RLINTWTP}(-1) - 0.07 \text{DFUEL} + 0.38 \text{GDPAGRI} + 0.89 \text{YGAP}(-1)$$

(2.4) (4.4) (8.2) (5.5)

Durbin's h = 0.7; $\bar{R}^2 = 0.69$.

YGAP, RLINTWTP, DFUEL and GDPAGRI are output gap, real weighted bank lending rate (nominal weighted average less WPI inflation rate), fuel inflation and agricultural growth. The equation has been estimated over 1972-73 to 2001-02 using annual data. The figures in brackets are t-values.

Box V.2

Monetary Transmission Mechanism: An Overview of Empirical Evidence

The transmission mechanism describes as to how monetary policy action affects output and inflation, which are the final objectives of monetary policy. Monetary policy action transmits to the ultimate objectives through two broad sets of channels, financial prices (e.g., interest rates, exchange rates, yields, asset prices, equity prices) and financial quantities (money supply, credit aggregates, supply of government bonds, foreign denominated assets).

An important financial market prices channel is the interest rate channel. A contractionary monetary policy leads to a hike in nominal short-term interest rate, which given nominal rigidities (sticky nominal wages and prices) and the expectations model of the term structure, translates into higher real interest rates. The resultant increase in the price of currently purchased goods as compared with goods purchased in the future reduces investment and consumption and contracts output. As wages/goods prices adjust over time, real GDP returns to the potential level and the real interest rate and the real exchange rate also return to their fundamental levels.

The efficacy of the interest rate channel would, however, be reduced in case banks ration credit. But even though interest rates charged by banks do not change, the amount of lending by banks would increase if the supply curve of funds shifts to the right; to that extent, even with unchanged interest rates, the economic activity will have a positive effect.

The transmission of monetary policy through interest rates is augmented by changes in the exchange rates and balance sheet effects. Higher interest rates, for example, induce an appreciation of domestic currency which leads to lower prices of imports (the direct effect) and a reduction in net exports and, hence, in aggregate demand and output leading to a decline in prices (the indirect effect). Changes in interest rates impact on the balance sheet in a variety of ways. Higher interest rates, for example, lead to lower cash flows of firms and personal disposable incomes of households and, hence, reduce investment and consumption demand. Similarly, higher interest rates reduce asset prices and erode the net worth of borrowers restricting their ability to borrow.

On the other hand, the monetarist view of transmission argues that interest rate is just one of the many relative prices in the transmission mechanism. It is not just a single short-term interest rate but actual and anticipated prices on a variety of domestic and foreign assets that also undergo a change. Monetary impulses are, therefore, transmitted through relative price changes and changes in real money balances. The particular pattern of relative price changes varies from cycle to cycle and from country to country.

Empirical Evidence

Recent empirical research has confirmed the early findings of Friedman and Schwartz (1963) that monetary policy actions are followed by movements in real output that may last for two years or more. Furthermore, real effects of the monetary shocks are not only substantial but also long-lived (though not permanent) with the effects remaining up to three years (Romer and Romer, 1989). The recent vector auto regression (VAR)

literature confirms these results: monetary policy shocks have a persistent effect on output while inflation displays an inertial response. Output, consumption and investment display a hump-shaped response, with the peak effect occurring about 1.5 years after a monetary policy shock. Inflation also displays a hump-shaped response, with the peak response after about two years (Christiano *et al*, 2001).

The results for the euro area broadly conform to this pattern. The peak effect of output occurs after one year while inflation hardly moves during the first year. The delayed response of prices relative to that of output suggests that studying the transmission of policy to spending and output is a logical step, even if the aim of monetary policy is defined primarily or exclusively in prices (Angeloni *et al*, 2002). Although the persistence of inflation has declined *per se* in the US and the UK, the lags in the impact of systematic monetary policy action on inflation still persist despite numerous changes in monetary policy arrangements and advances in information processing as well as financial market sophistication (Batini and Nelson, 2002). A distinguishing feature of the euro area and the Japanese transmission *vis-à-vis* that of the US is that real output changes in the former are brought about largely by the response of investment in contrast to the predominant role of consumption in the latter. A comparative analysis of the alternative channels for the euro area, as a whole, suggests that the interest rate appears to be a very prominent, although not the dominant, channel of transmission; for some individual countries though, it turns out to be the dominant channel. For the euro area, the exchange rate channel is the dominant channel of transmission in the first two years, both in terms of its impact on output and on prices; from the third year onwards, the user cost of capital channel is dominant in terms of impact on output.

The 'credit channel' is found to operate significantly in Germany and Italy but irrelevant in some other euro area countries. Thus, the role of the banks is found to be smaller than expected. On the other hand, evidence for Japan indicates a strong role for the 'credit channel' since borrowers have been unable to substitute bank borrowing with alternative sources and consequently, business investment is especially sensitive to monetary shocks (Morsink and Bayoumi, 2001). Moreover, a money shock is found to have a large impact on economic activity even when the interest rate is included in the VAR; this suggests that the interest rate channel does not fully account for the transmission mechanism in Japan. The overall evidence, therefore, strongly suggests that short-term policy nominal interest rates do have real effects in the short- and medium-term.

The monetary policy transmission channels in emerging market economies have also been affected by the process of financial liberalisation (Kamin *et al*, 1998). The withdrawal of state controls facilitated the emergence of an interest rate channel, although the credit channel remains important, especially in the context of occasional financial fragility. At the same time, the opening up of the economy together with the withdrawal of balance sheet restrictions enhanced the role of asset prices, in particular the exchange rate, in the monetary transmission process.

output to real money. Besides, the output response operating through the interest rate channel turned out to be stronger and more persistent than that of the credit channel. A comparison of monetary impulses transmitted through interest rate effects and through liquidity effects for the period 1961-2000 indicates that the interest rate channel has emerged as a significant factor for explaining the variation in real activity in the 1990s as compared with its negligible impact in the 1980s (Dhal, 2000). The liquidity effect, although significant, diminished in terms of magnitude. This subsection examines afresh the transmission mechanism in India in the recent years (April 1994 to December 2002) *vis-à-vis* the 1980s (April 1981 to June 1990). The analysis is undertaken in terms of a vector autoregression (VAR) framework (Box V.3).

5.85 The results of the empirical exercise in terms of impulse responses for both the periods are generally on the expected lines. A positive shock to broad money (*i.e.*, expansion) over time leads to higher output while a positive shock to the call money rate (*i.e.*, increase) produces the reverse effect. The effect is, however, more pronounced and sharp during the first period as compared with the post-1994 period. In recent years, shocks to the call money rate take almost one year to have the expected negative effect on output, reflecting the monetary policy lags. A positive shock to non-food credit (*i.e.*, expansion) has the expected positive effect on output and the response during the post-1994 period is quicker. This indicates the role of a narrow credit channel in the Indian context and hence supports the continuing

Box V.3

Transmission Channels for India: Methodology and Data Issues

In the literature, the two competing approaches in assessing the transmission mechanism are structural modeling approach and vector autoregression (VAR) model. The structural model approach sometimes suffers from the imposition of identifying restrictions and arbitrariness regarding the variables that are assumed to be exogenous (or pre-determined) (Sims, 1980). Moreover, because most of the macroeconomic variables are non-stationary in nature, estimating a structural model may provide spurious estimates and misleading forecasts. As an alternative, formulating unrestricted VAR models, treating all variables as endogenous in order to avoid infecting the model with spurious or false identifying restrictions is preferred. Although the VAR methodology has also been subjected to criticism, the method remains popular since it offers a straightforward solution to the simultaneity problem and appears to yield a reasonable characterisation of the economy's response to monetary policy (Kuttner and Mosser, 2002).¹¹ Unlike a macroeconomic model, the VAR facilitates quantifying the impact of policy shocks. This method also makes the lag structure and dominance of the channels transparent. In view of lack of a consensus on the workings of the transmission, the preference for VAR methodology in the recent literature, therefore, comes from the minimum restrictions that it places on as to how the monetary shocks affect the economy.

For the purposes of the present empirical exercise, the VAR model includes five endogenous variables in the following order: Index of Industrial Production (LIIP), Wholesale Price Index (LWPI), Non-Food Credit (LNFC), Broad Money (LM₃) and Call Money Rate (CALL). The ordering of output and prices before the monetary policy variables appears reasonable in view of the well-accepted lags of the monetary policy actions on to output and prices; given the use of the monthly data, the ordering is all the more appropriate. Since the operating framework of the monetary policy has undergone changes during the period, as discussed earlier in this Chapter, from a monetary targeting approach to a multiple indicator approach in 1998, both money and interest rate are included in the VAR to capture the monetary policy shock. To assess the changes in the transmission that could have occurred in the aftermath of the structural reforms initiated in the economy during the 1990s, the VAR is estimated for the pre-reform (1981:04

to 1990:06) and the post-reform (1994:04 to 2002:12) periods separately. The intervening period 1990:07 to 1994:03 was marked by external payments imbalances, subsequent macroeconomic stabilisation and structural reforms and was, therefore, excluded from the analysis. In addition to the endogenous variables, the primary articles price index is included as an exogenous variable in the VAR, given the dominance of supply shocks as well as the procurement pricing approach in respect of agricultural commodities. The Bombay Stock Exchange index (LBSSES) and the exchange rate of the rupee *vis-à-vis* the US dollar (LEXCH) are also included as exogenous variables in the VAR as a control for the growing globalisation and financial integration across various segments of the market. Finally, appropriate dummies have been used to control for abrupt oil price changes, spikes in the call money market (induced by the foreign exchange market volatility) and the impact of mergers. The prefix 'L' denotes the logarithms of the variables.

All the five variables in the VAR are found to be non-stationary. The ADF test statistics (with lag selection criteria based on the AIC criterion) were: 1.6 for LIIP (12 lags), 2.4 for LWPI (8 lags), 1.8 for LNFC (12 lags), 1.6 for LM3 (12 lags) and 0.5 for CALL (13 lags) for the period 1981:04 to 1990:06. For the second period (1994:06-2002:12), the corresponding t-statistics were: 2.3 (10 lags), 1.5 (6 lags), 0.8 (3 lags), 0.4 (1 lag) and 2.5 (3 lags). The 1%, 5% and 10% critical values are 3.5, 2.9 and 2.6, respectively. Given the non-stationarity of the variables, the option of differencing of series produces no gain in asymptotic efficiency and throws away information. However, if the variables are cointegrated, the VAR can be estimated in levels. Since the cointegration tests using the Johansen-Juselius framework reveal that there exists at least one co-integrating vector for each of the sample periods, the VAR is, therefore, run in levels rather than the differenced form.

11. Rudebusch (1998), for instance, points out that monetary policy shocks obtained from VAR are not a good indicator since they have a very low correlation with those emerging from the federal funds futures market. Nonetheless, Sims (1998) observes that VAR may provide a correct description of the economy.

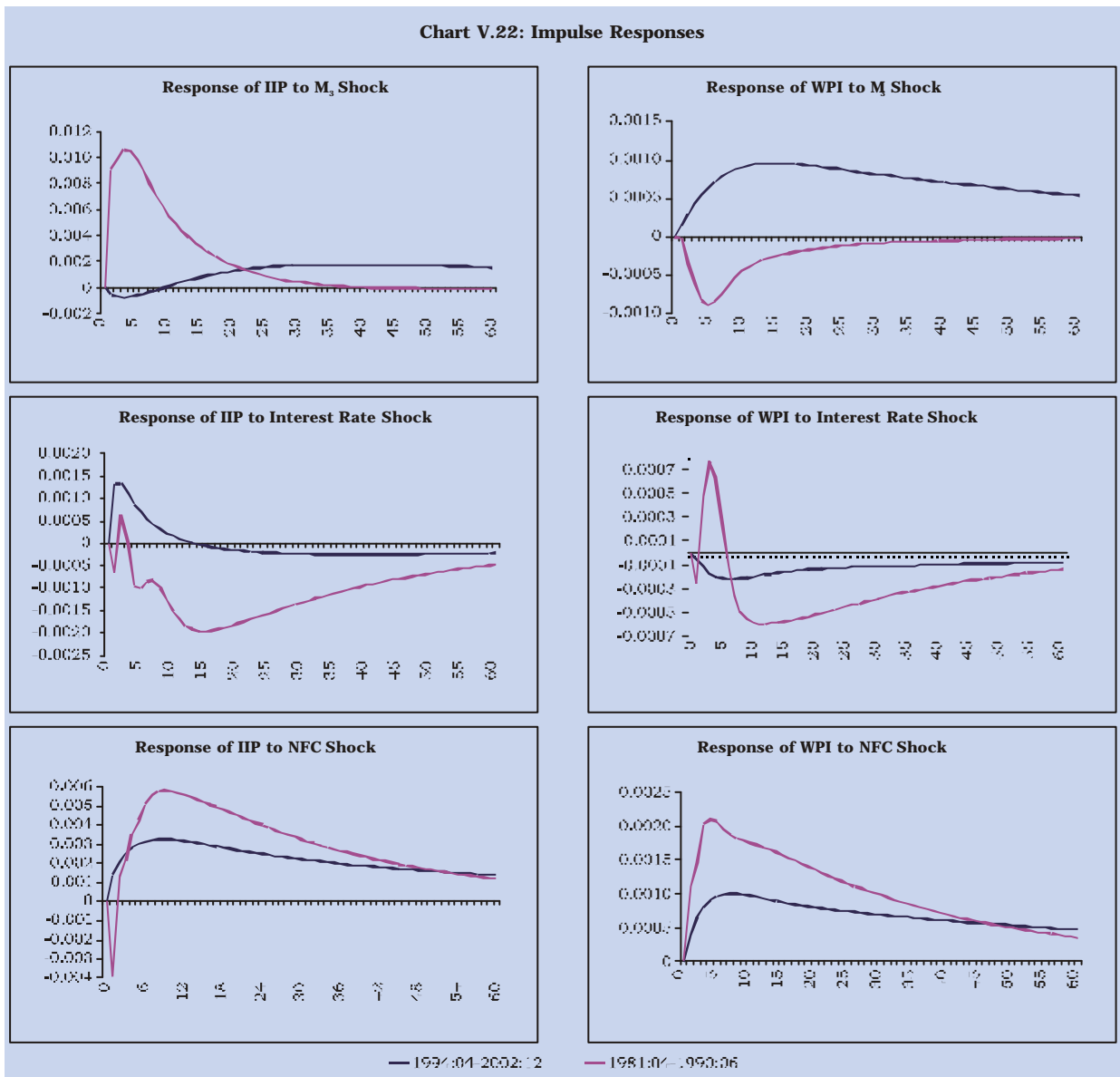
MONEY, CREDIT AND PRICES

policy stress on the provision of adequate liquidity to meet genuine credit requirements to support investment demand. As regards prices, a positive broad money shock results in higher prices in the post-1994 period. However, in the pre-reform period, the outcome is a counter-intuitive fall in prices and, at no horizon does the effect become positive, perhaps reflecting the greater degree of administered pricing in the 1980s. The monetary policy tightening through a positive shock to the interest rate has the expected stabilising influence on prices in both the periods. The shocks to non-food credit have a positive impact on the prices, with the effect being weaker in the post-

1994 period, supporting the policy rationale of meeting credit requirements with continuous vigil on prices (Chart V.22).

5.86 An assessment of the impulse responses brings out certain differences in the lag structure of monetary transmission. The peak effect of the money shock on output occurs after 35 months in the post-1994 period (compared to three months in the 1980s) while the peak effect of the interest rate shock takes 32 months (14 months in the 1980s). On the other hand, the peak effect of non-food credit at nine months in the post-1994 period was the same as during the 1980s.

Chart V.22: Impulse Responses



REPORT ON CURRENCY AND FINANCE

As regards the lags on to prices, the maximum effect in the case of the interest rate shock occurs after six months in the post-1994 period (11 months in the 1980s); for non-food credit shocks, the peak effect takes place after seven months (four months).

5.87 Apart from impulse responses, the VAR analysis is also undertaken through variance decomposition. This measures the percentage of forecast error variance in one variable that can be attributed to innovations in a particular variable under consideration. The proportion of output variance due to innovation to broad money, at 60 months horizon, shows a perceptible decline from 19.7 per cent during the 1980s to 2.8 per cent during the second period. Similarly, the proportion of output variance due to interest rate shocks declined from 2.0 per cent to 0.2 per cent over the same period (Table 5.10). These results indicate that the role of monetary policy shocks in output variability has been substantially lower during the post-reform period. In other words, the monetary policy has been stabilising over the period in the sense that the endogenous response of monetary policy to macroeconomic developments has been to minimise fluctuations in economic activity. This result is consistent with the evidence emerging from the studies in the context of the US (Boivin and Giannoni, 2002). Another viewpoint, however, interprets the decline in the role of the monetary policy shocks as suggestive of the view that the monetary policy does not matter and the improved outcome is attributed to better inventory management (Kahn *et al*, 2002). As regards the role of monetary policy shocks on prices, the evidence is inconclusive. While the contribution of the interest rate shocks to the variability of prices declined from 4.1 per cent during the 1980s to 0.7 per cent during the second period, that of the money supply shocks increased from 2.1 per cent to 23.6 per cent over the same period.

5.88 In brief, the preliminary evidence from the above VAR analysis throws some interesting results. The impulse responses are more consistent with a

priori theory during the post-reform period *vis-à-vis* the 1980s. The variance decomposition analysis shows that the role of monetary policy shocks has declined, at least, in regard to output fluctuations. At the same time, it is important to note that given the evolutionary, rather than discrete and abrupt, nature of financial and other structural reforms in the economy, their impact on the monetary transmission will become evident only over relatively long periods of time. The scope of the formal tests of structural change is rather limited and the assessment of the change in the transmission mechanism, as in this exercise, is confined to economic, rather than statistical, significance of the changes (Kuttner and Moser, 2002). Finally, the above empirical exercise is constrained by the use of industrial production as a measure of output in the absence of a reasonably long quarterly time series on total GDP of the economy. In view of the significant structural shifts towards the services sector and the interlinkages between agriculture, industry and services, the results of this empirical exercise should be considered as tentative and would need to be ratified with a comprehensive measure of output, as also by considering alternative techniques.

5.89 The monetary policy transmission mechanism in the future would have to grapple with the ongoing revolution in the payments and settlement system. The gradual e-monetisation can shrink cash demand and thus the monetary authority's balance sheet, reducing seigniorage revenues and restricting open market operations. On the other hand, it is argued that the central bank's ability to influence the nominal rate of interest is eventually an issue of political economy and the government can always require settlement through central bank money (Goodhart, 2000; RBI, 2002c). Besides, as long as monetary transactions take place through the banking channel - for example, a credit card payment is essentially an advance from a bank - the spread of e-monetisation does not, *per se*, require redefinition of monetary and financial aggregates (RBI, 1998b).

Table 5.10: Variance Decomposition Analysis

(Per cent)

Innovations to	Proportion of Forecast Error Variance in											
	Output		Prices		Output		Prices		Output		Prices	
	1	2	3	4	5	6	7	8	9	10	11	12
	Period: 1981:04-1990:06						Period: 1994:04-2002:12					
	12 months		24 months		60 months		12 months		24 months		60 months	
Non-food Credit	7.3	22.5	13.2	30.3	17.0	34.8	2.8	11.6	4.9	16.8	7.4	20.9
Broad Money	21.4	2.5	20.9	2.3	19.7	2.1	0.1	7.6	0.5	15.8	2.8	23.6
Interest Rate	0.4	1.8	1.3	3.2	2.0	4.1	0.2	0.5	0.2	0.6	0.2	0.7

V. CONCLUDING OBSERVATIONS

5.90 The 1990s marked a fundamental shift in the role of the monetary and financial system from a passive channel of resource mobilisation and disbursal guided by the planning process to an active role in resource allocation in accordance with market signals. The reforms were enabled by fundamental shifts in the monetary-fiscal interface. Moreover, in the context of the growing openness of the Indian economy, the absorption of excess foreign exchange supply in the market led to significant compositional shifts in the Reserve Bank balance sheet and the reserve money analytics. This necessitated recourse to open market operations to achieve the monetary policy objectives. Coupled with the ongoing financial deregulation and its possible implications for stability of money demand, the monetary targeting framework evolved into a multiple indicator approach in 1998-99. In addition, a framework for liquidity management in the form of Liquidity Adjustment Facility was put in place in June 2000.

5.91 The monetary policy reforms facilitated a significant reduction in pre-emption of resources. A noteworthy development was the lowering of inflation in the economy in the second half of the 1990s attributable, *inter alia*, to better monetary management. This, in turn, led to a concomitant softer interest rate environment, especially in the government securities market. The LAF was able to maintain stability in money market conditions. Finally, monetary policy was successful in sterilisation of capital flows in consonance with domestic requirements. An empirical assessment of the monetary transmission mechanism suggests that the output and inflation variations are

largely on account of non-monetary factors and the contribution of the monetary policy shocks declined further during the 1990s as compared with the 1980s.

5.92 A few issues emerge from the analysis. An important factor determining the effectiveness of the monetary transmission process is the degree of 'pass-through'. In view of the weak sensitivity of the bank lending rates to changes in the Bank Rate, the efficacy of the monetary policy in reinvigorating growth runs up against a constraint. Second, the shrinking net domestic assets of the Reserve Bank in the context of sustained capital flows brings into focus the limits of sterilisation on an ongoing basis.

5.93 Finally, a key objective of macroeconomic policy, including monetary policy, must be the avoidance of resurgence of inflationary expectations. In this context, despite a significant improvement in the monetary-fiscal interface during the 1990s, fiscal dominance continues to persist with growing volume of gross market borrowings. The burden of directly financing the fiscal deficit could easily revert back to the Reserve Bank in case of a reversal in the liquidity conditions, especially as banks' investments in Government securities are already far in excess of their statutory SLR requirements. Therefore, the issue of separation of debt management function from the monetary authority needs to be addressed. The proposed Fiscal Responsibility and Budget Management Legislation and the need to accord greater operational flexibility to the Reserve Bank, as indicated in the Union Budget, 2000-01 could have far-reaching ramifications on the operational framework of monetary policy in India.

VI

FINANCIAL SECTOR

Introduction

6.1 Until the early 1990s, the role of the financial system in India was primarily restricted to the function of channelling resources from the surplus to deficit sectors. Whereas the financial system performed this role reasonably well, its operations came to be marked by some serious deficiencies over the years. The banking sector suffered from lack of competition, low capital base, low productivity and high intermediation cost. After the nationalisation of large banks in 1969 and 1980, the Government-owned banks have dominated the banking sector. The role of technology was minimal and the quality of service was not given adequate importance. Banks also did not follow proper risk management systems and the prudential standards were weak. All these resulted in poor asset quality and low profitability. Among non-banking financial intermediaries, development finance institutions (DFIs) operated in an over-protected environment with most of the funding coming from assured sources at concessional terms. In the insurance sector, there was little competition. The mutual fund industry also suffered from lack of competition and was dominated for long by one institution, viz., the Unit Trust of India. Non-banking financial companies (NBFCs) grew rapidly, but there was no regulation of their asset side. Financial markets were characterised by control over pricing of financial assets, barriers to entry, high transaction costs and restrictions on movement of funds/participants between the market segments. This apart from inhibiting the development of the markets also affected their efficiency. It was in this backdrop that wide-ranging financial sector reforms in India were introduced as an integral part of the economic reforms initiated in the early 1990s.

6.2 Financial sector reforms in India are grounded in the belief that competitive efficiency in the real sectors of the economy will not be realised to its full potential unless the financial sector was reformed as well. Thus, the principal objective of financial sector reform was to improve the allocative efficiency of resources and accelerate the growth process of the real sector by removing structural deficiencies affecting the performance of financial institutions and financial markets.

6.3 The main thrust of reforms in the financial sector was on the creation of efficient and stable financial institutions and markets. Reforms in respect of the banking as well as non-banking financial institutions focused on creating a deregulated environment and enabling free play of market forces while at the same time strengthening the prudential norms and the supervisory system. In the banking sector, the particular focus was on imparting operational flexibility and functional autonomy with a view to enhancing efficiency, productivity and profitability, imparting strength to the system and ensuring financial soundness. The restrictions on activities undertaken by the existing institutions were gradually relaxed and barriers to entry in the banking sector were removed. In the case of non-banking financial intermediaries, reforms focussed on removing sector-specific deficiencies. Thus, while reforms in respect of DFIs focussed on imparting market orientation to their operations by withdrawing assured sources of funds, in the case of NBFCs, the reform measures brought their asset side also under the regulation of the Reserve Bank. In the case of the insurance sector and mutual funds, reforms attempted to create a competitive environment by allowing private sector participation.

6.4 Reforms in financial markets focused on removal of structural bottlenecks, introduction of new players/instruments, free pricing of financial assets, relaxation of quantitative restrictions, improvement in trading, clearing and settlement practices, more transparency, etc. Reforms encompassed regulatory and legal changes, building of institutional infrastructure, refinement of market microstructure and technological upgradation. In the various financial market segments, reforms aimed at creating liquidity and depth and an efficient price discovery process.

6.5 In response to reforms, the Indian financial sector has undergone radical transformation over the 1990s. Reforms have altered the organisational structure, ownership pattern and domain of operations of institutions and infused competition in the financial sector. The competition has forced the institutions to reposition themselves in order to survive and grow. The extensive progress in technology has enabled markets to graduate from outdated systems to modern market

design, thus, bringing about a significant reduction in the speed of execution of trades and the transaction costs. However, despite substantial improvements in the financial sector, some issues have to be addressed over time as the reform process is entrenched further. Whether the public sector character of the banking sector is affecting its performance adversely? Whether dilution of the government stake would have a positive impact on the efficiency of the banking sector? As a result of various reform measures aimed at enhancing stability of financial institutions, there is a possibility that such measures might have affected the efficiency of financial institutions. Whether DFIs have lost their relevance? The relevant issue, however, is how to fill the vacuum that would be created when DFIs withdraw from the scene. The role of mutual funds in promoting savings continues to be insignificant. There is also an issue of availability of adequate risk capital with the resource mobilisation from the primary capital market showing a sharp decline in the second half of 1990s and the early 2000s. It has also been argued by some that various markets are still segmented. With blurring of boundaries among providers of various financial services, the issue as to what should be the appropriate supervisory framework for regulating them has also arisen.

6.6 As wide-ranging reforms have been initiated in the financial sector with a view to making it more efficient and stable, the main focus of this chapter is to assess the impact of reforms on efficiency and stability of financial institutions and financial markets. Besides, this chapter attempts to seek answers to the following three questions: (i) whether ownership pattern (public or private) impinges on the efficiency of the banking sector; (ii) whether various stability enhancing measures introduced in the Indian banking system have had any adverse impact on its efficiency; and (iii) whether the various market segments have become integrated.

6.7 The Chapter is structured as follows. Section I provides the theoretical underpinnings of the financial sector reforms and cross-country experiences with respect to reforms in the financial sector. Section II assesses the impact of reforms on the banking sector and other financial intermediaries in terms of various parameters relating to efficiency and stability. It also highlights some of the issues emerging out of the operations of various categories of non-banking financial institutions (NBFIs) such as DFIs, NBFs, insurance companies and mutual funds. Section III presents an analysis of the impact of reforms on various segments of the financial market, viz., the money market, the Government securities market, the

foreign exchange market and the capital market. The integration of various market segments is also tested empirically and analysed in this Section. The final Section sets out an overall assessment of reforms.

I. FINANCIAL SECTOR REFORMS: THEORETICAL RATIONALE AND INTERNATIONAL EXPERIENCE

6.8 The financial system acts as an efficient conduit for allocating resources among competing uses. The role and importance of the financial sector in the process of economic growth has evolved over time along with the changing paradigms. Till the late 1960s, the role of financial intermediaries in general, and banks in particular, in the process of economic growth of a country was largely ignored. The views on neutrality of financial intermediaries to economic growth, however, came under attack during the late 1960s. It was pointed out that there exists a strong positive correlation between financial development and economic growth of a country (McKinnon, 1973; Shaw, 1973). The McKinnon–Shaw paradigm highlighted the negative impact of ‘financial repression’, under which the Government determined the quantum, allocation and price of credit, on the growth process. They argued that credit is not just another input and instead, credit is the engine of growth. Subsequently, the proponents of endogenous growth theories argued that with positive marginal productivity of capital, development of financial market induces economic growth in the short as well as long-run by improving efficiency of investment (Bencivenga and Smith, 1991). Under this approach, efficient financial intermediation is growth-inducing through its role in allocating financial resources in the best possible uses. This approach challenged the McKinnon–Shaw paradigm that efficient financial intermediation results in positive real interest rate and that this enhances both saving and investment and thereby economic growth.

6.9 Notwithstanding the debate over the relative significance of the channels of financial intermediation in promoting economic growth, an efficient financial system is regarded as a necessary pre-condition for higher growth. Several developing countries, therefore, undertook programmes for reforming their financial systems. In the initial stages of the development process, the financial sector in developing countries was characterised by directed credit allocation, interest rate restrictions and lending criteria based on social needs, etc. These policies retarded the nature of financial intermediation in developing countries and the recognition of the same paved the way for financial

FINANCIAL SECTOR

sector reforms. Since the late 1970s and the 1980s, financial sector reforms encompassing deregulation of interest rates, revamping of directed credit and the

measures to promote competition in the financial services became an integral part of the overall structural adjustment programmes in many developing economies (Box VI.1).

Box VI.1

Financial Sector Reforms: Cross-Country Experiences

The guiding objectives of financial sector reforms in several countries were to improve financial sector efficiency while strengthening financial stability. It was believed that stable and efficient financial systems provided the foundation for implementing effective stabilisation policies, stepping up savings and improving the efficiency of investment, all of which help in achieving sustainable and higher rates of economic growth.

Cross-country experiences relating to financial sector reforms exhibited significant diversity, both over time and across countries. Despite the evolving consensus on the underlying rationale of a robust financial system, there was no unique approach that was uniformly applied across countries. Significant differences could be observed in respect of the content, pace and sequencing of reforms, which, to some extent, were due to the reason that some countries experienced financial crises after implementation of liberalisation measures.

Table 6.1: Financial Liberalisation in Select Countries: 1973-2002

Country	Year	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatisation
	1	2	3	4	5	6
United States	1973	BL; S&LR	LL	PR	L	L
	2002	L	L	LL	L	L
United Kingdom	1973	LL	B:LL	B:LL	L	L
	2002	L	L	L	L	L
Korea	1973	R	R	R	R	R
	2002	LL	LL	B: PR NBFI:LL	PR	LL
Philippines	1973	R	R	R	PR	PR
	2002	PR	LL	LL	PR	LL
Thailand	1973	R	R	R	-	PR
	2002	LL	L	LL	-	LL
Argentina	1973	R	R	R	-	R
	2002	LL	LL	L	-	PR
Brazil	1973	R	R	R	-	PR
	2002	PR	LL	LL	-	PR
India	1973	R	R	R	R	R
	2002	LL	LL	PR	LL	PR

L: Liberalised – A liberalised system is one where the role of the Government has been largely curtailed.

LL: Largely liberalised – Largely liberalised denotes a system governed more by market forces, with Government role in certain important spheres.

R: Repressed – A repressed system is one in which virtually all decisions in the relevant dimension are made by the Government.

PR: Partly repressed – A partly repressed system is one where repression is not complete, but the system is closer to that end of the spectrum.

B: Banks; NBFIs: Non-banking financial institutions; S&L: Saving and Loan Associations.

Note/Source: The position for 1973 is from Williamson and Mahar (1998). The position for 2002 is compiled based on information from central bank websites, IMF reports, etc.

There was significant liberalisation of the financial sector both in industrial and developing countries over the period 1973-2002 (Table 6.1). Interest rate controls were almost universally eliminated and barriers to entry for most non-bank financial institutions were lowered, and in certain instances, rationalised. Most Latin American economies eliminated directed credit programmes and interest rate controls (exceptions being Brazil and Venezuela). Competition in the commercial banking sector was permitted in Latin American economies in the late 1970s and more recently in several Asian countries. Privatisation of state-owned banks was less sweeping across developing countries. For instance, prior to reforms, in several developing countries, the state-owned banks accounted for at least 40 per cent of the total banking sector assets. In several Asian (Korea, Taiwan and Indonesia) and Latin American countries (Chile and Mexico), the share of state-owned banks was higher than 70 per cent. However, recent evidence suggests a significant scaling down of Government ownership in the banking sector.

As regards the pace of reforms, Asian countries like Japan, Korea, Malaysia and Indonesia followed a gradualist approach to financial liberalisation in contrast to transition economies of Eastern Europe and some of the Latin American countries which adopted the 'big-bang' approach. While the Asian countries could afford a gradualist approach and maintain a system of financial repression because it did not reduce their ability to mobilise savings for economic development, some of the Southern Cone countries needed to liberalise rapidly to encourage greater mobilisation of savings to finance development. The pace of liberalisation tended to be faster in the Latin American countries, although there were instances of reversal. For example, Chile first liberalised with a big-bang in the 1970s when it privatised nationalised banks and removed controls on interest rates. Argentina also eliminated directed credit and interest rate controls in the late 1970s. However, both Chile and Argentina re-imposed controls during the financial crisis of the early 1980s, although they were subsequently relaxed. Chile, for instance, removed most controls by 1984 and re-privatised the nationalised banks in the mid-1980s. Argentina, on the other hand, embarked on a course of bank regulatory reform in the early 1990s, albeit at a slower pace. The major elements of the reforms comprised privatisation, free entry, limited safety net support and a mix of regulatory and market discipline to ensure stable growth of the banking system during the liberalisation process (Calomiris and Powell, 2000). Mexico's liberalisation in the late 1980s was punctuated by four turning points: 1982 (exchange rate crisis and bank nationalisation), 1988-89 (interest rate liberalisation), 1991-92 (bank privatisation) and 1994 (Tequila crisis). The financial liberalisation process culminated into transfer of ownership of state-owned banks to the private sector in 1991-92 and elimination of most of the entry barriers.

(Contd...)

(Contd...)

A number of countries in Asia, following the gradualist approach, progressively dismantled their directed credit programmes by introducing market-based rates on directed loans and increasing the number of categories eligible for special credit access. In Thailand, for instance, directed credit was eased in 1987 by widening the definition of agricultural credit to include wholesale and small-scale industrial activities. In Indonesia, Malaysia and South Korea, targeted lending programmes were reduced in scope, and subjected to market rates in the 1980s and the 1990s. In Philippines, however, the Government exerts influence over credit allocations through commercial banks' dependence on central bank rediscount window. Indonesia, Malaysia and Philippines assumed the lead in interest rate deregulation, beginning the process in the early 1980s.

Following the macroeconomic crisis in the early 1980s in Argentina and Chile and subsequent to the initiation of financial sector reforms, a strand of literature evolved which sought to explain the failure of reforms in terms of incorrect sequencing of the reform programmes (McKinnon, 1993). According to the conventional wisdom, stable macroeconomic environment and a sound system of prudential supervision are prerequisites for domestic financial deregulation. In practice, however, several countries implemented macroeconomic reforms prior to, or in tandem with, financial liberalisation. Chile, Peru and Turkey began financial sector deregulation under conditions of macroeconomic instability, but implemented their reforms as part of a larger stabilisation effort. Argentina, Brazil and Mexico, however, deregulated their financial sectors during periods of high inflation ahead of stabilisation programmes.

The apprehension that financial liberalisation is destined to breed crises has been documented in an influential study (Diaz-Alejandro, 1985). Several developing and industrial countries experienced episodes of systemic or borderline banking crises of varying magnitude and frequency, although in several instances they were not associated with financial liberalisation. Most developing countries, in particular, witnessed some financial instability, following liberalisation, including those in Latin America (Argentina, Chile, Brazil and Mexico) and Asia (Indonesia, Malaysia, Philippines, Sri Lanka, Thailand and Turkey). Banks generally found their existing loan portfolios to be less sound in a liberalised environment, because borrowers were not able to service debts due to higher interest costs or simply because implicit guarantees from Government on these debts were no longer available.

Thus, the evidence suggests that there are no iron cast formulae for financial liberalisation. A strategy adopted by a country could largely depend on the initial conditions of its financial infrastructure and extent of repression, the response of monetary and credit aggregates to monetary reforms and the health of its banking sector. Recent studies indicate that banking crises tend to precipitate balance of payments crises, but not *vice versa* (Kaminsky and Reinhart, 1999). The analysis of the experience of over 50 countries during 1980-1995 reveals that banking crises are more likely to occur in liberalised financial systems, but not where the institutional environment is strong in terms of respect for the rule of law, low level of corruption and good contract enforcement (Demirgüç-Kunt and Detragiache, 2002).

II. FINANCIAL INTERMEDIARIES - AN ASSESSMENT OF REFORMS

6.10 While financial institutions and financial markets are two generic mechanisms for transferring resources from the surplus sectors to deficit sectors, their relative significance varies from country to country. In the context of the underdeveloped capital market in India, financial intermediaries or institutions have traditionally played a predominant role in meeting the fund requirements of various sectors in the form of credit and investment. The major institutional purveyors of credit in India are banks (commercial banks and co-operative banks), DFIs and NBFCs. Traditionally, banks and NBFCs predominantly extended short-term credit and DFIs mainly provided medium and long-term loans. Insurance companies and mutual funds provided medium to long-term funds mainly in the form of investments. This distinction has got somewhat blurred in recent years. While financial intermediaries play an important role in the growth process by encouraging saving and investment and by improving the allocative efficiency of resources, this role is performed well only

when financial intermediaries are sound, stable and efficient.

6.11 The key objective of reforms in the financial sector in India has been to enhance the stability and efficiency of financial institutions. To achieve this objective, various reform measures were initiated that could be categorised broadly into three main groups: enabling measures, strengthening measures and institutional measures. The enabling measures were designed to create an environment where financial intermediaries could respond optimally to market signals on the basis of commercial considerations. Salient among these included reduction in statutory pre-emptions so as to release greater funds for commercial lending, interest rate deregulation to enable price discovery, granting of operational autonomy to banks and liberalisation of the entry norms for financial intermediaries. The strengthening measures aimed at reducing the vulnerability of financial institutions in the face of fluctuations in the economic environment. These included, *inter alia*, capital adequacy, income recognition, asset

FINANCIAL SECTOR

classification and provisioning norms, exposure norms, improved levels of transparency, and disclosure standards. Institutional measures were aimed at creating an appropriate institutional framework conducive to development of markets and functioning of financial institutions. Salient among these included reforms in the legal framework pertaining to banks and creation of new institutions.

6.12 Although there was a broad commonality in the objectives and instruments of reforms for all types of financial intermediaries, the pace and sequencing in each segment of the financial sector was determined keeping in view the state of development of the segment, its systemic implications and certain segment-specific characteristics. In view of their overwhelming dominance in the financial system and their systemic importance, reform measures were first introduced for commercial banks and subsequently extended to other financial intermediaries such as DFIs, NBFCs (especially public deposit-taking NBFCs) and co-operative banks, and insurance sector.

Commercial Banks

6.13 Reforms in the commercial banking sector had two distinct phases. The first phase of reforms, introduced subsequent to the release of the Report of the Committee on Financial System, 1992 (Chairman: Shri M. Narasimham) focussed mainly on enabling and strengthening measures. The second phase of reforms, introduced subsequent to the recommendations of the Committee on Banking Sector Reforms, 1998 (Chairman: Shri M. Narasimham) placed greater emphasis on structural measures and improvement in standards of disclosure and levels of transparency in order to align the Indian standards with international best practices. Reforms have brought about considerable improvements as reflected in various parameters relating to capital adequacy, asset quality, profitability and operational efficiency.

Stability Parameters (Capital Adequacy and Asset Quality)

6.14 Since banks are highly leveraged and exposed to risks, the capital adequacy requirements provide them with the financial cushion to cope with adverse effects on their portfolio. With the introduction of capital to risk-weighted asset ratio (CRAR) norms in 1992, significant improvement was noticed in the capital position of banks operating in India. While in 1995-96, 75 out of 92 banks had a CRAR of above eight per cent, as on March 31, 2002, 92 out of 97 banks operating in India had CRAR above the statutory minimum level of nine per cent (Table 6.2).

Table 6.2: Distribution of Scheduled Commercial Banks by CRAR

Year	Public Sector Banks		Private Sector Banks		Foreign Banks	SCBs
	SBI Group	Natio-nalised	Old	New		
	1	2	3	4	5	6
1995-96						
Below 8 per cent	–	8	6	–	3	17
8 per cent and above	8	11	19	9	28	75
1996-97						
Below 8 per cent	–	2	4	–	–	6
8 per cent and above	8	17	21	9	39	94
1997-98						
Below 8 per cent	–	1	4	–	–	5
8 per cent and above	8	18	21	9	42	98
1998-99						
Below 8 per cent	–	1	5	1	–	7
8 per cent and above	8	18	20	8	43	97
1999-2000						
Below 9 per cent	–	1	4	–	–	5
9 per cent and above	8	18	20	8	42	96
2000-2001						
Below 9 per cent	–	2	3	–	–	5
9 per cent and above	8	17	20	8	42	95
2001-2002						
Below 9 per cent	–	2	1	1	1	5
9 per cent and above	8	17	21	7	39	92

Note : SCBs had to comply with a minimum CRAR of 8 per cent up to end-March 1999 and 9 per cent from the year ended March 31, 2000 onwards.

6.15 There has been an improvement in overall capital adequacy of banks after the introduction of CRAR norms. However, as some banks in the public sector were not able to comply with the CRAR norms, there was a need to recapitalise them to augment their capital base. After the introduction of banking sector reforms in 1992, an amount of Rs.17,746 crore was infused as recapitalisation support to nationalised banks till March 31, 2002. At the same time, the Government's share in the capital of public sector banks (PSBs) is being diluted gradually with several banks making public offerings of their equity shares. Between 1993-94 and 2001-02, 12 public sector banks mobilised equity capital of Rs.6,501 crore through this route, including a premia of Rs.5,252 crore. However, available data suggest that some improvement in CRAR was also due to internal generation of funds.

6.16 Consequent upon the introduction of prudential norms relating to asset classification, income

REPORT ON CURRENCY AND FINANCE

recognition and provisioning, the most visible structural change in the banking sector was an improvement in their asset quality. The share of NPAs, in gross as well as net terms, declined significantly during the reform period. The ratio of gross NPAs to gross advances of scheduled commercial banks (SCBs) declined from 15.7 per cent as at end-March 1997 to 10.4 per cent as at end-March 2002. For PSBs, in particular, the ratio of gross NPAs to gross advances witnessed a perceptible decline from 23.2 per cent as at end-March 1993 to 11.1 per cent as at end-March 2002.

6.17 Incremental NPAs generally tend to be higher in economic downturns as during such phases, there is increased possibility of default by borrowers. In India, the average GDP growth rate, which was 6.8 per cent during the period 1992-93 to 1996-97, decelerated to 5.4 per cent during the next five-year period. Despite this slowdown, gross NPAs of PSBs as a proportion of gross advances, on an average, declined from 20.7 per cent to 13.9 per cent. Factors contributing to this decline related *inter alia* to improvements in credit appraisal and monitoring and recovery of past NPAs.

6.18 The difference between gross and net NPAs of PSBs (the latter typically equals about one-half of the former) reflects both obligatory provisions made against NPAs and the limited write-offs of NPAs undertaken by these banks (Chart VI.1).

6.19 The information on distribution of SCBs in terms of the ratio of net NPAs to net advances is set out in Table 6.3. The number of domestic banks with net NPAs above 10 per cent of net advances declined between 1996 and 2002. The reduction in the number of banks with high net NPAs was particularly noticeable for public sector banks. The number of foreign banks with net

NPAs above 10 per cent, however, increased in recent years, on account of the impaired asset position of some small foreign banks.

Table 6.3: Distribution of Scheduled Commercial Banks by Net NPAs to Net Advances

(Number of banks)

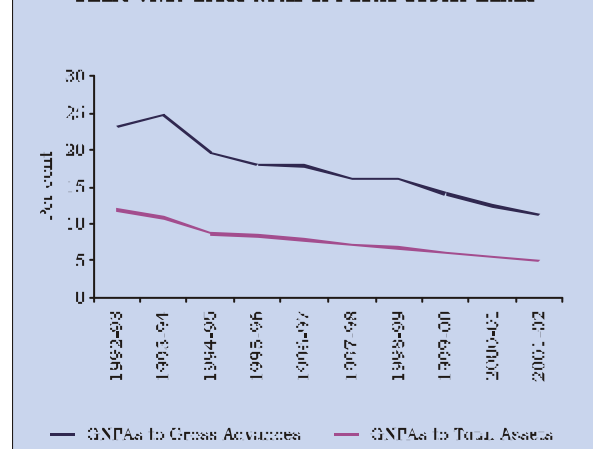
Bank Group	As at end-March						
	1996	1997	1998	1999	2000	2001	2002
	1	2	3	4	5	6	7
Public Sector Banks							
Up to 10 per cent	19	17	17	18	22	22	24
Above 10 and up to 20 per cent	6	9	9	8	5	5	3
Above 20 per cent	2	1	1	1	-	-	-
Old Private Sector Banks							
Up to 10 per cent	22	22	21	17	18	16	17
Above 10 and up to 20 per cent	-	3	4	5	5	4	3
Above 20 per cent	-	-	-	3	1	3	2
New Private Sector Banks							
Up to 10 per cent	9	9	9	9	8	8	8
Above 10 and up to 20 per cent	-	-	-	-	-	-	-
Above 20 per cent	-	-	-	-	-	-	-
Foreign Banks							
Up to 10 per cent	30	36	34	27	31	31	26
Above 10 and up to 20 per cent	1	1	6	11	7	6	5
Above 20 per cent	-	2	2	3	4	5	9

6.20 NPAs – both gross and net – as a proportion of advances/assets have declined since the early 1990s. In absolute terms, however, the stock of NPAs has been increasing. This is mainly due to the NPAs accumulated in the past on which interest due keeps on adding to the stock of NPAs every year. Doubtful assets form as much as 60 per cent of the NPAs, while sub-standard assets (which are of more recent origin) account for about 30 per cent. Furthermore, while there has been a decline in sub-standard assets in absolute terms since the late 1990s, the amount of doubtful assets increased. It is important to note, however, that incremental NPAs as a proportion of gross NPAs remained low and varied between 3-5 per cent during the period 1998-99 to 2001-02.

6.21 Net NPAs (*i.e.*, that portion of NPAs, which is not provided for) raise a major concern for the solvency of a bank. Although net NPAs as percentage of net advances in PSBs declined gradually from 10.7 per cent in 1994-95 to 5.8 per cent in 2001-02, they are still sizeable. There was also a wide divergence between gross NPAs to total assets (4.6 per cent) and net NPAs to total assets (2.3 per cent) for SCBs as at end of March 2002, reflecting mainly the extent of provisioning made.

6.22 Various reform measures introduced to recover past NPAs have met with limited success. For instance, in terms of the guidelines issued in May 1999 to PSBs

Chart VI.1: Gross NPAs of Public Sector Banks



FINANCIAL SECTOR

for one-time non-discretionary and non-discriminatory settlement of NPAs of small loans (operative up to September 30, 2002), a meagre amount of Rs.668 crore was recovered by PSBs. Likewise, under the modified guidelines for recovery of the stock of NPAs of Rs.5 crore and less as on March 31, 1997 (valid up to June 30, 2001), an amount of Rs.2,600 crore was recovered by PSBs by September 2001. Debt Recovery Tribunals (DRTs) could decide only 9,814 cases involving Rs.6,264 crore pertaining to PSBs till September 30, 2001. The amount recovered in respect of such cases amounted to Rs.1,864 crore. As many as 3,049 cases involving Rs.42,989 crore were pending with DRTs as on September 30, 2001.

6.23 In the more recent period, the Reserve Bank and the Government of India have undertaken several more measures to contain the NPA problem. In order to strengthen the institutional set up for debt recovery, *Lok Adalats* and Settlement Advisory Committees were established. For improving the information sharing among the financial intermediaries, the Credit Information Bureau of India Ltd. (CIBIL) was set up. The Reserve Bank also put in place a system for periodic circulation of details of wilful defaults by borrowers. The Corporate Debt Restructuring (CDR) mechanism was institutionalised to provide a timely and transparent system for restructuring of the corporate debt of Rs.20 crore and above. The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act was enacted in 2002. All these measures are expected to provide a fresh impetus to the recovery efforts by banks.

Parameters Relating to Competition and Efficiency

6.24 Improvement in the efficiency of financial intermediaries has been at the core of the reform process. In order to provide greater choice to customers and promote competition, the Reserve Bank permitted the entry of new private banks and more liberal entry of foreign banks. Consequently, nine new banks were set up in the private sector and the number of foreign banks increased significantly from 26 as at end-March 1996 to 44 as at end-March 1999. 'In-principle' approval was granted to two more new banks in the private sector in February 2002. There was, however, some consolidation in the banking industry, particularly in the new private and foreign bank segment. As at end-March 2002, there were 8 new private sector banks and 40 foreign banks.

6.25 An increase in the number of players in the banking sector led to increased competition as is reflected in the bank concentration ratio, measured in terms of the share of top 5 banks in assets, deposits

or profits. The share of top 5 banks in total assets declined from 51.7 per cent in 1991-92 to 43.5 per cent by 2001-02. Similar trends were evident in deposits and profits as well (Table 6.4).

Table 6.4: Share of Top Five Banks - Assets, Deposits and Profits

Parameter	(Per cent)				
	1991-92	1995-96	1998-99	2000-01	2001-02
	1	2	3	4	5
Assets	51.7	45.9	44.7	43.9	43.5
Deposits	49.0	45.0	44.4	43.9	43.3
Profits	54.5	190.7*	49.1	44.8	41.4

* Owing to presence of loss-making banks.

6.26 The positive impact of increased competition in the banking industry was also evident from the net interest income or spread, measured as the difference between interest income and interest expenditure as a proportion of assets. Initially, the deregulation of lending rates led to an increase in interest spread. However, as competition intensified, spread tended to narrow. The gradual lowering of the Bank Rate and its effect in lowering banks' prime lending rates (PLR) resulted in further narrowing of spread. It is significant to note that the decline in spread took place across all categories of banks with the decline being more pronounced in the case of new private sector banks (Table 6.5). Spread in the case of foreign banks were relatively higher than those of public and private sector banks. These trends are in line with international experience (Claessens, Demirgüç-Kunt and Huizinga, 1998).

Table 6.5: Net Interest Income (Spread) to Total Assets

Bank Group	(Per cent)						
	1992-95 (average)	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5	6	7
Public Sector Banks	2.72	3.16	2.91	2.80	2.70	2.86	2.73
Old Private Sector Banks	3.24	2.93	2.57	2.15	2.33	2.51	2.39
New Private Sector Banks	1.17*	2.88	2.23	1.98	1.95	2.14	1.15
Foreign Banks in India	3.98	4.13	3.93	3.47	3.92	3.63	3.25
Scheduled Commercial Banks	2.84	3.22	2.95	2.78	2.73	2.85	2.57

* Data for New Private Sector Banks are available from 1994-95 onwards.

6.27 Significant variations observed in spread across bank groups were mainly on account of large differences in their non-fund based activities. For instance, the technology-intensive new private and foreign banks have been generating substantial income from fee-based activities arising from off-balance sheet-

REPORT ON CURRENCY AND FINANCE

based business, enabling them to afford a larger decline in their spread. On the other hand, PSBs tend to rely more heavily on interest income, reflecting lack of sufficient diversification into fee-based activities. An important challenge for PSBs, thus, would be to diversify their activities to augment their non-interest income.

6.28 Despite the fact that banks were required to follow income recognition and provisioning norms and that there was intensification of competition, all major bank-groups in India remained profitable. There was also an increase in the number of profit-making PSBs over the reform period (Table 6.6). Since the mid-1990s, profitability of SCBs, as measured by Return on Assets (RoA) has not showed a definite trend and has hovered in the range of 0.5-0.8 per cent (Table 6.7 and Chart VI.2). The ratios in respect of new private sector banks, however, declined during the same period. Foreign banks remained the most profitable amongst all the major bank groups. The ratio of other income to total assets also did not show a definite trend for the SCBs as a group, but the share of such income was high in the case of foreign banks. Cross-country evidence suggests that profitability of banks in India is on the lower side as compared to most developing countries, which is generally in excess of one per cent. On the other hand, in the industrialised countries, profitability is lower at around 0.5 per cent (Claessens, Demirgüç-Kunt and Huizinga, 1998).

Table 6.6: Number of Profit and Loss-making Banks

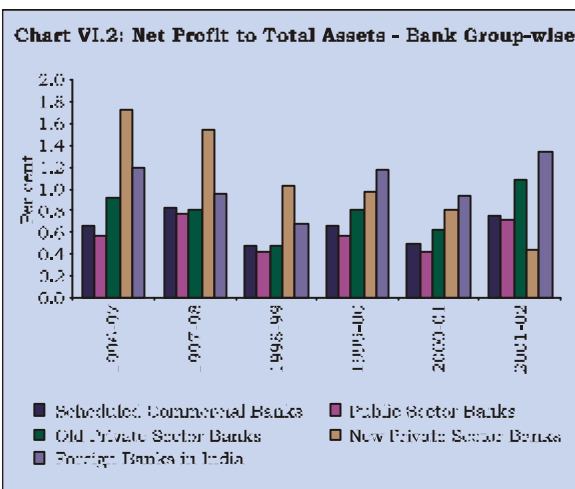
Year	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks in India
	1	2	3	4
1995-96				
Profit-making	19	22	8	27
Loss-making	8	1	–	5
1996-97				
Profit-making	24	22	8	31
Loss-making	3	–	–	5
1997-98				
Profit-making	25	21	8	29
Loss-making	2	1	–	9
1998-99				
Profit-making	25	21	8	30
Loss-making	2	1	–	10
1999-2000				
Profit-making	26	22	8	31
Loss-making	1	–	–	9
2000-01				
Profit-making	25	19	8	30
Loss-making	2	3	–	10
2001-02				
Profit-making	27	22	7	29
Loss-making	–	–	1	11

Table 6.7: Important Financial Parameters – Bank Group-wise

(Per cent to total assets)

Bank Group	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5	6
Operating Profit/Total Assets						
Scheduled Commercial Banks	1.82	1.84	1.45	1.66	1.52	1.94
Public Sector Banks	1.60	1.58	1.37	1.46	1.34	1.88
Old Private Sector Banks	1.89	1.96	1.21	1.82	1.75	2.70
New Private Sector Banks	2.98	2.84	1.78	2.11	1.74	1.21
Foreign Banks in India	3.62	3.90	2.32	3.24	3.05	3.13
Net Profit/Total Assets						
Scheduled Commercial Banks	0.67	0.82	0.47	0.66	0.50	0.75
Public Sector Banks	0.57	0.77	0.42	0.57	0.42	0.72
Old Private Sector Banks	0.91	0.80	0.48	0.81	0.62	1.08
New Private Sector Banks	1.73	1.55	1.03	0.97	0.81	0.44
Foreign Banks in India	1.19	0.96	0.69	1.17	0.93	1.33
Other Income/Total Assets						
Scheduled Commercial Banks	1.45	1.52	1.34	1.42	1.32	1.57
Public Sector Banks	1.32	1.33	1.22	1.29	1.22	1.43
Old Private Sector Banks	1.48	1.71	1.33	1.66	1.23	2.38
New Private Sector Banks	2.03	2.42	1.53	1.58	1.35	1.18
Foreign Banks in India	2.49	2.93	2.43	2.54	2.47	2.91
Provisions & Contingencies/Total Assets						
Scheduled Commercial Banks	1.15	1.02	0.98	1.00	1.03	1.19
Public Sector Banks	1.03	0.81	0.95	0.89	0.92	1.16
Old Private Sector Banks	0.98	1.16	0.73	1.01	1.15	1.62
New Private Sector Banks	1.24	1.32	0.75	1.14	0.93	0.77
Foreign Banks in India	2.44	2.94	1.63	2.08	2.12	1.80

6.29 Improvement in efficiency was also evident from the intermediation cost. Between 1996-97 and 2001-02, the cost of intermediation for SCBs declined from 2.85 per cent to 2.19 per cent (Table 6.8). The intermediation cost declined in respect of all categories



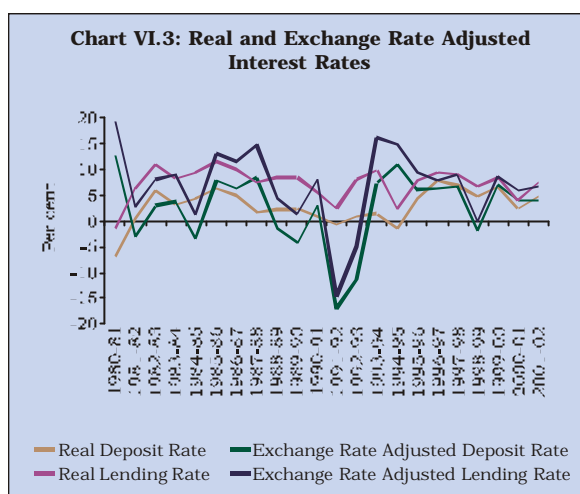
FINANCIAL SECTOR

of banks barring foreign banks. In the case of foreign banks, the intermediation cost increased between 1996 and 1999 due to addition of a significant number of foreign banks, which had to begin their operations with initial high start-up cost. Although the intermediation cost declined thereafter, it was still significantly higher in comparison with 1996 and other bank groups. The decline in intermediation cost was more pronounced in respect of private bank groups. This was possible due largely to their technology-driven operations, especially new private banks, all of which are 100 per cent computerised. The decline in intermediation cost in general, could be ascribed to growing competition in respect of business, enhanced application of information technology and improvements in payment and settlement system. While intermediation cost in general of PSBs increased in 2000-01 because of the rise in wages consequent upon the wage settlement, there was a significant lowering of intermediation cost in 2001-02 due to the decline in staff costs, subsequent to the voluntary retirement scheme (VRS).

Table 6.8: Intermediation Cost to Total Assets

Bank Group	(Per cent)					
	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5	6
Public Sector Banks	2.88	2.66	2.66	2.53	2.72	2.29
Old Private Sector Banks	2.52	2.31	2.26	2.17	1.99	2.08
New Private Sector Banks	1.94	1.76	1.74	1.42	1.75	1.12
Foreign Banks in India	3.00	2.97	3.59	3.22	3.05	3.03
Scheduled Commercial Banks	2.85	2.63	2.67	2.50	2.64	2.19

6.30 Another test of improvement in efficiency could be the trend in real interest rates. Cross-country experience suggests that positive and stable real interest rates play an important role in efficient allocation of financial resources (Goyal and McKinnon, 2003). Real interest rates in India remained generally positive in the 1980s. In the post-reform period, real lending rates remained positive for all the years. Real deposit rates also remained positive barring one year, i.e., 1994-95 when they turned negative. While real lending rates generally declined during the 1990s as compared with the 1980s, real deposit rates increased during the same period. As a result, the gap between the lending rate and the deposit rate, in real terms, narrowed significantly in the second half of the 1990s (Table 6.9 and Chart VI.3). This was reflective, to an extent, of the increased competitiveness and efficiency of the Indian commercial banks.

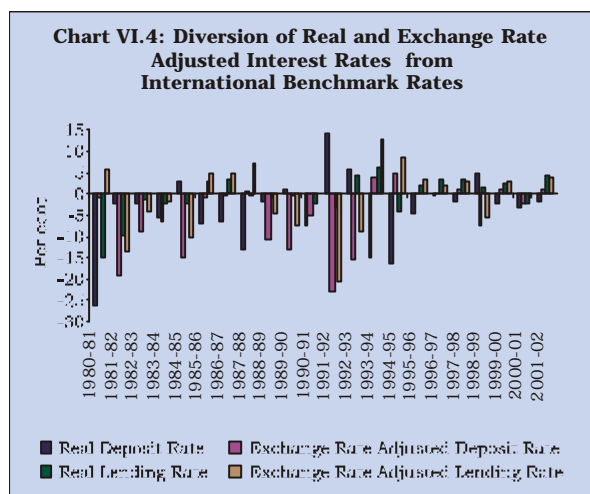


6.31 Another aspect of efficiency could be the difference between domestic and international benchmark rates. There has been a noticeable decline in the difference between real interest rates in India and international benchmark rates (LIBOR 1 year) since the mid-1990s (Chart VI.4). After deregulation of interest rates, India's real domestic interest rates

Table 6.9 Real and Exchange Rate Adjusted Interest Rates

Year	(Per cent per annum)			
	Real Deposit Rate	Real Lending Rate	Exchange Rate Adjusted Deposit Rate	Exchange Rate Adjusted Lending Rate
	1	2	3	4
1980-81	-7.0	-1.5	12.6	19.3
1981-82	0.6	6.6	-3.0	2.7
1982-83	5.8	11.1	3.0	8.1
1983-84	3.2	8.3	3.8	8.9
1984-85	4.3	9.4	-3.5	1.3
1985-86	6.3	11.6	7.9	13.2
1986-87	4.9	10.1	6.3	11.5
1987-88	1.7	7.7	8.4	14.8
1988-89	2.4	8.4	-1.5	4.3
1989-90	2.4	8.4	-4.3	1.3
1990-91	0.7	5.7	3.0	8.1
1991-92	-0.6	2.4	-17.2	-14.6
1992-93	0.9	8.1	-11.4	-5.0
1993-94	1.5	9.8	7.5	16.3
1994-95	-1.3	2.2	10.9	14.9
1995-96	4.5	7.8	6.1	9.4
1996-97	7.8	9.5	6.2	7.9
1997-98	7.0	9.2	6.7	8.9
1998-99	4.8	6.7	-1.9	-0.2
1999-2000	6.8	8.5	7.0	8.7
2000-01	2.4	4.1	4.1	5.8
2001-02	4.9	7.6	4.1	6.8

REPORT ON CURRENCY AND FINANCE



(deflated for movements in exchange rates) have got better aligned with international benchmark rates, notwithstanding the adverse impact of the East Asian crisis during the latter half of the 1990s. This suggests increased integration of the banking sector with the rest of the world.

A Comparison with Other Countries

6.32 The financial performance of the Indian banking sector has been evaluated *vis-à-vis* select East Asian and developed economies. In this regard, Table 6.10 brings out a number of interesting aspects.

- (i) Spreads in India were marginally higher than those in East Asian countries and major developed economies.

Table 6.10: Banking Sector Performance

(Per cent to total assets)

Variable	India		East Asia ¹		Latin America ⁵		G3 ⁶	
	1992-97 ¹	1999	1992-97	1999	1992-97	1999	1992-97	1999
	1	2	3	4	5	6	7	8
Spread	2.9	2.8	2.6	2.2	5.2	5.4	2.0	2.0
Other Income	1.4	1.3	0.7	0.8	2.3	2.0	0.7	1.0
Operating Cost	2.7	2.7	1.6	2.3	5.5	5.7	1.7	1.8
Loan Losses ²	1.6	0.9	0.6	1.8	1.2	1.7	0.2	0.3
Pre-tax Profit ³	1.6	1.5	0.8	-0.7	1.4	2.4	0.7	0.8

Note: Figures for India pertain to Scheduled Commercial Banks.

- Simple average over the period.
- For India, refers to provisions and contingencies.
- For India, pre-tax profit refers to gross profits.
- Simple average of Indonesia, Korea, Malaysia, Philippines and Thailand.
- Simple average of Argentina, Brazil, Chile, Colombia, Mexico and Peru.
- Simple average of Germany, Japan and US.

Source: Hawkins and Turner (1999), Hawkins and Mihaljek (2001).

- (ii) Profitability in India was found to be significantly higher than East Asian and advanced countries. Pre-tax profit of banks in East Asia turned negative in 1999 due to large losses as a result of the financial crisis. Profitability of banks in India remained stable at around 1.5-1.6 per cent during 1992-99. Although operating costs in India were higher than East Asian countries, to an extent, it was made up by other income, which was found to be higher than both groups of countries. Although in terms of all parameters (other than pre-tax profits) the Indian banks were better placed than their counterparts in Latin America, the comparison needs to be viewed with caution. High operating costs (and high spread) in Latin American countries were, to a large extent, the legacy of the high-inflation period of the 1980s and the early 1990s, when there was little pressure on banks to cut costs. Secondly, "other income" seems to constitute a high proportion of earnings in Latin America. This was on account of their large holdings of Government bonds, which were included in "other income" rather than in interest income.

- (iii) The level of competition, as measured by concentration ratio, in India compared favourably with several Asian and Latin American countries. The overall CRAR of the Indian banking system, although much above the prescribed level, was significantly lower than that of several countries in Asia and Latin America.

- (iv) Finally, overall asset impairment in India was also at a much higher level in comparison with several other countries (Table 6.11).

Table 6.11: Summary of Banking Systems: 1998

Country	Number of Large and Medium Domestic Banks ¹	Concentration ²	CRAR (per cent)	Non-performing Loans (NPLs) as percentage of Loans
	1	2	3	4
<i>Asia</i>				
India	11	42	11.5 ^a	14.7 ^b (15.9)
Hong Kong	21	29	19.0	5
Singapore	5	39	20.0	8
Korea	14	50	10.8	7
Philippines	14	60	17.5	11
Thailand	9	62	12.4	48
<i>Latin America</i>				
Argentina	8	38	14.0	9
Brazil	22	52	15.8	11
Chile	7	47	13.5	1
Mexico	6	68	16.0	11

- Number of banks in top 1000, as provided by *The Banker*, 1999.
- Five largest banks' assets as percentage of total assets.

a: Public Sector Banks; b: Scheduled Commercial Banks.

Source: Hawkins and Turner (1999), Hawkins and Mihaljek (2001).

FINANCIAL SECTOR

6.33 It may, thus, be noted that financial performance of the Indian banks has not been out of line with banks in other countries. While the capital position of the Indian banks remained comfortable, the asset quality, however, remains a cause of concern. Notwithstanding this, however, the positive impact of competitive pressures created by financial sector reforms in the early 1990s is becoming gradually discernible.

Relationship between Stability and Efficiency

6.34 After the East Asian crisis, the stability of the financial system has assumed an added importance and many countries have initiated measures to strengthen their financial systems. However, the impact of the instruments used for achieving financial stability on efficiency is often not obvious. For instance, although the stipulation of minimum level of capital adequacy is expected to inculcate prudent behaviour on the part of banks and thereby enhance stability, its impact on efficiency of the banking system is not always apparent. This is because higher capital requirements may lead banks to assume higher risk or alternatively, make them lower their risk exposure. Thus, the relationship between capital and risk can be bi-directional depending on the risk appetite of the manager. While a risk-loving manager looking for high profits may

assume higher risk, the behaviour would be opposite in the case of risk-averse manager. Credit risk also impinges on efficiency. Risks may be costly to manage in the sense that a high-risk firm may require additional capital and labour inputs to produce the same level of output. If it is more costly to run a risky firm, credit risk is expected to have a negative effect on efficiency. However, active risk-taking, which is expected to be rewarded by higher expected return, could have a positive effect on efficiency. There is also a relationship between capital and efficiency. Well-capitalised banks often tend to be better run, suggesting that the relationship between capital and efficiency is likely to be positive. On the other hand, efficiently run banks are able to generate higher profits, enabling them to plough back a part of their earnings into capital and thereby improve their capital position. Thus, capital, credit risk and efficiency are related to one another and the exact nature of the relationship depends on the behaviour of the financial entity. The literature in this context, drawing upon international experiences, shows how the exact nature of the relationship varies across countries (Box VI.2).

6.35 Enhancing efficiency and stability of the banking sector have been the key objectives of reforms in the financial sector in India. It is, therefore,

Box VI.2

Credit Risk, Capitalisation, Ownership and Bank Efficiency: International Experience

The macroeconomic consequences of financial sector fragility, in general, and banking sector weaknesses, in particular, have attracted the attention of policy makers. This can be attributed to several factors. The first has been the worldwide trend towards deregulation of the financial sector and the growing number and severity of financial crises. The second has been the globalisation of banking operations in an increasingly market-led environment driven by rapid advances in information technology and communications networking. An important strand in the literature examines the interrelationships among capital, credit risk and efficiency in this context.

While the theoretical evidence is not unambiguous regarding the nature of the relationship between capital and risk, available empirical finding for the US banking industry suggests that, in general, management tends to offset increases in capital with increases in risk (Shrieves and Dahl, 1992). For example, a study of US banks for the period 1986-1995 suggests that inefficiency not only has a positive effect on credit risk, it also impacts bank capitalisation (Kwan and Eisenbis, 1997).

A possible explanation in this regard is the role of managers as agents of stockholders. Managers, especially if they are risk averse, seek to maximise their own compensation at the expense of shareholders. Since managerial compensation is linked to firm growth, management may be tempted to increase firm growth beyond the efficient size. This might lead to a lowering of efficiency, and expose the banking firm to more risks, which can affect asset quality.

As regards the linkage between ownership and performance,

international evidence suggests that ownership has limited impact on economic efficiency. In case of the Belgian banking sector, for instance, it was found that public bank branches are relatively more efficient than those of the private bank (Tulkens, 1993). Recent work in this context for the German banking industry finds little evidence to suggest that privately owned banks are more efficient than public sector counterparts (Altunbas 2002). For emerging economies, some evidence for the Turkish banking industry covering both the pre- and post-liberalisation period for 1970-94 suggests the lack of difference in efficiency between the state-owned and privately owned banks (Denizer *et al*, 2000). It is, therefore, by no means guaranteed that privately owned firms would necessarily outperform state-owned firms. On the other hand a study on 92 countries for the 10 largest commercial and development banks, shows that greater state ownership of banks in 1970 was associated with less financial sector development, lower growth and productivity over the period 1970-1995 (La Porta *et al*, 2002).

In the Indian case, for 1993-94 and 1994-95, it was observed that, in so far as profitability is concerned, foreign banks outperformed domestic banks and there was no discernible difference between unlisted domestic private and state-owned banks (Sarkar *et al*, 1998). It is possible that since the process of deregulation of the banking sector commenced in 1992, the impact of competitive pressures was felt much later. Recent research however, has observed that differences in profitability and cost efficiency between foreign and private banks and state-owned counterparts have diminished as the latter have improved their profitability (Shirai, 2002).

REPORT ON CURRENCY AND FINANCE

important to understand not only the impact of various reforms measures on the stability and efficiency of the banking system as has already been done, but also the impact of stability measures, if any, on the efficiency of the system. In the Indian context, where public sector banks account for majority of the banking assets, the interrelationship among credit risk, capital and efficiency acquires an additional dimension. A related issue in the Indian context has been whether the public sector character of the banking system has impinged on its efficiency, although international evidence suggests that privately owned banks do not necessarily outperform the state-owned banks. Dilution of Government stake, it has been argued, could provide greater operational freedom to banks, which could have a positive impact on their efficiency. As these aspects are of crucial importance, an attempt is made to examine in the Indian context the following two issues: (i) whether

there is a relationship between ownership and efficiency, and (ii) what is the exact nature of relationship among credit risk, capital and efficiency.

Ownership and Efficiency

6.36 To examine the relationship between ownership (public and private) and efficiency, an attempt is made to compare the performance of banks based on select parameters at two levels: (a) comparison of a representative sample of five PSBs which divested their Government holding early in the reform process with a representative sample of five wholly government-owned banks, (b) comparison of the aforesaid two categories with old private sector banks as a group. The parameters used are operating expenses, spread, net profit, asset quality and capital adequacy. The relevant data are set out in Table 6.12(A) and 6.12(B) and the main points emerging from the analysis are set out below.

Table 6.12(A): Important Parameters of Select Bank-Groups

(Per cent)

Bank Group	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5	6	7
Operating Expenses/Total Assets							
Scheduled Commercial Banks	2.94	2.85	2.63	2.67	2.50	2.64	2.19
Public Sector Banks	2.99	2.88	2.66	2.66	2.53	2.72	2.29
All Old Private Sector Banks	2.60	2.52	2.31	2.26	2.17	1.99	2.08
All New Private Sector Banks	1.89	1.94	1.76	1.74	1.42	1.75	1.12
Spread/Total Assets							
Scheduled Commercial Banks	3.13	3.22	2.95	2.78	2.73	2.85	2.57
Public Sector Banks	3.08	3.16	2.91	2.80	2.70	2.86	2.73
All Old Private Sector Banks	3.14	2.93	2.57	2.15	2.33	2.51	2.39
All New Private Sector Banks	2.84	2.88	2.23	1.98	1.95	2.14	1.15
Net Profit/Total Assets							
Scheduled Commercial Banks	0.16	0.67	0.82	0.47	0.66	0.49	0.75
Public Sector Banks	-0.07	0.57	0.77	0.42	0.57	0.42	0.72
All Old Private Sector Banks	1.06	0.91	0.81	0.48	0.81	0.59	1.08
All New Private Sector Banks	1.85	1.73	1.55	1.03	0.97	0.81	0.44
Gross NPAs to Gross Advances							
Scheduled Commercial Banks	N.A.	15.70	14.40	14.70	12.70	11.40	10.40
Public Sector Banks	18.00	17.80	16.00	15.90	14.00	12.40	11.10
All Old Private Sector Banks	N.A.	10.70	10.90	13.10	10.80	10.90	11.00
All New Private Sector Banks	N.A.	2.60	3.50	6.20	4.10	5.10	8.90
Net NPAs to Net Advances							
Scheduled Commercial Banks	N.A.	8.10	7.30	7.60	6.80	6.20	5.50
Public Sector Banks	8.90	9.20	8.20	8.10	7.40	6.70	5.80
All Old Private Sector Banks	N.A.	6.60	6.50	9.00	7.10	7.30	7.10
All New Private Sector Banks	N.A.	2.00	2.60	4.50	2.90	3.10	4.90
CRAR							
Scheduled Commercial Banks	N.A.	10.40	11.51	11.27	11.10	11.39	11.90
Public Sector Banks	8.72	10.00	11.53	11.20	10.66	11.20	11.80
All Old Private Sector Banks	10.68	11.70	12.30	12.07	12.35	11.93	12.52
All New Private Sector Banks	N.A.	15.33	13.19	11.76	13.44	11.51	11.60

N.A. Not available.

FINANCIAL SECTOR

Table 6.12(B): Important Parameters of Select Bank-Groups

(Per cent)

Bank Group	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5	6	7
Operating Expenses to Total Assets							
Government-owned PSBs*	3.16	3.17	2.93	2.79	2.75	2.81	2.81
Divested PSBs**	2.79	2.65	2.56	2.51	2.35	2.62	2.13
Old Private Sector Banks	2.60	2.52	2.31	2.26	2.17	1.99	2.08
Spread to Total Assets							
Government-owned PSBs*	2.38	2.58	2.79	2.59	2.57	2.64	2.61
Divested PSBs**	3.43	3.37	3.15	2.93	2.75	2.94	2.81
Old Private Sector Banks	3.14	2.93	2.57	2.15	2.33	2.51	2.39
Net Profit to Total Assets							
Government-owned PSBs*	-1.04	-0.30	0.27	0.26	0.37	0.18	0.40
Divested PSBs**	0.81	0.92	1.06	0.75	0.81	0.57	0.85
Old Private Sector Banks	1.06	0.91	0.81	0.48	0.81	0.59	1.08
Gross NPAs to Gross Advances							
Government-owned PSBs*	26.06	27.97	25.34	22.88	18.35	16.12	14.09
Divested PSBs**	12.95	13.23	11.64	13.17	12.72	11.08	10.03
Old Private Sector Banks	N.A.	10.70	10.90	13.10	10.80	10.90	11.00
Net NPAs to Net Advances							
Government-owned PSBs*	13.22	13.62	11.83	11.46	9.55	9.26	8.16
Divested PSBs**	6.29	7.07	6.33	7.42	7.14	6.19	5.26
Old Private Sector Banks	N.A.	6.60	6.50	9.00	7.10	7.30	7.10
CRAR							
Government-owned PSBs*	6.77	6.46	9.83	10.07	10.77	10.54	10.71
Divested PSBs**	11.51	12.12	12.33	12.54	11.85	12.40	11.95
Old Private Sector Banks	10.68	11.70	12.30	12.07	12.35	11.93	12.52

N.A. Not available.

* 'Government-owned PSBs' are the set of select PSBs, which were fully Government-owned at end-March 2002. These included: Bank of Maharashtra, Central Bank of India, Punjab and Sind Bank, UCO Bank and United Bank of India.

** 'Divested PSBs' are the set of select PSBs, which have accessed the capital market and consequently, lowered the Government holding in them. These included: State Bank of India (December 1993 and October 1996), Oriental Bank of Commerce (October 1994), Bank of Baroda (December 1996), Bank of India (February 1997) and State Bank of Bikaner and Jaipur (November 1997). Figures in brackets in the aforementioned sentence indicate the month and the year of divestment.

Note : Figures under the heads 'Government-owned PSBs' and 'Divested PSBs' are the averages of five representative banks in that year.

- During each year of the sample period (*i.e.*, from 1995-96 to 2001-02), 100 per cent Government-owned banks had higher ratio of operating expenses to total assets in comparison with those PSBs, which have divested their equity as well as old private sector banks. While the ratio for 100 per cent Government-owned PSBs was higher than the industry level, the ratio in respect of both old private sector banks and those banks which divested their equity was lower than the industry. The sudden fall in the operating expenses to total assets of PSBs in 2001-02 [Table 6.12(A)] was on account of reduction in wage costs (of the order of Rs.1,884 crore) consequent upon the introduction of voluntary retirement scheme (VRS) in 2000-01. The operating expenses, as percentage of total assets, for divested PSBs witnessed a sharp rise in 2000-01 [Table 6.12(B)]. It, however, was due mainly to large outgo on account of VRS-related expenditure incurred by these banks. This led to a reduction in the wage bill in the subsequent year, which, in turn, led to a marked decline in the operating expenses in 2001-02. The operating expense ratio for these banks is now lower than the earlier years, reflecting clear gains from the policy of labour force restructuring adopted by these banks.
- Interest spread (net interest income to total assets) provides a mixed picture. Interest spread of 100 per cent government-owned PSBs were lower in comparison with divested PSBs during each of the seven years due to their lower efficiency of raising resources, but were generally higher than those of old private sector banks.
- Profitability (ratio of net profit to total assets), on an average, of both old private sector banks and

REPORT ON CURRENCY AND FINANCE

the Government-owned banks which divested their equity was, more or less, at the same level. Profitability of both the aforementioned bank groups was higher than those of fully Government-owned PSBs. The gap narrowed down significantly from 1998-99 onwards. The sharp rise in profits across most bank groups during 2001-02 was on account of capital gains on Government securities resulting from softening of interest rates and the containment in operating expenses.

- Asset impairment (ratio of gross NPAs to gross advances) during each of the years under reference in respect of 100 per cent Government-owned banks was much higher in comparison with PSBs, which divested their equity and old private sector banks. It is, however, significant to note that the gap, which was very wide during 1995-96 to 1996-97 (at about 14 per cent in respect of those banks that divested their equity and 15-18 per cent in respect of old private sector banks) narrowed down considerably by 2001-02 (at about 4 per cent in respect of banks which divested their equity and 5 per cent in respect of old private sector banks). The gap narrows down further if one takes into account net NPAs (after adjusting for provisioning and part payments received) of these banks. It also needs to be noted that net NPAs of partially Government-owned PSBs as at end-March 2002 stood lower than those of old private sector banks.
- Capital adequacy ratio (CRAR), on an average, in fully Government-owned PSBs was lower than those PSBs which divested their equity as well as old private banks. It needs to be noted that CRAR of fully Government-owned banks which, on an average, was roughly half as compared with old private banks and PSBs with reduced Government ownership, improved significantly over the last few years.
- In terms of all the above mentioned parameters, new private sector banks outperformed all other bank groups. While there was an increase in the divergence in terms of most financial parameters, the capital adequacy and NPA position of new private sector banks witnessed a convergence towards industry averages in recent times. For 2001-02, the data relating to new private banks reflect the impact of mergers, and are, therefore, not strictly comparable with those of the earlier years.

6.37 Where do these stylised facts lead? In terms of financial parameters, old private banks performed

better than partially Government-owned PSBs, which, in turn, performed better than the wholly Government-owned PSBs. However, fully Government-owned PSBs showed a significant improvement in respect of almost all parameters from 1997-98 onwards and their financial performance tended to converge with partially Government-owned PSBs and old private banks. Although fully Government-owned PSBs also exhibited significant improvement in their credit risk management, as was evident in the decline in their NPAs in the last few years, NPAs level as such remained high as compared with old private banks and the partially Government-owned PSBs. In terms of capital position (CRAR) also, fully Government-owned PSBs witnessed a significant improvement, but the levels remained consistently below the PSBs with reduced Government ownership and private sector banks.

6.38 It is also significant to note that there has been a convergence in the financial performance of the partially Government-owned PSBs with old private banks in recent years. Asset quality of divested PSBs as at end-March 2002 stood significantly higher than that of old private banks. However, capital adequacy, which was slightly higher for divested banks in 1995-96 than old private sector banks stood slightly lower as at end-March 2002.

Credit Risk, Capitalisation and Efficiency

6.39 The relationship between credit risk, capitalisation and efficiency has been tested empirically using regression analysis (simultaneous equation system). The empirical specification examining these issues in respect of three size classes of PSBs, viz., large, medium and small¹ is addressed in Box VI.3. The broad findings emerging from the analysis are set out below:²

1 Banks within each size class in alphabetical order are: 'large' (Bank of Baroda, Bank of India, Canara Bank, Central Bank of India, Indian Overseas Bank, Punjab National Bank, State Bank of India, Syndicate Bank and Union Bank of India); 'medium' (Allahabad Bank, Andhra Bank, Bank of Maharashtra, Dena Bank, Indian Bank, State Bank of Hyderabad, State Bank of Patiala, United Bank of India and UCO Bank); and 'small' (Corporation Bank, Oriental Bank of Commerce, Punjab and Sind Bank, State Bank of Bikaner and Jaipur, State Bank of Indore, State Bank of Mysore, State Bank of Saurashtra, State Bank of Travancore and Vijaya Bank).

2 A caveat, which needs to be considered, is that the period of study is one characterised by transition, with several public sector banks being recapitalised over the sample period. As a consequence, the results would need to be interpreted with caution. A different sample period, for instance, the five years immediately following the inception of reforms might engender different results. Data limitations would, however, be a constraint in taking this into consideration.

FINANCIAL SECTOR

- Greater soundness (higher capital position) leads to improvement in efficiency, particularly in the case of small banks. Improvements in efficiency, especially in respect of small banks, also have a positive effect on their soundness. Furthermore, the positive impact of efficiency on soundness is reinforced as higher profitability was found to be leading to increased soundness in the case of small and medium-sized banks.
- Better asset quality (greater stability) promotes greater efficiency in the case of medium-sized banks but not in case of other two bank size classes. However, the relationship between asset quality and efficiency was not found to be mutually reinforcing for any of the bank groups.
- Soundness and stability were found to be reinforcing each other. In other words, adequately capitalised banks in the small and medium categories are less prone to credit risk. In the case of latter category, in particular, improvements in credit risk management also had a beneficial effect on stability through improvements in the capital position.

Box VI.3

Credit Risk, Capitalisation and Bank Efficiency : Evidence from India

Keeping in view the theoretical observations on the interlinkages among the reform of credit risk, capital and efficiency, an attempt has been made to empirically examine the same for the 27 Indian PSBs for the period 1995-96 to 2001-02.¹ These banks were disaggregated into three size classes (large, medium and small), based on their total assets at the beginning of the sample period. The size class classification permitted an equal number of banks within each of the three categories.

A banking firm can achieve a certain level of overall risk exposure by choosing one of the several alternative convex combinations of credit risk and capital. As a consequence, these two types of risks have been modelled as simultaneously determined. Credit risk has been measured by the ratio of gross non-performing loans to gross advances (GNPA). In a sense, credit risk is measured *ex-post*. Capital adequacy, on the other hand, is measured by the ratio of capital to risk-weighted assets (CRAR). The inefficiency (INEFF) was derived following the intermediation approach².

The empirical specification in the simultaneous equation system comprised the following three equations:

$$GNPA = f_1 (CRAR, INEFF, NPRIOL, ADVGR, ADVGRSQ)(1)$$

$$CAPITAL = f_2 (GNPA, INEFF, RoA, RPL, RPH, SIZE) \quad (2)$$

$$INEFF = f_3 (GNPA, CRAR, ADVGR, ADVGRSQ, DIVEST) \quad (3)$$

where,

NPRIOL = ratio of loans given to non-priority sector to total loans;

ADVGR = annual growth rate of total loans; ADVGRSQ=square of ADVGR;

RoA = return on assets;

SIZE = natural logarithm of total asset;

DIVEST = Government ownership, defined as a variable which equals 1 in the year in which the bank has made an equity offering (and all subsequent years) and zero, otherwise;

Low regulatory pressure: $RPL = [(1/\text{Stipulated CRAR}) - (1/\text{Actual CRAR})]$;

High regulatory pressure: $RPH = [(1/\text{Actual CRAR}) - (1/\text{Stipulated CRAR})]$

GNPA, CRAR and INEFF are the three exogenous variables. The model is closed by including endogenous variables that have explanatory power for each of the exogenous variables.

GNPA is expected to be related to the loan portfolio composition. Accordingly, the ratio of non-priority sector loans to total loans (NPRIOL) has been included as an explanatory variable. The effect of loan growth on the quantity of bad loan is controlled by using the one-year loan growth rate (ADVGR). To allow for the possibility of a U-shaped relation between loan growth and bad loan, the square of loan growth term (ADVGRSQ) has also been included.

The CRAR is expected to exhibit positive relation with profitability, owing to the plough back of earnings into reserves. This suggests the RoA as a plausible explanatory variable. In addition, the effect of bank size is controlled by including the natural logarithm of total assets (SIZE). In order to capture the effects of capital regulation, regulatory pressure variables, denoted by RPH (high) and RPL (low) was included (Jacques and Nigro, 1997). By construction, RPH should have a positive effect on capital ratios, because one of the options available to banks to meet the prescribed capital standards is simply to raise capital. As regards RPL, although banks with risk-based capital ratios in excess of the stipulated minimum are not explicitly constrained by the prescribed capital standards, it might turn out that the risk-based standards induce them to reduce their ratios (the opportunity cost of holding additional capital might be high).

(Contd...)

1 The choice of public sector banks is dictated by two considerations. The first is the availability of a consistent and published dataset. Second, given the wide heterogeneity across state-owned banks in terms of their product sophistication and customer orientation and the fact that these account for the majority of banking assets, a study of the state-owned banks enables to draw broad inferences about the banking sector as a whole.

2 Three variables were selected as inputs: total funds (deposits plus borrowings), fixed assets and total number of employees. The relevant outputs are loans and investments. In order to mitigate the price effects, the variables were deflated by the relevant deflators. Accordingly, the cost of funds, repairs and maintenance and per employee cost was taken as the relevant input prices. A stochastic frontier cost function with composite error terms and standard distributional assumptions was specified. The total cost was approximated by a translog function with multiple inputs and outputs.



REPORT ON CURRENCY AND FINANCE

(Contd...)

Finally, in the INEFF equation, the effect of loan growth is controlled by introducing ADVGR and ADVGRSQ.³ To the extent that a low to moderate loan growth rate partially reflects on managerial quality, while a high growth rate is reflective of managerial entrenchment, the relation between growth and efficiency may turn out to be U-shaped. Finally, the effect of Government ownership is controlled by DIVEST. The variable

intends to ascertain whether the divestment of Government ownership in state-owned banks has had an effect on efficiency.⁴

The estimation procedure employed was pooled time-series, cross-section observations using the two-stage least squares (2SLS) procedure separately for each size class.⁵

3 The adjusted R² in case of the INEFF equation was found to be the lowest. The result was, however, in consonance with evidence for the US banking industry, wherein the explanatory power of this variable was also found to be quite low (Kwan and Eisenbis, 1997).

4 The disadvantage of such a variable, however, lies in the fact that it does not consider the extent of divestment. In other words, a bank, which has divested 20 per cent of its equity capital is treated at par with a divestment of, say, 35 per cent. Notwithstanding its limitations, DIVEST enables an inference of the impact of Government shareholding on efficiency.

5 The 2SLS procedure performs the reduced-form regression of the dependent variable on all the pre-determined variables in the system (stage 1), obtaining the estimates of the dependent variable and thereafter replacing the dependent variable in the original equation by its estimated value and applying ordinary least squares to the transformed equation (stage 2). The estimators thus obtained are consistent, *i.e.*, they converge to their true values as the sample size increases.

- On the whole, the empirical findings suggest that capital, credit risk and efficiency are interlinked, and to a certain extent, they reinforce and complement one another.

financial soundness and stability tended to reinforce each other in the case of Indian banking sector and that there was no evidence of various stability measures impinging on the efficiency of financial institutions.

6.40 To conclude, various reform measures introduced in the banking sector have resulted in remarkable improvement in banks' capital position as reflected in the overall increase in their capital adequacy ratio. Asset quality of the commercial banking sector on the whole also improved markedly in spite of gradual tightening of prudential norms and the slowing down of the economy in recent years. There is evidence to suggest that competition in the banking industry has intensified. Significant improvement was also discernible in the various parameters of efficiency, especially intermediation costs, which declined significantly. Profitability of commercial banks, on the whole, improved significantly despite a decline in spread and higher provisioning following the introduction and subsequent tightening of prudential norms.

6.41 It was found empirically that in the case of the Indian banking sector, ownership did impinge on the efficiency of banks as old private sector banks performed better, in terms of various parameters, than those PSBs which divested their equity in the 1990s, which, in turn, performed better than the fully Government-owned banks. The performance of new private sector banks was well above all other bank groups. At the same time, however, it needs to be noted that the fully Government-owned banks showed remarkable improvement in almost all parameters in recent years and that their performance is gradually converging with that of better performing banks. Finally,

6.42 Notwithstanding significant improvements as set out above, there are several challenges that lie ahead. Much of the improvement in the capital position of banks in the initial years, especially in the case of PSBs, was due to recapitalisation support from the Government. This is not a sustainable option. Banks, therefore, need to further improve their profitability so that they can increase their capital funds through internal generation. Improved financial performance is also necessary when banks enter the market for raising capital. Notwithstanding improvement in the asset quality, the level of NPAs appears high by international standards. A major challenge in the years ahead, thus, lies in bringing down the non-performing assets. Alongside, provisioning for non-performing assets also needs to be enhanced. Tightening of the provisioning norms and a switch-over to the forward-looking provisioning would further enhance the stability of the Indian banking sector. A related issue concerns a large amount of loss assets being carried by banks in their books. Such assets, which ideally should be written off, still constitute about 10 per cent of the gross NPAs mainly for the reason that many of the accounts are under litigation and cannot be written off before resolution of such cases. Profitability in India is still low as compared to several developing countries and banks need to make concerted efforts to improve their profitability by diversifying their business, especially into non-fund-based activities.

FINANCIAL SECTOR

Co-operative Banks

6.43 The co-operative banking sector in India comprising urban co-operative banks (UCBs) and rural co-operative banks such as state co-operative banks (StCBs) and district central co-operative banks (CCBs) has an extensive branch network and reach in the remote areas.³ Though much smaller as compared to scheduled commercial banks, co-operative banks constitute an important segment of the Indian banking system and have traditionally played an important role in creating banking habits among the lower and middle-income groups and in strengthening the rural credit delivery system.

6.44 The reform process has tried to achieve regulatory convergence among various financial intermediaries in view of their systemic importance. Therefore, the basic objectives and instruments of reforms for co-operative banks have been the same as for SCBs. However, given the special characteristics of co-operative banks, they have been extended certain dispensations in terms of pace and sequencing of reforms.

Parameters Relating to Stability

6.45 Information on CRAR of co-operative banks is not available. Therefore, for analysing the capital position of co-operative banks, alternative measures, viz., share capital to asset ratio, owned funds to asset ratio and compliance with minimum capitalisation norm under Section 11(1) of the Banking Regulation Act, 1949 were examined.⁴ Movements in share capital to asset ratio as well as owned funds to asset ratio indicate that there was very little perceptible improvement in capitalisation of co-operative banks between 1998 and 2002 (Table 6.13). Asset quality of co-operative banks during the same period also did not show any discernible improvement in any segment (Table 6.14). Gross NPAs in absolute terms increased significantly in respect of all types of co-operative banks. However, NPAs as a ratio of total loans outstanding remained more or less unchanged for all types of co-operative banks barring scheduled UCBs, in respect of which they increased sharply from 2001. The increase in the stock of NPAs over the years reflected partly the impact of gradual tightening of income recognition and asset classification norms and partly general deterioration of recovery performance.

3 There are other types of credit co-operatives as well, which are, however, not banks under the definition provided by the Banking Regulation (B.R.) Act, 1949.

4 Depending on certain characteristics of a bank, the minimum capitalisation requirement under this Act varies between Rs. 1-10 lakh.

Table 6.13: Capitalisation of Co-operative Banks : Select Indicators

(Ratios in per cent)

	As at end-March				
	1998	1999	2000	2001	2002
	1	2	3	4	5
Scheduled Urban Co-operative Banks					
Share Capital to Asset Ratio	1.0	1.0	1.0	1.0	1.1
Non-scheduled Urban Co-operative Banks					
Owned Fund to Asset Ratio	11.5	10.9	10.3	10.5	11.9
Non-compliance with Minimum Capitalisation (Number)	N.A.	250	261	119	N.A.
State Co-operative Banks					
Share Capital to Asset Ratio	1.4	1.4	1.3	1.3	N.A.
Owned Fund to Asset Ratio	9.2	9.9	10.3	11.1	N.A.
Non-compliance with Minimum Capitalisation (Number)	N.A.	5	6	9	N.A.
District Central Co-operative Banks					
Share Capital to Asset Ratio	3.6	3.5	3.3	3.2	N.A.
Owned Fund to Asset Ratio	10.4	10.6	12.0	12.6	N.A.
Non-compliance with Minimum Capitalisation (Number)	N.A.	137	139	139	N.A.

N.A. Not available.

Note : Non-compliance with minimum capitalisation relates to the same under Section 11(1) of the B.R.Act, 1949.

Table 6.14: Non-Performing Assets of Co-operative Banks

	As at end-March				
	1998	1999	2000	2001	2002
	1	2	3	4	5
Amount (Rs. crore)					
Urban Co-operative Banks	2,839	3,306	4,535	9,245	11,472
State Co-operative Banks	2,443	2,748	2,758	3,889	N.A.
District Central Co-operative Banks	5,551	6,573	7,543	9,371	N.A.
As a Ratio of Total Outstanding Loans (per cent)					
Urban Co-operative Banks	13.2	11.7	12.2	16.1	21.9
State Co-operative Banks	12.5	12.6	10.7	13.0	N.A.
District Central Co-operative Banks	17.8	17.8	17.2	17.9	N.A.

N.A. Not available.

Note : Data include unaudited information.

Parameters Relating to Efficiency

6.46 During the period from 1997-98 to 2001-02, interest spread of scheduled UCBs declined sharply and remained in alignment with those of commercial banks, while there was no significant change in spread of rural co-operative banks (Table 6.15). This reflected greater competition between scheduled UCBs and commercial banks and general insulation of rural co-operative banks from such competition. Operating expenses as a proportion of assets, however, declined

REPORT ON CURRENCY AND FINANCE

significantly across all segments of co-operative banks with the movement in respect of scheduled UCBs closely following those of SCBs. Profitability of scheduled UCBs, however, deteriorated, while there was some improvement in profitability of rural co-operative banks between 1997-98 and 2000-01 (Table 6.15).

Table 6.15: Select Indicators of Efficiency of Co-operative Banks vis-à-vis Scheduled Commercial Banks

(Per cent)

	1997-98	1998-99	1999-2000	2000-01	2001-02
	1	2	3	4	5
Interest Spread as a Proportion of Assets					
Scheduled Urban Co-operative Banks	3.8	3.2	3.2	2.8	2.2
State Co-operative Banks	2.0	1.5	1.9	2.1	N.A.
District Central Co-operative Banks	3.1	3.1	3.0	3.0	N.A.
Scheduled Commercial Banks	3.0	2.8	2.7	2.9	2.6
Operating Expenses as a Proportion of Assets					
Scheduled Urban Co-operative Banks	2.4	2.1	2.1	2.0	2.0
State Co-operative Banks	0.9	0.8	0.8	0.7	N.A.
District Central Co-operative Banks	2.2	2.2	2.0	1.8	N.A.
Scheduled Commercial Banks	2.6	2.7	2.5	2.7	2.3
Net Profit as a Proportion of Assets					
Scheduled Urban Co-operative Banks	0.5	0.9	0.8	-2.3	-0.6
State Co-operative Banks	-0.4	-0.2	0.3	0.4	N.A.
District Central Co-operative Banks	-0.4	0.1	0.1	0.1	N.A.
Scheduled Commercial Banks	0.8	0.5	0.7	0.5	0.8
Profitable Banks as a Proportion of the Total for the Category					
Scheduled Urban Co-operative Banks	N.A.	N.A.	98.0	94.1	84.6
State Co-operative Banks	N.A.	75.9	79.3	76.7	N.A.
District Central Co-operative Banks	N.A.	67.8	61.6	66.8	N.A.
Scheduled Commercial Banks	89.3	87.6	90.1	85.0	87.6
N.A. Not available.					

6.47 The foregoing analysis, thus, shows that since the introduction of reforms, there has been very little perceptible improvement in either stability or efficiency of co-operative banks. In particular, the asset quality and profitability of scheduled UCBs showed some deterioration in the reform period. Positive impact of reforms, as has been witnessed in the case of commercial banking sector, may take longer to get manifested for co-operative banks given the late start of the reform process in this sector. Unless such a positive scenario evolves for the co-operative banking sector in the near future, the financial health of many of these banks would continue to remain a cause of concern.

6.48 It is significant to note that introduction of reforms and the consequent increase in competition has resulted in some convergence in operations of commercial banks and co-operative banks, especially scheduled UCBs. However, in the face of lower spread, while the

commercial banking sector could maintain its profitable status, scheduled UCBs as a group incurred losses. Furthermore, while most of the loss-making commercial banks are relatively small, in the case of UCBs some of the large banks are incurring losses and this increases the vulnerability of the whole segment.

6.49 Detection of irregularities in a few UCBs in the recent past has raised concerns about the conduct of the management in co-operative banks. Although remedial measures have been taken to limit the contagion effect of such disturbances spreading to other segments of the financial sector, and mechanisms have also been put in place to avoid recurrence of such developments, the current duality of control over co-operative banks is an impediment to effective supervision of such entities. For this purpose, the Reserve Bank has suggested the establishment of a unified supervisory authority for UCBs and the related amendment of the Banking Regulation Act, 1949 is currently under consideration of the Central Government.

6.50 Between 1996-97 and 1998-99, deposits of UCBs grew much faster than those of commercial banks. Co-operative banks are allowed to offer higher interest rates than SCBs on saving and current account deposits. This, coupled with the same deposit insurance protection for co-operative and commercial banks, might have resulted in the higher deposit growth in co-operative banks. Such a situation, however, might create a moral hazard problem since in order to compensate for the higher cost of deposits mobilised by them, co-operative banks could deploy such funds in riskier avenues. Steps such as stricter entry point norms, enhanced internal control and corporate governance norms, effective supervision and increased market discipline through greater disclosure for co-operative banks are required to address the problem.

Development Finance Institutions

6.51 Development finance institutions (DFIs) were set up in the country at various points of time starting from the late 1940s to cater to the medium to long-term financing requirements as the capital market in India had not developed sufficiently. The endorsement of planned industrialisation at the national level provided the critical inducement for establishment of DFIs at both all-India and State-levels. In order to perform their role, DFIs were extended funds in the form of Long-Term Operations (LTO) Fund of the Reserve Bank and Government guaranteed bonds, which constituted major sources of their funds. Funds from these sources were not only available at concessional rates, but also

FINANCIAL SECTOR

on a long-term basis with their maturity ranging from 10-15 years. On the asset side, their operations were marked by near absence of competition.

6.52 The Reserve Bank started monitoring the operations of DFIs in 1990 with a view to taking an integrated view of the operations of financial institutions and commercial banks and for providing a more comprehensive basis for the conduct of monetary and credit policies. DFIs were brought within the supervisory jurisdiction of the Board for Financial Supervision from 1994.

6.53 The main objectives of reforms in the case of DFIs were to impart market orientation to their operations and strengthen them by applying prudential norms. Following reforms in the financial sector, market borrowing allocations of Government guaranteed bonds were gradually phased out for DFIs. Their access to low cost funds of the Reserve Bank was also discontinued. Prudential norms relating to capital adequacy, income recognition, asset classification and provisioning were prescribed in 1994 and were progressively strengthened.

6.54 Notwithstanding withdrawal of two major sources of funds, operations of DFIs were not adversely affected during the early years of the reform, as there were several factors that worked to their advantage. Lending interest rates both for banks and DFIs were deregulated in the early 1990s. However, this was the period when the inflation rate was very high. As a result, interest rates ruled very high. While the marginal cost of funds for DFIs increased sharply, they had the advantage of recycling some of the past concessional borrowings at high rate of interest (DFIs raised funds in the maturity range of 10-15 years but lent on a 5-7 year basis). Taking advantage of flexibility provided to them in the matter of raising and deploying external commercial borrowings, DFIs also raised significant funds from the international market. In view of the booming conditions in the domestic capital market, some of the DFIs could also raise resources successfully both by way of debt and equity at handsome premia. On the asset side, there was a good demand for funds due to acceleration of economic activity in general and industrial sector in particular. This is evident from their sanctions and disbursements, which grew rapidly between 1992-93 and 1997-98 (Table 6.16).

6.55 DFIs also took several steps to reposition themselves and reorient their operations in the competitive environment by offering innovative products and diversifying their activities into new areas of business (such as investment banking, stock broking, custodial services, etc.) so as to harness the

Table 6.16: Sanctions and Disbursements of Select FIs*
(Annual Growth Rate)

Period	Sanctions	Disbursements
	1	2
1991-92	6.8	22.6
1992-93	38.0	26.3
1993-94	42.5	27.9
1994-95	59.7	41.1
1995-96	7.6	9.7
1996-97	-11.2	23.7
1997-98	57.0	35.3
1998-99	7.8	6.9
1999-2000	17.8	16.3
2000-01	15.5	11.3
2001-02	-37.4	-26.5
<i>Memo:</i>	(Annual Average Growth Rate)	
1980-90	21.4	19.9
1990-95	38.0	30.5
1995-2000	15.7	18.4

* Comprising ICICI, IDBI, IFCI and IIBI.

synergies and to reduce the risk arising out of narrow specialisation. DFIs were reasonably successful in diversifying into some non-traditional products, especially fee and commission based business. As a result of all these factors, profitability of DFIs, in general, improved significantly between 1993-94 and 1997-98 (Table 6.17). At the same time, DFIs were subjected to income recognition and provisioning norms from the year ended March 1994.

6.56 Things, however, started changing for DFIs some time in 1998-99. Interest rates started softening gradually in the second half of the 1990s. The industrial sector also started decelerating from 1996-97. This affected DFIs in the following years in two ways. On the one hand, the main business of DFIs was adversely affected as reflected in the slowdown of their sanctions and disbursements (Table 6.16). On

Table 6.17: Ratio of Profit Before Tax to Total Assets
(Per cent)

Year	IDBI	IFCI	ICICI	IIBI
	1	2	3	4
1991-92	2.05	1.45	1.58	5.72
1992-93	1.99	1.68	1.89	5.74
1993-94	2.30	1.39	2.37	0.00
1994-95	2.70	3.05	2.32	0.00
1995-96	2.95	3.32	2.34	0.07
1996-97	2.94	2.65	2.41	2.80
1997-98	3.00	2.17	2.57	3.16
1998-99	1.88	0.10	1.87	2.35
1999-2000	1.42	0.25	2.03	0.92
2000-01	1.02	-1.15	0.79	2.54

Source: Report on Development Banking in India, IDBI (various issues).

REPORT ON CURRENCY AND FINANCE

the other hand, it affected the asset quality of DFIs adversely as some of the traditional industries to which DFIs had significant exposures were affected badly both due to high cost of funds borrowed in the past and slowdown of the industrial sector. As a result of liberalisation of trade and industrial sectors, competition in the commodity market increased. While some companies were able to cope with the increased competition effectively, some others were not. This also had an adverse effect on the asset quality of DFIs. In a declining interest rate scenario, high cost of funds raised by DFIs in the past became a cause of concern. As a result, some of the DFIs by exercising call option redeemed the long-term bonds long before their final maturity. Competition on the asset side also increased with some banks stepping up their project finance activity. All these factors significantly impinged on the profitability of DFIs. As DFIs have high NPAs, they would be required to provide for them, which is likely to put a further pressure on their profitability. An idea as to how DFIs were adversely affected both on the asset and the liability sides from the year 1998-99 could be discerned from the parameters as set out in

Table 6.18. Net interest income and net profits declined sharply in the recent years. In tandem with the decline in interest rates, while the ratio of interest expended to total assets declined in the case of banks, it remained almost stagnant in the case of DFIs. Increase in the cost of funds, on the one hand, and lending at very competitive rates on the other resulted in decline in spread and profitability of DFIs.

6.57 While asset quality of DFIs in general deteriorated over the years, some DFIs were affected more than others. Asset impairment of two DFIs, *i.e.*, IFCI and IIBI was significant at above 20 per cent (Table 6.19). Despite decline in profitability and asset quality, DFIs were able to maintain CRAR. However, growing NPAs and declining profitability could also impinge on the capital adequacy of certain DFIs in future.

6.58 A comparison of performance of DFIs with SCBs, based on certain operational and prudential indicators shows that the asset quality of DFIs as a group stood significantly lower than that of the commercial banking sector as at end-March 2002. The ratio of spread to total assets for DFIs was also much

Table 6.18: Important Financial Ratios for Development Finance Institutions*

(Per cent to total assets)

Item	1998-99		1999-2000		2000-01		2001-02	
	DFIs	SCBs	DFIs	SCBs	DFIs	SCBs	DFIs	SCBs
	1	2	3	4	5	6	7	8
Interest Expended	7.6	6.4	7.9	6.3	7.9	6.0	7.6	5.7
Other Operating Expenses	1.2	2.7	1.0	2.5	1.1	2.6	0.6	2.2
Net Interest Income (Spread)	2.3	2.8	1.7	2.7	2.1	2.9	1.3	2.6
Provisions & Contingencies	N.A.	1.0	0.3	1.0	0.6	1.0	0.7	1.2
Net Profit	1.6	0.5	1.4	0.7	1.4	0.5	0.9	0.8
Net NPA**	9.8	7.6	9.7	6.8	8.5	6.2	8.8	5.5

N.A. Not available. * Comprising 10 DFIs (9 in 2001-02). ** As ratio to net loans.

Table 6.19: Financial Institution-wise CRAR and Net NPAs to Net Loans

(Per cent)

Financial Institution	1996-97		1997-98		1998-99		1999-2000		2000-01		2001-02	
	CRAR	Net NPAs*	CRAR	Net NPAs*	CRAR	Net NPAs*	CRAR	Net NPAs*	CRAR	Net NPAs*	CRAR	Net NPAs*
	1	2	3	4	5	6	7	8	9	10	11	12
IDBI	14.7	10.9	13.7	10.1	12.7	12.0	14.5	13.4	15.8	14.8	17.9	13.4
ICICI	13.3	7.8	13.0	7.7	12.5	7.8	17.2	7.6	14.6	5.2	@	@
IFCI	10.0	13.9	11.6	13.6	8.4	20.8	8.8	20.7	6.2	20.8	3.1	22.5
SIDBI	25.7	2.5	30.3	2.0	26.9	1.4	27.8	1.3	28.1	1.2	45.0	3.0
NABARD	40.4	0.9	52.5	1.5	53.3	4.2	44.4	3.5	38.5	0.0	36.9	0.0
EXIM Bank	31.5	14.9	30.5	14.5	23.6	14.5	24.4	8.4	23.8	8.2	33.1	7.4
IIBI	10.6	19.3	12.8	13.1	11.7	14.0	9.7	16.7	13.9	22.9	13.6	24.1
Memo: SCBs	10.4	8.1	11.5	7.3	11.3	7.6	11.1	6.8	11.4	6.2	11.9	5.5

@ Merged with ICICI Bank.
* As per cent of net loans.

FINANCIAL SECTOR

lower than that of banks. The profitability of DFIs declined in recent years, in contrast with the profitability of SCBs, which showed a considerable improvement (Table 6.18). Thus, on the whole, financial performance of DFIs has been adversely affected in the post-reform period, though they have been able to maintain comfortable capital position.

6.59 DFIs were set up with the specific objective of meeting the medium to long-term requirement of funds. However, DFIs in the present form are finding it difficult to sustain their operations. Their business has slowed down and their operations have become less profitable. This has raised issues relating to the viability of DFIs. It is not clear, however, whether the perceived lack of viability emanates from the structural constraints under which they operate or simply from the legacy of the past.

6.60 The Narasimham Committee II (1998) had recommended that DFIs should, over a period of time, convert themselves into banks or NBFCs. There would then be only two forms of intermediaries, *i.e.*, banks and NBFCs. The Reserve Bank in the Discussion Paper released in January 1999 indicated that DFIs should have the freedom to retain their status and specialise in their own activities. However, if a DFI chooses to become a bank, that option should also be available. In response to interest evinced by DFIs, the Reserve Bank issued guidelines setting out various operational and regulatory parameters that need to be complied with by DFIs if they are to become banks. ICICI, one of the major DFIs, along with two of its subsidiaries has recently merged with the ICICI Bank. However, to fill the void being created by the disappearance of DFIs, urgent steps are required to be taken to develop the private corporate debt market and introduce appropriate instruments to reduce the risk arising out of long-term financing by other players such as banks.

Non-Banking Financial Companies

6.61 Non-Banking Financial Companies (NBFCs) in India offer a wide variety of financial services and play an important role in providing credit to the unorganised sector and to small borrowers at the local level. NBFCs are of various types such as equipment leasing companies, hire purchase companies, loan and investment companies *etc.* In terms of relative importance of various activities financed by NBFCs, hire-purchase finance is the largest activity, accounting for over one-third of their total assets, followed by

loans and inter-corporate deposits, equipment leasing and investment. In terms of public deposit taking activities, Residuary Non-Banking Companies (RNBCs), which have certain similarities with banks in terms of their asset composition, hold the largest deposits.

6.62 Though NBFCs in India have existed for long, there was a sudden proliferation of such entities between the late 1980s and the mid-1990s. While, on an average basis, deposits of NBFCs as a proportion of bank deposits were 0.8 per cent during 1985-86 to 1989-90, they shot up to 9.5 per cent by 1996-97. This sharp jump in NBFC deposits was mostly on account of the high rates of interest offered on such deposits.

6.63 Although NBFCs were regulated by the Reserve Bank, the focus was mainly on the liability side. Given the lack of adequate regulation and supervision mechanism for most types of NBFCs, funds mobilised by many such companies were deployed into unsustainable uses. In 1994, prudential regulations as prescribed for commercial banks were extended to NBFCs. However, keeping in view various systemic issues, the need was felt for further strengthening of the regulatory and supervisory framework for NBFCs. Accordingly, the Reserve Bank (Amendment) Act enacted in 1997 conferred extensive powers on the Reserve Bank for regulation and supervision of NBFCs. Given the immense diversity among NBFCs, norms were strengthened particularly for public deposit taking and systemically important NBFCs. As against the uniform CRAR of 8 per cent across all NBFCs earlier, the CRAR requirement now ranges between 12-15 per cent depending on the principal line of business activity of an NBFC.

Parameters Relating to Stability (Capital Adequacy and Asset Quality)

6.64 Distribution of NBFCs in terms of the level of CRAR maintained by them indicates that compliance with CRAR requirement has generally improved since 1998 (Table 6.20). Apart from capital adequacy ratio, two other ratios, *viz.* the ratio of public deposits to net owned funds and public deposits to total assets were also examined with a view to assessing the stability of the sector. The public deposits to net owned funds ratio of NBFCs declined considerably between 1998 and 1999 and has remained generally stable since then. The public deposits to assets ratio, on the other hand, declined continuously from 1998 (Table 6.21).

REPORT ON CURRENCY AND FINANCE

Table 6.20: Capital Adequacy Position of NBFCs

CRAR Range (per cent)	As at end-March			
	1998*	1999	2000	2001
	1	2	3	4
Number of NBFCs				
Less than 12	98	88	33	61
12-15	17	18	7	8
Above 15	390	571	559	645
Total	505	677	599	714
As percentage of Total				
Less than 12	19.4	13.0	5.5	8.5
12-15	3.4	2.7	1.2	1.1
Above 15	77.2	84.3	93.3	90.3

* As at end-September.

Note: Including Residuary Non-banking Companies.

6.65 Information regarding the extent of NPAs in the NBFC sector was not available on a consistent basis. However, according to the limited information available, the asset quality of NBFCs deteriorated in the late 1990s. This was evident from supervisory returns submitted by around 50 NBFCs, according to which the NPAs of such entities as proportion of total assets, which were 7.1 per cent as at end-September 1998, increased to 9.3 per cent as at end-March 1999.

Parameters Relating to Efficiency

6.66 Consolidated information on financial performance of NBFCs was available for only three years and, therefore, it was difficult to draw any firm conclusion about the impact of the reform measures. There are, however, indications that the reform process has not as yet resulted in any noticeable improvement in the operational efficiency of NBFCs. In fact, profitability position showed some signs of deterioration in recent years (Table 6.22).

Table 6.21: Public Deposits of NBFCs

	As at end-March			
	1998	1999	2000	2001
	1	2	3	4
Public Deposits to Net Owned Funds Ratio	1.6	1.2	1.3	1.3
Public Deposits to Assets Ratio	39.0	27.2	20.8	17.2

Note: Excluding Residuary Non-banking Companies.

Table 6.22: Operating Expenditure and Net Profit

	(As per cent to total assets)		
	1998-99	1999-2000	2000-01
	1	2	3
Operating Expenditure	3.0	4.0	3.1
Net Profit	0.3	0.3	-0.9

Note: Excluding Residuary Non-banking Companies.

6.67 In recent years, operations of NBFCs witnessed significant changes especially on the liability side. With the tightening of regulations, many of the NBFCs with insufficient capital base have been weeded out. This combined with the tightening of regulations for raising deposits resulted in reduction in size of this sector. Although the definition of public deposits of NBFCs has been revised and no strict comparison is possible between deposits of NBFCs before and after 1998, there are clear indications of a sharp decline in the relative importance of NBFC deposits. The ratio of NBFC deposits to total bank deposits declined from the peak of 9.5 per cent in 1996-97 to 1.1 per cent in 2000-01. Public deposits of NBFCs including RNBCs as at end-March 1998 were just 19 per cent of the total deposits and 45 per cent of the regulated deposits of NBFCs as at end-March 1997.

6.68 It is significant to note that between 1988-89 and 2000-01, considerable changes were noticed in the share of different types of NBFCs in total public deposits held by them. While the shares of RNBCs and hire purchase finance companies increased significantly, those of loan and investment companies fell sharply. RNBCs were the only category of NBFCs whose public deposit increased in absolute terms between 1998 and 2001. As on March 31, 2001, RNBCs accounted for over 30 per cent of the assets and nearly two-thirds of the public deposits of the NBFC sector, while their net owned fund was negative. RNBCs have important systemic implications, given their large size.

6.69 The decline in deposits of NBFCs in the recent years, however, was not captured by the banking sector in a significant way. This was evident from the average annual growth rate of bank deposits, which after the tightening of norms for NBFCs (i.e., 1998-2001) increased only marginally in comparison with the period prior to the introduction of such norms.

6.70 The decline in the deposits of NBFCs should not be a matter of concern as in several other countries public deposit is generally not a significant

FINANCIAL SECTOR

source of funding for NBFCs. As the share of deposits declined, other sources of funds, especially borrowing from banks, market borrowings, borrowings from the Government and inter-corporate borrowings emerged as major sources of funding for NBFCs. As a result of changes in the financing pattern of NBFCs, their cost of funds also increased. High cost of funds could induce NBFCs into excessive risk-taking and may, thereby, result in adverse selection. Deposit insurance, as has been suggested in some quarters, may reduce the risk premium demanded by depositors and may, therefore, reduce some cost of funds for these companies. However, the extension of deposit insurance to NBFCs could create a serious moral hazard problem that might be difficult to tackle.

6.71 While NBFCs may not have much control over the cost of funds, they can improve their profitability by operating more efficiently. The operating cost of NBFCs as a group increased in the recent years as indicated earlier. In fact, their operating cost stood much higher than that of even co-operative banks. Therefore, NBFCs need to make concerted efforts to reduce their high operating expenses.

6.72 As NBFCs provide important services in certain niche areas of the financial sector, improvement in the efficiency of these entities is of crucial importance. The Reserve Bank continues to pursue with various State Governments the case for enacting legislation for protection of interest of depositors in financial establishments. Creating public awareness about activities and risk-profile of NBFCs is yet another important area, which needs to be focussed upon even as an extensive publicity campaign has already been taken up using the print and electronic media to educate the depositors. Improvement in corporate governance practices and financial disclosures by NBFCs also need to be focused upon in future.

Insurance

6.73 Insurance has been an important part of the Indian financial system. Until recently, insurance services were provided by the public sector, *i.e.*, life insurance by the Life Insurance Corporation of India since the mid-1950s, and general insurance by the General Insurance Corporation (GIC) and its four subsidiaries since the 1970s. The insurance industry was opened up to the private sector in August 2000. The primary objective of liberalisation in the insurance sector was to deepen insurance penetration by enlarging consumer choices through product

innovation. After opening up of the insurance sector, 12 new companies have entered the life segment and 9 companies in the non-life segment. The increased competition led to rapid product innovations for catering to the diverse requirements of the various segments of the population. Besides statutory commitments in respect of weaker sections of society, competitive pressures are pushing life insurers to adopt innovative marketing strategies to extend insurance penetration, especially targeting lower income groups.

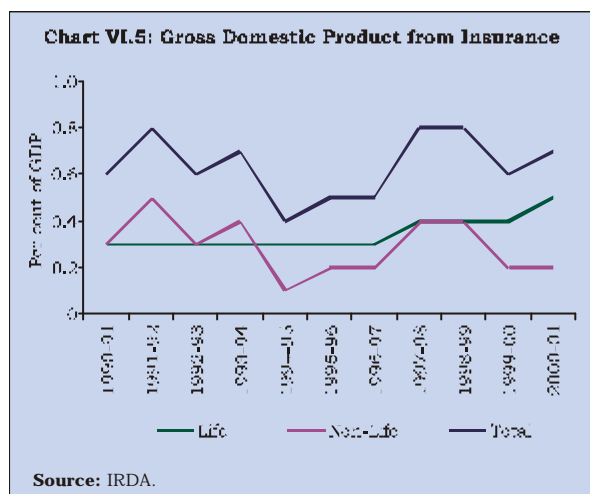
6.74 The size of the insurance sector, which stagnated around 0.6 per cent of GDP during the 1980s and the 1990s, accelerated in recent years as the existing insurers endeavoured to retain their market share, while new players attempted to establish themselves (Table 6.23 and Chart VI.5).

6.75 The share of insurance sector in household financial savings moved up from 7.6 per cent during the 1980s to 10.1 per cent during the 1990s and further to about 12 per cent during 2000-01. However, the insurance penetration (*i.e.*, the share of premium as percentage of GDP) in India remained low at 2.3

**Table 6.23: Insurance Business:
Summary Statistics**

	(Rs. crore)	
	2000-01	2001-02
	1	2
Life Insurance		
Premium	36,070	50,094
<i>Of which:</i> Private Insurers	7	273
Total Investments	1,94,010	2,46,869
<i>Of which:</i> Government & Other Approved Securities	1,00,037	1,32,177
Other than Approved Investments	18,584	16,521
General Insurance		
Gross Direct Premium Income	10,087	12,383*
<i>Of which:</i> Private Insurers	7	466
Total Investments	24,462	26,373
<i>Of which:</i> Government & Other Guaranteed Securities	7,703	15,910
Other than Approved Investments	3,761	2,972
* Excluding GIC.		
Source: IRDA.		

REPORT ON CURRENCY AND FINANCE



per cent as at end-March 2000 in comparison with the world average of 7.8 per cent and the emerging market average of 3.2 per cent.

6.76 The opening up of the insurance sector is expected to lead to increased competition and innovations in financial products. Insurance products compete with other saving products such as bank term deposits and small savings. Many of the new insurance products, especially unit-linked insurance/pension schemes, now bear a close resemblance to mutual funds. While the yield on life insurance products, in the range of 7.15 per cent to 9.46 per cent during the 1990s, was normally much lower than other long-run investments, this was compensated by the insurance cover and tax benefits. As new players join the fray, the competition in respect of various financial products is expected to go up in the near future.

6.77 The expansion of the insurance industry has a special significance in that it creates a demand for long-term Government paper, especially as Government securities accounted for 52.2 per cent of the life investment as at end-March 2002. This could ease the fiscal constraint on monetary policy in two ways, *i.e.*, by enlarging the pool of institutional investors in the Government securities market and by according the Reserve Bank the necessary flexibility to enlarge the maturity profile of public debt.

6.78 The key policy challenge, at this stage, is to ensure the financial stability of the new insurers, while at the same time encouraging entrepreneurship, product innovation and increasing insurance penetration especially in rural and semi-urban areas.

There is, therefore, a case for gradually replacing across-the-board capital requirements with capital stipulations linked to the risk and claims characteristics of a particular line of business as is the practice in some advanced countries as recommended by the Advisory Group on Insurance Regulation (2001). This would increase the number of players and product innovation. Also, while the present statutory stipulations are adequate, there is a need to explore the possibilities of linking prudential norms to the size of the balance sheet, especially in terms of capital adequacy norms (IRDA, 2002). Presently, insurers are mainly offering insurance schemes, which are based on assured returns. This is fraught with serious risks, especially when interest rate scenario/market condition changes. In order to stave off the risks associated with assured returns schemes, insurers need to shift to unit-linked insurance schemes based on the market rates of return. While the joint ventures formed by new insurers with entities, including banks and NBFCs, having a large branch/dealer network, minimise establishment costs, the contagion risks also get amplified in the process. This would require close co-ordination among the regulating agencies.

Mutual Funds

6.79 The Unit Trust of India (UTI), set up in 1964, was the only mutual fund in the country until 1987-88 when a public sector bank-sponsored mutual fund was established. The mutual fund industry expanded in the 1990s after it was opened to the private sector in 1993. A large number of mutual funds (37 as at end-March 2002) operating in the country has intensified competition and led to product innovation. Mutual funds presently offer a variety of options to investors such as income funds, balanced funds, liquid funds, gilt funds, index funds, exchange traded funds, sectoral funds, *etc.* In all, there were 417 schemes (as at end-March 2002) in operation to cater to diverse investor needs.

6.80 Despite increase in the number of mutual funds and the schemes operated by them, net resource mobilisation by mutual funds decelerated sharply during 1990-2002 (with the average annual growth rate being 13.0 per cent) in comparison with the 1980s (71.1 per cent). Net resource mobilisation in relation to GDP also declined sharply from 1.7 per cent in 1991-92 to 0.4 per cent in 2001-02 (Table 6.24). Their share in household savings also declined to 1.3 per cent in 2000-01 from 5.5 per cent in 1993-94. Total assets under management of all mutual funds also witnessed a similar trend.

FINANCIAL SECTOR

Table 6.24: Resources Mobilised/Assets under Management by Mutual Funds*

Year	Resources Mobilised (Rs. crore)	Assets under Management (Rs. crore)	Resources Mobilised (% of GDP)	Assets under Management (% of GDP)
	1	2	3	4
1991-92	11,253	-	1.72	-
1992-93	13,021	-	1.74	-
1993-94	11,243	-	1.31	-
1994-95	11,275	-	1.11	-
1995-96	-5,833	-	-0.49	-
1996-97	-2,037	-	-0.15	-
1997-98	4,064	-	0.27	-
1998-99	2,695	68,193	0.15	3.88
1999-2000	22,117	1,07,946	0.15	5.59
2000-01	11,135	90,587	0.53	4.30
2001-02	8,024	1,00,594	0.35	4.38

* Including UTI.

6.81 The sharp deceleration in the growth of mutual funds in the 1990s and early 2000s could be attributed partly to relatively poor performance of the stock market (the BSE Sensex during 1990-2002 on an average increased by 17.5 per cent per annum as compared with 22.4 per cent per annum during the 1980s) and partly to withdrawal of tax benefits under Section 80M of the Income Tax Act. Another major factor which appeared to have contributed to the deceleration was the problem with assured return schemes and US-64 of UTI.

6.82 Some of the mutual funds had offered assured return schemes. While these assured return schemes enabled them to mobilise large resources, a number of mutual funds faced difficulties in meeting their redemption obligations relating to such schemes. In several cases, the sponsors of mutual funds had to infuse additional funds to meet the shortfall. As a result, mutual funds, by and large, discontinued the floatation of assured return schemes, which had some dampening effect on the resource mobilisation by mutual funds. While most of the mutual funds were somehow able to meet their commitments on account of assured return schemes, UTI faced a somewhat different problem on two different occasions between October 1998 and July 2001. US-64, which was the flagship scheme of UTI and enjoyed the investors' faith, first faced problem in December 1998 when the reserves under the scheme were reported negative. In July, the original corpus of US-64 scheme had been eroded to the extent of over Rs.1,000 crore. In order to restore investors' confidence, several measures were initiated by the Government/UTI. While these helped the US-64 to make a turnaround, the problem resurfaced again in July 2001 when UTI slashed down the dividend

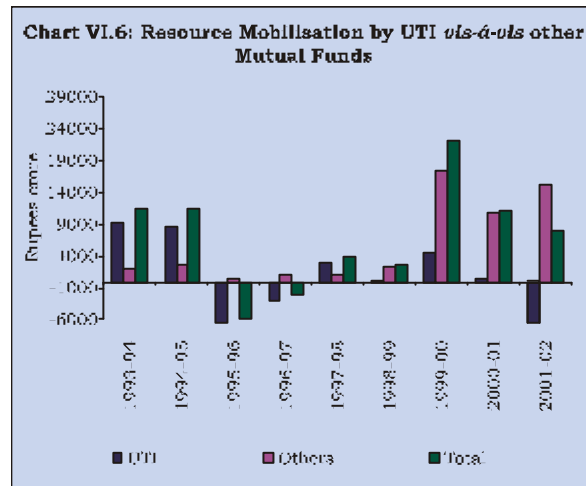
rate for the year 2000-01 and suspended sales and repurchases of US-64 for a period of six months from July 2001 to December 2001. This created a crisis of confidence and to restore investors' confidence various measures were initiated, which culminated in splitting the UTI into two parts, i.e., UTI-I and UTI-II.⁵

6.83 The problem with US-64 scheme of UTI adversely affected the resource mobilisation by mutual funds in general and UTI in particular (Table 6.25 and Chart VI.6). On both the occasions when UTI faced difficulties, while resource mobilisation by UTI declined sharply, private sector mutual funds were able to fill

Table 6.25: Net Resource Mobilisation by Mutual Funds

(Rs. crore)

Year	UTI	Public Sector	Private Sector	Total
	1	2	3	4
1993-94	9,297	387	1,560	11,243
1994-95	8,611	1,342	1,322	11,275
1995-96	-6,314	348	133	-5,833
1996-97	-3,043	143	864	-2,037
1997-98	2,875	440	749	4,064
1998-99	170	459	2,067	2,695
1999-2000	4,548	631	16,937	22,117
2000-01	322	1,521	9,292	11,135
2001-02	-7,284	1,330	13,977	8,024



5 The UTI-I comprises US-64 for which assured repurchase prices have been announced and all other assured returns scheme and would be managed by a Government-appointed administrator with the Government meeting all obligations annually to cover any deficit. The UTI-II comprises all NAV-based schemes, managed by a professional Chairman and Board of Trustees and will be disinvested in the future. Since UTI-II would not be subject to any redemption guarantees or assured returns schemes, its transactions could be based on the market perception of its fund managers and the management.

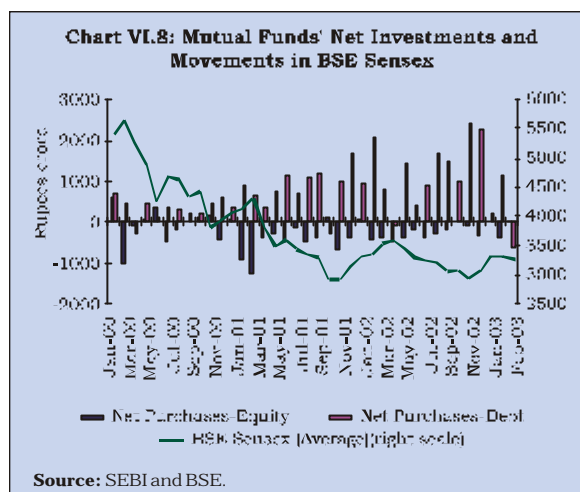
REPORT ON CURRENCY AND FINANCE

the gap created by UTI only partially as overall mobilisation by all mutual funds on both the occasions declined sharply after the occurrence of the problem. During 1998-99, resource mobilisation declined by 33.67 per cent in comparison with 1997-98 (UTI faced problem first in October 1998) and by 27.9 per cent in 2001-02 in comparison with 2000-01 (UTI faced problem again in July 2001). During 2002-03 (April-September), net outflow of resources from UTI was more or less offset by net inflows into private sector mutual funds and thus, private sector mutual funds were able to fill the gap created by UTI.

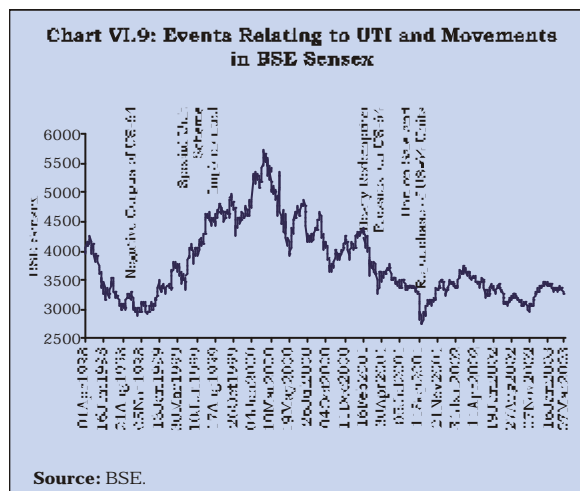
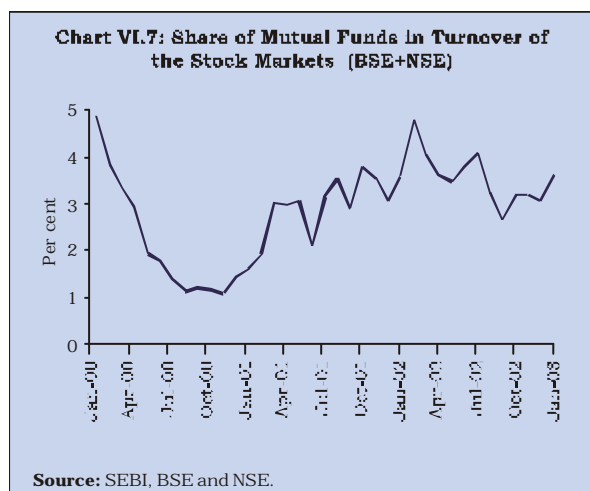
Role of Mutual Funds in the Stock Market

6.84 Mutual funds are an ideal vehicle for investment by retail investors in the stock market for several reasons. First, it pools the investments of small investors together increasing thereby the participation in the stock market. Secondly, mutual funds, being institutional investors, can invest in market analysis generally not available or accessible to individual investors, providing thereby informed decisions to the small investors. Thirdly, mutual funds can diversify the portfolio in a better way as compared with individual investors due to the expertise and availability of funds.

6.85 Mutual funds in India, because of their small size and slower growth in the recent past, have tended to play only a limited role in the stock market. The share of mutual funds in total turnover of the stock markets (BSE+NSE), which was 4.9 per cent in January 2000, declined to 3.6 per cent by January 2003 (Chart VI.7). One of the reasons for the decline in the share of mutual funds in the turnover was that in the recent past, mutual funds shifted the portfolio composition from equity to debt due to subdued equity market conditions (Chart VI.8).



6.86 In view of small size of their operations, mutual funds in normal times hardly exert any influence on the stock market. This is evident from the correlation coefficient between net purchases of equities by mutual funds and the BSE Sensex during the period from February 4, 2000 to February 7, 2003, which worked out to an insignificant -0.02. Nonetheless, major developments concerning mutual funds do exert significant influence on the sentiment. It can be seen from Chart VI.9 that negative developments at UTI such as reporting of negative corpus for US-64 in October 1998, heavy redemption pressure on US-64 and ban on sale and repurchase of US-64 units in July 2001 resulted in decline in the BSE Sensex. On the other hand, positive developments like implementation of special unit scheme and announcement of positive corpus for US-64 were associated with general uptrend in the equity prices.



FINANCIAL SECTOR

6.87 Mutual funds are very popular all over the world and they play an important role in many countries. As at end 2001, there were about 52,735 open-ended mutual fund schemes in operation in the world with a total asset base of US \$ 1,094 billion. Despite a long history, assets of mutual funds in India constitute less than 5 per cent of GDP which is very low in comparison with about 25 per cent in Brazil and 33 per cent in Korea. (Table 6.26).

Table 6.26: Ratio of Assets of Open-end Funds to GDP

Country	(Per cent)		
	1999	2000	2001
	1	2	3
Brazil	22.17	25.01	25.24
Denmark	15.83	20.24	18.88
Korea	41.17	23.97	32.46
India	2.92	2.98	—
UK	66.52	61.76	48.68
USA	73.82	70.89	63.62

Source : Compiled from Mutual Fund Factbook, 2002.

6.88 One of the major reasons for this is that the penetration of mutual funds, especially in the rural areas remains small. According to the survey carried out by SEBI-NCAER (2000), mutual funds have been found to be popular mainly with the middle and high-income groups and have not been found to be an attractive investment avenue for the low-income groups. Thus, if mutual funds have to grow fast, they would need to devise appropriate schemes to attract the saving of low-income groups, especially in rural areas. This is the only way to ensure participation of all categories of investors into the capital market, which is so crucial for its long-term development. Mutual funds with large funds at their disposal are also required to act as a counterweight to FIIs, which generally exerts a significant influence on the stock market.

6.89 To sum up, financial sector reforms introduced since the early 1990s have brought about a significant improvement in the financial system. The commercial banking sector, which constitutes the most important segment, has witnessed a remarkable improvement both in stability and efficiency parameters such as capital position, asset quality, spread and overall profitability. It is significant to note that the improvement was noticed in respect of all bank groups. However, the empirical evidence does suggest that public ownership impinged on the efficiency of the banking sector. This was evident from the fact that old private sector banks and those PSBs, which divested their equity recently, outperformed fully government-owned banks, although significant improvement was observed in the performance of fully Government-owned banks

in the recent years. There is a feeling in some quarters that stability measures impinge on the efficiency of the banking sector. However, in the context of the Indian banking sector, various measures introduced to enhance the stability of the Indian banking system have not adversely affected their efficiency. In fact, stability and efficiency measures were found to be mutually reinforcing and complimentary.

6.90 In respect of other intermediaries, however, the impact of reforms was not so perceptible. In the case of co-operative banks, no significant improvement was observed either in the stability or efficiency parameters, except that state co-operative banks and District central co-operative banks, which were incurring losses, turned around and made some profits. The performance of scheduled urban co-operative banks in terms of asset quality and profitability deteriorated in the recent years. One reason for this appears to be that the reform process for co-operative banks started much later than the commercial banking sector and that too in a phased manner. It may, therefore, take some more time for the reforms to have their impact.

6.91 While there was some improvement in the stability parameters (capital and assets quality) of DFIs as a group, the asset quality of some of the DFIs was seriously impaired. Profitability of DFIs, in general, also declined. The decline in their profitability was due to increased competition on the asset side and increased cost of funds on the liability side after assured sources of funds were withdrawn. Thus, insofar as DFIs are concerned, overall there has been some deterioration in efficiency parameters. Reforms have been successful in increasing the competition in the insurance sector and mutual fund industry. In the case of mutual funds, while the reforms have been successful in creating a competitive environment, the growth of mutual funds slowed down sharply partly due to depressed market conditions and partly due to the problem faced by UTI. Reforms in the insurance sector, which are of recent origin, have also been successful in enhancing competition even as the impact of increased competition on insurance penetration is yet to be felt. Thus, insofar as financial intermediaries are concerned, reforms have had a mixed impact. While reforms have brought about significant improvement in respect of commercial banks, the impact was not so perceptible in respect of co-operative banks and non-bank financial intermediaries

III. FINANCIAL MARKETS: AN ASSESSMENT OF REFORMS

6.92 A major objective of reforms in the financial sector was to develop various segments of the financial market, viz., the money market, the Government securities market, the foreign exchange

REPORT ON CURRENCY AND FINANCE

market and the capital market. Another important objective of reforms in financial markets was elimination of segmentation across various markets in order to smoothen the process of transmission of impulses across markets, easing the liquidity management process and making resource allocation process more efficient across the economy. The strategy adopted for meeting these objectives involved removal of restrictions on pricing of assets, building the institutional structure and technological infrastructure, introduction of new instruments, and

fine-tuning of the market microstructure. The market development efforts were supported by appropriate changes in the legal framework to remove structural rigidities and improvements in the regulatory design to ensure smooth functioning of markets. Aiming at widening and deepening of financial markets, new players and instruments were introduced (Box VI.4). This section assesses the impact of reforms on various market segments in terms of parameters such as liquidity, volatility, efficiency and integration of various segments.

Box VI.4

Financial Markets - Reform Measures

Since the early 1990s, various measures were initiated in all segments of financial markets aimed at improving depth and liquidity in the markets. The reforms also emphasised on improving the transparency and efficiency of the markets. The key reform measures undertaken in different market segments are briefly presented below.

Money Market

- A ceiling of 10 per cent on call money rates imposed by the Indian Banks Association was withdrawn in 1989.
- Initially, the participation in the call market was gradually widened by including non-banks, such as, financial institutions, non-banking finance companies, primary/satellite dealers, mutual funds, corporates (through primary dealers), etc. The process of transformation of call money market to a pure inter-bank market commenced effective May 2001.
- The 182-day treasury bills were introduced effective November 1986, followed subsequently by phasing out of on-tap treasury bills, introduction of auctioning system in 91-day treasury bills since January 1993, and introduction of 14-day and 364-day treasury bills. The system of *ad hoc* treasury bills (with a fixed 4.6 per cent interest rate since July 1974), which were issued by the Central Government to the Reserve Bank, was abolished effective April 1997. Currently only the 91-day and 364-day treasury bills exist.
- The Discount and Finance House of India (DFHI) was set up in April 1988, and was allowed to participate in the call/notice money market both as a borrower and lender commencing from July 1988.
- Several new financial instruments were introduced, such as inter-bank participation certificates (1988), certificates of deposit (June 1989), commercial paper (January 1990) and repos (December 1992).
- Derivative products like forward rate agreements and interest rate swaps were introduced in July 1999 to enable banks, FIs and PDs to hedge interest rate risks.
- A full-fledged Liquidity Adjustment Facility was introduced on June 5, 2000 with a view to modulating short-term liquidity under diverse market conditions.
- With a view to adopting the sound risk management procedures and eliminating counter-party risk, the Clearing Corporation of India Ltd. was set up on February 15, 2002. The CCIL acts as a central counter-party to all trades

involving foreign exchange, government securities and other debt instruments routed through it and guarantees their settlement.

- The segment refinance facility for banks is gradually being phased out.

Government Securities Market

- New auction-based instruments were introduced with varying maturities such as 364-day, 182-day, 91-day and 14-day treasury bills and the zero coupon bond. The auction system was also introduced for Government of India dated securities. An innovative feature of 'part payment' was added to the auction of Government of India dated securities.
- In the long-term segment, Floating Rate Bonds (FRBs) benchmarked to the 364-day treasury bill yields and a 10-year loan with embedded call and put options exercisable on or after 5 years from the date of issue were introduced.
- A system of Primary Dealers (PDs) was made operational in March 1996.
- Foreign Institutional Investors (FIIs) were allowed to set up 100 per cent debt funds to invest in Government (Central and State) dated securities in both primary and secondary markets.
- The system of automatic monetisation of budget deficit through *ad hoc* treasury bills which hampered the development of the market was phased out over a period of three years from 1993-94 to 1996-97 and was replaced by the system of Ways and Means Advances (WMA) with effect from April 1, 1997.
- The Delivery-versus-Payment system (DvP) was introduced in 1995 for the settlement of transactions in Government securities. A screen-based trade reporting system with the use of VSAT communication network complemented by a centralised Subsidiary General Ledger (SGL) accounting system was put in place.
- The Negotiated Dealing System (NDS) (Phase I) was operationalised in February 2002 to enable on-line electronic bidding facility in the primary auctions of Central/State Government securities, OMO/LAF auctions, screen-based electronic dealing and reporting of transactions in money market instruments, including repo and to facilitate information on trades with minimal time lag.
- Since timely flow of information is a critical factor in evolving the efficient price discovery mechanism, improvements were

(Contd...)

FINANCIAL SECTOR

(Contd...)

brought in transparency of operations and data dissemination.

- A practice of pre-announcing a calendar of treasury bills and government securities auctions to the market was introduced.
- Retail trading in Government securities at select stock exchanges commenced in January 2003.

Foreign Exchange Market

- The current account was gradually made convertible leading to the acceptance of obligations under Article VIII of the IMF. The exchange rate, which was pegged to a basket of currencies, was made market-determined in a phased manner. Several transactions in the capital account were also gradually liberalised over the years.
- In line with the liberal policy environment of the 1990s, the Foreign Exchange Regulation Act, 1973 (FERA) was replaced by the Foreign Exchange Management Act (FEMA) in 1999.
- Banks were given increased freedom for operating in the forex market. These related to the following: (a) freedom to fix overnight position limit and gap limits approved by RBI, replacing the system of across-the-board or RBI-prescribed limits; (b) freedom to initiate trading position in the overseas market; freedom to borrow (up to 25 per cent of Tier I capital or up to US \$ 250 million, whichever is higher) or freely invest funds in the overseas market; (c) freedom to determine the interest rates (subject to a ceiling) and maturity period of Foreign Currency Non-Resident (FCNR) deposits (not exceeding three years); (d) freedom to use derivative products for asset-liability management.
- Corporates were allowed to undertake active hedging operations by resorting to cancellation and rebooking of forward contracts, book forward contracts based on past performance without having to produce documents endorsing a forex exposure, use foreign currency options and variations thereof like range forwards and ratio range forwards. They can access a range of products including Foreign Currency-Rupee Swap to manage longer-term exposures arising out of External Commercial Borrowings.

Capital Market

- With the repeal of the Capital Issues (Control) Act, 1947, companies were given freedom to price their issues. The book-building process in the new issue of capital was introduced with a view to further strengthen the price discovery process.

- In the secondary market, the floor-based open outcry trading system was replaced by electronic trading system in all the stock exchanges.
- The account period settlement system was replaced by rolling settlement, thus, reducing the scope for speculation. The rolling settlement cycle was shortened from T+5 to T+3 with effect from April 1, 2002. This process was enabled by a shift to electronic book entry transfer system through depository mechanism.
- The risk management system was made more comprehensive with trading members being subject to margins based on trading volumes and some other parameters and exposure norms based on the capital deposited with the exchange. The mark-to-market margins based on 99 per cent value at risk were introduced to capture the risk profile of trading members.
- The Indian companies were allowed to raise funds from abroad, through American/Global Depository Receipts (ADRs/GDRs), foreign currency convertible bonds (FCCBs) and external commercial borrowings (ECBs). The Reserve Bank allowed two-way fungibility of ADRs/GDRs in February 2002.
- Foreign institutional investors (FIIs) were allowed to participate in the capital market.
- For strengthening the process of information flows from the listed companies, several measures were introduced: (i) while sufficient disclosures are mandatory for the companies at the stage of public issue, the listed companies are also required under the listing agreement to make disclosures on a continuing basis; (ii) for ensuring quick flow of information to the public, the decision pertaining to dividend, bonus and right announcements or any material event are now required to be disclosed to the public within 15 minutes of the conclusion of the board meeting in which the decisions are taken; (iii) the accounting practices were streamlined with norms introduced for segment reporting, related party transactions and consolidated balance sheets.
- Insider trading was made a criminal offence. The regulations governing substantial acquisition of shares and takeovers of companies were also introduced aimed at protecting the interests of minority shareholders by making the takeover process more transparent.
- For providing market participants instruments for hedging and risk management, several types of derivative products on equities were introduced. Non-transparent products like 'badla' were banned.

Money Market

6.93 The money market forms an important part of the financial system by providing an avenue for equilibrating the surplus funds of lenders and the requirements of borrowers for short periods ranging from overnight up to a year. It also provides a focal point for central bank's intervention for influencing the liquidity in the financial system and thereby transmitting the monetary policy impulses.

6.94 Traditionally, the money market in India

comprised mainly the call money market. Although other money market segments, viz., commercial bills market and inter-corporate deposits market have been in existence for a long time, there has not been much activity in these segments. Therefore, for assessing the impact of reforms on the money market the focus is mainly on the call money market. The impact of reforms is assessed in terms of behaviour of the call money market and the market growth related parameters, including those instruments, which were introduced in the 1990s.

REPORT ON CURRENCY AND FINANCE

Call/Notice Money Market

6.95 The call money market, which deals in overnight funds, is a key segment of the money market in India. Funds for 2-14 days are termed as notice money. Various reform measures initiated in this segment have resulted in more orderly conditions and increased liquidity.

6.96 In the initial phase of money market reforms in the late 1980s, considerable volatility was noticed in the call rate, resulting primarily from a free call money market while interest rates in other segments of the money market remained regulated. As a result, any fluctuation in the liquidity conditions impinged on the call money market.

6.97 The call money market during the 1990s witnessed orderly conditions barring a few episodes of volatility (Chart VI.10). The call rates first came under pressure in May 1992 when they touched a peak of 35.3 per cent, essentially reflecting liquidity tightness due to high levels of statutory preemptions and withdrawal of all refinance facilities except for export credit refinance. After witnessing tranquil conditions during July 1992-December 1994, the call money market came under pressure again during 1995-96. The call rate touched a peak of around 35.0 per cent in November 1995, largely mirroring turbulence in the foreign exchange market. To stabilise the market, the Reserve Bank injected liquidity through reverse repos, enhanced banks' refinance facilities against Government securities and reduced the CRR. The call rate softened to a single digit level thereafter till December 1997. However, the call rate hardened again and touched a high of around 29 per cent, in January 1998, reflecting the mopping up of money market liquidity by the Reserve Bank to squelch the

pressure in the foreign exchange market. During 1999-2000, the inter-bank call money rates ruled steady within a narrow range, excepting few bouts of volatility, primarily attributable to the unanticipated demand for reserves by commercial banks.

6.98 Thus, excepting a few episodes of volatility, conditions in the call money market remained stable in the 1990s. The full-fledged Liquidity Adjustment Facility (LAF), which was introduced on June 5, 2000, with a view to modulating short-term liquidity under diverse market conditions, has emerged as an effective instrument to provide a corridor for the overnight call rate movement. This has resulted in stability and orderly market conditions through clear signalling (Chart VI.11). The LAF (as explained in Chapter V) combined with strategic open market operations (OMOs) has since been used to signal the monetary stance by removing shortfalls and excesses of liquidity in the system so as to keep the short-term interest rates reasonably stable.

6.99 The level of weighted average call money borrowing rates declined from around 7.5 per cent in April 2001 to 5.7 per cent in February 2003. The LAF has also enabled a reduction in the volatility in call rates (measured by coefficient of variation) from 85.7 per cent during 1997-98 to 7.6 per cent during 2002-03 so far (April to February).

6.100 The call/notice money market essentially serves the purpose of equilibrating the short-term liquidity position of banks and other participants. The turnover in the call/notice money market depends on the amount of surplus funds available with some participants and the requirements of funds by some other participants. Over the years, the number of participants in the market has gradually increased to include banks and Primary Dealers both as lenders and borrowers, and select

Chart VI.10: Behaviour of Call Rates (Monthly Average)

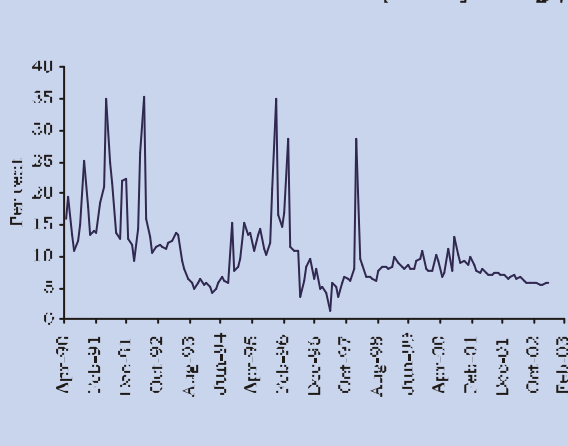
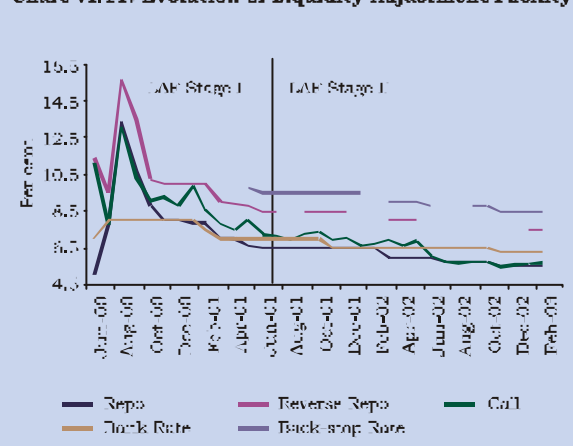


Chart VI.11: Evolution of Liquidity Adjustment Facility



FINANCIAL SECTOR

mutual funds, insurance companies, development financial institutions and corporates through Primary Dealers (as lenders).

6.101 The supply of and demand for funds in the market arise on account of (i) compliance with cash reserve requirement of banks as mandated by the Reserve Bank, (ii) as a funding source to build up assets, (iii) temporary surpluses that are available with lenders, (iv) foreign exchange flows and (v) seasonal factors such as festival, election, harvesting, advance tax payments, etc. Over the years, a few banks tended to be overly exposed to the call/notice money market. Such banks relied excessively on the call money market for carrying out banking operations and long-term asset creation. The Narasimham Committee II recommended that there must be clearly defined prudent limits beyond which banks should not be allowed to rely on the call/notice money market and that access to this market should essentially be for meeting unforeseen mismatches and not as regular means of financing banks' lending operations. With the progressive regulations, asset liability management system was put in place, which kept the mismatches in cash flows in the 1-28 days bucket under check. As part of streamlining the Liquidity Adjustment Facility and improving the transmission channel of monetary policy, the phasing out of non-bank participants from the call money market commenced from May 2001. Furthermore, recognising that building up of substantial exposure to the call/notice money market relative to the balance-sheet size by some participants on a continuous basis has the potential not only for default and the consequent systemic instability but also impeding other segments of the money market, participants are now operating within limits on both lending and borrowing operations. Thus, the call/notice money market is evolving as a pure inter-bank market with ALM discipline for participants and prudential limits for borrowing and lending.

6.102 With the establishment of the Clearing Corporation and the enhanced liquidity in the repo market both in Government and non-Government securities, it is envisaged that eventually both the call market and the repo market combined with other money market instruments, would constitute an integrated market for equilibrating short-term funds for both banks and non-banks.

6.103 During the first half of the 1990s, volumes in the call money market at Mumbai remained more or less steady. However, the turnover increased sharply and fluctuated widely during the last few years. The average daily turnover rose from Rs.23,221 crore in 1999-2000 to Rs.30,320 crore in 2000-01 and further to Rs.35,144

crore in 2001-02, before falling to Rs.29,857 crore in 2002-03 so far (up to February 2003). The turnover in the call/notice market should also be seen alongside the repo amount accepted by the Reserve Bank on a daily basis where one can observe substantial volatility. LAF has been effective in reducing the volatility in the call/notice money market.

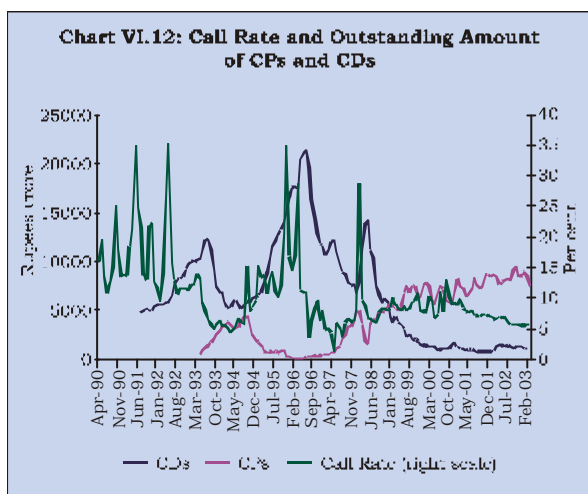
Commercial Paper

6.104 Commercial Paper (CP) was introduced as a money market instrument in January 1990 with a view to enabling corporates to diversify their sourcing of short-term borrowings as well as for providing investors with an additional instrument for investment. It was made broad-based with the lowering of the minimum issue size to Rs.5 lakh and the widening in the maturity period from 91 days-6 months to 15 days-1 year in July 2000 to make it compatible with instruments of comparable maturities. The Indian CP market is driven by swings in bank liquidity. Banks prefer investing in CPs, especially in times of easy liquidity as they can park funds at interest rates higher than call rates and at the same time avoid higher transaction costs associated with bank loans. The effective discount rate of CP usually lies between representative money market rate and the bank lending rate. On the other hand, companies are able to raise funds through CPs at a lower rate than the lending rates of banks under easy liquidity conditions. The amount of CPs outstanding increased significantly from Rs.577 crore in March 1993 to a high of Rs.4,511 crore in August 1994 accompanied by a decline in the average discount rate from 15.9 per cent to 10.5 per cent during this period. As the call rates firmed up, the average discount rate touched a peak of 20.2 per cent in April 1996 with the concomitant decline in outstanding amount to Rs.71 crore. The subsequent easing of liquidity conditions and institution of a series of reforms including dematerialisation of issuances and alignment of minimum maturity period boosted the CP market taking the outstanding amount to Rs.7,622 crore in February 2003 (Chart VI.12).

Certificates of Deposit

6.105 Certificates of Deposit (CDs) were introduced in 1989 as a money market instrument to mobilise large value deposits. CDs were freed from the interest rate regulation in 1992, thus, providing banks with an option to meet their liquidity needs through CDs issued at a premium during tight phases of liquidity. Thus, in its early stages of development, as and when the market faced tight liquidity conditions, banks found CDs as an appropriate instrument to raise funds, thereby taking the outstanding amount of CDs from Rs.2,000

REPORT ON CURRENCY AND FINANCE



crore in July 1990 to Rs.12,557 crore in July 1993. However, as liquidity conditions eased, the CDs outstanding amount declined to Rs.5,218 crore in July 1994. A credit pick-up again spurred the outstanding amount of CDs to a historical peak of Rs.21,503 crore in June 1996. Another phase of liquidity tightness during the South East Asian crisis in the fourth quarter of 1997-98 led to a pick-up in the CDs issuances. The subsequent easing of liquidity conditions enabled banks to reduce borrowing through CDs leading to a decline in the outstanding amount of CDs to Rs.1,212 crore in January 2003. Interest rates on CDs softened in the recent period in line with other short-term interest rates (Chart VI.13).

Forward Rate Agreements (FRAs) / Interest Rate Swaps (IRS)

6.106 With interest rate deregulation and the consequent flexibility in the market-determined rates,

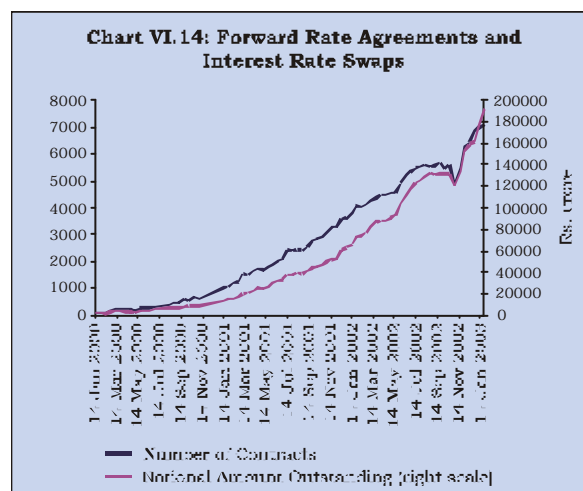
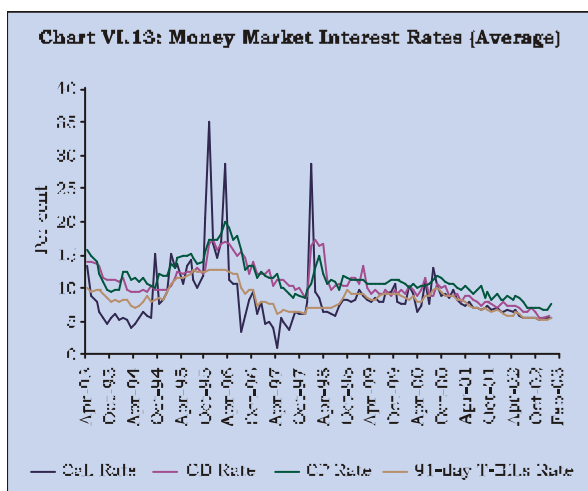
the associated risk factor for market participants also increased. This necessitated the development of derivative products for hedging risks by participants. Accordingly, banks and financial institutions were allowed in July 1999 to adopt risk management tools such as forward rate agreements (FRAs) and interest rate swaps (IRS) for their balance sheet management and hedging of interest rate risks by using the implied rates from any market segment such as money, debt or foreign exchange segment, for their own benchmarking.

6.107 The market has developed with successive rounds of interest rate deregulation in the economy. The notional principal amount under FRA/IRS contract moved up from Rs.2,065 crore during the fortnight ended January 14, 2000 to Rs.1,92,170 crore by January 24, 2003 (Chart VI.14).

Repos

6.108 Repo (Repurchase Agreement) instruments enable collateralised short-term borrowing through sale operations in debt instruments. Under a repo transaction, the holder of securities sells them to an investor with an agreement to repurchase it at a predetermined date and rate. Reverse repo is a mirror image of repo, and represents acquiring of the debt securities with a simultaneous commitment to resell.

6.109 The Reserve Bank has been emphasising expansion and diversification of the repo market under regulated conditions so that repos become very active in enabling smooth adjustment of liquidity in the system. The essential reason to promote the repos as against the call/notice money market is the collateralised nature of the former. It is mandatory to actually hold the securities in the portfolio before



FINANCIAL SECTOR

undertaking repo operations. To further develop and widen the repos market, the Reserve Bank introduced regulatory safeguards such as delivery *versus* payments (DvP) system in April 1999. The operationalisation of the Negotiated Dealing System (NDS) and the Clearing Corporation of India Ltd. (CCIL) combined with placement of prudential limits on borrowing and lending in the call/notice market for banks are also expected to provide further boost to this market. The phase-out process of non-banks from the call/notice money market as also laying down of prudential restrictions on exposure limits of banks and PDs to this uncollateralised market segment is being followed up with the concomitant development of the repo market. Thus, the supply of funds of non-banks to the repo market picked up in the recent months. While the turnover in the call/notice money declined, the turnover in the repo market (outside RBI) increased from Rs.11,311 crore in April 2001 to Rs.27,712 crore in May 2001, when the non-bank phasing out process commenced. The turnover further moved up to Rs.34,503 crore in November 2002.

6.110 To sum up, the money market in India, which traditionally consisted largely of call/notice money market, now comprises many other instruments such as CP, CDs, Repos and FRAs/IRS. Various reform measures have helped in improving the depth and efficiency of the money market operations. The operationalisation of the LAF has provided an informal corridor for overnight call money borrowing rate, which has further imparted stability and flexibility in the interest rate structure and to the market. The other money market instruments such as, CP and CDs have also been developed through alignment in maturity (with deposit instruments like term deposits) and easing of issuance norms. With the proper development of other money market segments, non-banks have been able to smoothly switch over from the call/notice money market to the other segments.

6.111 Though significant progress has been made through initiation of various reforms, there are several issues, which need to be addressed. While the overnight market is reasonably developed, the term-money market is yet to develop necessitating large rollover of short-term funds in the overnight market. This is mainly on account of the inability of participants to form appropriate interest rate expectations in the medium-term due to which there is a tendency on their part to lock themselves into short-term period. Besides, the absence of a proper yield curve at the shorter end of the market also renders pricing of intra-fortnight money difficult. Furthermore, corporates' overwhelming preference for "cash" credit rather than for "loan" credit

generally forces banks to deploy a large amount in the call/notice money market rather than in the term money market.

6.112 Another issue relates to the avenues available to deploy short-term funds to non-bank corporates. A critical issue in transforming the call/notice money market to a pure inter-bank market is the availability of some other avenue for short-term funds for non-bank participants. The commercial bill market at the present stage continues to be limited especially as few participants are willing to bear the concomitant risk of default. Thus, the repo trade at this stage offers a quick medium for developing a market for short-term funds especially as the transactions are collateralised in the case of non-banks. While the Reserve Bank has taken several steps to develop a repo market for non-bank participants, a vibrant repo market is, however, yet to develop. There is also a need to develop uniform accounting and documentation procedures in this regard. Besides, there is a need to explore the possibility of expanding an array of repo-able instruments in terms of both the type of paper and the investment category.

Government Securities Market

6.113 Existence of a well-developed government securities market is essential for the pursuit of a market-based monetary policy. Well-developed government securities market is also required to develop a domestic rupee yield curve, which could provide a credible benchmark for pricing of securities in other markets.

6.114 The major objective of reforms in the government securities market was to impart liquidity and depth to the market by broadening the investor base and by ensuring market-clearing interest rate mechanism. Keeping this in view, a number of reform measures were initiated in this segment (Box VI.4), which had a positive impact on both the primary and the secondary markets.

Primary Market

6.115 After the switchover to auction-based system for issuing securities, the amount of market-based primary issuance of Government securities increased by more than ten-fold from about Rs.12,000 crore in 1991-92 to about Rs.1,40,000 crore in 2001-02. This was accompanied by a sharp decline in primary subscription by the Reserve Bank from 45.9 per cent in 1992-93 to 1.45 per cent in 1993-94 and to mere 0.74 per cent in 1994-95. However, in the recent years, devolvement/private placement on the Reserve Bank

REPORT ON CURRENCY AND FINANCE

was higher at around 30 per cent in 1999-2000 and 25 per cent in 2001-02, essentially reflecting the liquidity management operations undertaken by the Reserve Bank. These securities are, however, off-loaded in the market to contain the monetary impact.

6.116 The switchover to the system of borrowing at market-related rates provided the flexibility to modulate the maturity structure according to the needs. In the initial years of reforms, the maturity structure was shortened to reduce the cost, apart from making the government securities attractive to investors in terms of their tenor. Consequently, the weighted average maturity, which was around 16 years in 1990-91, was reduced to 6.59 years in 1997-98. This, in turn, resulted in significant bunching of redemptions. Consequently, it was considered desirable to elongate the maturity profile of the Government debt. Accordingly, during 1998-99, longer dated securities with tenors of 11, 12, 15 and 20 years were issued. Reflecting this, the weighted average maturity of dated securities went up from 7.71 years in 1998-99 to 14.3 years in 2001-02 (Chart VI.15). The average maturity of the Government debt in India compares favourably with other countries (Table 6.27).

6.117 Despite the increase in maturity, the average cost of issuance of dated securities declined substantially during 2001-02 to 9.44 per cent from 13.69 per cent in 1996-97 (Table 6.28).

6.118 A policy of reissuance/reopenings through price-based auctions (as opposed to earlier yield-based auctions) introduced in 1999 with a view to

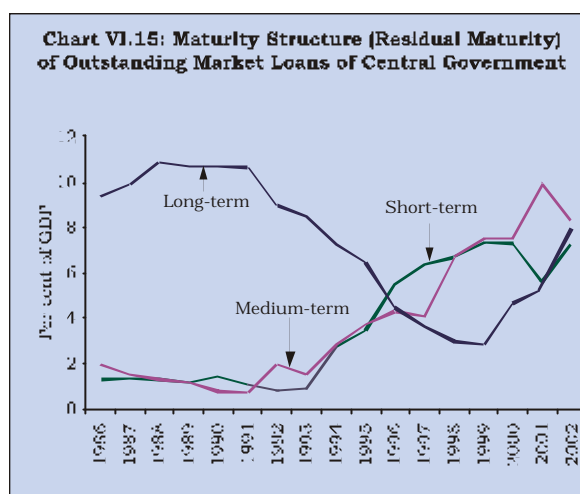


Table 6.27: Maturity Profile of Central Government Debt

(As at end-March 2000)

Country/Region	Average remaining years to maturity
	1
Euro area*	6 years
Japan	5 years 2 months
United Kingdom	9 years 11 months
United States	5 years 10 months
India**	7 years 6 months

* end 1999. ** as at March 31, 2001.

Source : Thorat, 2002.

Table 6.28: Weighted Average Yield and Maturity of Market Loans of Government of India

Years	Range of YTM's at Primary Issues (%)			Weighted Average Yield (%)	Range of Maturity of New Loans	Weighted Average Maturity (WAM) (yrs.)	WAM of Outstanding Stock
	Under 5 years	5-10 years	Over 10 years				
	1	2	3				
	4	5	6	7			
1995-96	13.25-13.73	13.25-14.00	–	13.75	2-10	5.7	–
1996-97	13.40-13.72	13.55-13.85	–	13.69	2-10	5.5	–
1997-98	10.85-12.14	11.15-13.05	–	12.01	3-10	6.6	6.5
1998-99	11.40-11.68	11.10-12.25	12.25-12.60	11.86	2-20	7.7	6.3
1999-2000	–	10.73-11.99	10.77-12.45	11.77	5.26-19.61	12.6	7.1
2000-01	9.47-10.95	9.88-11.69	10.47-11.70	10.95	2.89-20	10.6	7.5
2001-02	–	6.98-9.81	7.18-11.00	9.44	5-25	14.3	8.2
2002-03 (up to March 17, 2003)	–	6.57-8.14	6.06-8.62	7.34	7-30	13.8	8.9

FINANCIAL SECTOR

improving fungibility amongst the securities and facilitating consolidation of the debt greatly improved market liquidity and helped in the emergence of benchmark securities in the market. The process of passive consolidation itself helped in more or less containing the number of bonds to a level that was prevailing at the end of 1998-99. Of the 25 loans issued (excluding private placements) during 2001-02, 12 were new loans and the remaining were reissues of the existing loans. This ability to 'reissue' or 'reopen' loans is limited by the maximum outstanding amount that is perceived as 'manageable' from the viewpoint of redemption.

Secondary Market

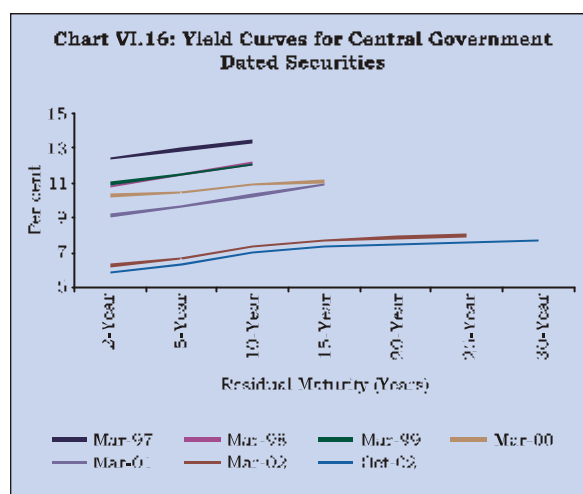
6.119 As a result of a series of structural and institutional reforms, a deep, wide and vibrant gilt market has emerged. The secondary market turnover of government securities in India has been rising steadily, reflecting increased liquidity in the market and increased trading activity by market participants. Over the 6-year period ended March 2002, turnover increased 12-fold (Table 6.29). This sharp increase in turnover, particularly in the last 2 to 3 years, in part, was due to a sustained rally in the Government securities market.

Table 6.29: Secondary Market Transactions in Central Government Securities

Year	(Rs. crore)		
	Outright 1	Repo 2	Total 3
1995-96	17,553	92,834	1,27,179
1996-97	59,903	25,415	1,22,942
1997-98	1,18,541	20,811	1,85,708
1998-99	1,43,097	38,076	2,27,228
1999-00	4,05,308	75,723	5,39,255
2000-01	5,09,112	1,09,097	6,98,146
2001-02	11,38,504	3,35,861	14,74,365
2002-03 (April-February)	12,27,426	4,23,233	16,50,659

6.120 There was a sharp decline in the weighted average interest cost of market borrowings by the Government from 13.75 per cent in 1995-96 to 10.95 per cent in 2000-01 and to 9.44 per cent in 2001-02. Real interest rate on government securities [adjusting for the inflation (WPI)] also declined from 5.7 per cent in 1995-96 to 3.7 per cent in 2000-01 before rising to 5.8 per cent in 2001-02. The sharp fall in yields could be partly attributed to increased liquidity and efficiency of the market.

6.121 One of the major objectives of the reforms was the evolution of the yield curve. Chart VI.16 shows



the evolution of the yield curves over the years. Up to 1999, the curve was limited to 10 years. Gradually, with the elongation of maturity of Government bond issuance, the yield curve got extended up to 30 years.

6.122 Thus, a series of institutional and structural reform measures undertaken in the government securities market since the early 1990s with the objective of creating a deep and liquid market have brought about significant improvements. With the aligning of coupons on government securities with market interest rate, market gradually widened with the participation of several non-bank players. Presently, investor base includes, apart from banks and insurance companies, private corporate sectors, private sector mutual funds, finance companies as also individuals. Recent steps to allow retailing of government securities and introduction of trading in government securities at stock exchanges are expected to give a further impetus to this trend. As a result, the market has become more deep and liquid and the Government is able to mobilise adequate funds from the market. The Reserve Bank's absorption of primary issues has come down drastically. Even the limited primary purchases taken as private placement/ devolvement are off-loaded in the market. This, in turn, enabled the elimination of automatic monetisation by the Reserve Bank and reduction in statutory pre-emption of banks. These arrangements provided functional autonomy to the Reserve Bank in the conduct of monetary policy.

6.123 Government securities are emerging as a benchmark for pricing private debt instruments. This would enable market players to appropriately price the securities.

Foreign Exchange Market

6.124 The foreign exchange market in India is a three-tier structure comprising (a) the Reserve Bank at the apex, (b) Authorised Dealers (ADs) licensed by the Reserve Bank, and (c) customers such as exporters and importers, corporates and other foreign exchange earners. Apart from these main market players, there are foreign exchange money changers who bring buyers and sellers together but are not permitted to deal in foreign exchange on their own account. The ADs are governed by the guidelines framed by the Foreign Exchange Dealers Association of India (FEDAI). Dealings in the foreign exchange market include transactions between ADs and the exporters/importers and other customers, transactions among ADs themselves, transactions with overseas banks and transactions between ADs and the Reserve Bank.

6.125 In line with the liberalisation measures undertaken in other areas, various reform measures were also initiated in the foreign exchange market guided mainly by the recommendations of various high level committees with the main objective of making it more deep and liquid, more vibrant, open and market determined (Box VI.4).

6.126 The impact of reforms on the forex market could be assessed by examining the behaviour of the market over the period as also the trends in various market growth related parameters.

Trends and Conditions

6.127 With the gradual opening of current and capital account transactions in the 1990s, the increasing volume of capital flows had a direct bearing on the stability of the exchange rate. There were intermittent periods of excessive capital inflows followed by episodes of ebbing of capital flows and subsequent recovery in capital inflows. From the viewpoint of examining the impact of external transactions on the exchange rate stability, the 10-year period starting from March 1993 (when the exchange rate became market determined) could be divided into three sub-periods as detailed below.

6.128 *March 1993-August 1995:* Reflecting the positive investor confidence, the Indian economy experienced surges in capital inflows during 1993-94, 1994-95 and the first half of 1995-96, which, coupled with robust export growth, exerted upward pressures on the exchange rate. In the face of these inflows, the Reserve Bank absorbed the excess supplies of foreign exchange. In the process, the nominal exchange rate of the Rupee *vis-à-vis* the US dollar remained virtually unchanged at around Rs.31.37

per US dollar over the extended period from March 1993 to August 1995.

6.129 *September 1995-December 1996:* The period from September 1995 to February 1996 witnessed large capital inflows. The real appreciation of the Rupee resulting from surges in capital inflows triggered off market expectations and led to a depreciation of the Rupee in the second half of 1995-96, *i.e.*, between September 1995-mid-January 1996. In response to the upheavals, the Reserve Bank intervened in the market to signal that the fundamentals were in place and to ensure that market correction of the overvalued exchange rate was orderly and calibrated. The interventions in the forex market were supported by monetary tightening to prevent speculative attacks. These decisive and timely measures brought stability to the market lasting till mid-January 1996. In the first week of February 1996, another bout of uncertainty led the Rupee to overshoot to Rs.37.95 per US dollar. The monetary and other measures succeeded in restoring orderly conditions and the Rupee traded in a range of Rs.34-35 per US dollar over the period March-June 1996. The Rupee remained range bound during the second half of 1996.

6.130 *1997 onwards:* The foreign exchange market since 1997 had to cope with a number of adverse internal as well as external developments. The important internal developments included the economic sanctions in the aftermath of nuclear tests during May 1998 and the border conflict during May-June 1999. The external developments included, *inter alia*, the contagion due to the Asian financial crisis and the Russian crisis during 1997-98 and the sharp increase in international crude prices in the period since 1999, especially from May 2000 onwards. Movements in interest rates in the industrialised countries as well as the cross-currency movements of the US dollar *vis-à-vis* other major international currencies were some of the other external developments impacting the foreign exchange market. These developments created a large degree of uncertainty in the foreign exchange market leading to excess demand, which was reflected in the spot market gap in the merchant segment, increasing from US \$ 3.2 billion in 1997-98 to US \$ 4.4 billion in 1998-99 (Table 6.30). The Reserve Bank responded through timely monetary and other measures like variations in the Bank Rate, the repo rate, cash reserve requirements, refinance to banks, surcharge on import finance and minimum interest rates on overdue export bills to curb destabilising speculative activities during these episodes of volatility while allowing an orderly

FINANCIAL SECTOR

Table 6.30: Merchant Transactions in the Foreign Exchange Market

(US \$ billion)

Year	Spot			Forward			Merchant Turnover
	Purchases	Sales	Net	Purchases	Sales	Net	
	1	2	3	4	5	6	
1997-98	54.7	57.9	-3.2	20.0	28.4	-8.4	209.6
1998-99	54.3	58.8	-4.4	16.0	33.5	-17.5	246.1
1999-2000	67.1	67.0	0.1	19.9	31.0	-11.1	244.0
2000-01	80.8	80.6	0.2	21.0	41.7	-20.7	269.4
2001-02	77.2	75.8	1.5	19.6	39.0	-19.3	256.8
2002-03 (April-January)	74.1	71.1	3.0	32.5	30.5	2.0	260.1

Table 6.31: Inter-bank Transactions in the Foreign Exchange Market

(US \$ billion)

Year	Spot			Forward / Swap			Inter-bank Turnover
	Purchases	Sales	Net	Purchases	Sales	Net	
	1	2	3	4	5	6	
1997-98	124.3	118.2	6.1	230.0	216.5	13.5	1095.9
1998-99	116.2	109.5	6.7	221.5	217.2	4.3	1057.3
1999-2000	123.1	121.8	1.3	184.1	177.2	6.9	898.1
2000-01	150.4	141.0	9.3	282.3	261.5	20.8	1117.7
2001-02	138.5	137.3	1.2	327.1	334.9	-7.8	1165.3
2002-03 (April-January)	132.1	140.0	-7.9	271.5	268.2	3.3	1031.4

correction in the value of the Rupee. Reappearance of uncertainty in the foreign exchange market between mid-May to mid-August 2000 reflected hardening of international oil prices, successive interest rate increase in industrial countries and the withdrawal of portfolio flows. This resulted in widening of the excess demand gap in the spot segment of merchant transactions and compensating activity built up in the inter-bank segment (Table 6.31). Tight monetary measures adopted during May-June 2000 coupled with inflows in respect of the Indian Millennium Deposits during October-November 2000 eased market tightness and brought stability to the foreign exchange market. In the aftermath of September 11, 2001 incident in the US, once again the pressure was felt

in the forex market as the Rupee depreciated against the US dollar, but the RBI tackled the situation through quick responses in terms of a package of measures and liquidity operations.

6.131 Except for a brief period of instability on account of border tensions in May 2002, the Rupee remained broadly stable during the current financial year (April-February). The Rupee gained strength against the US dollar during July 2002-February 2003 on account of excess supply resulting both from current and capital account transactions. The Reserve Bank made net purchases of US \$ 9.7 billion during April-December 2002 (Table 6.32). A steady supply of dollar in the foreign exchange market kept the

Table 6.32: Purchases and Sales of the US Dollar by the Reserve Bank

(US \$ billion)

Year	Purchases	Sales	Net	Outstanding Net Forward Sales/Purchases (As at end-March)
	1	2	3	4
	1997-98	15.1	11.2	3.8
1998-99	28.7	26.9	1.8	-0.8
1999-2000	24.1	20.8	3.2	-0.7
2000-01	28.2	25.8	2.4	-1.3
2001-02	22.8	15.8	7.1	-0.4
2002-03 (up to December)	21.1	11.4	9.7	—

REPORT ON CURRENCY AND FINANCE

Rupee range-bound during the period and in terms of monthly average exchange rate, the Rupee appreciated by 2.2 per cent during the eight-month period from Rs.48.76 per US dollar in July 2002 to Rs.47.73 per US dollar in February 2003.

6.132 While the Rupee depreciated against the US dollar and the Pound Sterling by 35.3 per cent and 36.9 per cent, respectively, it depreciated by 26.7 per cent against the Japanese Yen during the 10-year period 1993-94 to 2002-03 (up to February 2003). Against the Euro, the Rupee depreciated by 6.3 per cent between 1999-2000 and 2002-03 (up to February 2003) (Chart VI.17). Depreciation of the Indian Rupee, however, was lower than that of some other emerging market economies. A cross-country analysis involving select Asian and Latin American emerging market economies reveals that the currencies of Korea, Malaysia and Chile depreciated against the US dollar during the 7-year period 1995-2001. The US dollar appreciated by 67 per cent, 60 per cent and 52 per cent against the Korean Won, Chilean Peso and the Malaysian Ringgit, respectively, as compared to a 46 per cent appreciation against the Indian Rupee during the same period (Chart VI.18).

6.133 The coefficient of variation of the Indian Rupee against the US dollar, which is a measure of volatility, moved in a narrow range, except for two occasions in 1995-96 and 1997-98 (Table 6.33 and Chart VI.19).

6.134 Thus, the foreign exchange market witnessed fairly stable conditions during the 1990s. Even during the period when the market came under pressure,

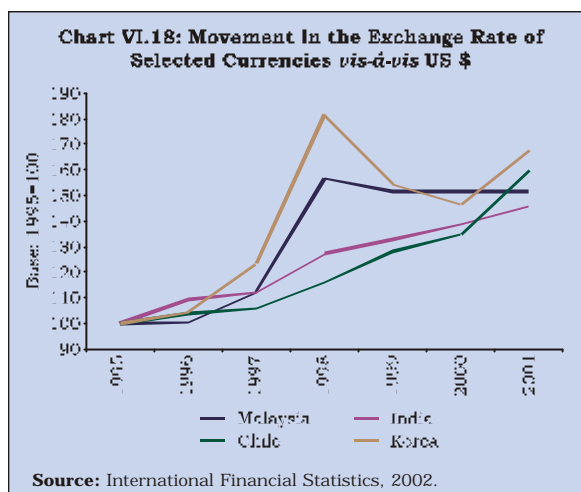
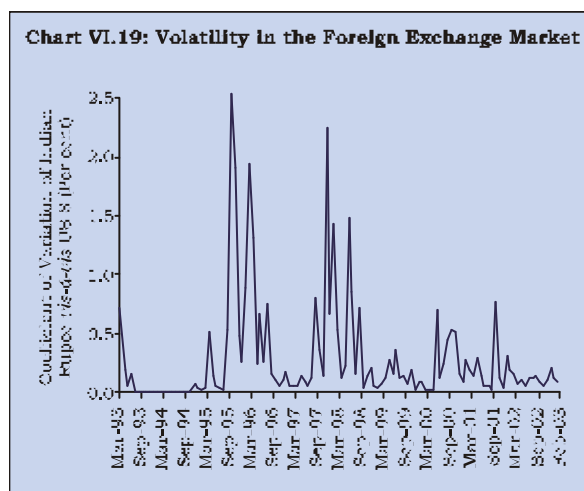
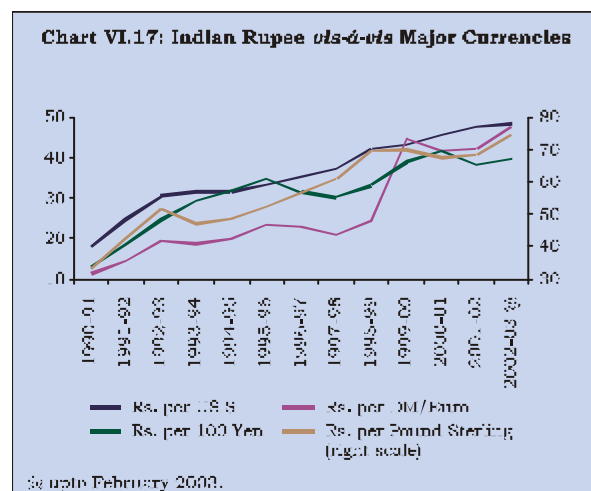


Table 6.33: Movements in the Exchange Rate of the Rupee per US Dollar

Year	Range	Average Exchange Rate	Average of the daily (absolute) variation	Coefficient of Variation (%)
	1	2	3	4
1993-94	31.21-31.49	31.37	0.01	0.1
1994-95	31.37-31.97	31.40	0.01	0.3
1995-96	31.32-37.95	33.45	0.10	5.8
1996-97	34.14-35.96	35.50	0.04	1.3
1997-98	35.70-40.36	37.16	0.07	4.2
1998-99	39.48-43.42	42.07	0.05	2.1
1999-2000	42.44-43.64	43.33	0.03	0.7
2000-01	43.61-46.89	45.68	0.04	2.3
2001-02	46.56-48.85	47.69	0.04	1.4



FINANCIAL SECTOR

effective measures were initiated and orderly conditions in the market were restored quickly.

Growth of the Forex Market

6.135 As a result of various liberalisation measures, the foreign exchange market in India grew rapidly during the 1990s. The total turnover (merchant *plus* inter-bank) increased more than two-fold to US \$ 129 billion in 2002-03 (up to January) from US \$ 38 billion in 1990-91. The average monthly merchant turnover increased by around 550 per cent from a meagre US \$ 4 billion in 1990-91 to US \$ 26 billion in 2002-03 (up to January). The average inter-bank turnover, on the other hand, increased by around 200 per cent from US \$ 34 billion in 1990-91 to US \$ 103 billion over the same period. Reflecting the same, the inter-bank to merchant turnover ratio declined from 8.5 in 1990-91 to 4.0 in 2002-03 (up to January) (Chart VI.20). The merchant segment is dominated by spot transactions and the inter-bank segment is dominated by forward transactions.

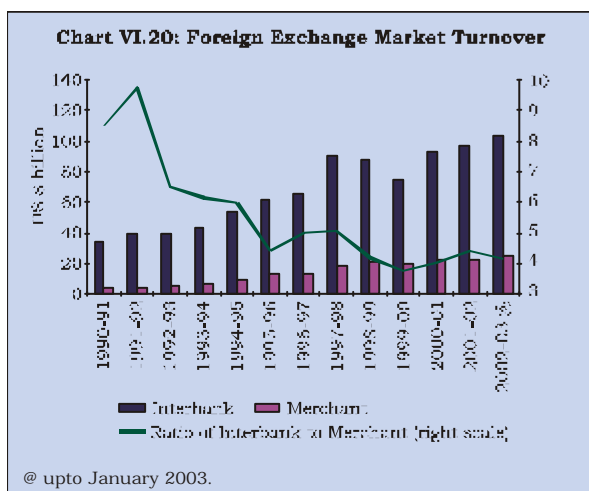
6.136 To sum up, various reforms measures initiated have resulted in significant growth of the foreign exchange market. Also, despite liberalisation of capital account and introduction of market determined exchange rate, the foreign exchange market in India remained stable during the 1990s barring a few episodes of volatility.

6.137 India's current exchange rate policy of managing volatility without fixed target, while allowing the underlying demand and supply conditions to determine the exchange rate, has yielded satisfactory results. Various reforms measures in the foreign

exchange market have also led to the widening and deepening of the forex market in India. This is reflected in the substantial increase in the foreign exchange market turnover particularly in the inter-bank segment. A recent Bank for International Settlements survey of the foreign exchange market turnover during April 2001 in which 43 countries including India participated reveals that while foreign exchange market turnover declined the world over considerably as compared to 1998, it increased in India.

6.138 Although reforms in the forex market have yielded good results, there are some issues, which need to be addressed to enhance its stability and ensure further growth.

- Although the turnover in the market increased considerably over the years, it still remains small. The Triennial Central Bank Survey of the Bank for International Settlements on Foreign Exchange and Derivatives Market Activity in 2001 revealed that the share of India in total global daily turnover of the foreign exchange market remained insignificant at 0.2 per cent during 2001. Since the market lacks depth, the Reserve Bank has to actively intervene in the market to absorb/ provide liquidity. There is, therefore, need to take steps to further develop the market so that the need for intervention by the Reserve Bank is minimised.
- The market is presently skewed with a few public sector banks accounting for the major share of the merchant transactions. For development of the market on healthy lines, it is necessary to have large number of players participating in the market.
- Derivatives are an important instrument of risk hedging. Although a few derivative products have been introduced, there has not been much activity in some of them such as FRAs. There is a need to further develop a range of derivative products like forex options.



Capital Market

6.139 The capital market provides an alternative mechanism for allocating resources; it channelises household savings to the corporate sector and allocates funds among firms. In this process, it allows both firms and households to share risk. The capital market enables the valuation of firms on an almost continuous basis and it plays an important role in the governance of the corporate sector. The reforms in the capital market were aimed at enhancing the efficiency, safety, integrity and transparency of the market. The key reform measures for the capital market are provided in Box VI.4. The impact of various

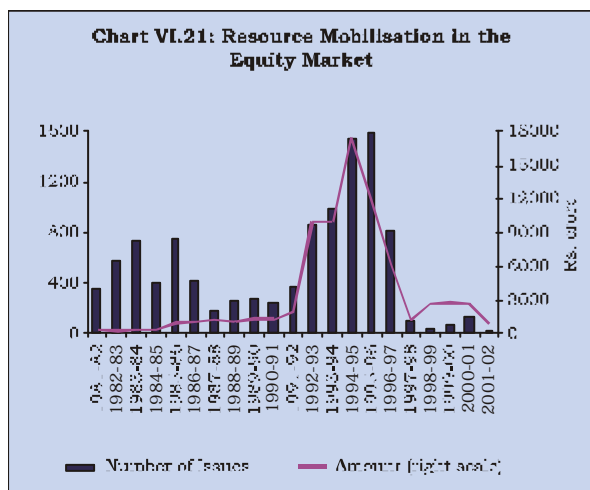
REPORT ON CURRENCY AND FINANCE

reform measures could be seen in the primary as well as secondary segments of the capital market.

Primary Market

6.140 Notwithstanding depressed conditions in the capital market in the last few years, significance of the capital market in meeting the financing requirements of the corporates has generally improved. Since the initiation of the reforms, the reliance of the corporate sector on the capital market for funds increased markedly. The resources raised by the private sector companies from the primary equity market rose sharply in the first half of the 1990s to touch a peak of Rs.17,414 crore in 1994-95 (Chart VI.21). The resource mobilisation from the primary market, however, tapered off in the second half of the 1990s due to a variety of reasons such as tightening of disclosure norms and subdued secondary market⁶. The ratio of resource mobilisation by the private sector to GDP almost trebled from an average of 0.4 per cent during the period 1970-92 to 1.1 per cent of GDP during 1992-2000.

6.141 Reflecting the growing importance of market-based financing, the share of capital market-based instruments in total funds raised by non-Government non-financial public limited companies increased to 22.3 per cent during the period 1991-92 to 2000-01 from 17.3 per cent in the period 1985-86 to 1990-91 (Table 6.34). During the period 1992-93 to 1996-97, the share of capital market instruments in total external financing worked out to 37.3 per cent, with a peak of 51.3 per cent in 1993-94. The share of shares and debentures in financial savings of households rose,



6 Although the public issues market for last few years witnessed depressed conditions, corporates were able to mobilise sizeable funds from the private placement market.

Table 6.34: Sources of Funds for Non-Government Non-Financial Public Limited Companies

Item	1985-86 to 1990-91	1991-92 to 2000-01
	1	2
Share of Internal Sources	34.1	35.7
Share of External Sources	65.9	64.3
Share of Capital Market-related Instruments in Total Funds (Debentures and Equity Capital)	17.3	22.3
Share of Financial Intermediaries in Total Funds	20.9	19.5
Debt-Equity Ratio (including debentures and long-term borrowings)	89.5	72.3

Source : Finances of Public Limited Companies, Reserve Bank of India Bulletin (various issues)

on an average basis, to 9.0 per cent during the 1990s from 6.0 per cent during the 1980s, with a peak at 13.5 per cent in 1993-94.

Secondary Market

6.142 In the secondary market, the move to an electronic trading system has resulted in transparency in trades, better price discovery and lower transaction costs. The efficiency of the market has improved through faster execution of trades. The operational efficiency of the stock market has also been strengthened through improvements in the clearing and settlement practices and the risk management process. Almost the entire delivery of securities now takes place in dematerialised form. During the last four years or so, there has been no instance of postponement or clubbing of settlements at two main stock exchanges (BSE and NSE) despite defaults by brokers. The cases of bad deliveries have become almost nil. The setting up of trade/settlement guarantee funds in most of the exchanges has considerably reduced the settlement risk for investors. The corporate governance practices and disclosure norms have led to transparency in information flows, which, in turn, have improved the price discovery process.

6.143 There has been an appreciable increase in liquidity as reflected in the traded value and turnover ratios (Table 6.35). The traded value ratio, *i.e.*, the ratio of turnover to GDP, increased from 23.2 per cent in 1993-94 to about 136.9 per cent in 2000-01. At the same time, the turnover ratio, *i.e.*, the ratio of turnover to market capitalisation, increased from 50.9 per cent in 1993-94 to 139.0 per cent in 2001-02.

6.144 The transaction cost in the Indian stock markets declined sharply as a result of measures such as automated trading, compression of settlement cycle, and introduction of dematerialisation. The transaction

FINANCIAL SECTOR

Table 6.35: Indicators of Liquidity

Year	(Per cent)	
	Traded Value Ratio	Turnover Ratio
	1	2
1993-94	23.2	50.9
1994-95	15.7	34.4
1995-96	18.7	39.7
1996-97	45.8	132.3
1997-98	58.1	154.1
1998-99	58.1	178.3
1999-2000	107.1	215.1
2000-01	136.9	478.9 #
2001-02	39.0	139.0 #

Market capitalisation is estimated assuming that the BSE accounts for 95 per cent of all-India market capitalisation.

Source: Compiled from BSE data.

costs⁷ in terms of the brokerage, regulator's fees, custody, safekeeping and clearing is estimated at about 0.31 per cent (0.40 per cent for foreign institutional investors), which compares favourably with international standards (Raju, 2000).

6.145 The volatility in the Indian stock markets has declined in the recent years. The coefficient of variation of the BSE Sensex declined to 14.9 per cent during the 2-year period April 2000 to March 2002 from 25.9 per cent during the 10-year period from April 1991 to March 2000 and 33.6 per cent during the 6-year period from April 1985 to March 1991.

6.146 Thus, the various parameters, such as liquidity, volatility and transaction cost, point towards the

Box VI.5

Informational Efficiency of Stock Markets

Informational arbitrage efficiency is of three types. In the "weak" form, efficiency means that current prices reflect all information that can be derived by examining the history of past prices. This implies that future prices cannot be predicted from past changes and markets follow a random walk. In the semi-strong form of efficiency, all publicly available information is reflected in the current stock prices. In the strong form, the efficient market hypothesis states that stock prices reflect all information, including information available to insiders.

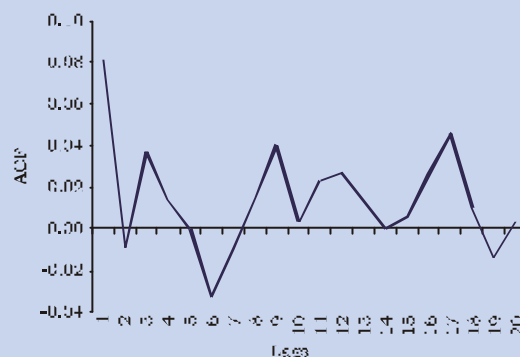
A large number of studies conducted for the Indian market supported the weak efficiency hypothesis during the 1980s (Barua and Varma, 2000). However, most of the recent research, using more sophisticated time series techniques, such as tests of stationarity and variance ratio tests do not support the hypothesis that Indian stock markets follow a random walk suggesting that markets are not efficient (Madhusoodan, 1998; Pattnaik and Chatterjee, 2000).

However, some studies conducted in the Indian context report that markets respond to news such as political developments, announcements of bonus/rights issues and dividends (Barua and Varma, 2000). There is also some recent evidence in terms of leading indicator properties in respect of macroeconomic variables such as real money balances, inflation rate and industrial activity and the lack of integration between the BSE national index and individual securities in terms of causality tests (Amanulla and Kamiah, 2000). These studies, therefore, concluded that markets are efficient in the semi-strong form.

Most of the studies on efficiency in the Indian context were conducted with data up to the late 1990s. However, since then, several measures have been initiated, which were expected to have further improved the market efficiency. In view of this, information efficiency hypothesis was tested by estimating the autocorrelation function using data up to December 2002. In conformity with earlier research, the result of the exercise carried out for the purpose shows that the Indian stock markets do not satisfy the hypothesis of weak efficiency in view of the persistence in stock returns. A test of stationarity of the daily returns in respect

of the BSE Sensex with a one-period lag in terms of the autocorrelation function (ACF) reveals that the daily returns can be predicted by past values and therefore do not follow a random walk¹ (Chart VI. 22).

Chart VI.22: Autocorrelation Function of Daily Returns of the BSE Sensex - April 1990-December 2002



Source: Based on the data from the BSE.

1 A positive and significant first order autocorrelation coefficient (estimated as the slope of the regression of the daily returns on the BSE Sensex on the one period lagged return) indicates that BSE returns are autocorrelated and, therefore, time dependent, i.e.,

$$dBSES = 0.06 + 0.08 \text{ dBSES}(-1) *$$
(0.08) (0.0)

(* Significant at 1.0 per cent level.)

where, dBSES is daily percentage returns and figures in brackets are p values.

The autocorrelation coefficients for 20 lags show that the series is not stationary and the Box Pierce Q statistics reject the null hypothesis that all autocorrelation coefficients are zero.

7 Measured as percentage of the value of trade.



improvements in the efficiency of the capital market. The impact of various reform measures on two critical aspects of efficiency, *viz.*, the information efficiency (*i.e.*, whether all market information is reflected in the prices) and allocative efficiency (whether resources are being allocated efficiently) of the capital market, has been explored further.

Informational Efficiency

6.147 Efficiency test conducted using data up to December 2002 reveals that in terms of informational efficiency the Indian stock markets are not efficient (Box VI.5). However, it is significant to note that many studies conducted in the context of advanced economies also suggest that most markets are not informationally efficient, *i.e.*, markets do not as such follow a random walk especially as they seldom satisfy the stringent criteria of stationary, independent, identical and normally distributed stock returns.

Allocative Efficiency

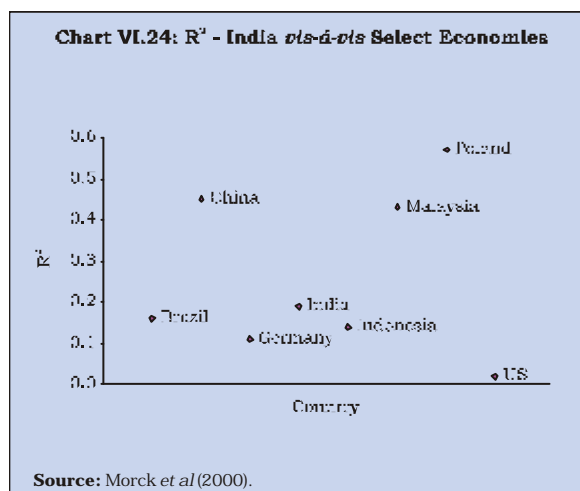
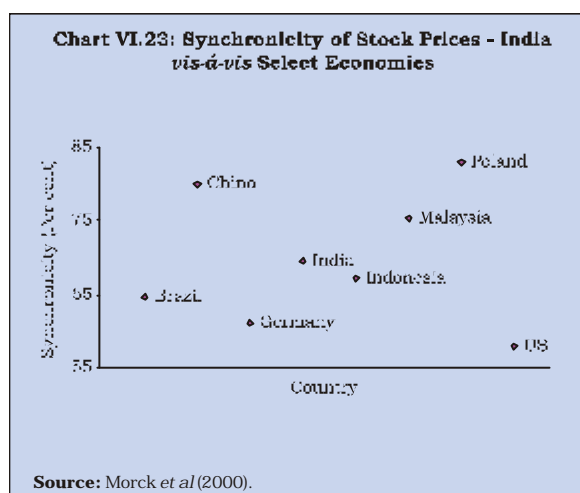
6.148 Reforms in the Indian capital market during the 1990s fostered a steady process of financial disintermediation, with corporates increasingly accessing the equity route, while on the supply side, investors earmarked an increasing portion of their savings in risk capital. Although the stock market has gained in importance in terms of channellisation of resource flows, the key macroeconomic issue is whether this has led to an increase in the allocative efficiency of the system. This assumes added significance as the recent literature has emphasised that the contribution of the financial system to economic growth comes as much through the efficiency of investment as the increase in saving and investment (De Gregario and Guidotti, 1995; Levine and Zervos, 1998).

6.149 The allocative efficiency of the Indian capital market was tested using two measures⁸, *viz.*, synchronicity of equity prices and R². The results indicate that market-wide factors (as against company-specific factors) play a predominant role in determining the behaviour of stock markets in India. In a select sample

8 The allocative efficiency can be tested using a measure of synchronicity of equity prices (calculated as the fraction of stocks traded moving in the same direction). This measure signifies the relative importance of the market-related factors *vis-à-vis* company-specific factors, and the explanatory power (*i.e.*, the R² measure) of market returns (taken as a proxy for market factors) in a set of individual return generating functions (Roll, 1988; Morck *et al.*, 2000). The allocative efficiency would be higher if investors pay greater attention to company-specific factors rather than market specific factors.

of 66 scrips in the BSE-100 list during 1995-96 to 2001-02, about 70 per cent of stocks moved in the same direction. Although this would suggest that the stock markets in India do not allocate resources efficiently, the allocative efficiency of the Indian stock market compares well with several emerging market economies. In many emerging market economies, the synchronicity was much higher, *i.e.*, 80 per cent in China, 82.9 per cent in Poland and 75.4 per cent in Malaysia (Chart VI.23). The proportion of stocks moving together in the case of Brazil (64.7 per cent) and Indonesia (67.1 per cent) were more comparable with the results for India. Similar results were obtained in respect of the R² measure (Chart VI.24).

6.150 Thus, reforms in the capital market have had a multi-dimensional impact. Notwithstanding the recent depressed conditions, the significance of the capital market has improved in providing a mechanism for allocation of resources as is reflected in increase in



FINANCIAL SECTOR

its share in the sources of finance for the corporates. Various indicators such as reduced volatility are pointers in the direction of increase in the safety of the market. The safety of the market has also been considerably enhanced by adoption of risk management practices and the setting up of settlement guarantee funds and investor protection funds. The integrity and transparency of the market has also gone up with the wider availability of information regarding the corporates' performance. The trading and settlement framework in the Indian stock exchanges now compares favourably with the international best practices. The liquidity in the market has improved considerably.

6.151 While reforms in the capital market have had a significant impact, there are some issues which need to be addressed. A major concern has been the depressed state of the primary capital market. Resources raised from the primary capital market have declined sharply in comparison with the first half of the 1990s. The subdued environment in the primary market in the second half of the 1990s stands in sharp contrast to the buoyant first half. Another major area of concern is the primary corporate debt market, which is yet to develop. The secondary market for corporate debt is virtually non-existent. Though some debt securities are listed on the stock exchanges, there is not much trading in these securities. In the secondary market for equity, there is concentration of liquidity among few prominent scrips. Although as a result of electronic trading, investors are able to trade in the securities listed on the premier exchanges from any location in the country, this has reduced the significance of regional stock exchanges, which have witnessed a sharp decline in volumes rendering them financially vulnerable. The truthful compliance of listed companies with the corporate governance standards is another issue, which needs to be addressed.

Integration of Markets

6.152 Before initiation of reforms, the Indian financial sector remained largely segmented due to an administered interest rate regime and directed credit controls, which prevented proper pricing of instruments. At the shorter end, the inter-bank market, with caps on the interest rate, was the only avenue for trading short-term funds. Since the Government raised resources from the banking system at interest rates, which were not market-related, there was hardly any trading in the government securities. Also, participants could not move freely from one market to another with most of the financial intermediaries confining themselves to markets in their own area of operations.

Furthermore, banks' exposures in foreign currency in their *nostro* accounts abroad were extremely restricted, prohibiting any interplay between their domestic and foreign currency assets.

6.153 Various financial sector reforms initiated in the 1990s included, among others, deregulation of interest rates, introduction of new products, relaxation in investment norms for financial intermediaries, especially banks, emergence of new institutions such as primary dealers and mutual funds. These coupled with the gradual deepening of the foreign exchange market, easing of restrictions in respect of banks' foreign currency investments, withdrawal of reserve requirements on inter-bank borrowings (which facilitated pricing of 14-day money), the process of emergence of a yield curve and other policy measures paved the way for increasing integration among various segments of the financial market, such as money, foreign exchange, debt and equity markets. The correlation results for some key rates/instruments for the period April 1993 to September 2002 are presented in Table 6.36.

Table 6.36: Correlation Coefficient Matrix - April 1993 - September 2002

Instrument	Call	FR3	T-91	BSES
	1	2	3	4
Call	1.000	0.662	0.617	-0.051
FR3	0.662	1.000	0.448	-0.314
T91	0.617	0.448	1.000	-0.083
BSES	-0.051	-0.314	-0.083	1.00

Call: Call money rate. FR3: 3-month forward rate.
T-91: 91-day treasury bill rate. BSES: BSE Sensitive index.

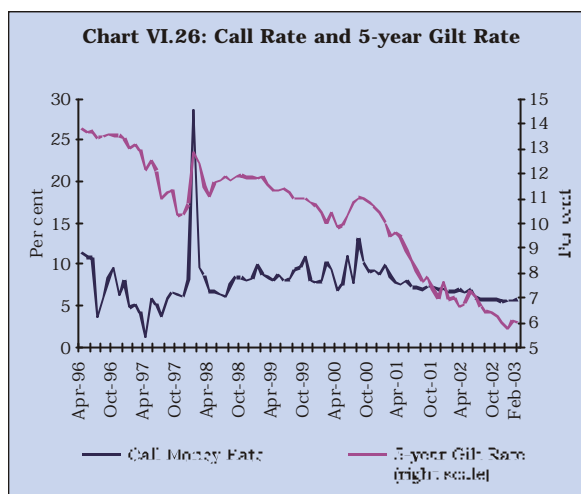
6.154 Interest rates in the inter-bank market (call rate) and the government securities market (proxied by 91-day treasury bill rate) displayed a high degree of positive correlation between April 1993-September 2002. As commercial banks often arbitrage between their balances with the Reserve Bank in view of reserve requirements on an average basis and their investments in gilts, especially after the introduction of daily repo/reverse repo auctions under LAF, this, in turn, creates an informal corridor of interest rates created by the lending (reverse repo) and deposit (repo) rates of the Reserve Bank. Positive correlation is registered between the foreign exchange market (proxied by the forward premia) and the money market (proxied by call money rate) especially as the gradual flexibility accorded to banks in respect of their *nostro* investments allowed them to operate across the two markets

REPORT ON CURRENCY AND FINANCE

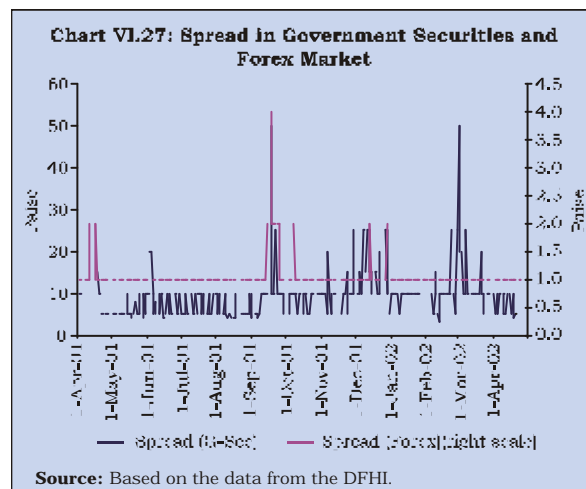
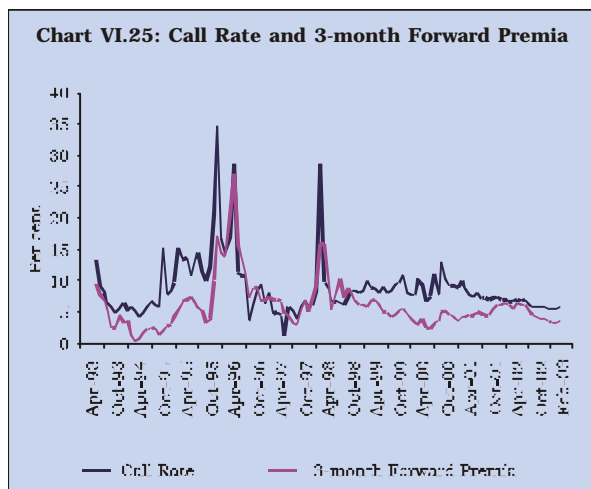
(Chart VI.25). An increase (decrease) in the forward premia typically pushes up (pulls down) the call rates, especially if banks fund foreign exchange positions through call borrowings.

6.155 There is a negative correlation between movements in the equity prices and the forward premia, partly reflecting the operations of foreign institutional investors. The portfolio allocations of FIIs are guided by returns earned in the Indian *vis-à-vis* foreign markets. The money market and the equity market were found to be negatively correlated. The relationship, however, was found to be weak.

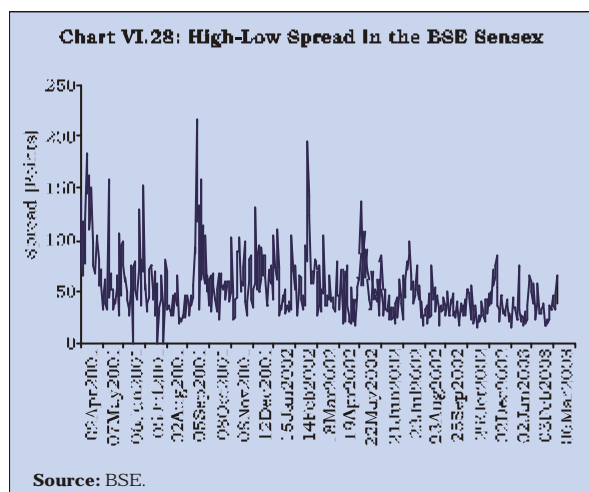
6.156 Thus, analysis of correlation coefficients suggests that various market segments are integrated in varying degrees. Integration of financial markets was found to be more pronounced during the episodes of volatility in the financial markets, which began during the mid-1990. For example, sharp changes in overnight interest rates tend to impact longer-run gilt prices, especially in the case of sharp movements (Chart VI.26). It was also observed that excess returns emerged contemporaneously across market segments – call money, treasury bills and forwards – in the first half of 2000-01 during the extended bout of financial market volatility. The excess returns tended to vanish with the restoration of stability during October-November 2000. Furthermore, there was a close correlation between the movements in the bid-ask spread in the foreign exchange market and the Government securities market and the high-low spread (of the BSE Sensex) in the equity markets during 2000-01, especially during times of uncertainty such as the terrorist attacks in the US (on September 11, 2001) and at the Indian Parliament (on December 13, 2001) (Charts VI.27 and VI.28).



6.157 To sum up, financial sector reforms have been successful in bringing significant improvements in various market segments. Reforms have helped in improving the depth, liquidity and efficiency of markets. The money market is now reasonably developed with an array of instruments. The character of the Government securities market has changed from a captive market to a broad-based market. It has also become deep and liquid, which has enabled the Reserve Bank to pursue its monetary policy through market-based instruments. Various reform measures have resulted in sharp growth of the foreign exchange market. Reforms have also been successful in creating, by and large, orderly conditions in the market. The capital market has become a safer place for investors as various risks involved at various stages of trading and settlement have been either completely eliminated or reduced considerably. Liquidity in the stock market has improved



FINANCIAL SECTOR



considerably. Various market segments have also become inter-linked. However, it needs to be noted that various market segments are still developing and there are some deficiencies, which need to be removed. In the case of money market, the term money market segment has not yet developed. Depth and liquidity of the government securities market and the foreign exchange market need to be improved further. The capital market has yet to show signs that it is processing the information more efficiently than before reforms. Various market segments also need to be integrated further.

IV. CONCLUDING OBSERVATIONS

6.158 Financial sector reforms introduced in the early 1990s in a gradual and sequenced manner, were directed at the removal of various deficiencies from which the system was suffering. The basic objectives of reforms were to make the system more stable and efficient so that it could contribute in accelerating the growth process.

6.159 The most significant achievement of financial sector reforms has been a marked improvement in the financial health of the commercial banking sector, which constitutes the most important segment of the Indian financial system. Asset quality of commercial banks, which before the initiation of reforms was at a very precarious level, improved significantly even as the norms were tightened over the years and the economy slowed down. Capital position of commercial banks also improved significantly and was somewhat higher than the prescribed level. Profitability of the commercial banking sector improved despite decline in spread, which itself is a measure of efficiency. Although commercial banks still face the problem of overhang of NPAs, high spread and low profitability

in comparison with banks in other emerging market economies, reforms have been successful in enhancing the performance of commercial banks in terms of both stability and efficiency parameters.

6.160 The empirical evidence suggests that public ownership impinged on the efficiency of the banking sector as old private sector banks and those PSBs, which divested their equity recently, outperformed fully Government-owned banks. However, significant improvement was observed in the performance of fully Government-owned banks in the recent years and their performance tended to converge with that of other bank groups. In the context of the Indian banking sector, it was found empirically that various measures introduced to enhance the stability of the Indian banking system have not adversely affected their efficiency. In fact, stability and efficiency measures were found to be mutually reinforcing and complimentary.

6.161 While commercial banking sector showed significant improvement, the impact was not so evident in respect of other financial intermediaries operating in the system. Co-operative banking sector as a group did not show any improvement in either the stability or efficiency parameters. The state co-operative banks and district co-operative banks, which were incurring losses, turned around and made profits. However, asset quality and profitability of scheduled urban co-operative banks deteriorated in the recent years. Although one reason for this appears to be late start of the reform process for the co-operative banks in comparison with commercial banking sector, the condition of co-operative banks remains a cause of concern. DFIs, which traditionally played an important role in financing investment activity, find themselves at the crossroad. In the initial phase of reform, DFIs were able to sustain their business and profitability due to several factors, which worked to their advantage. However, on the whole, they have not been able to sufficiently reposition themselves in the changed operating environment. While all DFIs are able to maintain adequate CRAR, the profitability and asset quality of some of them are becoming a cause of concern.

6.162 NBFCs have been witnessing significant changes. While the capital adequacy position of most of the NBFCs improved in the recent years, their profitability was adversely affected due mainly to rise in the cost of funds. This, in turn, was due to decline in the share of public deposits and rise in the share of borrowings. In the coming years, the importance of deposits in their sources of funds is expected to

decline further. This, however, should not be a cause of concern as in several other countries, borrowings is the main source of funds for NBFCs.

6.163 Reforms have been able to create competition in the insurance sector and give customers a wide choice not only in the matter of insurance companies but also in terms of insurance products. However, impact of increased competition is yet to be felt on the insurance penetration. In the case of mutual funds, although the competition has increased with increase in the number of mutual funds, their growth slowed down sharply in the recent years. This should be a cause of concern as mutual funds in several countries play an important role in the development of the capital market.

6.164 Thus, insofar as intermediaries are concerned, reforms have had a mixed impact. Improvement in the stability and efficiency parameters of the commercial banks has been the major achievement of the reform process. Reforms have also been able to enhance stability of other intermediaries, in general, as reflected in their increased capital position. Reforms have, however, not been so successful in bringing improvement in the efficiency as profitability of some intermediaries such as co-operative banks, NBFCs and DFIs declined in recent years due to various sector-specific reasons. Decline in the asset quality should be a matter of concern as this could also have adverse impact on the capital position of these intermediaries in future. Reforms in future would need to focus on efficiency and soundness of co-operative banks, DFIs and NBFCs.

6.165 The 1990s saw the significant development of various segments of the financial market. At the short end of the spectrum, the money market saw the emergence of a number of new instruments such as CP and CDs and derivative products including FRAs and IRS. Repo operations, which were introduced in the early 1990s and later refined into a Liquidity Adjustment Facility, allow the Reserve Bank to modulate liquidity and transmit interest rate signals to the market on a daily basis. The process of financial market development was buttressed by the evolution of an active government securities market after the Government borrowing programme was put through the auction process in 1992-93. The development of a market for Government paper enabled the Reserve Bank to modulate the monetisation of the fiscal deficit. The foreign exchange market deepened with the opening up of the economy and the institution of a market-based exchange rate regime in the early 1990s. Although there were occasional episodes of volatility in the foreign

exchange market, these were swiftly controlled by appropriate policy measures. The capital market also deepened during the 1990s. While the sharp increase in resource mobilisation through equity in the mid-1990s could not be sustained, there was a steady increase in the turnover in the secondary market. In terms of trading and settlement practices, risk management and infrastructure, capital market in India is now comparable to the developed markets. The development of the financial markets was well supported by deregulation of balance sheet restrictions in respect of financial institutions, allowing them to operate across markets. This resulted in increased integration among the various segments of the financial markets.

6.166 Apart from increasing integration of various segments of financial markets, the distinctions between banks and other financial intermediaries are also getting increasingly blurred. Another important aspect of reforms in the financial sector has been the increased participation of financial institutions, especially banks, in the capital market. These factors have led to increased inter-linkages across financial institutions and markets. While increased inter-linkages are expected to lead to increased efficiency in the resource allocation process and the effectiveness of monetary policy, they also increase the risk of contagion from one segment to another with implications for overall financial stability. This would call for appropriate policy responses during times of crisis. Increased inter-linkages also raise the issue of appropriate supervisory framework.

6.167 In India, while the banking system continues to play a predominant role, it is significant to note that, as a result of various reform measures, the relative significance of financial markets has increased. This augurs well for the overall stability of the financial system. The recent East Asian crisis underlined the need for a balanced financial system wherein financial markets also play an important role in providing necessary liquidity, especially during times of crisis. Banking system may also require liquidity in times of stress, which only deep and liquid financial markets can provide.

6.168 Financial sector reforms have supported the transition of the Indian economy to a higher growth path, while significantly improving the stability of the financial system. In comparison of the pre-reform period, the Indian financial system today is more stable and efficient. However, the gains of the past decade have to be consolidated, so that these could be translated to drive the institutions, markets and

FINANCIAL SECTOR

practices into a mature financial system that can meet the challenges of sustaining India on a higher growth trajectory. The financial system would, therefore, not only need to be stable but would also need to support still higher levels of planned investments by channelling financial resources more efficiently from deficit to surplus sectors. The banks would need to reassess their core banking business to view how best they could undertake maturity transformation to step up the lendable resources in support of real economic activity. Competitive pressures as well as prudential regulatory requirements have made banks risk-averse and their investment in relatively risk-free gilt instruments have far exceeded the stipulated requirements. The behaviour and strategies of bank business would need to change from the present so that they can factor in their own risk assessment even while performing their core activities. There is a need

to ensure long-term finance to support development and growth in the economy, even as restructuring takes place through mergers and universal banking. Also, the functioning of the capital markets requires to be toned up so that the levels of primary resource mobilisation seen in the early years of reform period are reached and perhaps surpassed. The key to attaining higher levels of investments by way of direct finance routed through capital markets lie in bringing about institutional improvement. Improved corporate governance practices can go a long way in bringing the retail investors back to capital markets. Institutional reforms supporting risk capital is important in broad-basing the entrepreneurship culture in the economy. While financial sector reforms till date have been helpful, more needs to be done so that greater gains from the financial sector reforms could be realised for the real economy.



VII

EXTERNAL SECTOR

Introduction

7.1 The external sector has exhibited a marked transformation since the balance of payments crisis in 1991. The crisis was overcome by a series of stringent measures with an overriding objective to honour all external obligations without resorting to rescheduling of any external payment obligation. While successfully dealing with the crisis through an adjustment programme, it was decided to launch simultaneously a comprehensive programme of structural reforms in which the external sector was accorded a special emphasis.

7.2 After the 1991 crisis, the broad approach to reform in the external sector was laid out in the Report of the High Level Committee on Balance of Payments, 1993 (Chairman: C. Rangarajan). The objectives of reform in the external sector were conditioned by the need to correct the deficiencies that led to the payment imbalances of 1991. Recognising that an inappropriate exchange rate regime, unsustainable current account deficit and a rise in short-term debt in relation to the official reserves were the key contributing factors to the crisis, a series of reform measures was put in place. A swift transition to a market determined exchange rate regime was felt necessary so as to deal effectively with the uncertain response to reforms introduced in other areas of the external sector at that time. It may be recalled that other reforms initiated in the external sector included dismantling trade restrictions, moving towards current account convertibility, liberal inflows of private capital, removal of restrictions on all inflows and related outflows, as also, gradual liberalisation of certain restrictions on outflows. The overall objective of the reform process was to achieve higher growth and efficiency without exposing the system to greater vulnerability. Consumer welfare was sought to be improved by making available better quality products at globally competitive prices and by providing greater freedom of choice to residents to undertake current transactions on a global scale.

7.3 Responding to the reform process, the external sector has gained considerable strength, resilience and stability. This is evident from an unprecedented accretion to reserves, modest current account deficit (of late, a surplus), larger non-debt creating capital

inflows, orderly exchange rate movements and containment of external debt within sustainable levels. Notwithstanding these comforts, there are areas of concern and challenges, arising primarily from the growing openness of the economy, the need for accelerating growth in the medium-term and also the need to meet the Tenth Plan growth target through higher capital flows for investment. In this context, while it is important to review and assess the impact of various reform programmes and policies relating to the external sector, there is also a need to examine a range of emerging issues. These include: current account sustainability in the wake of increased openness, the possibility of a “Dutch disease” type effect (on account of strong performance of software exports and remittances), more open capital account and cost of accretion to reserves, including its implications for monetary management.

7.4 Against this backdrop, this Chapter attempts to profile the changes in the external sector and its implications for macroeconomic management. Section I analyses the developments relating to trade liberalisation in terms of tariff rationalisation and dismantling of quantitative restrictions, institutional arrangements, strengthening of regional groupings and India’s position in the World Trade Organisation (WTO). Section II discusses the changing structure of foreign trade, changing role of invisibles in the current account, and the current account balance in the post reform period. Section III presents an overview of the capital account developments and outlines the capital account liberalisation process in India. This section also offers an assessment of the external debt scenario in India and the exchange rate developments. Section IV examines the range of issues relating to adequacy of foreign exchange reserves and the associated implications for monetary management and growth. Concluding observations are set out in Section V.

I. TRADE REFORMS, INSTITUTIONAL ARRANGEMENTS AND INDIA’S POSITION IN THE WORLD TRADE ORGANISATION (WTO)**Trade Reforms**

7.5 Trade reforms formed an integral part of the overall structural reform process. An open trade regime has been viewed as the least vulnerable form of

globalisation with enormous opportunities for higher growth emanating from higher exports and higher welfare resulting from the possibility to make available better quality products at globally competitive prices under competition from liberalised imports (Krueger, 1998). This has been the rationale and the guiding principle for the trade reforms in India. As has been brought out by a number of individual and cross-country studies, trade restrictions reduce real economic growth by distorting the pattern of resource allocation, and by discouraging innovation and technical progress. Import substitution inflicts static costs on the economy by way of resource misallocation as also dynamic costs by raising the incremental capital-output ratios and exclusion from new technology. While the traditional argument for free trade in terms of allocative efficiency is made under the assumption of perfect competition, it is also argued that in imperfectly competitive markets, increased competition through trade would bring about welfare

gains by reducing the dead-weight losses engendered by domestic monopolies and oligopolies (Helpman and Krugman, 1989). Beneficial impact of trade liberalisation on economic growth is also envisaged through the international production networks which spread the sequential production processes across national boundaries. Some of the channels through which trade liberalisation would affect the welfare of the people are: the access to imported goods, relative prices of tradable goods, relative wages of skilled and unskilled labour, impact on government revenue, incentives for investment and innovation affecting economic growth, and the vulnerability of the economy to external shocks (Bannister and Thugge, 2001). In the debate on the sequencing of different channels of globalisation, the general view has favoured sequencing driven by trade liberalisation (Edwards and van Wijnbergen, 1986; Rodrik, 1987; Mussa, 1984). Box VII.1 sets out the cross-country experience on trade liberalisation.

Box VII.1

Trade Liberalisation: Cross-Country Experience

The rationale for trade reforms is essentially based on the drawbacks of trade intervention, as well as superior growth performance of countries that adopted liberal outward-oriented policies. The inward-looking trade policies adopted by the developing countries till the 1980s were rooted in the argument that trade policies should not be conditioned by prevailing world relative prices, given the low income and price elasticities of primary commodities which could lead to a secular deterioration in the terms of trade. The arbitrary nature of quantitative restrictions that characterises trade interventions creates uncertainty for domestic producers and consumers. These distortions are manifested in efficiency losses in domestic production, weak competition in the domestic market, and emergence of rent seeking behaviour and corruption. The removal of quantitative restrictions or their conversion into tariffs, as part of trade reform package, has several advantages such as reduction in scope for rent-seeking, transfer of rents from the importers to the government, and greater transparency and predictability of the trade regime. Moreover, due to the measurability of tariff reductions, the designing and monitoring of trade reform has become easier. Endogenous growth literature (Sala-i-Martin, 1990; Baldwin and Francois, 1999) suggests that beneficial impact of trade reforms on economic growth could arise through technology transmission, international integration of production, reduction of price distortions and enhanced efficiency.

Till the early 1980s, the pattern of trade policy across countries broadly reflected the extreme preferences of national policy makers for export-pessimism-cum-import substitution on the one hand and export-led growth on the other. In tandem with global developments, export-promotion and greater trade integration became the policy objective of almost every country by the 1990s,

although the extent of trade integration varied considerably across countries. Even so, some general features of trade liberalisation include tariff reductions, quota elimination, relaxation of import licensing, conversion of quotas into tariff, compression of the range of tariffs and rationalisation of collection arrangements (Greenaway, 1998). Dismantling of tariff and non-tariff barriers under the multilateral trading arrangements also exposed many inward-looking economies to external competition. Since developing countries depend to a large extent on trade tax revenues, one of the important concerns regarding trade liberalisation was its revenue implications. It has generally been observed that the revenue implications of trade liberalisation are uncertain and depend upon the country's initial conditions and the components of the reform package which should be kept in view while formulating the trade liberalisation strategy (Blejer and Cheasty, 1990; Tanzi, 1989; Greenaway and Milner, 1991; IMF, 1998). As far as the sequencing of reforms is concerned, domestic factor (labour) markets need to be liberalised before commodity markets so as to facilitate production decisions. Trade liberalisation also needs to precede capital account liberalisation in order to preclude further distortions in domestic production consequent upon capital inflows to those sectors.

Loser and Guerguil (1999) have documented the impact of a sharp reversal in trade policy of the Latin American and Caribbean (LAC), countries particularly in the 1990s, from import substitution to trade liberalisation. Trade reform mainly comprised: (i) a significant reduction in both average tariff (from 45 per cent in 1986 to 14 per cent in 1998) and maximum tariff (from 80 per cent to about 30 per cent); (ii) removal of most of the quantitative and other

(Contd.)

EXTERNAL SECTOR

(Concl.)

non-tariff barriers which consequently affected only 11 per cent of total imports in 1997 as against almost 40 per cent in the mid-1980s; and (i ii) liberalisation of currency markets and elimination/reduction of foreign exchange controls on international payments.

A comparison of the trends in the trade restrictiveness index, the real effective exchange rate and import and export ratios for a number of LAC countries shows that: (i) trade liberalisation was both significant and rapid; (ii) trade policy reform coincided with currency appreciation in almost all countries; (iii) the import ratio increased significantly (an average of 5 percentage points) in all the countries and within a short time span (2-3 years), perhaps responding to currency appreciation. There was a shift in the composition of imports from primary products to manufactures; (iv) the response of the export ratio was relatively small and delayed (an average increase of 4 percentage points after a lag of 6 years), indicating that the positive impact of trade liberalisation was partially dampened by currency appreciation; and (v) remaining market restrictions including those in respect of the labour market, competition and financial markets tended to increase costs and circumscribe productivity gains, limiting thereby the positive impact of trade liberalisation.

The high growth rate of the East Asian economies, including Hong Kong, Indonesia, Malaysia, Korea, Singapore and Thailand (at least till the financial crisis of 1997) was, to a large extent, based upon their export performance. All these countries adopted strategic export policies that set up a free trade regime and offered a gamut of incentives for exports. Furthermore, general import restrictions were not imposed even in the face of current account deficits. In general, trade liberalisation was part of a policy package that comprised devaluation, exchange rate unification, fiscal reforms and foreign aid or concessional loans to neutralise the impact of a temporary current account deficit. The export strategy adopted by these economies included at least one of the following four elements, *viz.*, access to imports at international prices (*via* free trade/export processing zones, tariff exemptions, duty drawbacks); export financing (often at subsidised rates); market penetration (*via* direct income tax incentives, exporter associations, setting up of international trading companies); and flexibility.

An IMF study (1999) on the experience of six countries, *viz.*, Argentina, Philippines, Poland, Morocco, Malawi and Senegal which undertook trade liberalisation over the mid-1980s to mid-1990s shows that phasing out of quantitative restrictions received priority in all cases, although the pace and nature of the reform was guided by revenue concerns. Poland in 1990 placed strong emphasis on eliminating quantitative restrictions which was an integral element of its 'big bang' transformation. The 1991 trade reform programme in Argentina included tariffication of certain import quotas and the elimination of some reference prices. Malawi's trade liberalisation programme in the late 1980s included a focus on eliminating foreign exchange rationing. Similarly, Senegal embarked in 1986 on a phased reduction of quantitative restrictions. The Philippines concentrated on the tariffication of quantitative restrictions during the initial phase of its trade liberalisation efforts. Morocco's reforms adopted in 1983 included

a gradual elimination of quantitative restrictions on imports and the abolition of import deposit requirements.

All countries in the sample also stressed tariff reductions in their reform programmes, though to varying degrees. Senegal's liberalisation efforts in the mid-1980s were hampered by weak macroeconomic management and stagnant trade. As a result, tariff reductions were accompanied by serious revenue shortfalls which led to a reversal of the tariff cuts. The second phase implemented in conjunction with the 1994 devaluation was successful. In the Philippines, reduced reliance on trade taxes has at times been constrained by the weakness of domestic tax mobilisation. Along with tariffication of quotas, a temporary import surcharge was imposed in the early 1990s. As a result, the collected tariff rate declined only slightly from 16.7 per cent in 1985 to 14.4 per cent in 1995. Several countries gave high priority to reducing tariff dispersion and consolidating tariff structures. Some countries also demonstrated how domestic taxes can reinforce the protection provided by trade taxes and also highlighted the importance of broadening the domestic tax base as part of an overall liberalisation package.

A study by OECD (2001) on the trade reforms undertaken by transition economies (the Central Eastern and European Countries (CEECs) and the countries belonging to the Commonwealth of Independent States (CIS)) since the beginning of the 1990s, observes that: (i) the uneven progress and diverse outcomes of the reforms in individual transition countries resulted from a complex interaction of initial economic and political conditions prevailing in individual countries and the choice of their reform strategies; (ii) regional integration and multilateral disciplines played a critical role in this process by providing legal and regulatory guidance for designing new trade policies and by imposing trade policy commitments thereby stabilising trade liberalisation achievements and reducing the risk of protectionist reversals; (iii) recent developments in transition economies show a clear relation between GDP performance and trade openness. In general, between 1990 and 1999, most CEECs saw their GDP and exports per capita increase simultaneously. Few exceptions to this general trend can be explained by special situations of individual countries, recently affected by regional conflicts (Bulgaria) or by the financial and economic crisis in Russia in 1998 (Latvia, Lithuania). By contrast, all CIS countries were confronted with the parallel contraction of per capita GDP and exports; (iv) at the beginning of the transition process, many CEECs recorded a trade surplus, due to drastically devalued exchange rates. Later, exchange rate appreciation and a revival of domestic demand fuelled import growth, while exports started to lag behind, partly because of the contraction of external demand, but mostly due to delays in restructuring. As a result of these cumulative effects, most transition economies faced serious deterioration of their trade balance. Measured as the percentage share of GDP, current account deficits reached critical levels in several transition countries, both among the CEECs (11 per cent of GDP in Lithuania in 1999) and the CIS (46 per cent of Turkmenistan's GDP in 1999). In this regard, Russia, as a major commodity exporter, has been an exception.

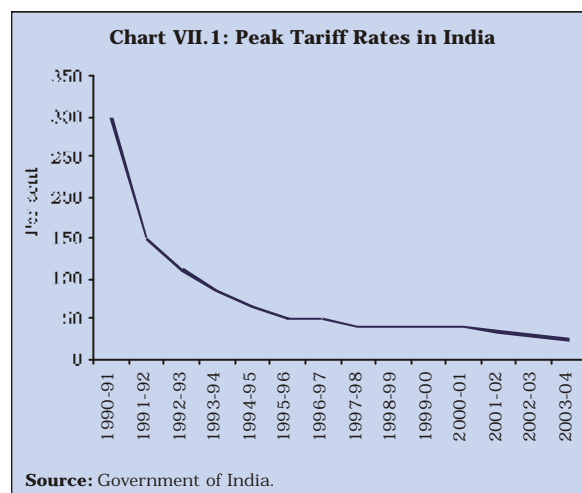
REPORT ON CURRENCY AND FINANCE

7.6 In the post-war period, several developing countries pursued import substitution-led development strategies. Poor growth resulting from such strategies, however, led to policy reorientation in the early 1960s. While one set of countries started giving more incentives for the export sector even while persisting with a moderate form of import substitution (for instance, Brazil, Argentina and Mexico), another set of countries made a more fundamental shift in favour of outward orientation (for instance Korea, Singapore and Taiwan) (Balassa, 1989). The Indian development strategy recognised the significance of liberal trade policy in the early 1980s, which was manifested in the form of a number of important recommendations made at that time by several Committees. The notable ones focused on a shift in emphasis from control to deregulation through simplification in import licensing system (Alexander Committee, 1978), clear recognition of dynamic comparative advantages associated with export growth (Tandon Committee, 1980), the need to harmonise foreign trade policies with other macroeconomic policies, advantages of an export-led growth strategy, a phased reduction in effective protection (Abid Hussain Committee, 1984) and the need to discourage inefficient import substitution (Narasimham Committee, 1985). Notwithstanding these concerns, the trade regime continued to be characterised by a licensing system which together with a high tariff structure protected the economy from external competition. In addition, the trade performance was constrained by restrictive foreign investment policies (RBI, 1999).

7.7 The process of trade liberalisation, however, gathered momentum only during the 1990s in the aftermath of the external payments crisis. The policy measures undertaken aimed at making domestic industry cost-efficient by enhancing efficiency in resource use under international competition, which was expected to derive a better export performance in the long-run. The major trade policy changes in the post-1991 period included simplification of procedures, removal of quantitative restrictions, and substantial reduction in the tariff rates as also their dispersion as recommended by the Tax Reforms Committee, 1992 (Chairman: Raja J. Chelliah). Furthermore, the reach of the export incentives was broadened, extending the benefits of various export-promotion schemes to a large number of non-traditional and non-manufactured exports. Following the announcements in the Export Import (EXIM) policies, various changes were effected such as the removal of quantitative restrictions, strengthening the export production base, removal of procedural bottlenecks, technological upgradation and

improvement of product quality. Various steps were also taken to promote exports through multilateral and bilateral initiatives, including identification of thrust areas and focus regions. The policy stance also marked a move away from the provision of direct export subsidy to indirect promotional measures. India also took several policy initiatives at the multilateral levels for tariffication of the non-tariff barriers. As per India's commitment to the World Trade Organisation (WTO), India agreed to the phased removal of all balance-of-payments (BoP) related quantitative restrictions by end-March 2001.

7.8 The tariff rates have undergone considerable rationalisation during the 1990s. Prior to the 1990s, the maximum import duty rates on certain items were over 300 per cent. The peak rate of import duty on non-agricultural imports was gradually reduced from as high as 150 per cent in 1991-92 to 25 per cent (excluding agriculture and dairy products) by 2003-04 (Chart VII.1) The weighted average import duties on various goods, even though reduced from the high levels prevailing earlier, are still higher than that of some of the East Asian countries (Table 7.1). The rate for China is expected to be phased down to less than 10 per cent in the coming years as part of China's agreement in connection with its WTO entry (Government of India, 2001).



7.9 The weighted average tariff rates of India for various broad import groups are set out in Table 7.2. It is observed that although the average tariff rate declined steadily from 1991-92 to 1996-97, thereafter, it edged up again, *inter alia*, due to the imposition of various surcharges. The increase in the weighted average tariff rates since 1998-99 has been predominantly in agriculture and consumer goods sectors.

EXTERNAL SECTOR

Table 7.1: Tariff Barriers Across Select Emerging Market Economies

(Per cent)

Country	Year	All Products			Primary Products		Manufactured Products	
		Simple Mean tariff	Standard Deviation of tariff rates	Weighted Mean tariff	Simple Mean Tariff	Weighted Mean Tariff	Simple Mean Tariff	Weighted Mean Tariff
	1	2	3	4	5	6	7	8
China	1992	41.0	30.6	32.2	35.4	13.9	42.3	36.5
	2000	16.3	10.7	14.7	16.5	18.8	16.2	13.7
Indonesia	1989	21.9	19.7	13.0	19.9	5.8	22.3	15.6
	2000	8.4	10.8	5.2	6.3	2.8	8.9	6.7
Malaysia	1988	17.0	15.1	9.4	15.2	4.6	17.4	10.5
	1997	9.3	33.3	6.0	7.0	10.0	10.3	5.4
Philippines	1989	28.0	14.2	22.4	29.6	18.5	27.7	23.6
	2000	7.6	7.9	3.8	11.9	7.5	6.9	3.3
Thailand	1989	38.5	19.6	33.0	30.6	24.2	39.6	35.7
	2000	16.6	14.1	10.1	21.9	9.5	15.7	10.2
India	1990	79.0	43.6	49.6	69.1	25.4	80.2	69.9
	1999	32.5	12.3	28.5	30.9	23.2	32.8	32.7

Note:

(i) Simple mean tariff: Unweighted average of the effectively applied rates for all products subject to tariffs.

(ii) Standard deviation of tariff rates: Average dispersion of tariff rates around the simple mean.

(iii) Weighted mean tariff: Average of effectively applied rates weighted by the product import shares corresponding to each partner country.

Source : World Bank, 2002.

Table 7.2: Weighted Average Import Duty Rates in India

(Per cent)

Year	Agri-culture	Mining	Con-sumer Goods	Inter-mediate Goods	Capital Goods	All Commo-dities
	1	2	3	4	5	6
1991-92	47.0	56.9	97.8	69.5	94.8	72.5
1992-93	22.8	32.6	83.2	62.6	85.2	60.6
1993-94	19.8	33.4	68.7	47.6	58.4	46.8
1994-95	16.8	30.3	55.9	38.4	45.5	38.2
1995-96	16.7	29.9	36.1	22.9	29.1	25.9
1996-97	14.7	22.0	39.0	21.9	28.8	24.6
1997-98	14.0	21.9	33.8	46.1	25.1	25.4
1998-99	24.2	19.9	37.9	31.1	29.4	29.2
1999-00	24.4	21.4	37.4	33.1	31.0	31.4
2000-01	58.6	16.1	56.2	36.2	34.4	35.7
2001-02	57.7	15.8	67.1	34.8	31.8	35.1

Source : Report of the Task Force on Employment Opportunities, Planning Commission, Government of India, July 2001.

7.10 The Government, however, is committed to reducing tariffs to levels comparable with those prevailing in East Asian economies. The Finance Minister in the Union Budget for 2001-02, had stated that there would be a progressive move within three years to reduce the number of rates to the minimum with a peak rate of 20 per cent. This was reiterated in

the Union Budget for 2002-03, wherein it was stated that by 2004-05, there would be only two basic rates of customs duties, namely 10 per cent covering raw materials, intermediates and components and 20 per cent covering final products. Keeping in line with these announcements, the Union Budget for 2003-04 while reducing the customs duties on several products, brought down the peak tariff rate to 25 per cent (excluding agriculture and dairy products).

Removal of Quantitative Restrictions

7.11 India has been following a consistent policy for gradual removal of import restrictions since 1991, when the economic reforms were initiated. India began removing BoP related Quantitative Restrictions (QRs) unilaterally since 1996. QRs were removed on 488 items in 1996, 391 items in 1997 and 894 items in 1998. As per India's commitments to the WTO, out of the remaining 1,429 items for which QRs were maintained on BoP grounds under the General Agreement on Tariffs and Trade (GATT) provisions, QRs on 714 items were removed on March 31, 2000 and the balance QRs on 715 items were removed on March 31, 2001. With this progressive removal of QRs maintained on BoP considerations, restrictions, still in force only relate to those items as permissible under Articles XX and XXI of the GATT on grounds

such as security, health, safety, or moral conduct. While removing QRs, the Government has taken several safeguard measures (adjustment of tariffs, imposition of temporary QRs, safeguard duties, anti-dumping duties and restricting the import of certain agricultural products) in order to guard against any surge in imports on account of dumping. A high-powered Standing Group functions on a war footing for tracking, collating and analysing data on 300 sensitive items of importance to the public.

7.12 Reflecting the relaxation of quantitative restrictions, the proportion of canalised items in total imports in value terms declined from 27 per cent to 19 per cent between the ten-year period from 1988-89 to 1997-98. With effect from April 1998, 340 items were shifted from the 'Restricted list' to the 'Open General Licence (OGL) list'. With effect from March 31, 1999, the convention of publishing a negative list for imports and exports was discontinued. The share of tariff lines without restrictions has now gradually increased to around 95 per cent since April 1, 2001 from a level of 61 per cent as on April 1, 1996.

Institutional Arrangements

7.13 The policy thrust on exports during the 1980s and 1990s was promoted through several schemes. These schemes have been refined further during the 1990s and new schemes have also been introduced.

- Export Processing Zones (EPZs) were set up as enclaves separated from the Domestic Tariff Area (DTA) by fiscal barriers and intended to provide an internationally competitive duty free environment for export production at low cost. Eight of the EPZs have since been converted into Special Economic Zones (SEZs).
- The Export Oriented Units (EOUs) Scheme, which is complementary to the EPZ scheme, was set up in 1981 under which a unit can be set up in any of the seven EPZs or at any other location in the country and be eligible for a host of liberal package of incentives which include same entitlements as given to EPZs.
- In order to fully exploit the potential in the Information Technology (IT) sector and to promote IT related exports, the Central Government has set up Software Technology Parks (100 per cent EOUs) since 1991.
- To build a strong and efficient electronics industry with good export potential, Electronic Hardware Technology Parks (EHTPs) were also set up.
- The SEZ Scheme was announced in March 2000 in order to promote export production in a hassle-free atmosphere (Box VII.2).

- The proposal to set up Agriculture Economic Zones (AEZs) was announced in March 2001 to promote the export of agro and agro-based products, and 45 AEZs have been sanctioned so far. The Central Government would assist the State Governments in the development of necessary infrastructure, flow of credit and other facilities for promoting agro exports.

7.14 In addition, schemes were put in place for imports undertaken by exporters so as to neutralise the impact of any duties on those imports. Such schemes are Export Promotion Capital Goods (EPCG), Duty Free Replenishment Certificate (DFRC), Duty Remission Scheme and the Duty Entitlement Passbook (DEPB) Scheme. The issue of multiplicity in these schemes is being addressed.

7.15 Steps have also been taken to simplify the rules and procedures and improve the speed of transactions in the Directorate General of Foreign Trade (DGFT) with the help of information technology aimed at reducing transactions costs. A common commodity classification for imports and exports has been adopted by both, the Directorate General of Commercial Intelligence and Statistics (DGCI&S) and the Central Board of Excise and Customs (CBEC) to eliminate the classification disputes. In the area of customs, the percentage of physical examination of export cargo has already been reduced substantially except for few sensitive destinations while a major push is being given to Electronic Data Interchange (EDI) and 'System based Appraisal'. Export Promotion Councils have been set up to function as a conduit between the exporters and the Government and to provide essential services required by the exporters.

7.16 Trade finance is a crucial element in the design of trade policies. From time to time, the Reserve Bank has undertaken several measures to ensure adequate and timely availability of credit for exports at competitive interest rates. The Reserve Bank's export credit refinance schemes have played a pivotal role in this area. Commercial banks have been providing credit to exporters at pre-shipment and post-shipment stages, both in rupees as well as foreign currency. The rupee export credit has been generally available at rate of interest linked to the Prime Lending Rate (PLR). The export credit in foreign currency is provided at internationally competitive interest rates linked to London Inter-Bank Offer Rate (LIBOR) or similar interest rates. The Reserve Bank has been adjusting interest rates on rupee export credit from time to time taking into account the need to maintain competitiveness by looking at interest rate differentials, as also other factors like inflation and developments in

Box VII.2 Special Economic Zones

The economic rationale for establishing Special Economic Zones (SEZs) is not clearly laid down in trade theory. It is, however, obvious that these Zones can be justified either on considerations of equity where a less developed area is accorded special tax and non-tax benefits or on considerations of efficiency, where a region has a spatial advantage in terms of costs. SEZ, as an institutional measure, supports the economic policy shift from import substitution to export promotion with a view to promoting export-led growth to facilitate larger incomes and employment. For these reasons, a large number of countries have taken initiatives to set up SEZs over the last half century or so. India followed suit in recent years, with a view to improve its competitive position.

The Special Economic Zone (SEZ) Scheme was announced on March 31, 2000 in order to promote export production in a hassle-free atmosphere. A separate chapter on SEZ was added to the EXIM Policy for the five-year period 1997-2002 in April 2001. SEZs are specifically delineated duty-free enclaves, deemed as foreign territory for the purposes of trade operations and application of duties and tariffs. SEZs can be set up for the manufacture of goods and the rendering of services, production, processing, assembling, trading, repair, remaking, reconditioning, re-engineering including making of gold/silver/platinum jewellery and articles thereof or in connection therewith. Units for generation/distribution of power can also be set up in the SEZs. Goods going into the SEZ area from the Domestic Tariff Area (DTA) are treated as deemed exports and goods coming from the SEZ area into DTA are treated as if the goods are being imported.

The incentives offered under the SEZ Scheme include duty-free importation/domestic procurement of goods for the development of SEZ and setting up of units, 100 per cent Foreign Direct Investment (FDI) in manufacturing sector under the automatic

route, 100 per cent income tax exemption for the first five years and 50 per cent tax for two years thereafter. Other incentives include sub-contracting of part of production abroad, reimbursement/exemption of Central Sales Tax on domestic purchases by the SEZ units and retention of 100 per cent foreign exchange earnings in the Exchange Earners Foreign Currency (EEFC) Account.

In the EXIM policy for 2002-07 as announced in March 2002, SEZs were given the following concessions: Overseas Banking Units (OBUs) which would, *inter alia*, be exempt from CRR and SLR requirements would be permitted to be set up in SEZs. These OBUs would give access to SEZ units and SEZ developers to international finance at international rates. SEZ units would be extended income tax exemptions and would be exempt from External Commercial Borrowing (ECB) restrictions and would be allowed to make overseas investment and carry out commodity hedging. SEZs would be exempted from Central Sales Tax in respect of supplies from DTA and transactions from DTA to SEZs would be treated as exports under the Indian Income Tax and Customs Acts.

So far, eight existing export promotion zones have been converted into SEZs and approval has been given for the setting up of 17 SEZs in the States of Gujarat, Maharashtra, Tamil Nadu, West Bengal, Orissa, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh and Karnataka.

Source :

1. Export Import Policy 2002-07, Ministry of Commerce and Industry, Government of India, March 2002.
2. Government of India, Press Releases dated July 19, November 22, 2002 and March 3, 2003.

financial markets. The Reserve Bank has also taken measures to support institutional arrangements for export promotion, such as policy initiatives to provide a liberalised environment for the operations of SEZ units. These measures include: (i) exemption from interest rate surcharge on import finance; (ii) release of foreign exchange to DTA units for buying goods from EOU/EPZ/SEZ units; (iii) permitting 100 per cent retention of foreign exchange in Exchange Earners Foreign Currency (EEFC) accounts; (iv) permitting overseas investment by SEZ units from the EEFC accounts through the automatic route, write-off of unrealised export bills and (v) permitting SEZ units to enter into a contract in overseas commodity exchanges or markets to hedge the price risk in the commodity on export/import provided that the contract is made on a 'stand alone' basis.

India and the World Trade Organisation

7.17 India is one of the founding members of the GATT (1947) and the WTO (1995) and favours the multilateral approach to trade relations. India grants

Most Favoured Nation (MFN) treatment to all its trading partners. As a member of the WTO, India is committed to ensure that the sectors in which developing countries enjoy a comparative advantage are adequately opened up to international trade. India is also committed to ensure that the Special and Differential Treatment Provisions for developing countries under different WTO Agreements are translated into specific enforceable dispensations. Notwithstanding its commitments, India has maintained that the multilateral system would gain even more if it adequately reflected the concerns of the developing countries. At the Fourth Ministerial Conference at Doha in 2001 India forcefully presented her concerns, which are reflected in the Doha Declaration (Box VII.3). On the four "Singapore Issues", viz., trade and investment, trade and competition, transparency in Government procurement and trade facilitation, raised at the first Ministerial held in Singapore in 1996, no decision was reached either at this Ministerial or the subsequent two Ministerials held in Geneva and Seattle. However, Working Groups were established to examine each

Box VII.3

India and the WTO : Current Position Regarding Various Commitments under WTO

India's current status and views regarding various issues as outlined in the latest Trade Policy Review conducted by the WTO are set out below:

Agriculture

The post-Uruguay Round experience has been a mixed one for agricultural trade in India. In the ongoing negotiations on the Agreement on Agriculture, India submitted detailed proposals with a view to safeguarding the food and livelihood security of the large subsistence level farming community and maximising export opportunities for Indian agricultural products by seeking a reduction in the high tariffs and subsidies prevalent in developed countries.

International Standards in Trade and Industry

India is a signatory to the Agreement on Technical Barriers to Trade and the Agreement on Sanitary and Phytosanitary measures and there is a greater emphasis on bringing Indian standards to international levels. Most standards in India are voluntary although health and safety regulations are mandatory for several products. 133 products are under compulsory Bureau of Indian Standards (BIS) certification for domestic goods through various Quality Control Orders issued by various Ministries/Departments.

India is concerned with the developed countries outnumbering the developing countries in the deliberations, resulting at times in international standards development not conducive to their implementation by the developing countries. Given the lack of access to technologies developed abroad for achieving standards acceptable to importing countries, India feels that specific measures need to be taken by developed country Members to give effect to the clauses extending "Special and Differential treatment" to developing countries in the implementation of these WTO Agreements.

Intellectual Property

Consequent to India's obligations under the TRIPS Agreement, appropriate and necessary changes have been identified and enacted in almost all cases in legislations relating to protection of Intellectual Property Rights (IPRs). In addition India has enacted *sui generis* legislations in some TRIPS related areas.

For the protection of Geographical Indications of Goods, a *sui generis* legislation, viz., the Geographical Indications of Goods (Registration & Protection) Act, 1999 has been enacted in order to comply with the requirements under the TRIPS Agreement and to protect products of Indian origin as well.

The Indian Parliament has passed the Protection of Plant Varieties and Farmers' Rights Act with the objective of giving a significant thrust to agricultural growth by providing an effective system for the protection of plant varieties and farmers' rights. This is expected to stimulate investments for research and development both in the public and the private sectors for the development of new plant varieties by ensuring appropriate returns on such investment.

India provides for the protection and enforcement of different fields

of intellectual property through both specific national legislation as well as the Code of Civil Procedure and the Code of Criminal Procedure by way of civil remedies and criminal penalties. These provide effective deterrent to the infringement of IPRs. The criminal cases and civil suits for the infringement of IPRs lie in the judicial system for other cases.

Services

India recognises the importance of the services sector to the economy for higher growth. Hence, the Government's increased emphasis for efficient performance of the services sector particularly, the infrastructure services, such as telecommunications, banking, insurance, shipping, roads, ports, and air transport. India actively participated in the Uruguay Round Services Negotiations and made commitments in 33 sub-sectors as compared to an average of 23 for developing countries and has accepted enhanced commitments as well. The commitments undertaken have been implemented and in some sectors, like telecommunication, have been fulfilled even before the scheduled date.

In line with the agreed Guidelines and Procedures for Negotiations on Trade in services (NGP), India feels that Negotiations should aim to increase the participation of developing countries in the Trade in Services. There should be appropriate flexibility for individual developing country members for progressive liberalisation in line with their development situations and national policy objectives. The positive list approach which is the cornerstone of the General Agreement on Trade in Services (GATS) architecture should be maintained. The Assessment of Trade in Services in overall terms and on a sectoral basis with respect to the objectives of the GATS and Article IV should be carried out by the Council for Trade in Services in Special Sessions. Account should be taken and credit be given in the Negotiations for autonomous liberalisation undertaken by Members since previous Negotiations. The request and offer approach should be the main method of Negotiations.

While GATS recognises "movement of natural persons" as one of the modes of supply of services, the commitments undertaken by the developed countries have very little to offer to the developing countries in terms of opening their markets. The Agreement enjoins the developed countries to take concrete measures aimed at strengthening the domestic service sector of developing countries and providing effective market access in sectors and modes of supply of export interest to developing countries. However, the GATS objectives of increased participation of developing countries in trade in services has hardly been addressed. Therefore, in order to achieve the required balance in GATS and to increase the participation of developing countries in trade in services as per Article IV of GATS, the developed countries should undertake a higher level of commitments in Mode 4, i.e., movement of natural persons and in sectors of export interest to the developing countries.

Source : World Trade Organisation: Report on India's Trade Policy Review, May 2002.

EXTERNAL SECTOR

of these four issues in detail. The Doha Declaration states that the study process on these issues would continue until the fifth Ministerial Conference to be held in Mexico and decision regarding any negotiation would be based on explicit consensus. On issues of crucial relevance to India, the Declaration reaffirms that the International Labour Organisation (ILO) is the appropriate forum to address the core labour standards.

Regional Trade Agreements

7.18 The relationship between regionalism and globalisation is an important issue of contemporary interest. Regional Trade Agreements can be trade-creating or trade-diverting and can lead to welfare improvement or deterioration. Arguments exist in theory on both sides on whether unilateral tariff reductions are superior or inferior to granting regional preferential treatment. Some observers believe that the proliferation of regional arrangements in recent years threatens or even undermines the multilateral system while others hold the view that regional trade agreements provide a necessary spur to global liberalisation in the present era (Bhagwati, 1994; Frankel, 1997; Yeung *et al*, 1999).

7.19 India is a member of a few regional trading agreements within Asia such as the SAARC Preferential Trading Arrangement (SAPTA), the Indian Ocean Rim Association for Regional Cooperation and the BIMST-EC (Bangladesh, India, Myanmar, Sri Lanka, Thailand - Economic Cooperation). Of these, SAARC has been the relatively effective trading arrangement with regard to trading interests. Being a member of SAPTA (SAARC) does not seem to have spurred trade between India and other member countries to the extent that NAFTA benefited Mexico, Mercosur benefited Argentina and ASEAN benefited Malaysia and Thailand. These countries have benefited from the dominant country within the arrangement (*e.g.*, USA in NAFTA) and also from the growing economic growth of the member countries. In the case of regional trading agreements, India has been the dominant member. Moreover, economic performance of the other members in these agreements has also not been conducive to providing significant benefits to India. India's exports to the SAARC increased marginally during the 1990s and were only 4.6 per cent of total exports in 2001-02 as against 19.0 per cent to other Asian developing countries comprising *inter alia* Hong Kong, Singapore, Malaysia and South Korea with whom India does not have any trading agreement (Table 7.3). In fact, OECD continues to be the largest market and source for India's exports and imports, respectively.

Table 7.3: India's Trade with SAARC Countries

(US \$ million)

Regional Groups	1990-91		1995-96		2001-02	
	Exports	Imports	Exports	Imports	Exports	Imports
	1	2	3	4	5	6
I. OECD Countries	10,248.8 (56.5)	13,773.0 (57.2)	17,705.1 (55.7)	19,209.2 (52.4)	21,622.1 (49.3)	20,640.6 (40.1)
II. Developing Countries	3,098.7 (17.1)	4,490.4 (18.7)	9,198.4 (28.9)	8,145.0 (22.2)	13,535.5 (30.9)	12,776.4 (24.9)
<i>of which:</i>						
Asia	2,610.0 (14.4)	3,371.9 (14.0)	7,307.8 (23.0)	6,426.0 (17.5)	10,332.7 (23.6)	9,264.7 (18.0)
a) SAARC	533.4 (3.0)	131.4 (0.5)	1,720.6 (5.4)	256.5 (0.7)	2,026.0 (4.6)	571.5 (1.1)
b) Other Asian Developing Countries	2,076.6 (11.4)	3,240.5 (13.5)	5,587.2 (17.6)	6,169.4 (16.8)	8,306.6 (19.0)	8,693.2 (16.9)
Total Trade	18,145.2	24,072.5	31,794.9	36,675.3	43,826.7	51,413.3

Source : Directorate General of Commercial Intelligence and Statistics.

II. CURRENT ACCOUNT: APPROACH, DEVELOPMENTS AND ISSUES

7.20 Going beyond trade reforms, India moved to full convertibility on current account in August 1994 by liberalising various transactions relating to merchandise trade and invisibles. This has been in consonance with the global trend. Out of 186 IMF member countries, 152 countries had accepted obligations under Article VIII of the IMF, according to which "no member shall, without the approval of the Fund, impose restrictions on the making of payments and transfers for current international transactions".

7.21 With the broad approach of growing trade openness and shift in competitiveness towards services exports, India's current account transactions resulted in a modest current account deficit throughout the 1990s and a surplus in the recent past. A component-wise analysis on merchandise trade and invisibles is presented in this Section with a view to assess the broad approach of policy reforms in this area. As an emerging issue, the issue of current account sustainability has also been analysed.

Trends in Merchandise Trade

7.22 The impact of trade reforms is evident from the changing structure of India's foreign trade in terms of diversity of markets and products and also in the form of higher degree of trade openness (resulting from higher export growth and the associated increase in

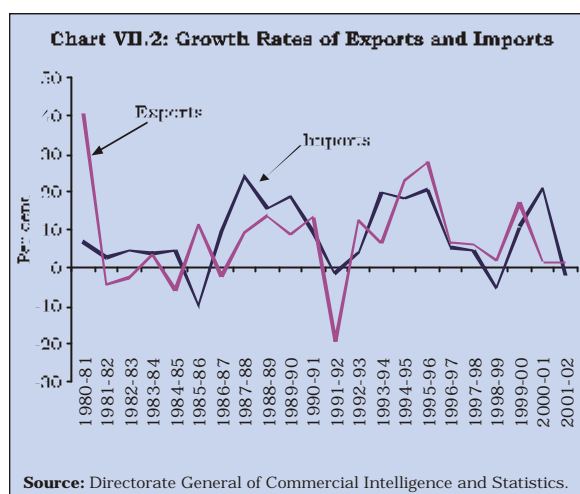
REPORT ON CURRENCY AND FINANCE

the capacity to import).¹ Following the various policy initiatives taken by the Government, there was a perceptible improvement in India's export performance in the initial phase of the reform period - both at the overall level and across commodities. The commodity composition of India's export basket has changed in favour of technology intensive and industrial products such as, engineering goods, besides high-value agricultural products. The destination profile of India's exports shows that the developing countries have gained considerable prominence over the years. The commodity composition of imports is affected by various factors such as impact of trade policy, domestic demand and international prices. The sourcing pattern of imports has also changed, mostly in favour of the developing countries.

7.23 Benefits and costs of trade liberalisation are difficult to quantify and attempts to do so yield results that are contingent on the methodology and its pitfalls. However, the benefits of trade liberalisation undertaken during the 1990s are evident in the higher average growth rate of exports during the 1990s at 9.7 per cent as against 8.1 per cent in the 1980s.² The other benefits were lower commodity price inflation (in the latter half of the 1990s) and higher consumer welfare. The latter in turn, emanated from product quality improvement as well as wider choice in range of most products. The notable feature is that there was remarkable export growth during the first half of the reform period, in particular during the years 1993-94 to 1995-96 with a deceleration in the subsequent years (Chart VII.2). This behaviour can be attributed partly to sluggishness in external demand precipitated by financial crises in some parts of the world and the subsequent weakening of overall world demand and world trade volume (RBI, 1999). Weak exports also reflect growing domination of China in labour intensive manufactured exports, high infrastructure costs, unusually rigid labour laws, reservation for small-scale sector and relatively high regulatory problems (Acharya, 2002).

7.24 Due to higher annual average growth of exports in the 1990s (12.9 per cent) in relation to the average GDP growth of about 6.1 per cent, the contribution of exports to growth in GDP increased modestly. Results of micro-level studies that are based on information collected through sample surveys yield different results with some of them giving a much higher contribution

1. A detailed analysis of compositional and directional trends in India's foreign trade has been presented in the Report on Currency and Finance, Reserve Bank of India, 1998-99.
2. The year 1991-92, being an exceptional year on account of the strain witnessed on the balance-of-payments that led to imposition of temporary import restrictions, is excluded when taking an average of the growth rate in the 1990s.



of exports to GDP growth. The results of a study conducted by the Reserve Bank, however, indicate that the contribution of exports to GDP may be much lower when adjusted for imports of raw materials. Such findings need to be assessed in the context of the selection of firms in the sample surveys (Box VII.4).

7.25 The export performance of the East Asian countries has been much better than that of India (Table 7.4). What is remarkable is that these countries maintained continued export growth despite being hit by the Asian crisis. The high average export growth rate in these countries during 1990s was facilitated by the transformation of these countries from producing cheap labour-intensive goods to technology intensive goods, like electronic parts in the case of Malaysia and electrical components in the case of Korea.

Table 7.4: Average Growth Rate of Exports in East Asian Economies vis-à-vis India

(Per cent)

Country	1981-90	1991-00	1991-95	1996-2000
	1	2	3	4
India	8.1	9.7*	14.4#	3.9@
China, P.R.	13.5	15.4	19.4	11.4
Korea	14.5	10.6	14.3	6.9
Malaysia	9.5	13.3	20.3	6.2
Philippines	4.1	17.4	16.9	18.0
Singapore	11.2	10.7	17.8	3.6
Thailand	14.5	12.1	19.7	4.4

* Average for the years 1990-91 to 1999-2000 excluding 1991-92.

Average for the years 1990-91 to 1995-96 excluding 1991-92.

@ Average for the years 1996-97 to 1999-2000.

Note : Data for India is on fiscal year basis.

Sources : 1. Directorate General of Commercial Intelligence and Statistics.

2. International Financial Statistics, February 2003.

Box VII.4

Export Sector's Contribution to Growth – Some Findings from Select Public Limited Companies (1975-76 to 2000-01)

In order to examine the contribution of the export sector to overall growth of the industrial sector, an internal study was undertaken by the Reserve Bank using the data from the RBI studies on 'Finances of Public Limited Companies for the period 1975 to 2001'. The study was based on balance sheets of around 1,720-2,131 companies of which 786 to 1,036 companies had reported exports data. For analytical purposes, the companies were grouped into two broad sets: (i) Set I covered companies having exports but may or may not have imports (used mainly to analyse their export potential and net foreign exchange contribution) and (ii) Set II covered companies having both exports and imports (used mainly for analysing contribution of exports adjusted for imports of raw material (value added) to overall sales growth). The analysis of exports contribution to growth for these companies was done in terms of a number of ratios. For example, for the first Set of companies two ratios: (i) exports to sales ratio, and (ii) net foreign exchange earning of industries having exports to total foreign exchange reserves of the country were calculated; the analysis of the second Set of companies was based on three ratios, viz., (i) exports to sales ratio, (ii) imports to sales ratio, and (iii) exports adjusted for imports of raw material to sales ratio. The standard industrial classification was adopted for grouping the companies. During 1975-76 to 2000-01, the share of exports of the companies covered in the study amounted to 17-20 per cent while their share of imports varied from 10.6 – 25.6 per cent of the total non-oil imports of the country during the period. The limitations of the data set used for the study are non-comparability of companies used for each year, annualisation of income and expenditure for some companies due to change in the accounting year and change in industrial classification of a company from year to year depending on the share of a product in total sales. Furthermore, most of these companies are from the manufacturing sector. The results of the study are thus subject to these limitations of data-base.

Performance of Set I Companies

At the macro level, the performance of companies in Set I in terms of the exports to sales ratio declined from 8.1 per cent in 1975-76 to 6.8 per cent in 1988-89, but at 11.2 per cent witnessed a turnaround in 1994-95 and stood at 15.7 per cent in 2000-01. The net foreign exchange earnings of these companies to total foreign exchange reserves of the country accounted for, on an average basis 10.6 per cent during the 1970s, 2.0 per cent during the 1980s and 1.3 per cent during the 1990s. This declining trend in the net contribution of these companies to country's foreign exchange reserves was mainly on account of increase in their imports.

Industry-wise analysis revealed that within the manufacturing sector the highest contribution was made by the mining and quarrying industry with exports to sales ratio ranging between 10.0 – 79.5 per cent during 1975-76 to 2000-01. The exports to sales ratio of industrial sector, other than manufacturing sector, varied between 16.0 – 31.0 per cent, processing and manufacturing of agriculture and allied activities 11.0 – 27.0 per cent and manufacturing of foodstuffs, tobacco, textiles, etc., 10.7 – 40.9 per cent. Using the revised National Industrial Classification (NIC), 1998 it was observed that the

exports to sales ratio of manufacturing of wearing apparels, dressing and dyeing of fur industry was 58 – 80 per cent during the period 1998-99 to 2000-01, while manufacture of furniture was 78 – 81 per cent and tanning and dressing of leathers, manufacture of luggage, handbags, etc. contributed 56 – 63 per cent.

Performance of Set II Companies

The exports to sales ratio of companies having both exports and imports revealed a more or less similar trend to those of companies having exports (Set I) and varied between 6.6 – 15.6 per cent. The imports to sales ratio, however, increased steadily from 4.6 per cent in 1975-76 to 14.7 per cent in 1996-97, but declined to 12.4 per cent in 2000-01. Consequently, when exports adjusted for imports of raw material are used for calculating exports to sales ratio, the contribution of this group in terms of sales ratio was meagre and ranged between a negative 0.4 per cent to 6.4 per cent during 1975-76 to 2000-01. Thus, contrary to the perception in the industrial circle of export sector's contribution to overall growth of the economy of 25 per cent during the last decade, the exports adjusted for imports of raw material to sales ratio was far less. The country's exports at a macro level, including re-exports not adjusted for value added, contributed around 18.4 per cent to GDP growth in nominal dollar terms during the 1990s. However, when the exports of the industries covered in the study are analysed with due adjustments for imports of raw material (value added), the exports to sales ratio was much less at 3.7 per cent on an annual average basis during the 1990s.

Industry-wise analysis revealed that ratio of exports to sales of manufacturing of mining and quarrying was the highest (10 - 77 per cent during 1975-76 to 2000-01), while the ratio for processing and manufacturing of foodstuffs, tobacco and textiles ranged between 9 - 41 per cent and that of other industrial group fluctuated between 13 - 26 per cent. The ratio in respect of processing and manufacturing of agriculture and allied activities ranged between 7 - 30 per cent and was 6 - 19 per cent for manufacturing of metals, chemicals and products.

Exports Contribution to Sales Growth

Overall export contribution of the industries to their sales growth for Set I companies stood at 5.7 per cent during the 1970s, increased to 8.9 per cent during the 1980s and increased further significantly to 18.7 per cent during the 1990s. During 1975-76 to 2000-01, the export contribution of these industries to their overall sales growth stood at 16.0 per cent. The contribution of exports to sales growth during the last two years was substantially higher at 23.1 per cent for these industries.

The contribution of exports adjusted for imports of raw materials to their sales growth depicted a dismal picture at a negative 0.3 per cent during the 1970s which increased marginally to 1.5 per cent during the 1980s. However, during the 1990s, the exports adjusted for imports of raw materials to sales growth of these industries stood at 8.4 per cent, which was mainly due to higher exports contribution of 12.0 per cent during the last two years.

REPORT ON CURRENCY AND FINANCE

7.26 The average import growth in India which was 7.2 per cent (in US dollar terms) during the 1980s increased to 12.9 per cent during the 1990s. Imports during the period 1990-91 to 1995-96 (excluding 1991-92) experienced an average growth rate of 16.7 per cent, reflecting largely the strong industrial growth during the period (Chart VII.2). Subsequently, in the remainder of the 1990s the average growth rate fell drastically to 8.0 per cent and further to 1.7 per cent during both 2000-01 and 2001-02, due to the slowdown in economic activity (RBI, 2002). The slow growth in imports is a cause for concern as it has a direct bearing on the exports of capital-intensive goods. Interestingly, India's import growth during the 1990s was lower than that of China but higher than that of the other East Asian countries (Table 7.5).

Table 7.5: Average Growth Rate of Imports in East Asian Economies vis-à-vis India

Country	(Per cent)			
	1981-1990	1991-2000	1991-1995	1996-2000
	1	2	3	4
India	7.2	12.9 *	16.7 #	8.0 @
China, P.R.	11.9	16.1	20.1	12.0
Korea	12.7	10.8	14.7	6.9
Malaysia	11.7	12.3	21.9	2.6
Philippines	6.1	10.9	17.3	4.5
Singapore	10.5	9.0	15.6	2.5
Thailand	15.6	8.1	16.7	-0.5

* Average for the years 1990-91 to 1999-2000 excluding 1991-92.

Average for the years 1990-91 to 1995-96 excluding 1991-92.

@ Average for the years 1996-97 to 1999-2000.

Note : Data for India is on fiscal year basis.

Sources : 1. Directorate General of Commercial Intelligence and Statistics.
 2. International Financial Statistics, February 2003.

7.27 The ratio of exports to GDP increased from an average of 4.6 per cent during the 1980s to 8.0 per cent during the 1990s (excluding the year 1991-92) which represents an increase in export orientation of the economy by 3.4 percentage points of GDP over one decade. Similarly, imports as a proportion of GDP increased from 7.2 per cent during the 1980s to 9.5 per cent during the 1990s. India's total merchandise trade, an indicator of the degree of openness of an economy, increased from about 11.8 per cent of GDP in the 1980s to 17.4 per cent during the 1990s (Table 7.6 and Chart VII.3).

7.28 The average export-import ratio, an indicator of the import financing capacity of exports, improved sharply from 64.0 per cent to 84.1 per cent, between the 1980s and 1990s and further increased to 85.2 per cent in 2001-02 (Table 7.6 and Chart VII.4). During the 1980s, the export-import ratio was as high as 115.5 per cent for Malaysia and 93.4 per cent for China. During the 1990s, the ratio for these countries – at 112.0 per cent for China

Table 7.6: India's Foreign Trade Ratios

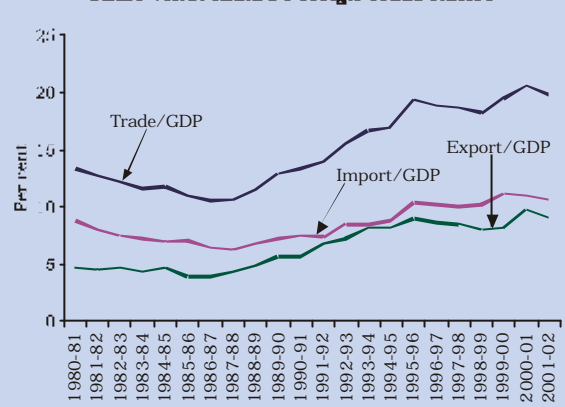
Period Average	(Per cent)			
	X/GDP	M/GDP	T/GDP	X/M
	1	2	3	4
1980-81 to 1989-90	4.6	7.2	11.8	64.0
1990-91 to 1999-00*	8.0	9.5	17.4	84.1
1990-91 to 1994-95 *	7.3	8.4	15.7	86.9
1995-96 to 1999-00	8.5	10.4	18.9	81.8
2000-01 to 2001-02	9.4	10.8	20.2	86.7

* Excluding 1991-92.

Note : X=Exports, M=Imports, T=Exports+Imports, GDP=Gross Domestic Product at current market prices in rupees.

Sources : 1. Directorate General of Commercial Intelligence & Statistics.
 2. Economic Survey, Government of India.

Chart VII.3: India's Foreign Trade Ratios



Source: Directorate General of Commercial Intelligence and Statistics.

and 106.8 per cent for Malaysia – was still higher than that for India. The exports of these countries thus, more than compensated for higher imports.

7.29 India's net terms of trade, which measure the relative change in export and import prices have been generally fluctuating during the 1990s. Import purchasing power of exports as measured by the income terms of trade have consistently improved during the 1990s on account of strong export, growth in volume terms.³The income terms of trade, increased on an average from 141.5 in the 1980s to 439.4 in the 1990s and further to 743.2 in 2001-02 (Chart VII.5).

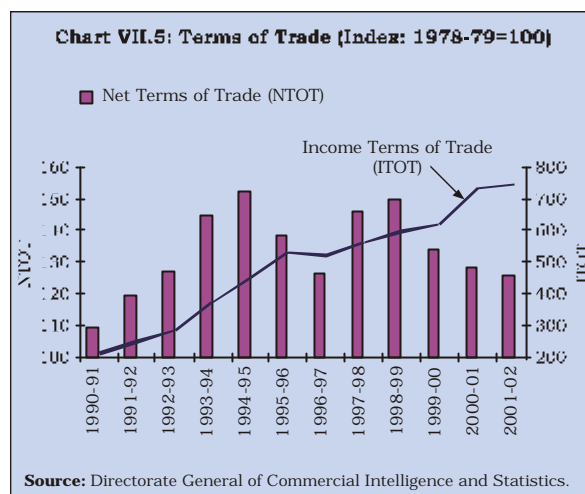
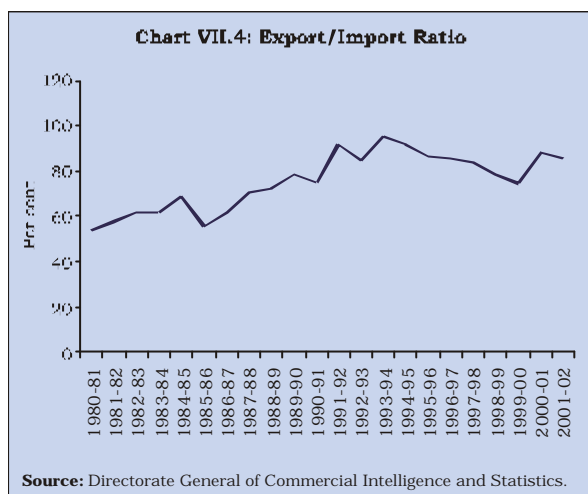
7.30 Diversification of exports constitutes an important element of India's export promotion strategy. Reflecting the policy thrust as also the evolving pattern of industrial development, India has gradually transformed from a predominantly primary products

3. Income terms of trade

$$= (\text{Net terms of Trade} * \text{Volume Index of Exports}) / 100$$

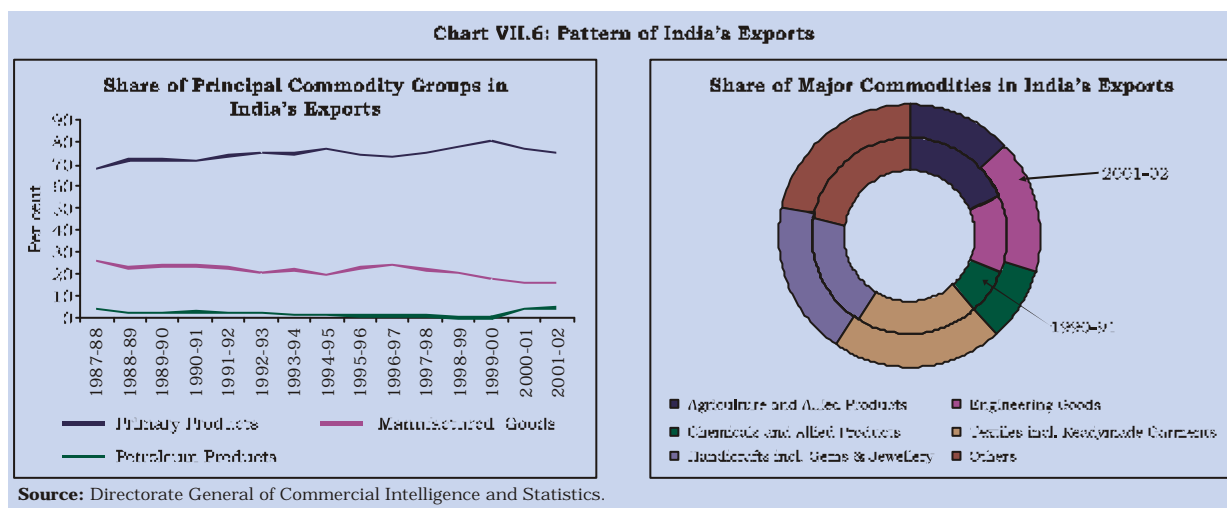
$$= (\text{Unit Value Index of Exports} * \text{Volume Index of Exports}) / \text{Unit Value Index of Imports}$$

EXTERNAL SECTOR



exporting country into an exporter of manufactured goods. However, it may be noted that this was more prominent in the 1970s. The progress has, however, stalled thereafter. Aided by various export promotion measures, the share of 'manufactured goods' in India's total exports increased from 70.7 per cent during 1987-90 to 75.3 per cent during 1992-97 and further to 77.4 per cent during 1997-2002.⁴ Exports of petroleum products have also increased in the recent years (Chart VII.6). The commodity composition within the major groups has also undergone a considerable transformation. Within the 'primary products' group, the

share of 'ores and minerals' in total exports has declined while the share of 'agricultural and allied products' remained almost unchanged at around 18 per cent between 1990-91 and 1998-99 but declined thereafter to 13.4 per cent in 2000-01. The falling share of 'ores and minerals' has been offset by the increase in share of 'engineering goods' within the manufactured products group - an indication of upward movement of India's exports in the value-addition chain. Similarly, exports of processed agricultural products also showed marked improvement in the post-reform years whereas the shares of traditional export items such as tea, coffee,



4. Taking into account the change in the system of commodity-classification adopted by the Directorate General of Commercial Intelligence and Statistics (DGCI&S) in 1987-88, the disaggregated data on exports and imports before and after that year are not strictly comparable. Therefore, the analysis focuses on the period 1987-88 onwards.

cereals, handicrafts and carpets declined. Among other major manufactured products, the share of 'chemicals and allied products' has improved while that of 'leather and manufactures' has declined between the years 1990-91 and 2001-02 (Table 7.7 and Chart VII.6).

REPORT ON CURRENCY AND FINANCE

Table 7.7: Average Share of Exports of Selected Commodities

Category	(Per cent)			
	1987-90	1990-91	1992-97	1997-02
	1	2	3	4
Primary Products	24.2	23.8	21.9	18.5
Manufactured Goods	70.7	71.6	75.3	77.4
<i>of which:</i>				
Leather and Manufactures	7.5	8.0	5.8	4.6
Chemicals and Allied Products	5.9	7.2	7.2	9.1
Engineering Goods	11.0	12.4	13.8	14.7
Readymade Garments	11.2	12.3	12.0	12.2
Textile Yarn, Fabrics, Made-ups	8.0	8.5	10.9	11.2
Handicrafts including Gems and Jewellery	22.6	18.9	19.7	20.1
Petroleum Products	3.1	2.9	1.8	2.1

Source : Directorate General of Commercial Intelligence and Statistics.

7.31 The areas in which South-East Asian countries have achieved their highest export growth during the 1980s have been typically labour intensive, relatively low technology products such as textiles, clothing, shoes, toys, sport goods and the like. Subsequently, during the 1990s they have graduated up to somewhat higher technology consumer goods and then even higher technology and capital-intensive sectors such as capital goods and petro-chemicals. Over the same period, the Indian export pattern has remained stationary with persistent dominance of labour-intensive low technology products such as clothing, textiles, shoes and other leather goods. Adequate quality upgradation has been absent and unit prices have stagnated. The attainment of both higher volume growth and of higher unit value realisation will require both larger scale of operation and higher quality. It is, therefore, essential to loosen constraints in these sectors so that they can grow freely in volume, utilise better machinery, graduate up to higher technology levels, and utilise better international marketing channels. What is observed in other countries in Asia is that production of such consumer goods may be achieved through final assembly operations that are large in scale, but where a great deal of out-sourcing to small enterprises is undertaken to preserve their competitiveness. Consequently, freeing of restrictions on the size of small-scale industries through de-reservation is likely to lead to the growth of many more small-scale enterprises than is currently the case, along with a much higher potential for growth in manufacturing employment (Mohan, 2002).

7.32 Destination-wise analysis of the Indian exports indicates an unchanged position in respect of the

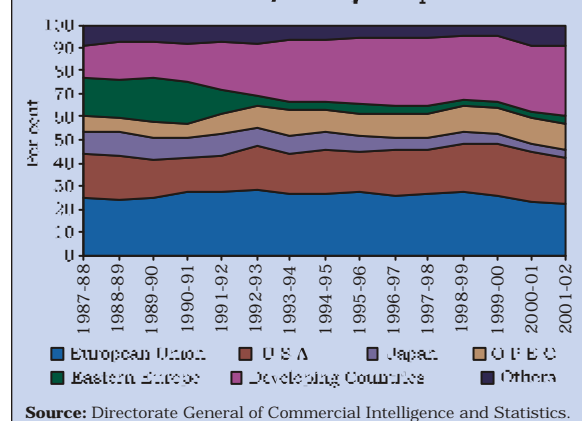
Organisation for Economic Cooperation and Development (OECD) group being the largest market, increasing prominence of the Organisation of Petroleum Exporting Countries (OPEC) and the developing countries (Asia, Africa and Latin America), and a steep erosion in the relative position of the Eastern Europe. With the break-up of the Soviet Union, the share of the East European countries fell dramatically from 17.9 per cent in 1990-91 to just 2.9 per cent in 2001-02, primarily on account of the termination of Rupee trade and its adverse impact on exports of agricultural products such as tea, tobacco and spices to this region. The loss of this market share was, however, made up by increasing the shares in developing countries and the OPEC region, both of which doubled between the years 1987-88 and 2001-02 (Table 7.8 and Chart VII.7).

Table 7.8: Direction of India's Foreign Trade - Share in Total Exports

Group / Country	(Per cent)					
	1987-1988	1990-1991	1995-1996	1999-2000	2000-2001	2001-2002
	1	2	3	4	5	6
I. OECD Countries	58.9	56.5	55.7	57.3	52.7	49.3
<i>of which:</i>						
a. E U	25.1	27.5	27.4	25.5	23.4	22.5
b. North America	19.7	15.6	18.3	24.4	22.4	20.8
<i>of which:</i>						
U S A	18.6	14.7	17.4	22.8	20.9	19.4
c. Asia and Oceania	11.6	10.4	8.3	5.8	5.1	4.5
d. Other OECD Countries	2.5	3.0	1.6	1.6	1.9	1.6
II. OPEC	6.1	5.6	9.7	10.6	10.9	11.9
III. Eastern Europe	16.5	17.9	4.2	3.5	3.0	2.9
IV. Developing Countries	14.2	17.1	28.9	28.4	29.2	30.9
<i>of which:</i>						
a. Asia	11.9	14.4	23.0	22.3	22.5	23.6
b. Africa	2.0	2.2	4.8	4.2	4.4	5.2
c. Latin American Countries	0.3	0.5	1.2	1.9	2.3	2.1

Source : Directorate General of Commercial Intelligence and Statistics.

Chart VII.7 : Share of India's Exports to Different Countries / Country Groups



Source : Directorate General of Commercial Intelligence and Statistics.

EXTERNAL SECTOR

7.33 India's export share in world trade has increased perceptibly during the recent period. India's exports as a percentage of world exports improved to 0.56 per cent during 1991-96 and further to 0.65 per cent during 1996-2002 from 0.48 per cent in the 1980s. The ratio was 0.71 per cent in 2000-01, the highest achieved so far since the 1970s. Nonetheless, India's share in world exports is still very low and appears unimpressive when compared with the other major trading Asian countries, such as, China and other East Asian economies like Malaysia, Thailand, Singapore, Korea and Indonesia (Table 7.9 and Chart VII.8). China demonstrated the most dramatic change as its share in world exports more than doubled in a decade from 2.0 per cent in 1991 to 4.4 per cent in 2001. Group-wise, India's share in the imports of industrialised countries in the 1990s declined as compared to that in 1986. In respect of the developing countries as a group, however, it has increased from 0.5 per cent in 1986 to 1.1 per cent during 1996-2000 (Table 7.10).

Table 7.9: Share of Select East Asian Countries in World Exports

Country	(Per cent)						
	Annual					Average	
	1991	1995	1999	2000	2001	1991-1995	1996-2000
	1	2	3	4	5	6	7
India	0.5	0.6	0.6	0.7	0.7	0.6	0.6
China	2.0	2.9	3.5	4.0	4.4	2.5	3.4
Indonesia	0.8	0.9	0.9	1.0	0.9	0.9	0.9
Korea	2.0	2.4	2.6	2.7	2.5	3.0	2.5
Malaysia	1.0	1.4	1.5	1.6	1.4	1.2	1.5
Singapore	1.7	2.3	2.0	2.8	2.0	2.0	2.3
Thailand	0.8	1.1	1.0	1.0	2.0	1.0	1.0

Source : International Financial Statistics, February 2003.

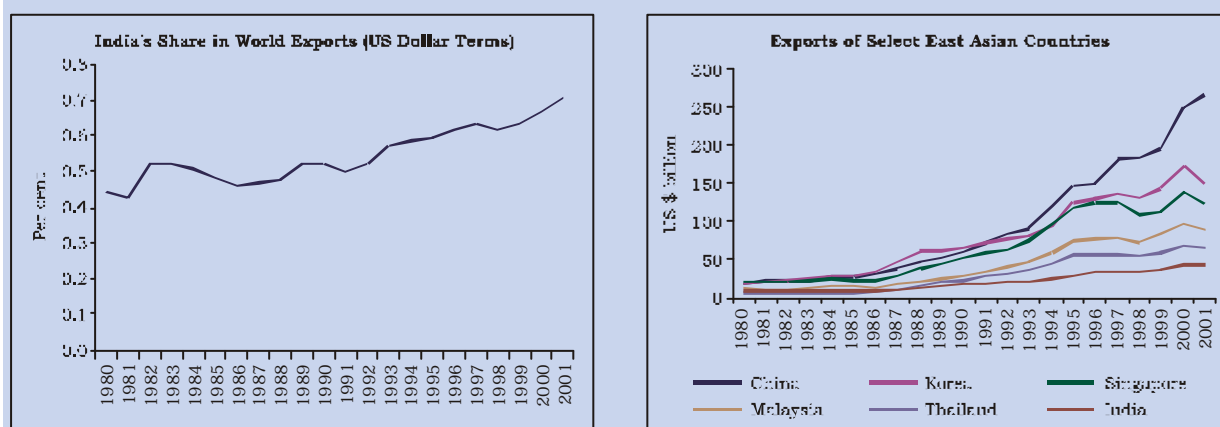
Table 7.10: India's Share in World Imports and in Imports of Major Trading Partners

Group/Country	(Per cent)				
	Annual			Average	
	1981	1986	1990	1991-1995	1996-2000
	1	2	3	4	5
World	0.5	0.7	0.6	0.6	0.7
Industrial Countries	0.4	0.6	0.5	0.5	0.5
<i>of which:</i>					
United States	0.5	0.6	0.7	0.8	0.9
Japan	0.7	1.0	0.9	0.9	0.8
Belgium	0.3	0.4	0.6	0.6	0.8
Italy	0.2	0.2	0.4	0.5	0.6
Germany	0.3	0.3	0.5	0.5	0.5
United Kingdom	0.6	0.5	0.6	0.8	0.8
Developing Countries	1.1	0.5	0.9	0.8	1.1
<i>of which:</i>					
Malaysia	0.7	0.8	0.7	0.8	0.9
Singapore	0.5	0.6	0.6	0.7	0.7
Thailand	4.0	0.6	1.6	1.3	1.0
Bangladesh	0.3	2.2	4.6	9.6	12.9

Source : Direction of Trade Statistics, IMF various issues.

7.34 The commodity-structure of India's imports has also shown marked changes, reflecting, *inter alia*, the impact of trade policy, the movements in international prices and the pattern of domestic demand. The share of oil imports in India's total imports increased from 17.1 per cent during 1987-90 to 23.9 per cent during 1992-97 and further to 27.2 per cent in 2001-02 (Chart VII.9). While the share and absolute value of these imports showed sharp fluctuations over the years mainly on account of the large movements in international crude prices, the volume of such imports has grown significantly on account of increase in domestic consumption and the stagnation in domestic crude oil production. Given the large swings in international crude prices, as

Chart VII.8: India's Exports vs-à-vis Exports of Select East Asian Countries



Source: International Financial Statistics, February 2003.

REPORT ON CURRENCY AND FINANCE

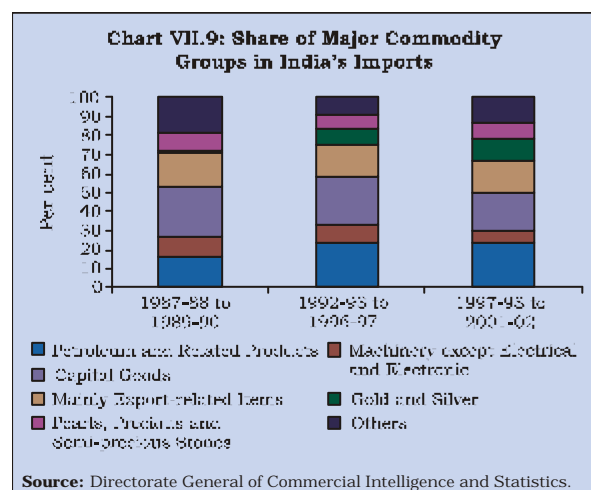
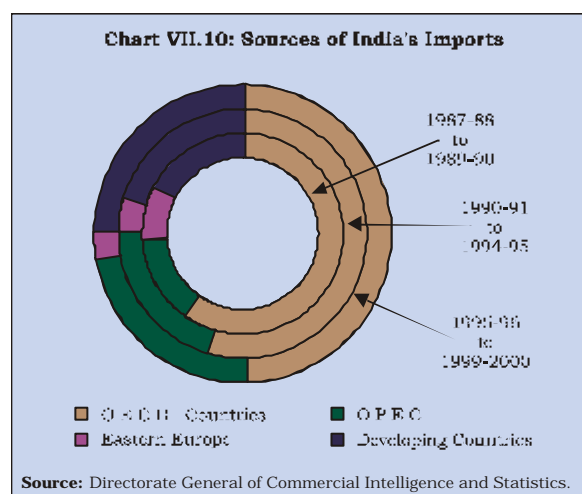
also a trend rise in the oil import bill, there is a need for a comprehensive review of energy policy of the country covering the demand-supply aspects, as well as the price policy. Renewed efforts to improve energy supply from domestic sources by encouraging explorations, and stepping up of production and refining capacities are necessary to bring about a structural change in this area.

7.35 Reflecting the impact of a series of policy measures undertaken in the post-reform years starting with the repeal of the Gold Control Order in 1991 for liberalising the imports of gold and silver, these imports showed a sharp pick-up from 1992-93. The imports of gold and silver (including passenger baggage) rose from a meagre US \$ 6 million in 1991-92 to US \$ 1.3 billion in 1992-93 and further to US \$ 5.9 billion in 1997-98. A large part of the increase in these imports could be due to a switchover from the unofficial channel to the official channel, initially through the Non-Resident Indian (NRI) baggage route and subsequently through the OGL route.⁵ In the subsequent years, however, these imports have stabilised and, in fact, declined to US \$ 4.6 billion in 2001-02.

7.36 Imports of capital goods registered sharp increases in the initial reform years from US \$ 4.5 billion in 1992-93 to US \$ 10.3 billion in 1995-96, but exhibited a declining trend thereafter. The share of these imports, which had declined from 29.5 per cent in 1987-88 to 24.2 per cent in 1990-91, rose in the post-reform period to 28.2 per cent in 1995-96 but dropped to 18.1 per cent in 2001-02, reflecting the lack of investment demand associated with the

sluggish pace of domestic industrial activity (Chart VII.9). Among other import items, the relative shares of fertilisers, non-ferrous metals, 'metalliferous ores and metal scrap' and 'iron and steel' generally showed a declining trend.

7.37 There are noticeable changes in the sources of India's imports and in country shares.⁶ The share of the OECD countries and the Eastern Europe in India's imports declined between the years 1987-88 and 1999-2000 while that of the developing countries and the OPEC group increased during the same period. The share of India's imports from the OPEC region rose significantly to 25.9 per cent in 1999-2000 from 16.3 per cent in 1990-91, mainly on account of the increase in the oil imports (Chart VII.10).



5. See Box VI.1 on Non-Monetary Gold in Annual Report of the Reserve Bank of India, 1998-99 for details.

7.38 The Ministry of Commerce and Industry, Government of India has set an export target of 1 per cent share of world exports by 2006-07 for the medium-term which would be co-terminus with the Tenth Five Year Plan. This target is based on historical trends, current prospects and the requirement of a compound annual growth rate of about 12 per cent for exports till the year 2006-07 (Government of India, 2002a). The export performance is known to depend on price competitiveness, as well as non-price factors. As regards the price competitiveness, a number of earlier studies have emphasised that real exchange rate may be an important variable influencing the price competitiveness of India's exports. In India, large

6. It may be mentioned that country-wise data on imports for 2000-01 and 2001-02 are not strictly comparable with those for the previous years, as country-wise break-up of imports of petroleum and petroleum products comprising around 30 per cent of total imports are not available separately.

EXTERNAL SECTOR

exchange rate misalignment has not occurred in the last one decade as the market itself has corrected the misalignment gradually over different episodes. The strong performance of the software exports, however, has created concerns about a possible "Dutch disease" effect which may erode the competitiveness of traditional exports.⁷ The export performance across commodity groups shows that most of the export groups have performed well so far, and apparently have not been affected by any "Dutch disease" effect. In a market determined exchange rate regime, exchange rate cannot be used as an instrument of export promotion, even though, at times, nominal appreciation could be prevented consistent with the overall exchange rate policy of the country. If the exporters retain the depreciation induced profits, they cannot improve their price competitiveness and therefore, exports may not increase despite a depreciation. In the Indian context, studies show that there has been an upward movement in exchange rate pass-through for India's exports.⁸ While Patra and Pattanaik (1994) estimate the co-efficient (during 1970-71 to 1992-93) at 43 per cent, Dholakia and Saradhi (2000) placed this figure at 30 per cent prior to 1991 and at 70 per cent after 1991.

7.39 Some of the recent studies have analysed the role of non-price factors *vis-à-vis* the price factors. Studies analysing the factors contributing to the competitiveness of India's exports have observed that non-price factors play a more important role (Marjit and Raychaudhuri, 1997). Another study observed an inverse relationship between depreciation of exchange rate of rupee and trade competitiveness, and also emphasised the role of other factors like quality, product design, reliability and after sales service in raising trade competitiveness (Bhatt, 2000).

7. The paradoxical role of natural resources is the crux of the Dutch disease. It refers to the adverse effects on the manufacturing sector of natural discoveries. In a more general form, the Dutch disease explains the coexistence with the traded goods sector of progressing and declining sectors. In other words, this refers to the decline in traditional industries brought about by the rapid growth and prosperity of a new industry. There is a concern expressed in some quarters that due to large inflow of remittances and major and sustained spurt in software exports, India's exchange rate could appreciate considerably and, thereby, erode the competitiveness of most other traditional exports. This could give rise to the 'Dutch disease' problem in India. This issue has been analysed in paragraph 7.125.

8. The efficacy of exchange rate depreciation on export performance depends to a large extent on the magnitude of the pass through co-efficient, which indicates the percentage of profit resulting from a depreciation that is passed on by the domestic exporters to the foreign importers.

7.40 India's export performance is affected by domestic as well as external impediments. The domestic factors inhibiting India's export growth, as mentioned earlier, *inter alia* are infrastructure constraints, high transactions cost, small-scale industry reservations, inflexibilities in labour laws, lack of quality consciousness and constraints in attracting FDI in the export sector. High levels of protection in relation to other countries also explain why FDI in India has been much more oriented to the protected domestic market, rather than as a base for exports (Ahluwalia, 2002). The exports of developing countries like India are facing increasing difficulties by emerging protectionist sentiments in some sectors in the form of technical standards, environmental and social concerns besides non-trade barriers like anti-dumping duties, countervailing duties, safeguard measures and sanitary and phyto-sanitary measures. Indian products which have been affected by such barriers include floriculture products, textiles, pharmaceuticals, marine products and basmati rice exports to the European Union and mushroom and steel exports to USA and also grapes, egg products, gherkins, honey, meat products, milk products, tea, and spices. Differential tariffs against developing countries have also adversely affected market access into these countries (Government of India, 2002b; WTO, 2002). According to the WTO, exports from India are currently subject to 40 anti-dumping and 13 countervailing measures mainly for agricultural products, textiles and clothing products and chemicals and related products. This brings into focus the importance of non-price factors like quality, packaging and the like mentioned earlier, where India still seems to be lacking as compared to the international standards. This has adversely affected India's export performance *vis-à-vis* other developing countries which may have an improved standing in these non-price factors.

7.41 To sum up, India's external trade reforms have been quite comprehensive. The protection given to domestic industries has been reduced by way of the reduction in tariff levels. However, the pace of tariff reduction needs to be accelerated (subject to revenue constraints). The tariff levels in India are still among the highest in the world. The evidence from 1991-97 and 2001-2003 suggests that faster tariff reduction is good for industry. India has completely dismantled its quantitative restrictions except for a few items. Various export promotion schemes have been put in place. In the area of multilateral commitments the progress has been satisfactory. The concerns of developing countries as voiced by India in the WTO are being considered. India is making progress on the negotiations on Services and on several issues which

are in the process of study. Reforms in the trade sector have also been notable as clearly seen from the increase in India's trade-GDP ratio. There has been a steady increase in the growth rate of exports and imports as compared with the 1980s. The export-GDP ratio has almost doubled from that in the 1980s. The rising export-import ratio is indicative of the improvement in financing capacity of exports. India's share in world exports has been rising and in 2001, this ratio was the highest achieved so far since the 1970s. There has been a discernible shift in India's composition of exports with overall diversification of exports. The share of manufactured goods has shown an improvement driven by the increasing share of chemical and allied products, engineering goods, textiles and handicrafts including gems and jewellery. Imports have been driven by an increase in the imports of mainly export-related items like pearls, precious and semi-precious stones and electronic goods. India has also been successful in diversifying its export market increasingly to the developing countries alongwith the OECD emerging as the largest market for India's exports. A notable feature is that despite the loss of the East European market after the break-up of the Soviet Union, India made a safe transition to other markets like developing countries of Asia and to the OPEC.

Trends in Invisibles

7.42 One of the most significant developments in the current account of balance of payments in the 1990s was the remarkable growth in services transactions with the rest of the world, which was made possible by the revolution in information and communication technology. The information and communication related services (services relating to computer software, hardware, internet, e-commerce and telecommunication sector) experienced unprecedented growth during the last decade, outstripping the growth in merchandise trade. Reflecting the growing importance of trade in services, the General Agreement on Trade in Services (GATS) was adopted in 1993 to extend multilateral rules and discipline to services trade, with particular emphasis on non-discrimination and prohibition of quantitative restrictions. The Reserve Bank has undertaken several measures to relax payments restrictions on transactions pertaining to trade in services and other invisible transactions.

7.43 With the shift in the competitiveness towards services, in particular the technology related services, India has emerged as one of the fastest growing exporters of services in the world outstripping the

growth rate of industrial countries as well as all countries taken together (Chart VII.11) (RBI, 2002a). Reflecting this, gross invisible receipts (comprising services, transfers and income) increased from US \$ 7.5 billion (29 per cent of total current receipts) in 1990-91 to US \$ 35.6 billion (44 per cent of total current receipts) in 2001-02. Among the various items of invisible receipts, services increased from US \$ 4.6 billion (18 per cent of total current receipts) in 1990-91 to US \$ 20.3 billion (25 per cent of total current receipts) in 2001-02. Within services, miscellaneous services receipts, which encompasses communication services, construction services, financial services, software services, news-agency services, royalties, copyright and license fees, management services and others, increased from US \$ 2.0 billion in 1990-91 to US \$ 14.7 billion in 2001-02, representing 41.2 per cent of invisible receipts in 2001-02. Software services have shown spectacular growth while also emerging as the most important source of miscellaneous services earnings. Software exports increased from US \$ 0.3 billion in 1993-94 to US \$ 1.8 billion in 1997-98 and further to US \$ 7.2 billion in 2001-02, with its share rising from 2.9 per cent to 20.1 per cent of total invisibles receipts during this period. Reflecting the strong growth emanating from software exports, the traditional sources of services exports, viz., travel and transportation have declined in relative importance. Following the heavy inflow of invisibles receipts, India's current account deficit narrowed down considerably during the decade of the 1990s. The receipts and payments on account of various categories of current account transactions as a percentage of GDP are presented in Table 7.11.

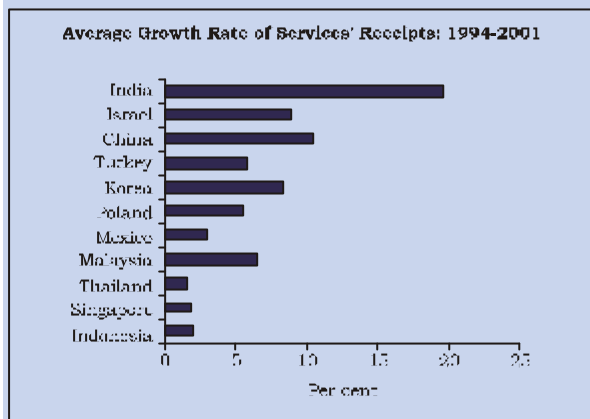
Sustainability of Current Account

7.44 One of the factors underlying the external payments crisis of 1991 was the high levels of current account deficit (CAD) maintained during the 1980s which at the time of the crisis had reached 3.1 per cent of GDP, well above the sustainable level for India (Cerra and Saxena, 2002). Concerted efforts directed at imparting strength and stability to the external sector emphasised a policy of maintaining the CAD within a sustainable level of about 2 per cent.⁹ This is broadly in line with the recommendations of the High Level Committee on Balance of Payments (RBI, 1993), which recommended that CAD-GDP ratio could be sustainable at 1.6 per cent. The current account deficit averaged only about 1.0 per cent of GDP during the

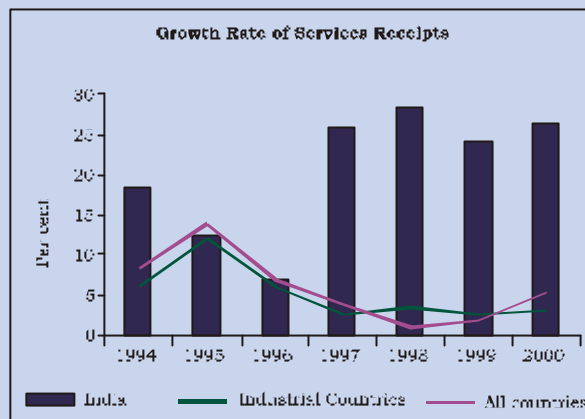
9. As mentioned in the subsequent Annual Reports since 1996-97.

EXTERNAL SECTOR

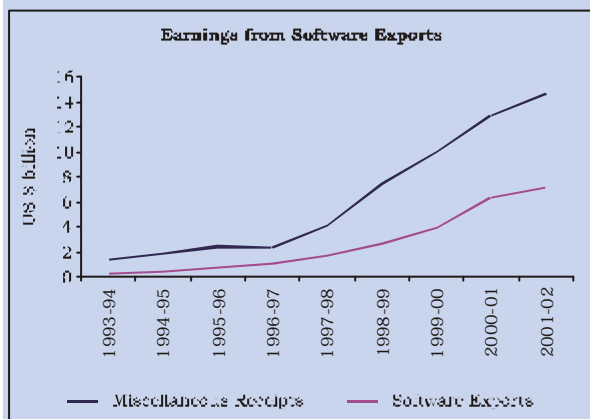
Chart VII.11: Trends in Current Account



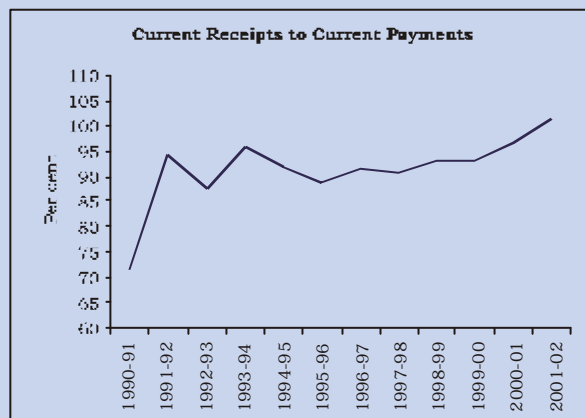
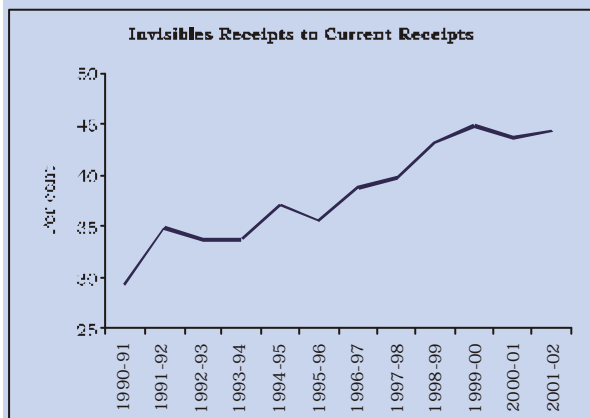
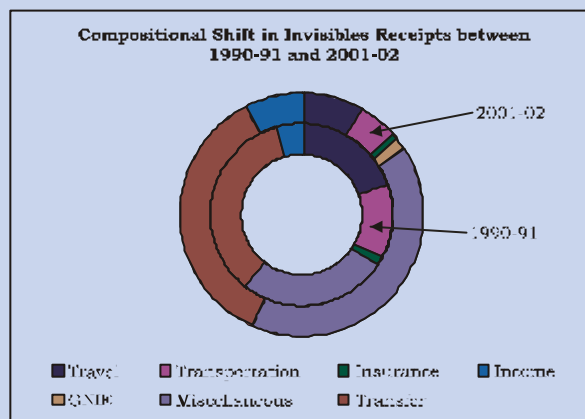
Source: International Financial Statistics, February 2003.



Source: International Financial Statistics, February 2003.



Source: Balance of Payments Statistics Year Book, 2001



last decade (1992-2002), as compared with 1.8 per cent in the 1980s, and recorded a surplus in 2001-02 after a period of 23 years. Among the components of current account, while the trade deficit (BoP basis)

declined marginally from 3.2 per cent of GDP during the 1980s to 3.0 per cent during 1992-2002, the invisibles surplus increased significantly from 1.4 per cent of GDP to 2.1 per cent over the same period

REPORT ON CURRENCY AND FINANCE

Table 7.11: Invisibles by Category of Transactions

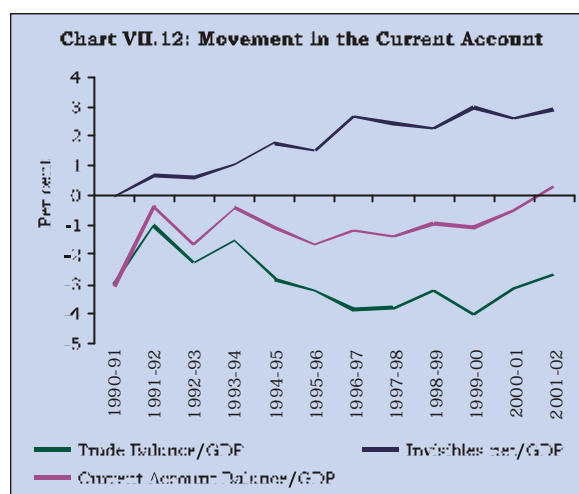
Items	(Per cent of GDP)				
	1990-91	1995-96	1999-00	2000-01	2001-02
	1	2	3	4	5
Invisibles Receipts	2.4	5.0	6.8	7.5	7.4
Invisibles Payments	2.4	3.5	3.8	4.9	4.5
of which					
I. Non-Factor Services					
Receipts	1.4	2.1	3.5	4.1	4.2
Non-Factor Services Payments	1.1	2.1	2.6	3.6	3.3
of which:					
i) Travel Receipts	0.5	0.8	0.7	0.7	0.6
Travel Payments	0.1	0.3	0.5	0.6	0.5
ii) Transportation Receipts	0.3	0.6	0.4	0.4	0.4
Transportation Payments	0.3	0.6	0.5	0.7	0.5
iii) Insurance Receipts	—	0.1	0.1	0.1	0.1
Insurance Payments	—	—	—	—	0.1
iv) G.n.i.e. Receipts	—	—	0.1	0.1	0.1
G.n.i.e. Payments	0.1	0.1	0.1	0.1	0.1
v) Miscellaneous Receipts	0.6	0.7	2.3	2.8	3.0
Miscellaneous Payments	0.6	1.1	1.5	2.2	2.3
II. Income Receipts	0.1	0.4	0.4	0.5	0.6
Income Payments	1.3	1.3	1.2	1.3	1.1
III. Private Transfers Receipts	0.7	2.4	2.8	2.8	2.5
Private Transfers Payments	—	—	—	—	—
IV. Official Transfers Receipts	0.1	0.1	0.1	0.1	0.1
Official Transfers Payments	—	—	—	—	—

Note: G.n.i.e. – Government not included elsewhere.

Miscellaneous : 1. Communication Services, 2. Construction Services, 3. Financial Services, 4. Software Services, 5. News Agency Services, 6. Royalties, Copyright and Licence Fees, 7. Management Services, 8. Other Services (Advertising, Rentals, Office Maintenance, Prizes, Exhibition and other services not enumerated elsewhere).

The definitions of the items are given in February 2003 issue of the RBI Bulletin.

— Negligible.



1991 and the East Asian crisis in 1997 have highlighted, *inter alia*, the role of large current account deficits and the consequent build-up of external debt, in precipitating the crisis (Rangarajan, 1993; RBI, 1999 and 2002a).

7.46 The current account sustainability depends upon external as well as domestic macroeconomic factors (Ghosh and Ostry, 1994; Milesi-Ferretti, Gian and Razin, 1997). Accordingly, a sustainable level of CAD would have elements of time and country specificity. Ultimately it is determined by the foreign investors' confidence in the domestic economy, depending upon the various external and domestic factors identified above. While a ratio of CAD-GDP of 8 per cent or so turned out to be unsustainable in the case of Thailand, the same ratio continues to remain sustainable in the case of New Zealand. This level of deficit need not be a cause for alarm as long as transparent and consistent policies remain (Brash, 1998).

7.47 In the Indian context, as mentioned before, it was recommended that the CAD be contained at 1.6 per cent of GDP, given the level of normal capital flows. The Report of the Committee on Capital Account Convertibility, 1997 (Chairman: S.S. Tarapore) felt that a sustainable CAD-GDP ratio cannot be static for all times. It, therefore, recommended that the CAD-GDP ratio could be varied in line with the servicing capacity of the economy proxied by trends in current receipts/GDP ratio. The actual outcome of CAD-GDP ratio averaging just over 1 per cent in the 1990s so far could be reflective of the limited absorptive capacity and infrastructural and other bottlenecks in the economy that hamper higher levels of investment (RBI, 1999).

7.48 In recent years, the current account deficits have been progressively narrowing and now turning into a modest surplus in 2001-02 and first two quarters

(Chart VII.12). With the narrowing of the current account deficit in the recent years, there is a need for revisiting the issue of sustainability of current account in the Indian context.

7.45 It has been noted that developing countries typically run CAD in their early stages of development to supplement their domestic saving to achieve higher level of investment and growth. This process enables recipient countries to achieve higher growth without cutting their current consumption; at the same time, higher productivity of capital in developing countries benefits foreign lenders by earning higher returns on their capital. This raises the question of an optimal CAD level for a country which, however, needs to be circumscribed by a sustainable level of capital flows. The external payments problems faced by India in

EXTERNAL SECTOR

of 2002-03, which reflects the underlying conditions of weakening aggregate demand. The target growth path in the Tenth Five Year Plan would presage a greater recourse to higher imports and enlarged capital flows. At the same time, there remains considerable degree of concern regarding the sustainable level of the current account deficit for an economy of India's size and diversity. Clearly, exports hold the key to achieving a sustainable balance between the requirements of higher growth and the imperative of ensuring viability in the external sector. The projections of import growth underlying the growth rate of 8 per cent for the Tenth Plan have to be modulated and conditioned by the achievement of export targets along the course charted by the Medium-Term Export Strategy, 2002-07 (RBI, 2002b).

7.49 Against this background, financing of an average current account deficit of about 2.8 per cent of GDP as projected in the Tenth Five Year Plan may require a two-fold increase in the size of annual capital flows from the current levels. From a policy perspective, international investor confidence is critical to mobilise capital flows of this order. For this purpose, accumulation of reserves at a high level is an important pre-requisite.

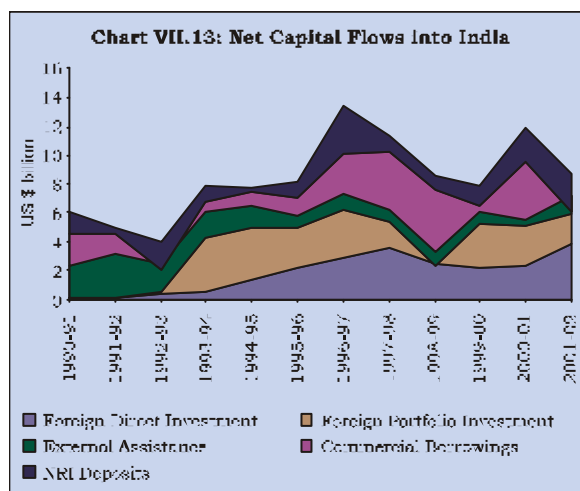
7.50 In sum, during the decade of 1990s, the reform measures coupled with sound macroeconomic management succeeded in reducing the current account deficit well within the sustainable level for India. Given the sluggish export performance, the moderate current account deficit experienced in the recent years, including the condition of modest surplus recorded in 2001-02 can be largely attributed to sustained buoyancy in invisibles receipts. This reflects sharp rise in software service exports and subdued non-oil import demand, which in turn is symptomatic of a slowdown in industrial growth. There is, thus, a need for concerted policy efforts to raise the CAD-GDP ratio in line with the Tenth Plan projections so that higher growth is feasible over the medium term.

III. CAPITAL ACCOUNT, EXTERNAL DEBT AND EXCHANGE RATE: APPROACH, DEVELOPMENTS AND ISSUES

7.51 Reflecting the inward oriented economic policies in pursuit of self-reliance through export bias and import substitution, the role of the capital account during the 1980s was basically that of financing the current account deficits (RBI, 1999). The widening of the current account deficit during the 1980s coupled with the drying up of traditional source of official concessional flows necessitated a recourse to additional sources of financing in the form of debt creating commercial borrowings, non-resident deposits and exceptional financing in the form of IMF loans.

7.52 The external payment crisis of 1991 brought to the fore the weaknesses of the debt-dominated capital account financing. Recognising this, structural reforms and external financial liberalisation measures were introduced during the 1990s. The policy shift underscored the need for gradually liberalising capital account recognising that this is a process rather than a single event (Jalan, 1999). Throughout the 1990s the role assigned to foreign capital in India has been guided by the consideration of financing a level of current account deficit that is sustainable and consistent with absorptive capacities of the economy (Rangarajan, 1993; Tarapore, 1995; Reddy, 2000). In India, the move towards full capital account liberalisation has been approached with extreme caution. Taking lessons from the international experience, the Committee on Capital Account Convertibility, 1997 (Chairman: S. S. Tarapore) suggested a number of pre-conditions, attainment of which was considered necessary for the success of the capital account liberalisation programme in India (Box VII.5). The need for supplementing debt capital with non-debt capital with a clear prioritisation in favour of the latter has characterised the policy framework for capital inflows in the 1990s. The High Level Committee on BoP had recommended the need for achieving this compositional shift. Keeping in line with the policy thrust, capital flows have undergone a major compositional change in the 1990s in favour of non-debt flows (Chart VII.13).

7.53 India followed a gradualist approach to liberalisation of its capital account. India did not experience reversal of its policies towards the capital account as was the case with some emerging market economies that had followed a relatively rapid



Box VII.5

Committee on Capital Account Liberalisation (Chairman: S.S. Tarapore)

With the growing role of private capital flows and the possibility of occasional sharp reversals, the issue of capital account liberalisation and convertibility has spurred extensive debate since 1992 - the period which witnessed a series of currency crises; in Europe (1992-93), Mexico (1994-95), East Asia (1997-98), Russia (1998), Brazil (1999), Turkey (2000) and Argentina (2001-02). These crises have raised the question of desirability of liberalisation and whether it is advisable to vest the IMF with the responsibility for promoting the orderly liberalisation of capital flows. The IMF in its study (1998) stated that "as liberalised systems afford opportunities for individuals, enterprises and financial institutions to undertake greater and sometimes imprudent risks, they create the potential for systematic disturbances. There is no way to completely suppress these dangers other than through draconian financial repression, which is more damaging." The view of IMF itself has changed over time (RBI, 2001). While opening up of the capital account may be conducive to economic growth as it could make available larger stocks of capital at a lower cost

for a capital-deficient country, the actual performance of the economy, however, typically depends on a host of other factors. For a successful liberalised capital account, emerging market countries could: (i) pursue sound macroeconomic policies; (ii) strengthen the domestic financial system; (iii) phase capital account liberalisation appropriately and (iv) provide information to the market. At the international level, there is also the role of surveillance to consider, including the provision of information and the potential need for financing (Fischer, 1997).

In India, the move towards full capital account liberalisation has been approached with extreme caution. The Report of the Committee on Capital Account Convertibility, 1997 (Chairman: S.S.Tarapore) taking into account lessons from international experience suggested a number of signposts, the attainment of which are a necessary concomitant in the move towards capital account convertibility. Fiscal consolidation, lower inflation and a stronger financial system were seen as crucial signposts for India (Table 7.12).

Table 7.12 : Various Recommendations for Capital Account Convertibility (Tarapore Committee)

Recommendations	Developments
Fiscal Consolidation	
1. Reduction in gross fiscal deficit as percentage of gross domestic product from budgeted 4.5 in 1997-98 to 4.0 in 1998-99 and further to 3.5 in 1999-2000.	1. Gross fiscal deficit as a percentage of gross domestic product stood at 5.9 during 2002-03.
Mandated Inflation Rate	
1. The mandated rate of inflation for the three-year period 1997-98 to 1999-2000 should be an average of 3 to 5 per cent.	1. Annual inflation rate based on WPI (base 1993-94=100) averaged at 4.7 per cent during the three years period 1999-2000 to 2001-02.
2. The Reserve Bank should be given freedom to attain mandated rate of inflation approved by the Parliament.	2. Although inflation is an important determinant of monetary policy, in India there is no target/mandated rate of inflation approved by Parliament.
Strengthening of Financial System	
1. Interest rates to be fully deregulated in 1997-98 and any formal or informal interest rate controls to be abolished.	1. All interest rates (except savings bank deposit rate) have been deregulated.
2. CRR to be reduced in phases to 8 per cent in 1997-98, 6 per cent in 1998-99 and to 3 per cent in 1999-2000.	2. CRR was reduced to 4.75 per cent in 2002-03.
3. Gross Non-Performing Assets (NPA) as percentage to total advances to be brought down in phases to 12 per cent in 1997-98, 9 per cent in 1998-99 and to 5 per cent in 1999-2000.	3. Gross NPA of the public sector banks as a percentage to total advances has come down from 16 per cent in end-March 1998 to 11.1 per cent in end-March 2002.
4. 100 per cent marked to market valuation of investments for banks.	4. The concept of 100 per cent marked to market valuation has been done away with. The modern concept works on the basis of banks classifying their entire portfolio into three categories 'Held to Maturity', 'Available for Sale' and 'Held for Trading'. While in the first category, the investment should not exceed 25 per cent, in the other two categories the banks have a freedom to decide the proportion that would be marked to market.
5. Best practices for forex risk management by banks.	5. Risk management guidelines were issued in October 1999, broadly covering areas of credit risk and market risk.
6. Banks to follow international accounting disclosure norms.	6. The range of disclosures as 'Notes to Accounts' in bank's balance sheet in 'Schedule 17' has been gradually expanded over the years.
7. Capital prescription be stipulated for market risks.	7. In March 2000, standard assets were given a risk weight of 0.25 per cent.
Important Macroeconomic Indicators	
1. A monitoring band of +/-5 per cent around the neutral Real Effective Exchange Rate (REER) to be introduced and intervened by the Reserve Bank when REER is outside the band.	1. No such band is maintained in India.
2. Debt service ratio to be reduced to 20 per cent from 25 per cent.	2. Debt Service ratio has steadily declined from 19.5 per cent in 1997-98 to 14.1 per cent in 2001-02.
3. The foreign exchange reserves should not be less than 6 months imports.	3. As of end-February 2003, foreign exchange reserves covers more than a year's imports.

EXTERNAL SECTOR

liberalisation without entrenching the necessary pre-conditions (Box VII.6). This is particularly important since cross-country studies do not provide clear evidence of increase in capital flows resulting from capital account openness across all developing countries, with only 14 developing countries accounting for about 95 per cent of net private flows to developing countries in the 1990s. Besides, empirical evidence on the positive effects of financial capital flows on economic growth is not yet conclusive (Edison *et al*, 2002).

Foreign Investment

7.54 During the first three decades after independence, foreign investment in India was highly regulated. In the 1980s, there was some easing in foreign investment policy in line with the industrial policy regime of the time. The major policy thrust towards attracting foreign direct investment (FDI) was outlined in the New Industrial Policy Statement of 1991. Since then, continuous efforts have been made to liberalise and simplify the norms and procedures pertaining to FDI. At present, FDI is permitted under

automatic route subject to specific guidelines except for a small negative list. In the recent period, a number of measures have been taken to further promote FDI. These include: raising the foreign ownership cap to 100 per cent in most of the sectors, ending state monopoly in insurance and telecommunications, opening up of banking and manufacturing to competition and disinvestment of state ownership in Public Sector Undertakings (PSUs). Though the FDI companies have generally performed better than the domestic companies, FDI to India has been attracted mainly by the lure of the large market (RBI, 2002b).

7.55 Responding to the policy efforts, foreign investment inflows to India (direct and portfolio investments taken together) picked up sharply in 1993-94 and have been sustained at a higher level with an aberration in 1998-99, when global capital flows were affected by contagion from the East Asian crisis. Total foreign investment has averaged at US \$ 5.4 billion during the three year period 1999-2000 to 2001-02 as against negligible levels of the 1980s. However, this level of flows matches the average recorded in

Box VII.6

Capital Account Liberalisation and its Reversal - Cross-country Experience

A number of Southern Cone countries in Latin America undertook rapid liberalisation of their capital account in the late 1970s in conjunction with a pre-announced or fixed exchange rate. Asian countries, such as Malaysia, Indonesia and Singapore also liberalised their capital account against the background of strong balance of payments positions (Rangarajan and Prasad, 1999 and 2001). Many countries prematurely opened their capital account. There was a reversal in the process of liberalisation among many developing countries in the early 1980s. Pre-existing weaknesses in the banking system led to the emergence of serious banking problems which in turn led to the reimposition of controls in Southern Cone countries and debt crisis in Latin America. Restrictions in the capital account were relaxed in the Latin American countries towards the end of 1980s with the resolution of the debt crisis under the Brady Plan and significant reorientation of macroeconomic and structural policies leading to the restoration of international investor confidence. The process of capital account opening in developing countries accelerated in the 1990s, especially with emerging market economies substantially liberalising their capital controls in Asia, Latin America (Argentina, Venezuela) and transition economies (Czech Republic, Hungary, Estonia, Poland). Among these countries, Argentina had to reimpose controls in its capital account in December 2001 in the wake of an unprecedented sovereign debt crisis. In the aftermath of the Asian crisis of 1997, the international perception on liberalisation of capital controls and the national policy thinking on the relative benefits of an open capital account *vis-à-vis* the associated costs have changed considerably. The policy debate

now centres around the contours of an orderly liberalisation framework and countries like Malaysia have even reverted to capital controls as the key instrument of crisis management.

Reversal to the process of capital account liberalisation can be prevented if reforms are appropriately sequenced. Appropriate sequencing of capital flows depends, *inter-alia*, on the initial conditions. It is generally agreed that capital account liberalisation should be preceded by macroeconomic stabilisation. Countries which complete the process of macroeconomic stabilisation first, can remove exchange controls on current account transactions to begin with, to be followed by capital account openness as the benefits of domestic reforms on growth and financial stability become visible and appear durable (Arteta, Eichengreen and Wyplosz, 2001).

In general, liberalisation of the capital account should follow the current account since the former may involve a real appreciation of the exchange rate whereas the latter may require a real depreciation to offset the adverse impact of the dismantling of tariff and non-tariff protection on the balance of payments. Since goods market takes a longer time to clear than financial asset markets, the current account needs to be liberalised first. This is also borne out by the successful experience of Chile as opposed to that of Argentina. Reform of domestic financial markets before capital account liberalisation is generally considered critical, since domestic financial institutions can then be better equipped to face international competition and to intermediate movement of funds efficiently without exposing the system to avoidable risks.

REPORT ON CURRENCY AND FINANCE

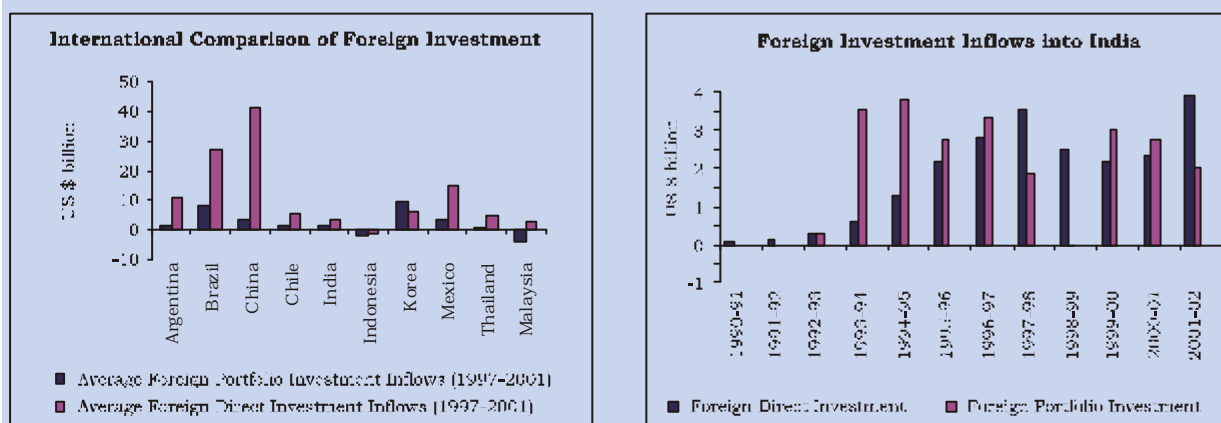
the earlier three-year period 1994-95 to 1996-97. FDI, which was US \$ 0.6 billion in 1993-94 increased sharply over the years to US \$ 3.9 billion in 2001-02. Foreign portfolio investment (FPI) on the other hand, has shown larger year-to-year variations, moving in the range of a net inflow of US \$ 3.8 billion in 1994-95 to a net outflow of US \$ 61 million in 1998-99 (Chart VII.14).

7.56 An industry-wise breakup reveals that the direction of FDI inflows has undergone a structural change over the reform period in line with the policy efforts. During the year 2001-02, computers, electronics and electrical equipments accounted for 34 per cent while services accounted for around 38 per cent of total FDI (excluding NRI investment). A country-wise breakup of FDI inflows reflects the increasing importance of Mauritius as the source of FDI in India during the recent years. This pattern

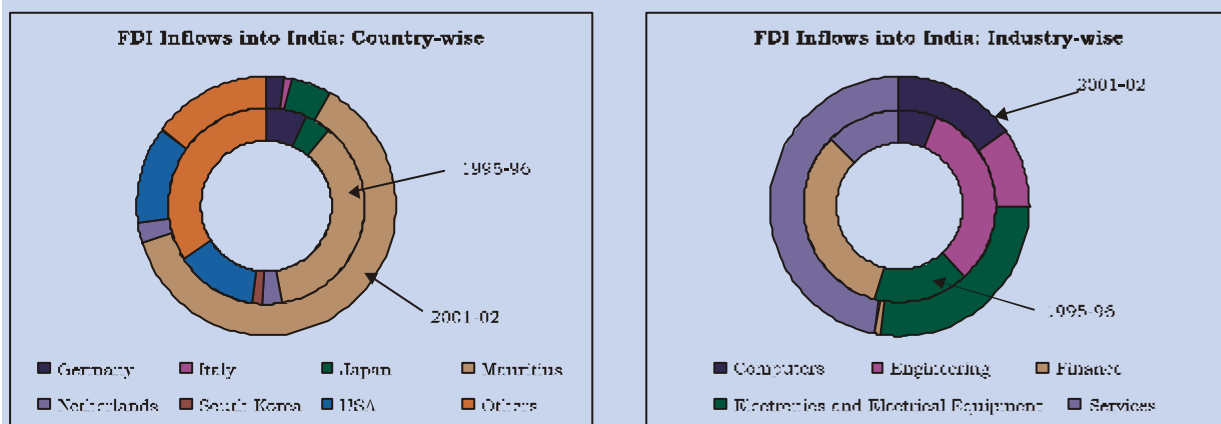
highlights, in a sense, the role of tax policies in influencing the pattern of FDI flows at the global level.

7.57 Although India took significant steps towards inviting FDI in pursuance of its policy of emphasising non-debt creating capital inflows during the reform period, the actual FDI inflows did not pick up on the expected lines. FDI inflows in India remained low in comparison to other emerging market economies. An international comparison of annual average FDI and FPI inflows for the period 1997-2001 shows that such inflows to India were lower than those to emerging market economies like Argentina, Brazil, China, Korea, Mexico, Thailand and Malaysia. India's failure to attract enhanced inflows of FDI strongly underlines the need for further reforms in this context (Bhagwati, 2001). Given the projected need for financing infrastructure projects, on a rough and ready estimate, about 15 per cent of the total infrastructure financing may have

Chart VII.14: India's Foreign Investment



Source: International Financial Statistics, January 2003.



EXTERNAL SECTOR

to come from foreign sources. Since the ratio of infrastructure investment to GDP is projected to increase from 5.5 per cent in 1995-96 to about 8 per cent by 2006, with a foreign financing of about 15 per cent, foreign capital of about 1.2 per cent of GDP has to be earmarked only for the infrastructure sector to achieve the GDP growth rate of about 8 per cent (RBI, 2001b).

7.58 While inward FDI has been actively pursued, the policy framework has also been substantially liberalised in regard to direct investment from India to other countries during the 1990s. Overseas investment in Joint Ventures (JVs) or Wholly Owned Subsidiaries (WOS) have been recognised as important instruments for promoting global business by Indian entrepreneurs. Continuing with the direction of liberalisation of the capital account, companies have been allowed to invest abroad in JVs or WOS with limits which have been relaxed from time to time. At present, the complete use of American Depository Receipts (ADR)/ Global Depository Receipts (GDR) proceeds and the EEFC account balance for this purpose is also permitted. Taking advantage of the policy, the Indian investment abroad has increased from very meagre amounts in early 1990s to US \$ 190 million in 1995-96 and further to US \$ 639 million in 2001-02. The current levels, however, do not reflect the full potential of the Indian business and its improved competitiveness after a decade of wide-ranging reforms.

7.59 Like FDI, the environment for FPI was also made more congenial through procedural changes for investment and by offering more facilities for investment in equity securities as well as in debt securities to a select category of portfolio investors, viz., the Foreign Institutional Investors (FIIs). Furthermore, the sectoral limits for FIIs in the Indian companies were progressively increased over time; these limits have been done away with altogether, except in select specified sectors. The NRIs, Overseas Corporate Bodies (OCBs) and Persons of Indian Origin (PIOs) are also permitted to invest in shares and debentures of Indian companies, government securities, commercial papers, company deposits and mutual funds floated by public sector banks and financial institutions.

NRI Deposits

7.60 NRI deposits in the form of Non-Resident (External) Rupee Account (NR(E)RA) and Foreign Currency Non-Resident Account (FCNR(A)) emerged as a steady flow of foreign capital in India from the

1970s, following the labour migration boom in West Asia in the wake of the first oil shock. The onset of the 1990s saw the introduction of as many as five NRI deposit schemes [Foreign Currency Bank and Ordinary (FC(B&O)), Foreign Currency Ordinary Non-Resident (FC(ON)), Non-Resident Non-Repatriable Rupee Deposit (NR(NR)RD), Non-Resident Special Rupee Account (NR(S)RA) and Foreign Currency Non-Resident Bank (FCNR(B))] between 1990 and 1993 designed to attract foreign exchange in the face of external payments crisis of 1991. With the recovery of the external sector, taking into account the lessons of the experience of various NRI deposit schemes during the 1980s and their contribution in aggravating the payments imbalance of 1990-91, the policies with regard to NRI deposits during the 1990s have been aimed at attracting stable deposits. This has been achieved through: (i) a policy induced shift in favour of local currency denominated deposits; (ii) rationalisation of interest rates on rupee denominated NRI deposits; (iii) linking of the interest rates to LIBOR for foreign currency denominated deposits; (iv) de-emphasising short-term deposits (up to 12 months) in case of foreign currency denominated deposits; and (v) withdrawal of exchange rate guarantees on various deposits. The Reserve Bank has also made an active use of reserve requirements on these deposits as an instrument to influence monetary and exchange rate management and to regulate the size of the inflows depending on the country's requirements. Continuing with the policy of progressive liberalisation of capital account, the NR(NR)RD scheme was discontinued with effect from April 1, 2002 and the maturity proceeds of NR(NR)RD can be credited to the account holder's NRE account only on maturity.

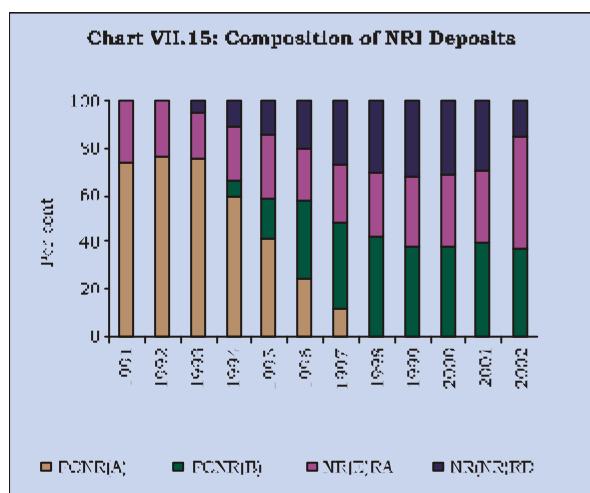
7.61 In line with the above policy perspective, the 1990s witnessed the discontinuation of all foreign currency denominated schemes, where exchange guarantee was provided by the Reserve Bank. In order to minimise the short-term debt burden of the country, the minimum maturity for FCNR(B) deposits has been raised from six months to one year. In view of the Government's policy of deregulating the interest rates, the banks are free to determine the interest rates on rupee denominated NRI deposits. The interest rate on foreign currency denominated FCNR(B) deposits has been linked to LIBOR in order to reduce the arbitrage possibilities.

7.62 An analysis of the movement in NRI deposits reveals that outstanding NRI deposits grew steadily from US \$ 13.7 billion at end-March 1991 to US \$ 25.2 billion at end-March 2002. Deposits under the FCNR(B) scheme increased from US \$ 1.1 billion at

REPORT ON CURRENCY AND FINANCE

end-March 1994 to US \$ 9.7 billion at end-March 2002. In case of NR(E)RA scheme, the deposits increased from US \$ 3.6 billion as at end-March 1991 to US \$ 8.4 billion as at end-March 2002. On the other hand, for the non-repatriable rupee denominated NR(NR)RD scheme, the outstanding balances increased from US \$ 621 million in 1993 to US \$ 7.1 billion at end-March 2002.

7.63 The NRI deposits have emerged as a major source of capital inflows during the 1990s. Apart from the size, the success of the policy towards NRI deposits is also reflected in an increase in the proportion of local currency denominated deposits (from around one-fourth in 1991 to almost two-third by 2002) and a substantial decline in short-term NRI deposits (Chart VII.15).



External Commercial Borrowings

7.64 Commercial debt capital includes a whole range of sources of foreign capital where the overriding consideration is commercial. External commercial loans include bank loans, buyers' credit, suppliers' credit, securitised instruments such as Floating Rate Notes and Fixed Rate Bonds, commercial borrowings and the private sector window of multilateral financial institutions.

7.65 The policies towards External Commercial Borrowings (ECBs) since the reform programme have been guided by the overall consideration of prudent external debt management by keeping the maturities long and cost low. ECBs are approved within an overall annual ceiling. Over time, the policy has been guided by a priority for projects in the infrastructure and core sectors such as power, oil exploration, telecom, railways, roads and bridges, ports, industrial parks,

urban infrastructure and for 100 per cent Export Oriented Units (EOUs). To allow further flexibility to borrowers, end-use and maturity prescriptions have been substantially liberalised. Moreover, corporates have been allowed to borrow upto a certain limit under the 'automatic route'. Apart from these, special bonds (India Development Bonds (IDBs), Resurgent India Bonds (RIBs) and India Millennium Deposits (IMDs)) were issued by the State Bank of India aimed at NRIs. The success in mobilising foreign exchange resources through such exceptional schemes reflected the confidence of the global investor community in the Indian economy and imparted an element of stability to the external sector and the overall balance of payments position.

7.66 At times, the rationale behind raising such high cost debt capital has been questioned. Experience, however, would suggest that each time this option was resorted to, it helped in strengthening the confidence in the Rupee and the ability of the country to honour its obligations. The costs of an exchange rate crisis are too severe in relation to cost of debt capital. In a situation of moderate debt-service ratio, such debt capital makes more sense than allowing the exchange rate to fall under pressure. As in the event of payments crisis such as that in 1991, servicing of short-term debt can become difficult, the policies in the 1990s have regulated build-up of short-term debt by allowing short-term credits only for trade-related purposes. Until recently, suppliers' credits of more than 180 days and buyers' credit of all maturities required prior approval from the Reserve Bank. Effective September 2002, with a view to simplify and liberalise the exchange control procedures, the prior approval of the Reserve Bank has been dispensed with for amounts not exceeding US \$ 20 million per import transaction.

7.67 Over the same period, official aid has waned in importance. This reflected mainly growing amortisation payments in the face of sluggish disbursements of external assistance as also availability of alternative private capital flows. Unlike aid, the share of ECBs in total capital flows have increased from around 31 per cent in 1990-91 to around 40 per cent in 1997-98. This has been mainly on account of the higher appetite for ECBs in view of the strong import demand and industrial growth. Subsequently, the increase in ECBs was entirely on account of RIBs and IMDs in 1998-99 and 2000-01, respectively, as the demand for ECBs remained low on account of weak investment demand.

7.68 The impact of the continuum of reforms initiated in the aftermath of the balance of payments crisis of 1991 on India's current account and capital account

EXTERNAL SECTOR

resulted in an accumulation of foreign exchange reserves of over US \$ 70 billion as at end-February 2003. Capital account surplus increased from US \$ 3.9 billion during the 1980s to US \$ 8.6 billion during 1992-2002 with a steadily rising foreign investment. As a proportion of GDP, capital flows increased from 1.6 per cent during 1980s to 2.3 per cent during 1992-2002. The significant increase in capital flows during the 1990s raises the issue of their determinants as well as their impact on growth. Granger-causality tests indicate a unidirectional causation from net capital flows in the Indian context to growth in GDP over the 1970-2000 period. On the other hand, a component-wise analysis suggests that non-debt creating flows seem to Granger cause GDP growth. Capital flows, both debt and non-debt, have also been found to crowd-in investment. Non-debt creating flows are discouraged by a higher fiscal deficit and exchange rate depreciation while greater openness and higher reserves have a positive effect on such flows (RBI, 2002b).

7.69 The sustained increase in capital inflows as discussed above, coupled with the moderate current account deficit, resulted in a surplus from 1993-94 onwards (excepting 1995-96) in the overall balance of payments (Table 7.13). The surplus amounted to US \$ 11.8 billion in 2001-02 as against a deficit of US \$ 0.6 billion in 1992-93 (Chart VII.16).

7.70 The evolution of capital flows over the 1990s reveals a shift in emphasis from debt to non-debt flows with the declining importance of external assistance and ECBs and the increased share of foreign investment-both direct and portfolio. Apart from financing the current account gap, capital flows have played a significant role in India's growth performance.

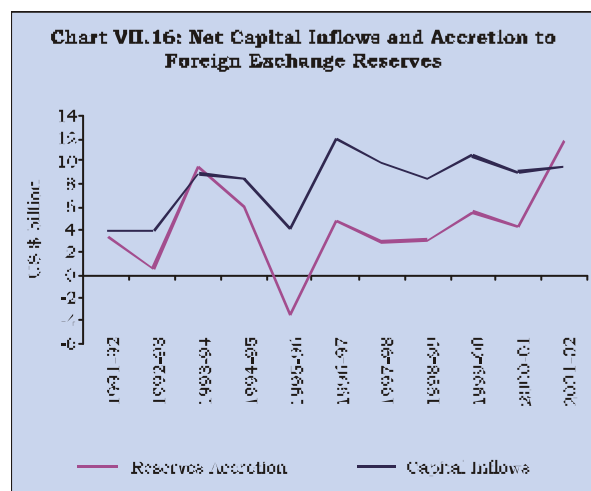


Table 7.13: Balance of Payments - Key Indicators

(Per cent)

Item	1990-91	1995-96	1999-00	2000-01	2001-02
	1	2	3	4	5
1. Trade					
i) Exports/GDP	5.8	9.1	8.4	9.8	9.3
ii) Imports/GDP	8.8	12.3	12.4	12.9	12.0
iii) Trade Balance/GDP	-3.0	-3.2	-4.0	-3.1	-2.7
2. Invisibles Account					
i) Invisible Receipts/GDP	2.4	5.0	6.8	7.5	7.4
ii) Invisible Payments/GDP	2.4	3.5	3.8	4.9	4.5
iii) Invisibles (Net)/GDP	-0.1	1.6	3.0	2.6	2.9
3. Current Account					
i) Current Receipts@/GDP	8.0	14.0	15.1	17.2	16.7
ii) Current Receipts Growth@	6.6	18.2	12.9	17.1	1.4
iii) Current Receipts@/Current Payments	71.5	88.8	93.0	96.4	101.2
iv) CAD/GDP	-3.1	-1.7	-1.0	-0.5	0.3
4. Capital Account					
i) Foreign Investment / GDP	—	1.4	1.2	1.1	1.2
ii) Foreign Investment / Exports	0.6	14.9	13.8	11.4	13.2
5. Others					
i) Debt-GDP Ratio	28.7	27.0	22.2	22.3	20.8
ii) Debt Service Ratio	35.3	24.3	16.2	17.3	14.1
iii) Liability Service Ratio	35.6	24.7	17.0	18.3	15.3
iv) Import Cover of Reserves (in months)	2.5	6.0	8.2	8.6	11.3

@ Excluding official transfers. — Negligible.

Evidence of strong complementarity with domestic investment suggests that capital flows brighten the overall investment climate and stimulate domestic investment even when a part of the capital flows actually gets absorbed in the form of accretion to reserves. The growth-augmenting role of foreign capital, particularly FDI, however, seems to have been constrained by the low levels of actual and planned absorption of foreign capital in India (RBI, 2001). The key indicators of balance of payments as explained in Table 7.13 show considerable improvement in India's balance of payments since 1991.

External Debt Management

7.71 Efforts towards prudent management of external debt, keeping in view sustainability, solvency and liquidity were put in place in most of the countries in response to the Latin American debt crisis of 1982. Subsequently, the financial crisis of Mexico in 1994-

REPORT ON CURRENCY AND FINANCE

95 and Indonesia, Korea, Malaysia, Thailand and other Asian countries in 1997 highlighted the need for a sound macroeconomic policy for managing short term private capital flows, particularly the debt creating ones. The East Asian crisis emphasised the need for monitoring: (i) both public and private debt; (ii) the size as well as the composition and maturity structure of external debt; (iii) inter company debt between direct investors and subsidiaries, branches and associates; (iv) trade credits, buyers and suppliers credits; (v) money market instruments; (vi) loans from foreign financial institutions for normal inter bank transactions and other commercial purposes; and (vii) foreign currency denominated deposits held by non-residents (Kappagoda, 1999). The East Asian crisis not only highlighted the need for monitoring the short-term debt, but it also emphasised the need for compilation of external debt (both long-term and short-term) on residual maturity basis, rather than original maturity basis. The former gives a better picture of the scheduled foreign exchange drain in the coming years on account of amortisation payments. In addition, the need for greater transparency and accountability, particularly in information disclosed by the private sector, has also been recognised as essential for avoidance of payments crisis (Kumar, 1999; Das, 1999; Williamson, 1999; Mohanty *et al*, 1999; Patra *et al*, 1999).

7.72 Apart from the need to contain current account deficit to sustainable level, one of the lessons from the external payment crisis of 1991, was to avoid excessive reliance on commercial debt especially of short-term maturity to finance the current account deficit. The approach to the external debt management was broadly based on the recommendations of the Rangarajan Committee, 1993. Following these recommendations, the strategy for external debt management during the 1990s has been guided by: (i) the continuation of an annual cap, minimum maturity restrictions and prioritising the use of ECBs; (ii) LIBOR based ceilings on interest rates and minimum maturity requirements on foreign currency denominated NRI deposits to discourage the volatile component of such deposits; (iii) reduction of short-term debt together with controls to prevent its undue increase in future; (iv) retiring/ restructuring/ refinancing of more expensive external debt; (v) measures to encourage non-debt creating financial flows such as FDI and FPI; (vi) incentives and schemes to promote exports and other current receipts; and (vii) conscious build-up of foreign exchange reserves to provide effective insurance against external sector uncertainties.

7.73 Key indicators of debt sustainability point to the continuing consolidation and improved solvency in the 1990s. Although, in nominal terms, India's total outstanding external debt increased from US \$ 83.8 billion at end-March 1991 to US \$ 98.5 billion at end-March 2002, external debt to GDP ratio declined sharply from 28.7 per cent at end-March 1991 to 20.9 per cent at end-March 2002 (Charts VII.17 and VII.18). Prudent external debt management is also reflected in the proportion of short-term debt to total debt declining from 10.2 per cent in 1991 to 2.8 per cent in 2002 and in the ratio of short-term debt to foreign exchange reserves from a high of 146.5 per cent in the crisis period of 1991 to only 5.1 per cent in 2001-02. Debt service ratio declined from 35.3 per cent in 1990-91 to 14.1 per cent in 2001-02 (Table 7.14). Interest payments to current receipts ratio declined from 15.5 per cent in 1990-91 to 5.4 per cent in 2001-02.

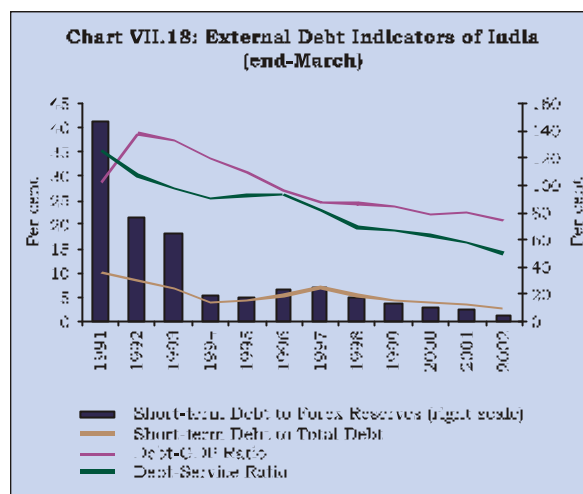
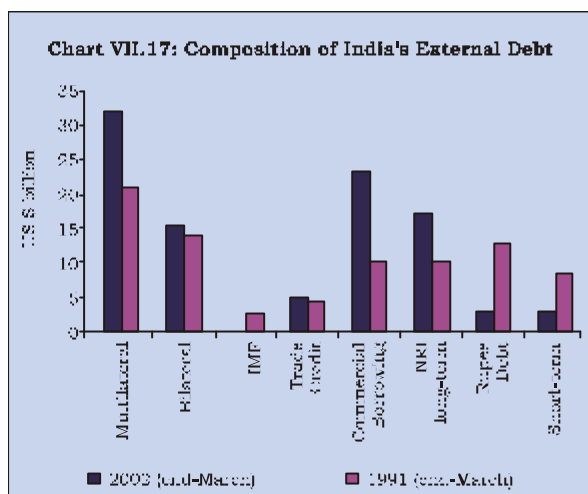
Table 7.14: Major Indicators of External Debt (as at end-March)

(Per cent)

Items	1991	1996	2000	2001	2002
	1	2	3	4	5
I. Total Debt to GDP	28.7	27.0	22.1	22.4	20.9
II. Short-term Debt (original maturity) to GDP	2.9	1.4	0.9	0.8	0.6
III. Concessional Debt to Total Debt	45.9	44.7	38.9	35.5	36.0
M. Short-term Debt (original maturity) to Foreign Exchange Reserves	146.5	23.2	10.3	8.6	5.1
V. Short-term Debt (original maturity) to Foreign Currency Assets	382.1	29.5	11.2	9.2	5.4
VI. Non-Debt Liabilities and Short-term Debt to Reserves	148.2	92.3	99.9	100.8	88.4
VII. Short-term Debt and Non-debt Reversible Liabilities to Reserves	146.6	71.1	59.0	58.5	48.1
VIII. Debt Service Ratio	35.3	24.3	16.2	17.5	14.1
IX. Debt to Current Receipts	328.9	188.9	145.6	126.2	122.5
X. Liability Service Ratio	35.6	24.7	17.0	18.3	15.3

7.74 The decade of 1990s witnessed a steady move towards consolidation of India's external debt statistics in terms of size, composition and indicators of solvency and liquidity. Containing the increase in the size of external debt to a modest level in the face of a tremendous growth in foreign exchange reserves

EXTERNAL SECTOR



during the decade definitely points towards the success of India's debt management strategy. Reflecting this, in terms of indebtedness classification, the World Bank has categorised India as a less indebted country since 1999. Among the top 15 debtor countries of the world, India improved its rank from third debtor after Brazil and Mexico in 1991 to ninth in 2000 after Brazil, Russian Federation, Mexico, China, Argentina, Indonesia, Korean Republic and Turkey. Moreover, among them, key external debt indicators such as short-term debt to total debt and short-term debt to forex reserve ratios are the lowest for India; the concessional to total debt ratio is the highest, while debt to GNP ratio is the second lowest after China.

Exchange Rate Management

7.75 In the context of globalisation and currency crises, recent years, particularly, have seen a renewed interest on the issues relating to exchange rate regime, which is evident in the large and growing body of theoretical and empirical literature on the subject. Nevertheless, both in theory as well as in practice, the state of the debate is unsettled. A worldwide consensus is still evolving in search of an appropriate and credible exchange rate regime. Contemporaneously, in India also, discussion and debate on issues relating to the appropriate exchange rate system, policies on intervention, capital control and foreign exchange reserves figure very prominently. This is especially relevant with the introduction of a market-based exchange rate system in March 1993 and in the context of global currency crises, particularly the East Asian Crisis.

7.76 The task of determining appropriate exchange rate and market intervention policies is extremely difficult for central banks all over the world. In principle, and in theory, there is a strong case for either freely floating exchange rates (without intervention) or a currency board type arrangement of fixed rates (Edwards, 2000; Summers, 2000; Buiters 2000). In practice, however, because of the operational realities of foreign exchange markets, empirical research shows that most countries have adopted intermediate regimes of various types including crawling pegs, fixed rates within bands, managed floats with no pre-announced path, and independent floats with market intervention moderating the rate of change and preventing undue fluctuations (Williamson, 2000). By and large, most countries have some variety of "managed" floats and central banks intervene in the markets periodically.

7.77 Reflecting the growing role of private capital flows in the 1990s, there has been a shift in the exchange rate regimes with a trend towards corners—either fixed regimes or floating regimes. For instance, about half of the IMF member countries as at end-December 2001 were at the corners. In contrast, the proportion of countries at the corners was only one-fourth as at end-December, 1991. As at end-December 2001, 41 countries had independent float exchange rate system, 42 countries had managed float with no pre-announced path for exchange rate, 40 countries had exchange arrangements with no separate legal tender, 40 countries had other conventional fixed pegged arrangements, eight countries had currency board arrangements, five countries had pegged exchange rates within horizontal bands, four countries had crawling pegs and six countries had exchange rates within crawling bands.

7.78 In India the exchange rate system has undergone a paradigm shift from a system of fixed exchange rate (until March 1992) to a market-determined regime in March 1993. Since the switchover to a market determined exchange rate regime in March 1993, the behaviour of the exchange rate has remained largely orderly, interspersed by occasional episodes of pressures, which were relieved through appropriate intervention operations consistent with the stated policy of avoiding undue volatility in the exchange rate without reference to any target, whether explicit or implicit. The financial crises encountered by the emerging markets in the last decade have brought to the fore the importance of an appropriate exchange rate policy. The present Indian regime of managed flexibility that focuses on managing volatility without reference to any target has gained increasing international acceptance and well served the requirements of the country in the face of significant liberalisation of external sector transactions. This is particularly so in the context of the series of exchange rate crises experienced by several emerging economies undertaking similar macroeconomic reforms.

7.79 In the post-Bretton Woods period, the Rupee was effectively pegged to a basket of currencies of India's major trading partners from September 1975. This system continued through the 1980s, though the exchange rate was allowed to fluctuate in a wider margin and to depreciate modestly with a view to maintain competitiveness. However, the need for adjusting exchange rate became precipitous in the face of the external payments crisis of 1991.

7.80 As a part of the overall macroeconomic stabilisation programme, the exchange rate of the Rupee was devalued in two stages by 18 per cent in terms of the US dollar in July 1991. The transition to market determined exchange rate system took place in two stages and the sequencing was based on the Report of the High Level Committee on Balance of Payments, 1993 (Chairman: C. Rangarajan). The Liberalised Exchange Rate Management System (LERMS) instituted in March 1992 was a dual exchange rate arrangement under which 40 per cent of the current receipts were required to be surrendered to the Reserve Bank at the official exchange rate while the rest 60 per cent could be converted at the market rate. The 40 per cent portion surrendered at the official rate was for meeting the essential imports at a lower cost. Although the experience with the dual exchange rate system in terms of volatility in the market determined segment of the forex market was

satisfactory, it involved an implicit tax on exports and other invisibles receipts and thereby emerged as a source of distortion. As a system in transition, the LERMS performed well in terms of creating the conditions for transferring an augmented volume of foreign exchange transactions on to the market.

7.81 The unified market determined exchange rate regime replaced the dual regime on March 1, 1993 and since then "the objective of exchange rate management has been to ensure that the external value of the Rupee is realistic and credible as evidenced by a sustainable current account deficit and manageable foreign exchange situation. Subject to this predominant objective, the exchange rate policy is guided by the need to reduce excess volatility, prevent the emergence of destabilising speculative activities, help maintain adequate level of reserves, and develop an orderly foreign exchange market" (Jalan, 1999). In order to reduce the excess volatility in the foreign exchange market, the Reserve Bank has undertaken market clearing sale and purchase operations in the foreign exchange market to moderate the impact on exchange rate arising from lumpy demand and supply as well as leads and lags in merchant transactions. Such interventions, however, are not governed by any pre-determined target or band around the exchange rate.

7.82 The experience with the market determined exchange rate regime has been satisfactory, although the exchange rate management had to occasionally contend with a few episodes of volatility. The period from March 1993 till August 1995 was a phase of significant stability. Capital inflows coupled with robust export growth exerted upward pressure on the exchange rate. However, the Reserve Bank absorbed the excess supplies of foreign exchange. In the process, the nominal exchange rate of the Rupee *vis-à-vis* the US Dollar remained virtually unchanged at around Rs.31.37 per US Dollar over the extended period from March 1993 to August 1995. The real appreciation that resulted from the positive inflation differentials prevailing during this period triggered off market expectations and resulted in a market led correction of the exchange rate of the Rupee during September 1995-February 1996. In response to the upheavals, the Reserve Bank intervened in the market and also resorted to monetary tightening so as to restore orderly conditions in the market after a phase of orderly correction for the perceived misalignment (RBI, 1996).

7.83 The period since 1997 has witnessed a number of adverse internal as well as external developments. The important internal developments include the

EXTERNAL SECTOR

economic sanctions imposed in the aftermath of nuclear tests conducted during May 1998 and the border conflict during May-June 1999. The external developments included, *inter alia*, the contagion from the Asian crisis, the Russian crisis during 1997-98, sharp increases in international crude oil prices in the period beginning with 1999, especially May 2000 onwards, and the post-September 11, 2001 developments in the US. These developments created a large degree of uncertainty in the foreign exchange market at various points of time, leading to excess demand conditions in the market (Chart VII.19). The Reserve Bank responded through appropriate intervention supported by monetary and other administrative measures like variations in the bank rate, repo rate, cash reserve requirements, refinance to banks, surcharge on import finance and minimum interest rates on overdue export bills. These measures helped in curbing destabilising speculation, while at the same time allowing an orderly correction in the value of the Rupee (Pattnaik, Kapur and Dhal, 2002).¹⁰

7.84 A related issue that has figured in the literature is whether the exchange rate should be managed by monitoring Nominal Effective Exchange Rate (NEER) or Real Effective Exchange Rate (REER). "From a

competitive point of view and also in the medium term perspective, it is the REER, which should be monitored as it reflects changes in the external value of a currency in relation to its trading partners in real terms. However, it is no good for monitoring short term and day-to-day movements as 'nominal' rates are the ones which are most sensitive of capital flows... Thus, in the short run, there is no option but to monitor the nominal rate" (Jalan, 2002).

7.85 Since the introduction of the market determined regime in March 1993, the Rupee has depreciated by 35 per cent upto February 2003 against the US dollar, i.e., from Rs.31.52 to Rs.48.73 per US dollar. In terms of effective exchange rates, the NEER depreciated by 31.1 per cent, while the REER (5 country trade based index) recorded a depreciation of 2.2 per cent during the period 1993-94 to 2002-03 (up to February 2003) (Table 7.15). A notable feature of the exchange rate in the recent years has been the two-way movement that has increased the risk profile of such market players who maintain open positions guided by the perception that the exchange rate can move only one way in India.

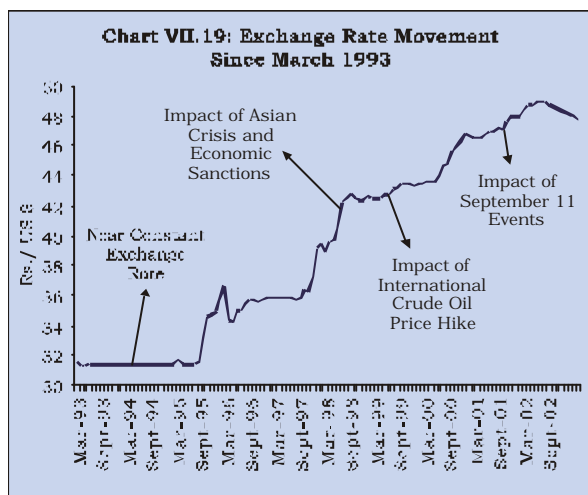


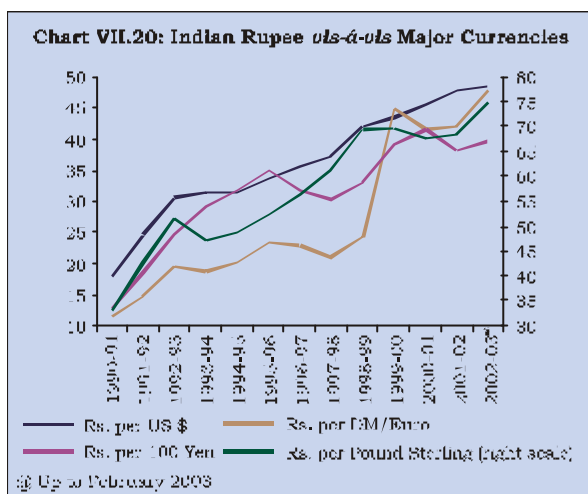
Table 7.15: Exchange Rate and the REER and NEER of the Indian Rupee

Year	Rupees per US Dollar	REER (5 country trade weights with 1993-94=100)	NEER
	1	2	3
1990-91	17.94	141.69	175.04
1991-92	24.47	116.48	131.54
1992-93	30.65	112.31	117.81
1993-94	31.37	100.00	100.00
1994-95	31.40	105.81	96.09
1995-96	33.45	102.29	87.69
1996-97	35.50	103.43	86.38
1997-98	37.16	105.84	86.43
1998-99	42.07	97.79	76.45
1999-00	43.33	96.74	74.22
2000-01	45.68	100.76	73.77
2001-02	47.69	102.09	73.18
2002-03 (up to Feb '03)	48.46	97.77	68.88

10. An impulse response analysis with output, inflation, interest rates and exchange rates as the four variables of the SVAR reveals that a positive shock to interest rate (indicating contractionary monetary policy) leads to reduction in aggregate demand and output and appreciation in the exchange rate in the short run. Pattnaik and Mitra (2001) found similar results with their analysis in a 3-variable VAR (exchange rate, direct market intervention and call money rates). The results on the efficacy of monetary policy in stabilising the exchange rate appear to be robust across different identification schemes.

7.86 The Indian Rupee depreciated against all the other major currencies during the 10-year period 1993-94 to 2002-03 (up to February 2003). The Rupee depreciated against the Pound Sterling and the Japanese Yen by 37 per cent and 27 per cent, respectively, during this period. It depreciated against the Euro by 6 per cent between 1999-2000 and 2002-03 (up to February 2003) (Chart VII.20).

REPORT ON CURRENCY AND FINANCE



7.87 As a whole, India's current exchange rate policy seems to have stood the test of time. It has focused on the management of volatility without fixed rate target, while underlying demand and supply conditions are allowed to determine the exchange rate movements in an orderly way. The Reserve Bank will continue to follow the approach of watchfulness, caution and flexibility by closely monitoring the developments in the domestic and financial markets in home and abroad. It will co-ordinate its market operations carefully, particularly in regard to forex market with appropriate monetary, regulatory and other measures as considered necessary from time to time (RBI, 2002c).

IV. FOREIGN EXCHANGE RESERVES: APPROACH, DEVELOPMENTS AND ISSUES

Approach

7.88 The subject of foreign exchange reserves has received renewed interest in recent times in the context of increasing globalisation, acceleration of capital flows and integration of financial markets. The debt-banking-financial crises in several countries have also necessitated the need for an international financial architecture in which the management of foreign exchange reserves has emerged as one of the critical issues.

7.89 Contextually, the subject of foreign exchange reserves may be broadly classified into two inter-linked areas, viz., the theory of reserves and the management of reserves. The theory of reserves encompasses issues relating to institutional and legal arrangements for holding reserve assets, conceptual and definitional aspects, objectives for holding reserve

assets, exchange rate regimes and conceptualisation of the appropriate level of foreign reserves. In essence, a theoretical framework for reserves provides the rationale for holding foreign exchange reserves. Reserve management is mainly guided by the portfolio management consideration, i.e., how best to deploy foreign reserve assets subject to statutory stipulations? The portfolio considerations take into account *inter alia*, safety, liquidity and yield on reserves as the principal objectives of reserve management. The institutional and legal arrangements are largely country specific and these differences should be recognised in approaching the critical issues relating to both reserve management practices and policy-making (Reddy, 2002).

7.90 The motives for holding reserves may be broadly classified under three categories, viz., transaction, speculative and precautionary. International trade gives rise to currency flows, which are assumed to be handled by banks driven by the transaction motive. Similarly, speculative motive is left to individuals or corporates. Central bank reserves, however, are characterised primarily as a last resort stock of foreign currency for unpredictable flows, which is consistent with precautionary motive for holding foreign assets. Precautionary motive for holding foreign currency, like the demand for money, can be positively related to wealth and the cost of covering unplanned deficit, and negatively related to the return from alternative assets. Furthermore, foreign exchange reserves are instruments to maintain or manage the exchange rate, while enabling orderly absorption of international capital flows. Official reserves are mainly held for precautionary and transaction motives keeping in view the aggregate of national interests, to achieve balance between demand for and supply of foreign currencies, for intervention, and to preserve confidence in the country's ability to carry out external transactions.

7.91 The objectives for maintaining reserves are: (i) maintaining confidence in monetary and exchange rate policies; (ii) enhancing capacity to intervene in foreign exchange markets; (iii) limiting external vulnerability by maintaining foreign currency liquidity to absorb shocks during times of crisis including national disasters or emergencies; (iv) providing confidence to the markets, including credit rating agencies, that external obligations can always be met (thus reducing the overall costs at which foreign exchange resources are available to all the market participants); and (v) adding to the comfort of the market participants, by demonstrating the backing of domestic currency by external assets.

EXTERNAL SECTOR

7.92 India's approach to reserve management, until the balance of payments crisis of 1991 was essentially based on the traditional approach, *i.e.*, to maintain an appropriate level of import cover defined in terms of number of months of imports equivalent to reserves. For example, the import cover of reserves shrank to three weeks of imports by the end of December 1990, and the emphasis on import cover constituted the primary concern say, till 1993-94. The approach to reserve management, as part of exchange rate management, and indeed the overall external sector policy underwent a paradigm shift with the adoption of the recommendations of the High Level Committee on Balance of Payments, 1993 (Chairman: C. Rangarajan). The Committee had recommended that the foreign exchange reserve targets be fixed in such a way that they are generally in a position to accommodate imports of three months. In the view of the Committee, the factors that are to be taken into consideration in determining the desirable level of reserves are: (i) the need to ensure a reasonable level of confidence in the international financial and trading communities about the capacity of the country to honour its obligations and maintain trade and financial flows; (ii) the need to take care of the seasonal factors in any balance of payments transaction with reference to the possible uncertainties in the monsoon conditions of India; (iii) the amount of foreign currency reserves required to counter speculative tendencies or anticipatory actions amongst players in the foreign exchange market; and, (iv) the capacity to maintain the reserves so that the cost of carrying liquidity is minimal.

7.93 With the introduction of market determined exchange rate, a change in the approach to reserve management was warranted and the emphasis on import cover had to be supplemented with the objective of smoothening out the volatility in the exchange rate, which has been reflective of the underlying market condition (RBI, 1996). Against the backdrop of currency crises in East-Asian countries and in the light of country experiences of volatile cross-border capital flows, there emerged a need to take into consideration a host of factors. The shift in the pattern of leads and lags in payments/receipts during exchange market uncertainties brought to the fore the fact that besides the size of reserves, the quality of reserves also assumes importance. Unencumbered reserve assets (defined as reserve assets net of encumbrances such as forward commitments, lines of credit to domestic entities, guarantees and other contingent liabilities) must be available at any point of time to the authorities for fulfilling various objectives assigned to reserves (RBI, 1998). As a part of prudent management of external liabilities, the policy is to keep forward liabilities

at a relatively low level as a proportion of gross reserves (RBI, 1999).

7.94 The overall approach to management of foreign exchange reserves reflected the changing composition of balance of payments and liquidity risks associated with different types of flows and other requirements. The policy for reserve management is built upon a host of identifiable factors and other contingencies, including, *inter alia*, the size of the current account deficit and short-term liabilities (including current repayment obligations on long-term loans), the possible variability in FPI and other types of capital flows, the unanticipated pressures on the balance of payments arising out of external shocks and movements in repatriable foreign currency NRI deposits (RBI, 2000).

7.95 An important issue which has figured prominently in the current debate on foreign exchange management is the question of appropriate policy for management of foreign exchange reserves. In a regime of free float, it can be argued that there is no need for reserves. In the light of volatility induced by capital flows and self-fulfilling expectations that this can generate, there is now a growing consensus among emerging market economies to maintain 'adequate' reserves (Jalan, 2002). Therefore, while focusing on prudent management of foreign exchange reserves in recent years, the 'liquidity at risk' associated with different types of flows has come to the fore (RBI, 2001). With the changing profile of capital flows, the traditional approach to assessing reserve adequacy in terms of import cover has been broadened to include a number of parameters which take into account the size, composition, and risk profiles of various types of capital flows as well as the types of external shocks to which the economy is vulnerable. A sufficiently high level of reserves is necessary to ensure that even if there is prolonged uncertainty, reserves can cover the liquidity at risk on all accounts over a fairly long period. Taking these considerations into account, India's foreign exchange reserves have reached a very comfortable level. The current thinking in this regard has been clearly articulated: "The prevalent national security environment further underscores the need for strong reserves. We must continue to ensure that, leaving aside short-term variations in reserves level, the quantum of reserves in the long-run is in line with the growth of the economy, the size of risk-adjusted capital flows and national security requirements. This will provide us with greater security against unfavourable or unanticipated developments, which can occur quite suddenly" (RBI, 2002c). In the context of the uncertain

REPORT ON CURRENCY AND FINANCE

ramifications of the current developments in Iraq, the relevance of a comfortable reserve level appears particularly important. Unlike 1990-91, implications of such developments in the Gulf region for the external sector appears modest and manageable, mainly due to the comfortable reserve level.

7.96 The foregoing discussion points to the evolving considerations and a paradigm shift in India's approach to reserve management. The shift has occurred from a single indicator to a menu or multiple indicators approach. Furthermore, the policy of reserve management is built upon a host of factors, some of which are not quantifiable, and in any case, weights attached to each of them do change from time to time.

Developments

7.97 In India, reserves have been steadily built up by encouraging non-debt creating flows and de-emphasising debt creating flows, particularly short-term debt. This strategy, coupled with the maintenance of an acceptable level of current account deficit and market determined exchange rate regime was the cornerstone of the policy of external sector management. In the context of the changing interface with the external sector and the importance of the capital account, reserve adequacy is now evaluated by the Reserve Bank in terms of several indicators and not merely through conventional norms, such as, the import cover. As a matter of policy, as far as possible, foreign exchange reserves are kept at a level which is adequate to withstand both cyclical and unanticipated shocks (RBI, 1999).

7.98 In the context of increasing cross-border linkages and the growing importance of the capital account, it became necessary to evaluate reserve adequacy in terms of both conventional indicators and non-conventional norms (Reddy, 1997). The Report of the Committee on Capital Account Convertibility, 1997 (Chairman: S. S. Tarapore) suggested four alternative measures to assess reserve adequacy: (i) import cover of six months; (ii) import cover of three months plus 50 per cent of annual debt service payments plus one month's imports and exports to take into account the possibility of leads and lags; (iii) ratio of short-term debt and stock of portfolio investment related non-debt liabilities to reserves at not more than 60 per cent; and (iv) the net foreign exchange assets to currency ratio (NFA/currency ratio) at around 70 per cent with a minimum of 40 per cent for this ratio to be stipulated by the RBI Act. In recent times, Pablo Guidotti has suggested that emerging market economies must maintain usable forex reserves exceeding scheduled amortisation of foreign

currency debts falling due (assuming no roll-overs) during the following year. The concept of 'usable reserves' merits particular attention in view of the developments experienced by Korea and Thailand during the 1997 crisis. A large part of the gross reserves was not available to the authorities to defend the falling exchange rates. Greenspan (1999) suggested a 'liquidity-at-risk' rule and observed that "countries could be expected to hold sufficient liquid reserves to ensure that they could avoid new borrowing for one year with a certain *ex ante* probability, such as 95 per cent of the time".

7.99 India is amongst the top ten reserve holding emerging market nations (Charts VII.21-23 and Table 7.16). Reserve adequacy indicators also place India at a comfortable position *vis-à-vis* emerging market economies (Table 7.17).

Table 7.16: Total International Reserves minus Gold

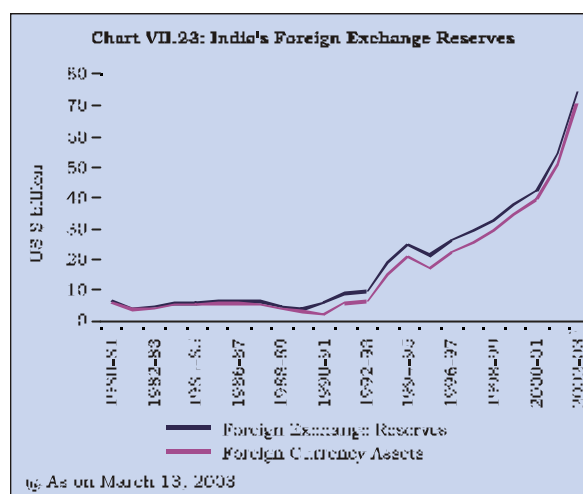
Countries/Country Groups	(SDR billion)				
	1963	1973	1983	1993	2002 (Nov)
	1	2	3	4	5
1. All countries	26.6	116.8	362.3	797.7	1837.3
2. Industrial countries	19.2	79.9	206.2	413.4	727.0
3. Developing countries	7.5	36.9	156.1	384.3	1110.3
4. Asia	2.7	8.6	54.6	220.3	703.8
<i>of which:</i>					
i. China, People's Rep.	—	—	14.3	16.3	204.2 @
ii. Hong Kong	—	—	—	—	83.8
iii. India	0.4	0.7	4.7	7.4	48.5
iv. Indonesia	0.0	0.7	3.6	8.2	21.9
v. Korea, Republic of	0.1	0.7	2.2	14.7	89.3
vi. Malaysia	0.4	1.1	3.6	19.8	25.7
vii. Philippines	0.1	0.8	0.7	3.4	9.8
viii. Singapore	0.4	1.9	8.9	35.2	60.6
ix. Thailand	0.5	1.0	1.5	17.8	27.8

@ Data refer to October 2002.

Source : International Financial Statistics, Yearbook 2002 and December 2002.



EXTERNAL SECTOR



7.100 India's foreign exchange reserves increased from US \$ 4.7 billion in June 1991 to US \$ 73.9 billion as on March 13, 2003. The predominant component of foreign exchange reserves is in the form of foreign currency assets that increased from US \$ 1.1 billion to US \$ 71.7 billion during the same period (Chart VII.23). The gold holdings of the Reserve Bank remained broadly stable at around US \$ 3-4 billion during the same period. SDR holdings of the Government came down from US \$ 63 million in June 1991 to US \$ 4 million as on March 13, 2003. The movement in India's foreign exchange reserves since

1993-94 can be divided into three phases: (i) the period March 1993 to March 1995, when reserves increased sharply from US \$ 9.8 billion to US \$ 25.2 billion, (ii) the period March 1995 to March 1999, when reserves increased moderately to US \$ 32.5 billion, and (iii) finally since 1999-2000, when there was a phenomenal increase in reserves - as much as US \$ 41.3 billion cumulatively (by US \$ 5.5 billion in 1999-2000, US \$ 4.2 billion in 2000-01, US \$ 11.8 billion in 2001-02, and US \$ 19.8 billion during 2002-03 (up to March 13, 2003).

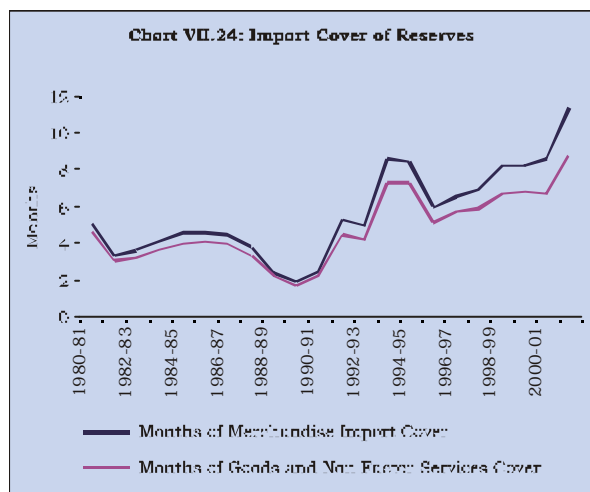
Table 7.17: Indicators of Reserve Adequacy

Country	Reserves/Imports (Weeks of Imports)			Reserves/Short term External Debt (Per cent)		Reserves/ External Debt (Per cent)	
	1999	2000	2001	1999	2000	1999	2000
	1	2	3	4	5	6	7
Brazil	35.00	28.88	33.40	119.06	104.87	14.28	13.65
Chile	46.86	41.38	41.51	1231.62	582.21	42.04	39.83
India	36.14	38.41	48.08	831.3	1095.38	33.28	37.76
Indonesia	57.29	44.21	45.69	132.00	125.88	17.53	20.1
Korea	32.11	31.15	37.87	212.84	237.59	56.74	71.51
Mexico	11.64	10.58	13.83	132.09	187.59	18.96	23.63
Philippines	21.12	20.07	22.29	230.09	219.33	24.95	26.07
Thailand	35.12	26.78	27.12	145.49	215.19	35.20	40.19
China	49.46	42.46	46.04	891.97	980.20	102.26	112.35
Hungary	20.32	18.12	16.54	309.32	269.64	36.71	38.04
Malaysia	24.49	18.66	21.47	509.15	635.78	73.03	70.57
Turkey	29.84	21.86	23.87	99.49	77.79	22.88	19.35
Venezuela	41.15	42.09	26.3	596.12	743.75	32.16	34.28
Argentina	53.51	51.81	37.25	89.23	88.81	18.07	17.21
Hong Kong SAR	27.88	26.28	28.75	—	—	—	—

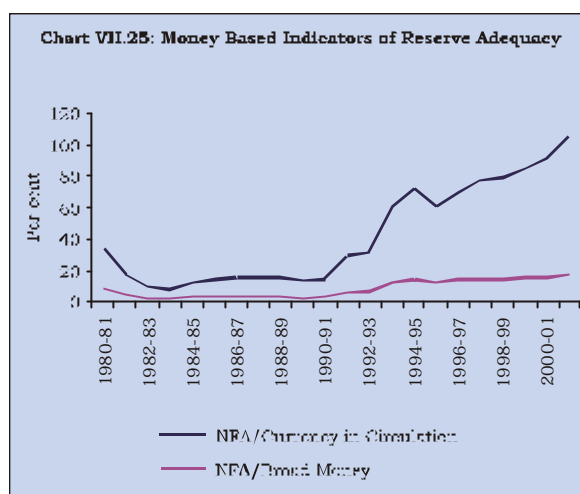
Sources : (1) International Financial Statistics Yearbook, 2002,
(2) Global Development Finance, World Bank 2002,
(3) International Financial Statistics, January 2003.

REPORT ON CURRENCY AND FINANCE

7.101 The traditional trade-based indicator of reserve adequacy, *i.e.*, the import cover of reserves (foreign currency assets), which fell to a low of two weeks of imports in June 1991 improved to 11.3 months of imports as at end-March 2002. Import cover of reserves further increased to nearly 14 months of imports by March 2003 (Chart VII.24). In terms of the money-based indicators, the ratio of net foreign exchange assets of the Reserve Bank to currency in circulation sharply increased from 14.4 per cent at end-March 1991 to 105.2 per cent at end-March 2002 while that of net foreign exchange assets to broad money increased from 3.0 per cent to 17.6 per cent over the same period (Chart VII.25). The debt-based indicators of reserve adequacy also steadily improved in the 1990s. The ratio of volatile capital flows (defined as cumulative portfolio flows and short-term debt to reserves), which was 71.1 per cent as at end-March 1996 fell to 48.1 per cent as at end-March 2002. The ratio of short-term debt to reserves declined from 146.5 per cent in 1990-91 to 5.1 per cent in 2001-02 (Chart VII.26). Taking these factors into account, India's foreign exchange reserves are at present comfortable and consistent with the rate of growth, the share of external sector in the economy and the size of the risk adjusted capital flows (RBI, 2002c).



7.102 As a part of prudent reserve management policy, the net forward liabilities have been kept at relatively low levels. The proportion of forward liabilities declined from 6.1 per cent of gross reserves at end-March 1998 to 0.3 per cent at end-August 2002 (Chart VII.27). In the subsequent months, these have been fully retired and the Reserve Bank held net forward assets of US \$ 2.6 billion in February 2003.

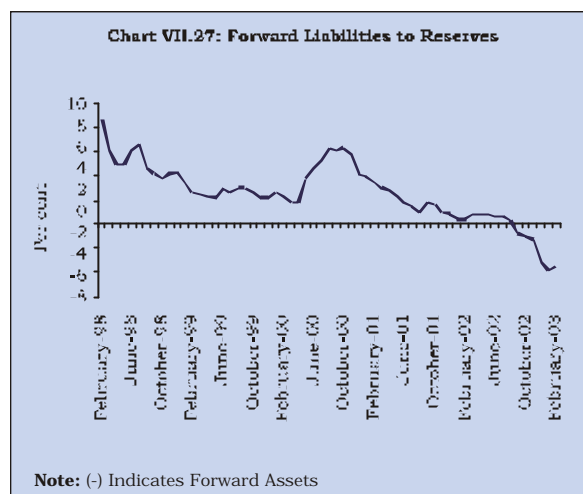
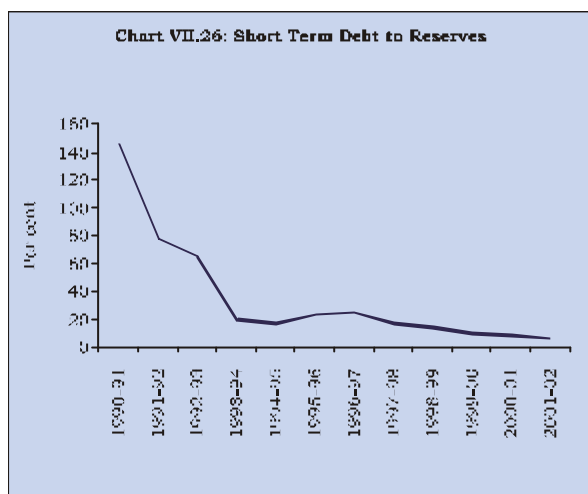


7.103 While the significant accretion to foreign exchange reserves has provided comfort on external sector management, two contentious issues have come to the fore. These are the trade-off between costs and benefits accruing from the reserves accretion and the associated monetary impact that emanates from it.

International Reserves and Optimality

7.104 The policy of accretion to reserves to meet the transactions and precautionary needs generally involves both financial and economic cost to the country. In the absence of any unique definition of the opportunity cost, one comes across several interpretations in the literature, the applicability of which depends on the particular economic context. When an economy is both foreign exchange and saving constrained, the opportunity cost could be the rate of return on domestic investment (assuming that the foreign exchange used to finance unsatiated investment demand would have fetched the return on domestic investment). When an economy is only foreign exchange constrained, the opportunity cost could be in terms of foregone consumption. When an economy is not foreign exchange constrained (*i.e.*, all productive forex demand are met before the reserves are built up), the opportunity cost would depend on the difference between the cost of borrowing and the return on reserve assets. If high cost borrowings are used to build reserves on which modest returns are obtained because of the emphasis on safety and liquidity of reserve assets, such reserve build-up policies may prove more costly. Another form of cost - often known as the quasi-fiscal cost - arises from the higher rate of return on domestic assets *vis-à-vis* foreign assets. Since sterilised intervention gives rise to an offsetting change in the domestic asset holding

EXTERNAL SECTOR



of a central bank when its foreign assets increase, the overall profits arising from the total asset portfolio of the central bank's balance sheet may decline. As a result, the profits transferred to the Government - which represents a major source of non-tax revenue for the Government - may decline. For countries operating with large fiscal imbalances, such a decline in non-tax revenue could prove more costly, forcing a higher mobilisation of tax revenue or a cut in expenditure that may affect growth and development.

relationship between import propensity and reserves (Frankel, 1974; Edwards, 1984). While the inverse relationship between reserves and the propensity to import has been interpreted as the extent of adjustment to an external shock, the direct relationship is an indicator of the degree of openness. Eaton and Gersovitz (1980) formally introduced the concept of transactions demand for reserves. In addition to the 'conventional' variables, Ben-Bassat and Gottlieb (1992) introduced risk of default or sovereign risk into the assessment of precautionary demand for reserves. Lane and Burke (2001) adopted a broad approach to identify the potential determinants of reserves and found: (i) trade openness to be the most important variable along with financial deepening (M_2/GDP); (ii) smaller and more volatile industrial countries hold larger reserves than their larger, less volatile counterparts; and (iii) more indebted developing countries had smaller reserve ratios. The traditional determinants identified in the empirical literature on foreign exchange reserve holdings are presented in Table 7.18.

7.105 The development of money demand theory along the lines of optimal inventory control or buffer stock model provides a natural theoretical benchmark for the study of optimal reserve accumulation and has spurred a large body of empirical literature in the late 1960s and early 1970s (Grubel, 1971; Kelly, 1970). Heller (1966) used a cost-benefit approach and stressed that the issue is one of choosing an optimal level of reserves at which the central bank minimises the total expected cost i.e., the sum of the adjustment cost that is incurred when reserves reach some lower bound and the opportunity cost. Heller's estimation indicated that optimal reserves are directly proportional to the variability of exports and are inversely related to the opportunity cost variable (defined as foregone earnings or economic welfare). Frankel and Jovanovic (1981) and Landell-Mills (1989) also found a negative relationship between the demand for reserves and its opportunity cost. Flood and Marion (2001), however, did not find any relationship between reserves and opportunity cost. The sign of the propensity to import has also turned out to be ambiguous in the literature. Several studies have found an inverse relationship, (Heller, 1966; Kelly, 1970; Heller and Kahn, 1978; Landell-Mills, 1989) while some others found a positive

Table 7.18: Determinants of the Demand for Reserves

Variables	Description
Scalar variable	Imports, per capita income, GDP, population
Propensity to import	Marginal/average propensity to import
Variability measure	Exports, imports, terms of trade, receipts, payments, nominal effective exchange rate, balance of payments, reserves
Opportunity cost	Marginal product of capital (MPK) or in the absence of MPK, per capita output (as an inverse proxy for marginal product of capital), marginal utility of consumption, rate of interest on borrowing from abroad, net foreign indebtedness, the government bond yield, the spread between the government bond yield and short-term international interest rates, marginal productivity of social capital, one-year deposit rate.

7.106 Analytically and empirically, reserve holding appears to be an under-researched area. Clear standard methodologies have yet to evolve on this subject. However, relatively high demand for international reserves by countries in Far East and relatively low demand by some other countries has attracted attention. Aizenman and Marion (2002) recently showed that for 125 developing countries, reserve-holding over 1980-1996 period could be predicted by the size of international transactions, their volatility, the exchange rate arrangement and political considerations. Sovereign risk and fiscal liabilities led to relatively large precautionary demand for reserves.

7.107 Aizenman and Marion (2002) showed that there has been a structural break in the equation for the demand for reserves in several Asian countries that were affected by crisis in 1997. Using a standard estimating equation, they found that over the period 1960-96, their model over-predicted the reserve holdings of countries such as China, Taiwan, Hong Kong, South Korea and Singapore implying thereby that their reserves were low in relation to what was estimated as desirable in the model. Out of sample forecasts of desirable levels generated for 1997-99, however, under predicted the reserve holding (i.e., actual reserves holdings exceeded the predicted desirable level). Such a result has to be assessed in the context of the overall change in policy stance of the emerging market economies in the aftermath of the Asian crisis that viewed high reserves as an appropriate policy of "self-insurance".

7.108 In India, the determinants of reserve holdings appear to have changed considerably and evolved over the recent years with the gradual opening up of the capital account, the Asian crisis (with contagion emerging as a significant determinant), the imposition of sanctions following the nuclear explosion in Pokhran in May 1998 and the subsequent rating downgrade on foreign currency borrowings. These new factors, by their very qualitative nature, are difficult to quantify. Taking recourse to exceptional external borrowings in the form of RIBs (1998-99) and IMDs (2000-01) could be interpreted as the manifestation of the precautionary demand for reserves by the authorities; but for RIBs and IMDs, accretion to reserves during these two years would have been negative.

7.109 The substantial growth in reserves since 2001-02 has generated a debate regarding the cost of holding reserves. While the cost of reserves is secondary to properly meeting the overall objective behind holding reserves, it is important to note that in India, in the last few years, almost the whole addition

to reserves has been made without increasing the overall level of external debt, which has hovered around US \$ 100 billion during the previous five years. The increase in reserves largely reflects higher remittances, quicker repatriation of export proceeds and non-debt flows (RBI, 2003). Even after taking into account foreign currency denominated NRI flows (where interest rates are linked to LIBOR), the financial cost of additional reserve accretion in India in the recent period is low (RBI, 2002).

Monetary Impact of Foreign Exchange Reserves

7.110 While the reserve build up policies of the emerging market economies like India reflect the importance of appropriate reaction to the vastly altered conditions prevailing at both national and global levels, high reserve policies also entail several other implications, particularly for monetary management and in terms of the quasi-fiscal costs, both of which pose a different type of challenge to the policy makers.

7.111 Cross-country experiences of surges in capital inflows indicate that in the context of the limited capacity of the economy to absorb capital flows in the form of higher productive investment and the resultant implications for the exchange rate, monetary authorities often intervene in the foreign exchange market to absorb the surplus in the market and thereby avoid nominal appreciation of the exchange rate. A non-sterilised (or partially sterilised) intervention can, however, cause a sharp rise in the monetary base and hence higher inflation. Real appreciation resulting from higher inflation could erode external competitiveness; lower interest rates could also fuel lending and consumption boom, that can potentially lead to a sharp deterioration in the current account balance and culminate in a possible currency crisis. When the conflict between the policy objectives of checking nominal appreciation and limiting inflation emerges, central banks attempt to counter inflation through sterilised intervention, which by nature appears money supply neutral.

7.112 Among the instruments available for sterilisation, recourse to open market operations (OMOs) is particularly effective if inflows are temporary and there exists a near perfect elastic demand for domestic government securities. However, if the demand for government securities is not perfectly elastic in view of the limited absorptive capacity of market participants and the underdeveloped nature of the financial markets, OMOs can cause domestic interest rates to rise, nullifying the impact of sterilisation as higher interest rates could attract larger capital inflows. Sterilisation typically involves exchanging high-yielding

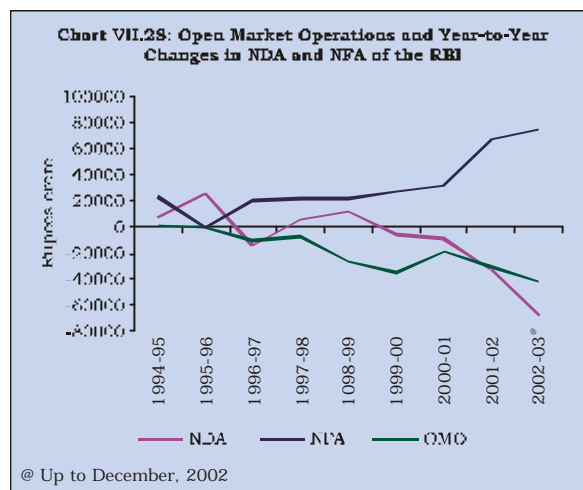
EXTERNAL SECTOR

domestic assets for low-yielding foreign assets and, therefore has quasi-fiscal costs. The degree of effectiveness of sterilised intervention would therefore depend on: (i) the sensitivity of domestic interest rates to OMOs and (ii) the degree to which foreign capital flows respond to such interest rate variations. The combined effect, which is captured through the estimated “offset coefficient”, indicates that the value of the coefficient may range between 0 and (-) 1, with values close to zero indicating “effectiveness of sterilisation” and values close to (-) 1 indicating “ineffective sterilisation”. Over the period April 1993 to March 1997, the offset coefficient for India turned out to be (-) 0.3, suggesting that sterilisation of the surges in capital flows experienced during the 1990s was effective (Pattanaik, 1997). Sterilisation induced increase in interest rates, however at times, may be more than offset by the change in the stance of monetary policy. When capital flows are persistent and sterilisation proves ineffective, cross-country studies show that countries often attempt a few options available to them. These include: fiscal adjustment, easing of restrictions on capital outflows, accelerated trade liberalisation, lower interest rates on foreign currency deposits, prepayment of costly debt, adoption of new sterilisation techniques such as foreign exchange swaps, switching of government deposits from the banking system to the central bank, imposition of taxes on domestic assets purchased by foreigners, fixing of ceilings on foreign borrowings by domestic residents, and recourse to indirect capital controls, such as variable unremunerated reserve requirements on certain categories of foreign borrowing. In the Indian case, capital flows have had a softening effect on interest rates and positive effect on broad money growth.

7.113 Capital inflows have served the twin purpose of meeting India's domestic investment-saving gap and the need for reserve accretion consistent with the standard indicators of reserve adequacy. The latter objective has become more prominent recently in tandem with the pattern seen in many Asian countries in the aftermath of the Asian crisis.

7.114 The surge in capital flows often poses a challenge to the conduct of monetary and exchange rate policy. As a result of large accretion to reserves resulting from surges in capital flows in the face of low domestic absorption, there has been a substantial increase in net foreign exchange assets (NFA) of the Reserve Bank. In the period since 1992-93, the NFAs have grown at a higher rate than net domestic assets (NDAs) (excepting 1995-96). In fact, NDAs held by the Reserve Bank had to be brought down by

sterilisation through OMOs (particularly since 1996-97) to check the expansion in the monetary base. The extent of sterilisation, however, varied from year-to-year, depending on the requirements to modulate liquidity conditions. With sustained surge in capital flows since 1999-2000, the NDAs of the Reserve Bank even recorded a decline in absolute terms on account of significant OMOs (net sales) (Chart VII.28).



7.115 There is hardly any formal analysis available for emerging market economies (including India) to evaluate the monetary impact of large capital flows econometrically. One way to assess the impact is to simulate the emerging monetary condition in counterfactual scenarios where reserve accretion is placed at lower levels. For this purpose, an interest rate reaction function has been estimated that relates domestic interest rate to its possible determinants like inflation, output and capital flows along with a conventional money demand equation in terms of income and interest rate (Box VII.7). Controlling for the impact on interest rates from the accretion to reserves, the counterfactual path generated through a simulation exercise under lower reserves accumulation points towards a perceptible monetary impact of reserves in the 1990s in terms of higher broad money demand (Charts VII.29 and VII.30).

7.116 In the period of surge in capital flows and significant accretion to foreign exchange reserves with the monetary authority, the literature points to the emergence of newer channels of monetary expansion, especially, if there is a disassociation between the growth of broad money and reserve money. In India, over the 1980s and 1990s, notwithstanding a fall in reserve money growth, broad money grew almost at the same level in the two decades, which may be

Box VII.7

Monetary Impact of Foreign Exchange Reserves - An Empirical Exercise

One way to assess the monetary impact of reserves is through the approach adopted for Mexico and India (Kamin and Wood, 1998; Rath, 2002). This approach involves two equations: (1) an interest rate reaction function and (2) a money demand function.

The money demand function is of the following form:

$$\log(RM_3) = \alpha - \beta i + \delta \log(Y) + e_M \quad (1)$$

where, RM_3 is real demand for money, i is domestic interest rate and Y is real income. A rise in real income would lead to higher demand for real money balances while increase in the relative return from holding non-monetary assets would lead to a decline in money holding. With a stable money demand function, the impact of forex reserves on money would emanate through the interest rate channel. Unlike the standard Taylor type reaction function where the interest rate responds to inflation-gap (for a given inflation target) and output-gap (for given potential output), the interest rate reaction function presented below is posited to respond positively to both inflation and output growth. In this framework, interest rates may be modulated in response to increase in capital flows (proxied by reserves).

$$i = v + \lambda p + \phi y - \theta R + e_i \quad \dots(2)$$

where, p is the rate of inflation, y is the growth in real output and R is the level of reserves.

In the model, the impact of reserves on money demand is indirect through its impact on interest rate (i) derived from (2) and then through interest rate on money demand given by (1), as:

$$dRM_3 / dR = (dRM_3 / di) * di / dR = (-\beta) (-\theta) > 0 \quad \dots(3)$$

Through simulation exercise, counterfactual paths of interest rates and money balances are charted that would have occurred under

lower reserve build up. Using the monthly data during September 1980 to September 2002, equations (1) and (2) are estimated. In the Indian context, since monthly data on real GDP is not available index of industrial production (IIP) has been used as the proxy variable. As regards the interest rate, the call rate is assumed to be a proxy for the short-term money market rate of interest. Inflation is measured by change in wholesale price index. Extreme fluctuations in the call rate and the seasonal effects on money demand have been captured through the inclusion of appropriate dummies (represented as D) in the equation. The estimated equations are:

$$\log RM_3 = 0.094 + 0.96 \log RM_{3(-1)} + 0.054 \log(IIP) - \\ (4.23) \quad (116.7) \quad (5.09) \\ 0.033 \text{ Call}_{(-1)} + 0.0062 S_{10, \dots} (4) \\ (-1.95) \quad (2.09)$$

$$\bar{R}^2 = 0.99 \quad DW = 1.98$$

$$\text{Call} = 0.041 + 0.242 P_{(-2)} + 0.081 \Delta \log(IIP)_{(-2)} + 0.072 \Delta \log(IIP)_{(-3)} \\ (5.48) \quad (1.45) \quad (3.34) \quad (2.94)$$

$$+ 0.055 \Delta \log(IIP)_{(-4)} + 0.52 \text{ Call}_{(-1)} + 0.15 \text{ Call}_{(-4)} \\ (2.46) \quad (16.1) \quad (4.64)$$

$$- 0.003 \log(R)_{(-1)} + 0.12D \dots (5) \\ (-2.68) \quad (18.1)$$

$$\bar{R}^2 = 0.79 \quad DW = 1.96$$

The signs of the coefficients of the variables in equations (4) and (5) are along expected lines. The impact of foreign exchange reserves on interest rate and money demand is then analysed through simulation of the two equations and comparing the forecast values with another simulation under the assumption that reserves are ten per cent lower than the baseline.

Chart VII.29: Impact of Foreign Exchange Reserves on Interest Rate

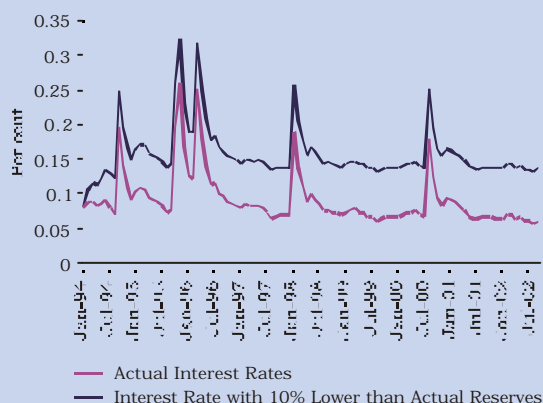
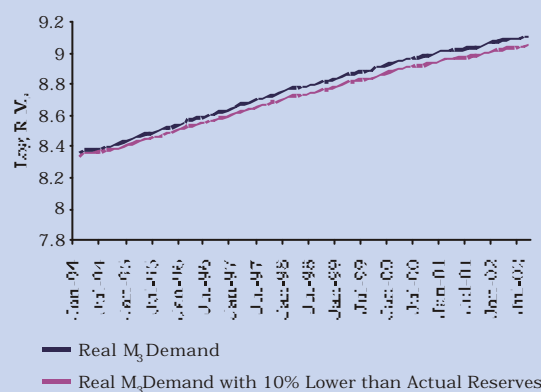


Chart VII.30: Impact of Foreign Exchange Reserves on Broad Money (M)



EXTERNAL SECTOR

symptomatic of such a disassociation. The stylised simulation model in Box VII.7 is an attempt at exploring the likely mechanism that characterises the underlying process of monetary expansion. The exercise suggests that had there been a lower reserve accumulation with the Reserve Bank, the interest rate would perhaps have been higher, thus, possibly signifying that the liquidity effect of reserve accumulation would have outweighed the sterilisation effect in the Indian context.

7.117 In the 1990s, composition of reserve money expansion has shifted from domestic assets to foreign assets reflective of the surge in capital flows, accumulation of reserves and sterilisation operations of the Reserve Bank. Sterilisation operations have so far been successful in arresting reserve money growth to levels where the inflationary potential of capital flows has been kept in control. However, future concerns on monetary management may arise, among others, from the following factors:

- need to ensure sufficient stock of Government securities at the hands of the Reserve Bank for sterilisation operations of the required magnitude;
- the absorption capacity of the financial system for Government securities once the credit demand picks up; and
- the upward drift in money multiplier arising partly from fall in currency-deposit ratio and CRR has sustained higher growth of broad money in the face of declining reserve money growth. With financial liberalisation and market-determined interest rates, there is evidence that innovations to money multiplier emanate from interest rates and other macroeconomic variables (such as growth) apart from the conventional proximate determinants (Jha and Rath, 2001). To the extent that these newer determinants of money multiplier are not entirely under the control of the monetary authority, it poses a challenge for the Reserve Bank to manage the emerging monetary conditions.

Capital Inflows, Foreign Exchange Reserves and Growth

7.118 The coexistence of slowdown in the growth rate of the Indian economy in the recent period and the sharp build-up of foreign exchange reserves, has fuelled the debate on their possible inter-relationship and has called into question, in some quarters, the extant policy of reserve accretion. A recent study (See Box VII.8 for details) for example, has contended that India could have attained a higher growth trajectory

had capital inflows been allowed to be absorbed by the economy (instead of accumulating them as foreign exchange reserves of the central bank) and had fiscal deficits not been incurred. According to the study, the entire foreign capital can be absorbed by allowing the real exchange rate to appreciate. The real appreciation could be engendered either by allowing the nominal exchange rate to appreciate or by allowing prices to increase (*i.e.*, non-sterilised reserve build-up which will increase the money supply and thereby give rise to both higher inflation and lower interest rates – both of which can increase absorption). An econometric exercise shows that the growth rate could have been higher by about 1 to 6 per cent in different years in the 1990s. The study makes the following policy recommendations: (i) the reserve management policy should be replaced by appropriate monetary and exchange rate policies that could boost growth; (ii) have a tighter fiscal policy (to contain the crowding out effect) and an easier monetary policy (by non-sterilisation of reserves – that could increase prices and lower interest rates); (iii) high reserves and low domestic inflation provide the right environment against which the Rupee can be made fully convertible on the capital account; and (iv) replace on the managed exchange rate regime by full float.

7.119 The above results and policy prescriptions, however, need to be viewed with a great deal of circumspection. First, it needs to be recognised that high reserves reflect the lack of absorption/demand, and prescribing real appreciation as a means to raise domestic absorption completely disregards the importance of the trade-off between growth and stability and the role of a central bank in ensuring stability as a means to higher growth.

7.120 Second, the experience of the emerging market crises in the last decade shows that with low reserves and appreciated real exchange rate, India would have also faced a similar (or even more severe) crisis. On an average, the crisis years witnessed a sizeable growth reversal of the order of 6 to 7 per cent in all the crisis affected countries which could have offset the perceived ‘first round’ gains to the growth rate.

7.121 Third, it also needs to be recognised that even if REER appreciation is allowed to ensure full absorption of foreign capital, it is important to examine whether the full absorption (*i.e.* higher current account deficit) would result from an increase in imports or a major fall in exports. Given the asymmetric response of exports and imports to price changes brought about by REER appreciation, it is possible that a higher CAD



Box VII.8

Is Foreign Exchange Reserves Build-up Inimical to Growth?

A study by Lal, Bery and Pant (2003) has contended that the growth rate in the Indian economy would have been much higher had capital inflows been absorbed by the economy instead of being accumulated as foreign exchange reserves. The Study bases its conclusion on the relationship between the real exchange rate, capital inflows, excess demand and the growth rate. The Study estimates the real exchange rate (*er*) as the ratio of the prices of traded goods to non-traded goods, as obtained from the WPI series. Net capital flows (*B*) are taken to include transfers (mainly workers' remittances). The 'excess demand' variable (*ED*) (reflecting the fiscal and monetary impact) is constructed from the national income accounting identities, as the difference between the trade deficit and capital inflows, inclusive of remittances. The relationship between the three variables is estimated thus:

$$er_t = 87.6 B_t + 3.05 ED_t$$

(1.62) (2.25)

$$R^2 = 0.26, \text{ adj. } R^2 = 0.18, F = 3.119, N = 20$$

The growth estimates consistent with full absorption of capital flows have been derived essentially by estimating the degree to which 'er' would have been misaligned with full market absorption of capital flows. The higher (S-I) gap resulting from full absorption can increase the capital stock, which would yield higher growth through a production function having two factors of production (*i.e.* labour and capital).

A few technical anomalies are apparent in the above formulation.

First, R^2 is too low and the DW is not stated. Reworking on their data shows the presence of serious autocorrelation with a DW of 1.18. Furthermore, the Cusum Square criterion shows that the equation is highly unstable. Consequently, any estimation/inference based on the above exercise would be highly tentative. In a separate exercise, a correction for autocorrelation using the Cochrane-Orcutt method brought about a reversal of the signs of both the excess demand (*ED*) and the capital inflow (*B*) coefficients.

Second, it is not clear how the 'er' series generated in the study can explain the impact of full absorption of foreign capital. Since the 'er' series is the relative price of tradeables and non-tradeables taken separately from the disaggregated WPI data for India, it may only explain the relative profitability of tradeable and non-tradeable sectors within the economy. The prices prevailing in the external markets (*i.e.* export markets and the markets from where the import originates) are, however, of significance to exporters and importers. The real appreciation cannot increase absorption, because 'er' cannot explain how the relative prices of domestic tradeables will change *vis-à-vis* international prices as a result of domestic nominal appreciation. In the absence of information on the latter, it is difficult to assess how the CAD would widen as a result of real appreciation. The most striking aspect of the 'er' series is that it shows very modest misalignment over the entire period 1981-2000. The series is not only smoother than the series published by the Reserve Bank but it also lies above the RBI series throughout the twenty year period covered in the study. It almost suggests that the prices of tradeables and non-tradeables moved in tandem, irrespective of the behaviour of the nominal exchange rate (which depreciated during this period) and inflation differentials (which remained positive throughout). The Study mentions that domestic prices of tradeables in rupees are the same as foreign prices of tradeables converted at the nominal exchange rate. This theoretical identity has not been verified empirically and since the Study uses only the tradeable prices

from WPI, it does not explain how the effects of any change in nominal exchange rate can get transmitted to tradeable prices. In the absence of a transmission channel, even if nominal exchange rate appreciates due to full absorption of capital flows in the market, REER may not appreciate.

Third, the 'er' equation – that is used to determine the misaligned rate under full absorption – has net capital flows plus remittances (*i.e.* *B*) and excess demand (*i.e.* *ED*) on the right hand side. Since *ED* has been derived as [*ED*=(*M-X*) –*B*], if both *B* and *ED* are taken in the same equation, there could be the problem of multicollinearity. Furthermore, the coefficient of *B* in the equation is statistically insignificant (*i.e.* not different from zero). The authors, however, use the *B* coefficient to estimate the misaligned 'er'. Also, as already mentioned, a part of *B* gets absorbed in financing the deficit in the goods and services account and therefore, something less than *B* could be taken to estimate the 'er' consistent with full absorption. Most importantly, it is not clear why the estimated 'er' from a regression of 'er' on *B* can be viewed as the proxy for the 'er' that would have prevailed under condition of full absorption. Given that a large part of *B* was already used for reserve build-up, that would have prevented major change in 'er' (both by preventing nominal appreciation and by sterilising the monetary impact of reserves). The empirical relationship between the two, therefore, should be negligible, which is also obtained in the regression equation as evidenced by the statistical insignificance of the *B* coefficient. In the absence of any argument explaining why the estimated 'er' would approximate the full absorption-'er', it is not evident whether the channel suggested for increasing the absorption of foreign capital would help in raising growth. The estimated 'er' series that fully captures the impact of full absorption shows only very modest appreciation over the period 1981 – 2001 (a cumulative real appreciation of only 8 per cent over a 20 year period). With full absorption, however, one would have expected a much larger real appreciation.

Fourth, in the production function equation, full absorption impact enters only through a change in the capital stock. In a sense, it does not use the estimated 'er'. It only mentions about the factor *A*, which depends on the elasticity of substitution in both demand and supply between tradeables and nontradeables. The manner in which *A* is derived in the production function is critical, since the value of *A* can greatly influence the projected growth rate for any given level of capital and labour. It appears that the estimated values of *A* have a strong upward bias, and in the absence of any convincing justification supporting the determination of the value *A*, the entire exercise appears to be the result of discretionary adjustments.

Fifth, the reason why the Study obtains a high growth rate from the full absorption of capital flows is that "net capital flows and remittances" have been taken as the proxy for extra capital that is available under their hypothetical situation for addition to capital stock. It should, however, be recognised that these inflows would have already been partly utilised for financing the deficit in the goods and services account. After the partial absorption, only the remaining amount under "net capital flows plus remittances" should have been viewed as the proxy for extra absorption. Since the surplus capital flows used as proxy for extra absorption has been overestimated by close to 40 per cent, the growth estimates also turn out to be higher. Moreover, even if one uses the correct figure on surplus capital flows, the production function used in

(Contd...)

EXTERNAL SECTOR

(Concl'd.)

the model may still yield a higher growth than what one would obtain through simple application of Incremental Capital-Output Ratio (ICOR). Since the authors do not mention anything about the productivity gains associated with capital flows and because that they only rely on increase in capital stock resulting from full absorption of foreign capital in the production function, it remains completely unclear as to why the growth could be higher than what the conventional ICOR would suggest.

Finally, even assuming that the entire capital flows would have been allowed to supplement domestic saving to ensure higher investment, then the annual investment could have increased (say) by about 2 percentage points (with capital flows of about 3 per cent of GDP in the 1990s, 1 per cent was already used to finance current account deficit). Given the incremental capital output ratio of close to 4, additional growth of about 0.5 per cent could have been achieved (not 1 to 6 per cent as has been estimated in the paper).

would be attained more by a fall in exports than an increase in imports. It needs no emphasis that the external sector sustainability hinges critically on the performance of the export sector, and in the face of zero incremental reserves resulting from full absorption, weak export growth could be a strong source of vulnerability to crisis. On the other hand, even if imports increase in response to exchange rate appreciation, it is possible that import demand may just replace domestic demand, and as a result aggregate demand may remain unaltered. In other words, when imports are not driven by overall demand conditions (as is the case now) but are encouraged through a policy of exchange rate appreciation, imports may only compete with domestic supply and in the face of no increase in aggregate demand, the higher absorption through cheaper imports could displace some of the domestic manufacturers and thereby lower growth. Thus, growth gained through full absorption could be offset by lower growth resulting from displacement of domestic producers.

7.122 Fourth, the contention that full absorption of capital flows would significantly reduce the extent of crowding out by allowing a larger part of the fiscal deficit to be monetised, ignores the possibility of 'crowding in' effects by certain types of government expenditure which at times may dominate the crowding-out effects.

7.123 Finally, it needs to be recognised that foreign capital should not be allowed either to give rise to excessive consumption or excessive investment just to ensure full absorption. When foreign capital finances consumption demand (as in Mexico) or sustains an investment driven overheating (as in South East Asia), higher growth can be obtained only at the cost of a severe financial crisis. High reserves, a flexible exchange rate regime, and cautious liberalisation of the capital account, together aim at preventing a crisis. Sterilisation is a strong instrument to regain monetary independence that allows a policy of reserve build-up without any adverse monetary implications. Sterilisation has been used successfully so far in India and limits to sterilisation are yet to be reached.

7.124 The need for raising domestic absorption is well recognised and the Tenth Plan document already envisages a current account deficit of 2.8 per cent of GDP to attain a growth target of about 8 per cent. In the context of the Tenth Plan requirements, current levels of reserves and capital flows appear to be inadequate. Even if large capital flows materialise in future to meet the financing gap of 2.8 per cent of GDP as envisaged in the Tenth Plan document, the flows need to be regulated so that the CAD does not expand beyond the sustainable level. Hence, even though expanding absorption of foreign capital is a major policy challenge in the short-run, the overall medium to long-run policy strategy demands that the CAD be necessarily maintained within the sustainable level. This has been the most important lesson from the balance of payments crisis in 1991. Rather than engendering real appreciation, other counter-cyclical policies can be applied to revive aggregate demand, which in turn can improve absorption of foreign capital.

7.125 Monetary policy has already been eased to attain the objective of business cycle stabilisation without sacrificing the overriding inflation objective. The degree of manoeuvrability in fiscal policy is not very high because of the extent of fiscal imbalances prevailing today in India. During the phase of global slowdown, exchange rate appreciation could weaken exports and thereby have implication for external sector sustainability. The 'Dutch disease' problem is at best a very distant reality for India. Real appreciation has been prevented both through reserves build-up and sterilisation (the former preventing nominal appreciation and the latter preventing higher inflation). Excessive consumption/investment has been prevented by maintaining the CAD within sustainable levels. Thus, both the channels through which the 'Dutch disease' can spread, have been effectively regulated and their impact on the economy has been contained. With stronger recovery in demand, the surplus condition created by strong growth in remittances and software exports as well as capital flows would be absorbed automatically, reducing the scope for any Dutch disease effect and the need for any larger than desirable level of reserve build-up.

V. CONCLUDING OBSERVATIONS

7.126 The external sector reform programme initiated in the wake of the balance of payments crisis of 1991 was all encompassing. Even though the reforms were largely crisis led, the policy initiatives were unique in terms of their gradual, cautious and country specific approach. As against balance of payments problems of varying intensities experienced during 1956 – 1991, India's balance of payments position strengthened over the 1990s even as the period coincided with the liberalisation of external account, external currency crises and domestic political uncertainties.

7.127 Prudent exchange rate management, low current account deficit, steady flow of non-debt creating capital flows, particularly in the form of FDI, a significant reduction in the external debt to GDP ratio and containment of short-term debt to manageable and prudent limits have been some of the positive outcomes of policy reform in the external sector. Resilience of the external sector has helped India successfully avert the contagion effects of the East Asian crisis.

7.128 There are, however, a few areas, which require further efforts. India's competitiveness in exports would require to be strengthened to achieve a sustained export growth of at least 12 per cent per annum in order to achieve the medium-term goal of increasing India's share in world exports to 1 per cent by 2006-07. India also needs to make the transition from exports of labour-intensive low technology goods to

a wider variety of goods, including technology intensive goods. India's tariff levels continue to be high; accelerated pace of reduction of tariffs and removing the constraints on the small-scale industries would be conducive to industrial growth and exports. Rapid growth in exports would also require addressing the domestic constraints of supply bottlenecks and inadequate infrastructure.

7.129 A sustained surge in capital flows in the recent past has implications for monetary and inflation management although, the Reserve Bank has so far been able to sterilise the monetary impact of foreign exchange reserves through large open market sales of government securities. The financial cost of additional reserve accretion in the recent period is low.

7.130 There has been a debate that high accretion to forex reserves has resulted in a substantial output loss in the 1990s. It needs to be recognised, however, that the steady growth path is functionally related more to macroeconomic constraints of saving and investment than to the reserve management policy *per se*. The reserve management policy, coupled with the exchange rate management and monetary policy pursued by the Reserve Bank has created an atmosphere of softer interest rate regime, which is conducive to higher economic growth. In addition, the recent policy initiatives have created an investment atmosphere where foreign investment supplements domestic investment, which in a medium-term perspective would ensure a higher growth trajectory.

VIII

ASSESSMENT OF REFORMS

8.1 India's economic reforms were set off by fiscal and external sector compulsions reflected in the crisis of 1991. Though crisis driven, the reforms have been sustained for over a decade. The major thrust driving the reform process was the quest for higher growth and efficiency along with macroeconomic stability. This was sought to be attained through the process of wide consultation to achieve broad social consensus. The approach to reform was therefore gradual but steady. Macroeconomic stabilisation was sought to be achieved by correcting the fiscal, external and monetary imbalances that had become unsustainable by the end of the 1980s. These policy changes were accompanied by structural reforms to impart competitive strength to the real economy. Structural reforms took the form of industrial deregulation, liberalisation of foreign direct investment, trade liberalisation, public enterprise reform and financial sector reform. Structural reforms aimed at reorientation of the economy from a centrally directed command and control economy to a market oriented one to foster greater efficiency and growth. This was done by introducing greater competition in the economy through progressive internal deregulation accompanied by external competition promoted by foreign direct investment and trade liberalisation.

8.2 The reform process has helped accelerate the healthy economic growth of the 1980s in a more sustainable manner, bolstered by greater competitiveness and efficiency gains. Real gross domestic product (GDP) grew at 6.1 per cent during the reform period (1992-93 to 2002-03) higher than that of 5.6 per cent in the pre-reform decade (1981-82 to 1990-91). Per capita income grew at 3.9 per cent in the reform period as against 3.2 per cent in the pre-reform period resulting in a healthy reduction in the poverty ratio. On assessment, India's reform programme has had a definite positive and significant impact on the economy as compared with the past.

8.3 The reform process, however, needs to be strengthened. Convergence calculations suggest that India will take decades to catch up with the middle income emerging market economies that were at the same level of economic development as India was at the time of Independence. To step up growth to 8 per cent and beyond in line with the Tenth Five-Year Plan

(2002-07) targets, reforms would have to be further intensified in the agricultural sector, in factor markets to promote flexibility, in bankruptcy and exit procedures, in fiscal consolidation and in physical and social infrastructure sectors to accelerate investment. These are the areas of concern where the pace of reforms needs to be accelerated.

8.4 This Chapter seeks to provide a summary assessment of the reforms undertaken in the respective sectors of the economy. The prospects for future policy reforms at a sectoral level are also identified.

The Real Economy

8.5 The reforms encompassed all the diverse segments of economic activity, though their coverage and depth varied across the different sectors of the economy. The key issue that has arisen in recent years is the deceleration in growth in general, and in industry and agriculture in particular. It is, thus, imperative that the next phase of reforms should lay emphasis on the regeneration of growth in both agriculture and industry. Higher growth in agriculture will come from policy reforms promoting diversification and investment. Industrial deregulation has been substantial but more remains to be done to allow faster restructuring and encourage investment. There have been some reforms in the services sector also, particularly in infrastructure and the financial sectors. Competition policy and regulation, however, need to be strengthened for these sectors. On balance, more needs to be done in terms of speeding up the reform process and eliminating constraints.

Agriculture

8.6 The development of agriculture is a critical prerequisite for sustaining a high growth process, apart from raising living standards and eradicating poverty of a large proportion of the populace that is directly dependent on agriculture. Reforms in agriculture so far have been largely confined to pricing aspects. Though the terms of trade have moved in favour of agriculture, the existing institutional structure still constrains the growth in this sector.

8.7 Agricultural growth decelerated during the 1990s. Per capita foodgrain availability has remained

below the historic peak attained in 1991. Agricultural performance witnessed a dip in the 1990s partly on account of subdued public investment in agriculture and inadequate diversification. The decline in public investment was only partially compensated by the rise in private investment. Real private investment in agriculture did rise significantly, but in the face of declining real public investment in agriculture, overall real capital formation in this sector has been low in recent years. This underscores the need to recognise complementarity between public and private investment.

8.8 Near plateauing of yields in the 1990s indicates that any further improvements in yields are difficult to accrue unless accompanied by new technological breakthroughs and establishment of a proper mechanism for extension. There is a need to promote a more broad-based and participatory system of extension services. The recent scheme of agri-clinics is a welcome step in this direction and will pave the way for greater private sector participation in agricultural extension.

8.9 The issue of mounting agricultural subsidies is a contentious one. It impacts not only the agricultural sector but is also important in the context of fiscal consolidation. Explicit and implicit subsidies for this sector remain large and ill-targeted. The food and fertiliser subsidies are explicit subsidies. In addition, there are three main types of implicit subsidies in the form of subsidies to power, water through public irrigation projects and credit under priority sector lending norms. The excessive and unbalanced use of subsidised inputs can have adverse impact on the performance of agriculture. Appropriate pricing and user charges of such inputs would release resources for improved public investment in new infrastructure projects and for the maintenance of the existing facilities. It is, therefore, important to reduce most of the agricultural subsidies and ensure better targeting of those that are essential for social welfare. However, the subsidy issue is made more complex in the light of falling international agricultural prices. If these prices return to the mid-1990s levels, the need for subsidies will be correspondingly lower.

8.10 A contributing factor to below-potential performance of agriculture is the failure to sufficiently diversify the cropping pattern. The minimum support price (MSP) policy has distorted the relative prices between rice and wheat, on the one hand, and other food and non-food crops, on the other, giving rise to a distorted cropping pattern. It has contributed to a steep rise in the ratio of procurement to production over the years. The higher increase in MSPs of rice

and wheat relative to prices of other agricultural commodities has contributed to an incentive structure that favours production of rice and wheat at the cost of other crops. The policy has contributed to a burgeoning stock - far in excess of food security requirements, adding to carrying costs and locked-in bank credit, which could have been otherwise deployed for funding productive activities. In view of the associated costs, there is a need for re-examining the price support mechanism to eliminate the distortion of agricultural product composition. In line with diversification of the consumption basket of a representative Indian household, there has been some acceleration in the growth of high value-added agricultural products such as milk, fruits and vegetables, poultry, meat and fisheries during the 1990s. It is essential that this trend be reinforced in the coming years from the viewpoint of enhancing producer incomes and nutrition of consumers. Higher agricultural growth will come from crop diversification to non-traditional activities that are in line with the changing agricultural demand pattern.

8.11 Though withdrawal of restrictions on the movement of commodities has been a major component of the reforms in agriculture, some legislative and regulatory constraints have prevented the agricultural sector from exploiting its true potential. Reforms have, however, been substantial in the case of selective credit controls, with only sugar currently being subjected to such controls. Limited de-reservation of items produced in the small-scale sector related to agriculture has been initiated. Some progress has been achieved in setting up of the commodity exchanges for trading in futures and options in agricultural commodities. Further efforts are necessary that would remove distortions (price and non-price interventions) in the output and input markets and facilitate, *inter alia*, price discovery and risk management.

8.12 Several changes have been effected in external trade and exchange rate policies that have significantly improved the incentive structure for the farm sector. Such reforms include progressive liberalisation of quantitative export ceilings and price floors along with decanalisation. As regards imports, policies were directed, *inter alia*, at lowering of tariffs on agricultural inputs and products and broadening of the open general licence (OGL) list. The pace of liberalisation has been relatively faster for dairy products and fruits and vegetables.

8.13 Several measures have been initiated in the 1990s to augment the flow of institutional credit to the rural sector and enhance the efficacy of the credit

distribution channel. The growth of direct institutional credit flow towards agriculture and allied activities, however, declined during the 1990s as compared with the 1980s. Coupled with a shift in the composition of credit away from medium/long-term loans, this could have affected capital formation in the private sector. These developments indicate that banks may have targeted relatively risk-free irrigated areas and individuals with high net worth for providing priority sector agricultural loans. In comparison, rain-fed and drought prone areas and relatively poorer households have had greater dependence on informal sources of finance. The deadweight of non-performing assets (NPAs) of agricultural advances has also affected the recycling of credit. The adherence to prudential norms of income recognition, asset classification and provisioning has made banks more conscious of risk. This could have also contributed, at the margin, to deceleration in flow of credit to agriculture.

8.14 There have been two significant innovations in the rural credit delivery mechanism in the 1990s namely, micro finance and the Kisan Credit Cards (KCCs). Micro finance has emerged as an alternative system for rural credit delivery to complement the formal credit institutions. The scheme of micro finance has made significant progress, by linking self-help groups (SHGs) with banks and the number of beneficiaries covered. The loan amount per beneficiary at Rs.1,360 is, however, not adequate to enable the poor to cross the threshold of poverty. Similarly, development of SHGs has been highly uneven across States. There is urgent need to upscale the programme evenly across the States along with an increase in the loan amount per beneficiary. The outreach of the KCC to cover all eligible farmers under the scheme has been hampered by the lack of updated land records, small landholdings and illiteracy of borrowers. Sensitisation of bank staff to these issues through training would be helpful.

8.15 The performance of Indian agriculture in the 1990s has often been attributed to the lack of reforms in the agricultural sector. Whereas this is not exactly true, more needs to be done for the agriculture sector, both in terms of sequencing and overall priority. For example, futures trading, particularly in foodgrains, should be promoted first so that dependence on MSP mechanism for price stabilisation could be avoided. Similarly, strengthening of public distribution needs to accompany the relaxation of the Essential Commodities Act, 1955 to ensure uninterrupted supplies of foodgrains to the poor at reasonable prices. As most of the vital reform measures in the agricultural sector, viz., removal of inter-State restrictions on movement,

storage of and trading in foodgrains, were initiated only recently, their impact is yet to be felt, particularly because of the fact that States have a major role to play in their implementation. The policy of linking allocation of resources from Centre to States with their performance in implementing agricultural reform measures is a step in the right direction.

Industry

8.16 The major objective of reforms in the industrial sector was to attain faster industrial growth aided by improved productivity and efficiency, so as to be competitive, domestically as well as globally. The instruments to achieve these objectives included removal of industrial licensing which abolished restrictions on investment and capacity expansion, de-reservation of industries reserved for the public sector, substantial opening of foreign direct investment and trade liberalisation through elimination of quantitative restrictions and reduction in custom tariffs. These measures resulted in significant removal of entry barriers and provided greater access to foreign technology and capital. Realistic exchange rates and industrial restructuring helped improve the competitiveness of the manufacturing units. The evolving post-reform industrial structure was anticipated to be both more labour and technology-intensive. Enhanced demand for skilled labour was expected to provide positive externalities for the rest of the industry and services sector.

8.17 In retrospect, Indian industry upgraded technology and product quality to a significant degree and met the challenge of openness after being protected for decades. This was reflected in high growth of the industrial sector in the initial phase of reform. This exuberance reflected in high growth in investment and production in industry during 1993-94 to 1996-97, particularly in manufacturing, however, could not be sustained. Although the growth process has been to some extent influenced by global business cycles, the persisting deceleration in Indian industrial growth is, in part, attributed to the slowdown in reform momentum and inadequacy of certain major structural reforms. Today, the industrial sector confronts challenges of a continued slowdown, stagnation in contribution to GDP, and a sluggish employment growth. When benchmarked against other fast growing emerging economies, the performance of the Indian industrial sector appears a bit lacklustre. In an increasingly global environment, the sector continues to face structural constraints, such as inadequate, relatively inefficient and high cost infrastructure, high cost of borrowed funds, inflexibilities in labour markets

and other institutional rigidities that inhibit the pace of industrial restructuring. Ultimately these factors impinge adversely on the cost structure of industry, thereby hampering its competitiveness.

8.18 The prolonged lull in the equity market resulted in financing of corporates through high cost leveraged funds. This has led to a debt overhang for the corporate sector. In addition, the decline in international prices of manufactured goods in recent years has had adverse implications on the corporate balance sheet, in terms of squeezed profit margins. The proportion of interest to total costs for Indian corporates is among the highest in emerging market economies. The possibility of changing terms of borrowing from fixed to floating interest rates could thus be beneficial for the corporates. The measures for corporate debt restructuring that have already been initiated need to be accelerated. The development of a liquid market for impaired assets now enthused by the new Act for securitisation and restructuring would facilitate their restructuring or write-off.

8.19 Furthermore, the manufacturing sector is facing internal and external competition due to withdrawal of quantitative restrictions on imports and the continuing reduction in peak tariff levels. In order to meet these challenges, there has to be industrial restructuring through mergers and acquisitions, amalgamation, takeovers and technical collaborations. This would achieve quicker investment reallocation geared towards activities with comparative advantage. The process of corporate restructuring has so far been confined to a few segments, such as basic goods, and has not permeated to other major segments.

8.20 The ongoing process of restructuring would be strengthened if the pace of institutional reforms is accelerated. This would entail institution of more rapid bankruptcy procedures, flexibility in labour use, and reforms in urban land ceiling and small-scale reservation policies. Putting into place an effective social security mechanism and a programme for re-training/re-deployment of labour is a necessary condition for removal of the rigidities in the labour market. Contextually, benchmarking domestic labour laws with other Asian and similar emerging economies may be advantageous in improving the operating environment for industry. The capital market would also have to be made pro-active to facilitate industrial restructuring. Judicial reform and creation of an economic regulatory structure would contribute to efficient restructuring and closure, concomitant with the development of a market for distressed assets. Legislative measures have been initiated to remove the regulatory/judicial hassles inhibiting restructuring

and to remove the rigidities in the labour market. The recent enactment providing for securitisation of assets and steps towards improvements in bankruptcy law may also facilitate industrial restructuring.

8.21 The continued reservation of small-scale industries (SSI) after the removal of quantitative restrictions on imports is a stark anomaly (Mohan, 2002). This policy prohibits large Indian firms from manufacturing reserved SSI items domestically, which in any case can be freely imported from large foreign producers. Most of the SSI areas have high export potential, if economies of large-scale production are properly reaped*. The process of SSI dereservation currently underway is, thus, a step in the right direction and needs to be accelerated to foster scale economies, enhance efficiency and promote competitiveness. Firms, which preferred to remain stunted in order to benefit from the policy of SSIs, are expected to upgrade in size and technology in the wake of dereservation. Dereservation would, however, have to be complemented by provision of finance and technical assistance, which requires banks to upgrade credit assessment capabilities to avoid the problem of adverse selection. This policy would also promote a symbiosis between large and small firms in terms of ancillarisation – as experienced in the East Asian countries.

8.22 Acceleration in industrial growth to double digit levels is essential for the achievement of 8 per cent GDP growth as targeted in the Tenth Five Year Plan. The removal of the remaining rigidities in the industrial sector would not only regenerate the required production growth but also promote much greater industrial employment.

Services and Infrastructure

8.23 As mentioned earlier, much of the growth momentum during the reform process came from services. The reform process in the services sector was integral to macroeconomic reforms, particularly to the structural reforms in the industrial sector. Apart from facilitating the supply response in the private sector, the reforms aimed at improving the efficiency in delivery of services by imparting market competition, thereby enhancing productivity of other sectors.

8.24 The improved growth performance witnessed across most sections of the services sector, bears testimony to the relative success of reforms in this

* The industrial clusters in SSI identified by United Nations Industrial Development Organisation (UNIDO) reveal that 72 clusters have high potential for exports, 47 have medium and only 19 have low export potential.

ASSESSMENT OF REFORMS

segment. Illustratively, the positive outcome of financial sector reforms was reflected in the expanding share of finance, insurance and business services in the value added from services sector. Another area that has witnessed marked improvement is that of telecommunication services. Regulatory reforms and increased competition through private sector participation have resulted in a sharp increase in tele-density, reducing the demand-supply gap and unit cost along with improvement in quality of services offered, leading to higher value added growth.

8.25 Despite the current robust growth of the services sector, there is concern regarding medium-term growth sustainability of this sector given its strong linkages with commodity producing sectors and the large share of public administration and defence (PAD). The share of PAD in services has not witnessed any significant decline. Since such services do not directly add to consumer welfare, there is a need for furthering fiscal reforms aimed at pruning unnecessary Government expenditure while promoting greater expenditure in the provision of necessary public goods.

8.26 The growing infrastructure constraint, which dampens the supply response of the economy, highlights the inadequacy of structural reforms in this sector of the economy primarily relating to regulatory issues, pricing/user charges, cross subsidy and public-private partnership. A worrisome feature has been the declining trend in potential growth in output for a number of basic physical infrastructure services such as cargo handling and freight loading. The rates of return from infrastructure services extended by the Government continues to be low constraining the ability to generate internal resources for investment. A carefully calibrated policy package with emphasis on contestability, enforceable contracts, development of markets for long-term debt instruments, proper pricing of infrastructure services, and above all, transparent and non-discriminatory rules needs to be designed as a part of the next phase of reforms.

8.27 The higher cost of operations of certain services such as power, railways and shipment has spilled over to the manufacturing sector in the form of high input costs. The industrial sector continues to suffer from unstable power supply and high unit costs. The distribution of power could be privatised to help reduce losses arising out of transmission and distribution. Privatisation would, however, be contingent on finding a solution to the issue of outstanding dues of State Electricity Boards (SEBs) and imposition of realistic economic tariffs. The signing of the tripartite agreement relating to the

one time settlement of SEBs' past dues is a step in the right direction.

8.28 The operating ratio of the Railways remains high due to the persistence of distortionary pricing of railway services, thus, constraining its ability to release resources for Plan outlay. The restructuring of the Railway services becomes crucial keeping in view the increasing competition from roadways that would get intensified after the completion of the Golden Quadrilateral network. Railways need to operate on commercial lines so that the resources can be generated on a self-sustaining basis ensuring passenger safety as well as technological upgradation. Policy focus, thus, needs to be accorded towards corporatisation of Railways, rationalisation of freight rates, modernisation of rail services and development of commercially viable projects with public-private joint ventures. In case of ports, although some progress has been made towards private sector participation with a view to improving the turn-around period of cargo, the slow pace continues to act as a constraint to trade efficiency.

8.29 The process of convergence in the area of telecommunications and Information Technology (IT) needs to be expedited to enable rapid growth and to provide more efficient and cheaper services to users. In the emerging area of information technology, the hardware segment is still not competitive; consequently, there has been poor penetration in terms of information technology applications, infrastructure and services beyond urban areas. This explains a relatively low share of revenue from the domestic market for the software firms. Therefore, the development of communications infrastructure across the country, along with institutional reforms relating to legal and regulatory issues for e-commerce transactions, needs attention. India has labour cost advantage in this sector which is likely to exist for the next 15 to 20 years. Some key issues, however, need to be addressed for the promotion and further growth of the IT sector. These issues are: potential scarcity of talent due to migration of highly skilled labour, high telecom rates and lack of ready infrastructure. Larger lead time in commissioning telecom services and lack of a formal platform to interact with potential players are some of the challenges which need to be addressed to maintain India's comparative advantage against its competitors like Ireland and China. Issues emerging from the General Agreement on Trade in Services (GATS), particularly on the business process outsourcing and temporary movement of professionals, need also to be carefully negotiated to sustain the export potential of this sector.

8.30 Another dimension of the infrastructure projects is the time and cost overruns in the implementation of public sector projects. Time bound clearances at different stages and effective inter-agency co-ordination would cut down time and cost escalation considerably. Furthermore, monitoring and evaluation systems must be strengthened and the implementing agencies must be made accountable for non-adherence to the plan of work.

Labour Market

8.31 A smooth and frictionless labour market accompanied by a safety net is a necessary condition for maximising growth and welfare. Reforms have been hesitant in this important segment of the factor market resulting in a limited role of market forces in determining the demand for labour. In India labour legislations are largely responsible for the rigidities in the labour market that have prevented the restructuring or closure of several non-viable sick industries and redeployment of factors of production to the growing sectors of the economy. Prohibition of retrenchment and closure of industrial units employing more than 100 workers (without Government permission) has led to discriminatory practices like: (i) existence of more capital intensive technologies not related to relative factor prices; (ii) setting up of multiple units negating economies of scale; and (iii) reliance on temporary labour preventing skill formation. Fresh investment, including foreign direct investment has been a casualty, particularly in labour intensive sectors. Ironically, such labour protection measures have contributed to the slow growth of industrial investment and employment.

8.32 Reforms are also vital in respect of contract labour. By preventing unbundling of production and its distribution and contracting out of services, the Contract Labour (Regulation and Abolition) Act, 1970 is not in synchronisation with the objective of inculcating flexibility in labour market to maximise efficiency and promote growth. That the necessity of amending these legislations has been recognised by the Government is reflected in policy announcements that have been made, particularly in the Union Budget speech of 2001-02.

8.33 In order to accelerate the process of industrial restructuring, several steps are warranted in respect of labour laws. Keeping with the global trend, the requirement of prior permission for closure of a unit may be waived and voluntary retirement schemes (VRS) can be made more attractive. Concomitantly, institutes for imparting technical skills to displaced workers can be established and a safety net can be set up by levying a cess on the corporate sector

supplemented by budgetary support, and the floor for retrenchment could be raised to units employing at least 1000 workers as proposed in the Union Budget, 2001-02. As recommended by the Prime Minister's Economic Advisory Council, the Contract Labour Act should be replaced by an Act, which recognises that outsourcing of services is a normal activity. Regarding public sector, the more challenging tasks would be setting up a fund that creates annuities to finance VRS, workers' retraining and public sector restructuring.

Fiscal Policy

8.34 The fiscal system prevalent in the beginning of the 1990s was characterised by a sustained high fiscal deficit and mounting debt accumulation giving rise to inflation, financial repression, and overall deterioration in the macroeconomic fundamentals of the economy. This eventually spilled over to the external sector reflected in an enlarged balance of payments deficit. As such, fiscal correction and consolidation constituted the crucial agenda of the macroeconomic reforms initiated in 1991. The primary objective of the fiscal reforms was to restore fiscal balance by reducing the size of deficit and debt in relation to GDP, while increasing the spending on investment and infrastructure to provide momentum to the growth process.

8.35 The fiscal reforms in India were initiated in three major interrelated areas: (i) the restoration of fiscal balance; (ii) restructuring of the public sector; and (iii) strengthening of fiscal-monetary coordination. The strategy for restoring fiscal balance comprised a mix of tax and non-tax reforms, expenditure management and institutional reforms while public sector restructuring mainly involved a preference for divestment of Government ownership. The process of fiscal-monetary coordination encompassed deregulation of the financial system, elimination of automatic monetisation, and reduction in pre-emption of institutional resources by the Government. At the sub-national level, initiatives at fiscal adjustment were pursued in the context of deterioration in Government finances, which exacerbated in the latter half of the 1990s. More recently, States' efforts were also complemented by reform-linked Central assistance along with adjustment programmes funded by multilateral agencies.

8.36 The fiscal performance during the reform period after the initial success has been characterised by a reversal since 1996-97. Both debt and deficit indicators are rising and are currently higher than the average for the 1980s. The combined Centre and State fiscal

deficit is among the highest for all countries in the world and much higher than that recommended by the Eleventh Finance Commission. The reversal in fiscal consolidation originated in mounting revenue deficits, which have grown in size during the reform period. The rise in revenue imbalances was contributed by a persistent fall in tax buoyancy manifested in a decelerating tax-GDP ratio and downward rigidity in current expenditures due to growth in committed expenses, such as interest payments, subsidies and wages and salaries. The slow progress of the restructuring of PSUs also added to the deterioration in Government finances. This has affected the quality of expenditure, since pre-emption of high-cost borrowed funds for Government's consumption expenditure tends to crowd out public investment in productive sectors.

8.37 These developments necessitate further strengthening of fiscal consolidation as a part of the next phase of reforms to address the inherent limitations in the fiscal system. Dissaving arising from the revenue deficit of the Government not only reduces the overall saving and investment capacity of the economy, but also results in a continuous fall in the share of capital expenditure, which impacts investment in the infrastructure sector thereby threatening the growth potential of the economy. The phased elimination of revenue deficit of the Government ought to receive focused attention. Domestic saving could be increased by turning around public sector dissaving to a positive rate of at least 2 per cent of GDP. This will help in making feasible the growth target of 8 per cent set in the Tenth Five Year Plan by enabling an investment rate of around 32 per cent (from the present level of around 24-25 per cent of GDP). The two-pronged strategy in this direction is to arrest the growth in consumption expenditure on the one hand and to step up the tax-GDP ratio on the other. Prioritisation of expenditure is necessary in the process of containment of expenditure. In particular, subsidies could be pruned further and Government administrative machinery could be streamlined and downsized. A reduction in fiscal deficit will also progressively reduce the debt service burden thereby releasing expenditures for public goods provision, at the same level of overall expenditure. Efforts to step up the tax-GDP ratio should be through rationalisation of the tax structure, widening of tax base by phased reduction in tax breaks/ exemptions and bringing more and more services within the tax net.

8.38 Deterioration of finances during the latter part of the 1990s was much sharper for the States than for the Central Government. Although the growth in

revenue of the States and the Central Government were comparable, a steeper rise in expenditure in the case of States resulted in their accounting for more than 50 per cent of the rise in fiscal deficit of the combined Government during 1996-97 to 2001-02. A major bane of State finances is the poor performance of State public sector undertakings, particularly the SEBs and State Road Transport Undertakings (SRTUs). An empirical exercise undertaken in this Report revealed that interest payments, sluggishness in Central transfers (arising from lower Central Government revenues), and low user charges leading to low returns on Government investments have been the prominent determinants of States' fiscal deficit. Restoration of revenue balance at the State level, therefore, would require raising user charges, overhauling tax collection machinery to achieve better tax compliance, raising returns on Government investment in PSUs through appropriate pricing policies, eliminating implicit subsidies and lowering burden on fisc through phasing out of unviable public sector units. The introduction of Value Added Tax (VAT) should eliminate the practice of competitive tax concessions, which has seriously dampened the tax buoyancy across States.

8.39 The issue of growing public debt is another area of serious concern and it has a close bearing on the sustainability of fiscal policy. An assessment of the public debt in terms of both the 'accounting approach' and the 'present value constraint approach' indicates that continuation of current fiscal stance could make public debt of both Central and State Governments unsustainable unless corrective measures are undertaken to rein in fiscal deterioration. The persistent rise in interest payments particularly in the 1990s, has been a key factor for widening of fiscal deficit and consequent steep rise in public debt. The proposal to swap States' outstanding liabilities to Central Government on account of small savings could make a major dent in the growth of interest payments. For the Central Government, aggressive restructuring and divestment in unviable public sector units could bring in sizeable resources to redeem a part of outstanding liabilities and consequent reduction in interest payments.

8.40 The policy initiatives undertaken for the development of the government securities market, phasing out of automatic monetisation and reduction in pre-emption of institutional resources have provided a level-playing field to the private investor. The widening fiscal gap, however, could hamper the maintenance of the soft interest rate regime, which is vital in the context of the revival of economic activity.

In such an eventuality, it would not only crowd out private investment, but would also make public debt highly unsustainable given the level of returns on Government investments. Adoption of rules based fiscal policies could facilitate the path for durable fiscal consolidation through mandatory fiscal discipline. Speedy implementation of the provisions of the proposed Fiscal Responsibility and Budget Management (FRBM) Bill is critical for achieving the goal of ensuring inter-generational equity in fiscal management and long-term macroeconomic stability. It should not only help in attaining sustainability, but should also enhance the level of accountability and transparency in fiscal operations of the Central Government. Similarly, efforts should also be initiated at the sub-national level towards rule based fiscal policies for long-term fiscal sustainability.

Monetary Policy

8.41 The conduct of monetary policy during the 1990s was geared to supporting the overall economic reforms with a view to creating a competitive environment as a means of improving productivity and efficiency and ensuring macroeconomic stability. While the twin objectives of monetary policy remained the pursuit of price stability and ensuring credit availability for growth, the operating procedure of monetary policy underwent significant changes in response to the challenges of financial liberalisation. This also entailed reforms in the monetary and fiscal interface in order to ease the fiscal constraint. This process was well supported by structural measures, through the dismantling of administered interest rates and the deregulation of credit markets. Given the changes in the monetary landscape, the process of adjustment has been reasonably smooth. The Reserve Bank was successful in achieving the objective of a phased scaling down of statutory pre-emptions. An important macroeconomic development was the sharp decline in the inflation rate during the second half of the 1990s attributable to better monetary management as well as generally favourable supply side factors. An empirical assessment of the monetary policy transmission mechanism suggests that the output and inflation variations, particularly in the second half of the 1990s largely emanated from non-monetary factors and the contribution of the monetary policy shocks has further declined during the 1990s as compared with the 1980s.

8.42 Monetary management increasingly assumed a market orientation. Switch over to indirect instruments of monetary control was consistent with the objective of rekindling the process of price

discovery in the financial markets for the purpose of efficient resource allocation. Besides, the opening up of the economy required the Reserve Bank to counterbalance the domestic and the external sources of monetisation in order to maintain stable monetary conditions. The Reserve Bank gradually put in place a liquidity management framework in which monetary conditions are harnessed to the final objectives through a range of instruments, such as open market (including repo) operations and changes in reserve requirements, reinforced by interest rate signals through the Bank Rate and the repo rates. In the process, the liquidity adjustment facility (LAF) has emerged as the principal operating instrument of monetary policy. Besides, the growing macroeconomic complexities required a shift from the earlier monetary targeting framework to a multiple indicator approach in which a host of macroeconomic variables are now monitored for the purpose of monetary policy formulation.

8.43 In addition, the Reserve Bank, like many other central banks in emerging market economies, has had to increasingly contend with maintaining financial stability. Besides, the Reserve Bank's role as manager of public debt also implies that the internal debt management function gets inextricably mixed with the monetary management function. In view of the limited number of instruments, the Reserve Bank has to prioritise its objectives given the circumstances. This constrains the degree of flexibility available to monetary policy in a complex macroeconomic environment.

8.44 Fiscal dominance continues to be the critical issue. Capital inflows coupled with weak credit demand enabled the Reserve Bank to trade surpluses of the banking system with the deficits on the Government account and thereby ease the fiscal constraint on monetary policy. In the process, net domestic assets of the Reserve Bank have been shrinking and this could impose limits on the scope for sterilisation in the future. At the same time, in view of the burgeoning fiscal deficit, the situation could change very quickly in case there is a pick-up in industrial activity or if capital flows dry up, especially as banks continue to hold a large portfolio of government securities well beyond the statutory prescriptions. It is in this context that the need is sometimes felt to separate the internal debt and monetary management functions. At the same time, even if the Reserve Bank does not directly subscribe to market borrowings, the fiscal impact on bank liquidity would still constrain monetary policy. There is thus a limit to which a central bank can ease the fiscal constraint through liquidity management

operations. The proposals advocated by the proposed FRBM legislation for reducing the role of the Reserve Bank in primary subscriptions and limiting the fiscal deficit, thus, assume particular significance.

8.45 The deregulation of interest rates and the evolution of inter-linked financial markets facilitated the gradual emergence of an interest rate channel of monetary policy transmission. There is increasing evidence that the Reserve Bank is now able to effectively influence movements in short-term interest rates in the money markets and by extension, prices in the government securities markets. The pass through to the credit markets is, however, still very weak. The deposit and lending rates of scheduled commercial banks continue to be relatively sticky, largely reflecting structural constraints in the form of a large order of NPAs and the continuation of Government administered interest rates in small saving instruments. This had led to downward rigidity in real interest rates blunting the effectiveness of monetary policy. It may be mentioned here that this rigidity in the small savings rate has been partially addressed as the Union Budget, 2002-03 announced that the interest rate on small savings would be linked to the average annual yield on government securities in the secondary market. Corresponding adjustments in these rates have been announced in the Union Budget, 2003-04. To promote flexibility in interest rates, issues such as asset quality of banks, adoption of floating deposit rates and strengthening of asset-liability and risk management by banks, and rigidities in the interest rates of competing assets need to be addressed.

8.46 Unlike in the past when bank balances with the Reserve Bank were largely governed by reserve requirements, the demand for bank reserves in the future, in the context of a declining cash reserve ratio (CRR), are likely to depend on banks' requirements in respect of settlement balances. Day-to-day monetary management would thus require a closer assessment of market liquidity. It is in this connection that the Reserve Bank has initiated a process of liquidity forecasting. While the gradual institution of a real time gross settlement (RTGS) system would control *domino* risks of default, this is also likely to exert pressure on liquidity management.

8.47 The monetary policy framework has been shifting course throughout the 1990s. The breakdown of a stable relationship between money, output and prices as a result of financial innovations coupled with high inflation rates led to the adoption of an inflation targeting framework in many economies. While the pursuit of price stability could be a sound proposition

in itself, there continue to be many constraints in the Indian economy, as in many other emerging market economies, which prevent the switch to an inflation-targeting framework. At the same time, it must be recognised that the current anti-inflationary stance was largely built in the backdrop of the high inflation of the 1980s. Since inflationary pressures have been subdued in the recent past, the coexistence of low inflation and low growth in the past two years poses a fresh challenge to the conduct of monetary policy.

Financial Sector

8.48 In line with the deregulation and liberalisation policies of the 1990s, financial sector reforms were undertaken in the early phase of reforms. The basic objectives of the reforms were to enhance stability and efficiency of the financial system. It was felt that directed allocation of resources during the pre-reform period, although in accordance with the Plan priorities, was not conducive to allocative efficiency, and the higher rate of growth of financial saving was not matched by a proportionate increase in the rate of growth. The recurrence of domestic banking crises in developed and developing economies alike during the 1980s, and the financial crises in a host of countries in the 1990s underscored the necessity of financial stability for sustained growth. It was recognised that a vibrant, resilient and competitive financial sector is vital for sustaining the reform process in the real sectors of the economy.

8.49 The most significant achievement of the financial sector reforms has been the marked improvement in the financial health of the commercial banking sector, in terms of asset quality, capital adequacy and profitability. Despite these improvements, the commercial banking sector continues to face several challenges. First, a major concern for the banking system has been the high cost and low productivity as reflected in relatively high spreads and cost of intermediation. An important challenge for the banking sector, therefore, remains in transforming itself to a more efficient, productive and competitive set up.

8.50 Second, although the capitalisation level of almost all banks operating in India is above the prescribed minimum levels, banks may face difficulties to maintain their capital levels in coming years. The capital requirement of banks is likely to increase with pick up in credit demand and the implementation of the New Capital Accord sometime in 2006, which has accorded greater emphasis on risk-sensitivity in credit allocation. Banks would need to consider these factors while estimating their capital requirements. Given depressed capital market conditions and banks' limited

ability to generate sufficient funds internally, maintaining the capital position in line with the prescribed norms would be a major challenge.

8.51 Third, commercial banks continue to face the problem of overhang of NPAs, attributable, *inter alia*, to systemic factors such as weak debt recovery mechanism, non-realisation of collateral and poor credit appraisal techniques. Policy measures have yielded mixed results. The recent enactment of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 has increased the momentum for the recovery of NPAs. However, banks need to intensify their efforts to recover their overdues and prevent generation of fresh NPAs.

8.52 Fourth, in a regulated regime, risks were essentially compartmentalised with various categories of market and credit risks being managed separately. Increasingly, risk is viewed as multi-dimensional. To enable banks to cope with risks, the Reserve Bank has been engaged in preparing banks for pro-active risk management. Banks would need to establish technical systems and management processes necessary not only to identify risks associated with their activities, but also to effectively measure, monitor and control them.

8.53 Fifth, it is important that financial institutions possess means and measures of corporate governance. The quality of corporate governance would become critical as competition intensifies, ownership is diversified and banks strive to retain their client base. Banks would be required to further improve their internal management systems in terms of housekeeping, audit practices, asset-liability management and systems management to attain international best practice levels.

8.54 Sixth, a sound and well-diversified banking system envisages development of a banking sector with a diverse array of well-capitalised and healthy banks. As the dynamics of reforms gathers momentum, the coming years are likely to witness consolidation in the banking sector. Such consolidation will be driven by market forces in an enabling environment, which brings together willing institutions. A related issue is that of ownership of banks. Public sector banks (PSBs) continue to dominate the Indian banking sector and progressively the ownership needs to be diversified to make them more amenable to market discipline and reduce the possibility of regulatory forbearance.

8.55 Finally, bank lending tends to be pro-cyclical, while the level of NPAs tends to behave in a counter-

cyclical fashion. Consequently, in a downturn, as the condition of borrowers deteriorates, they tend to be downgraded by banks with the consequence that extra provisioning has to be set aside, potentially exacerbating the capital shortage. Such behaviour on the part of banks tends to accentuate cyclical fluctuations. In these circumstances, dynamic or forward-looking provisioning by banks may be useful for circumventing such outcome.

8.56 With the phased withdrawal of Government from direct intervention in the financial sector and gradual divestment of Government ownership in major financial institutions, the importance of deposit insurance arrangements has increased in the context of attainment of financial stability. Introduction of risk-based deposit insurance premium, separation of deposit insurance arrangements for co-operative and commercial banks and introduction of co-insurance, among others, would help foster greater systemic stability as also provide a safety net for depositors.

8.57 In co-operative banks, the impact of reforms appears to be limited, if assessed in terms of stability and efficiency parameters. One of the reasons for this appears to be delay in the initiation of reforms and the slow paced reform in the sector. Duality of control has also posed concern over the sharing of responsibilities among the regulatory and supervisory authorities. The current duality of control over co-operative banks by the Reserve Bank and the respective State Governments is impeding effective supervision of such entities, which needs to be resolved.

8.58 In the changed operating environment, development finance institutions (DFIs), which have traditionally been among the main sources of long-term finance for the corporate sector in India, are finding it increasingly difficult to maintain their viability. In view of this, the future role of these DFIs needs to be addressed urgently as the alternative source of long-term funds has not developed. As some DFIs convert themselves into banks or NBFCs, an important source of long-term funds would dry up. Thus, there is a concern regarding the vacuum which would be created by the withdrawal of DFIs from the scene. Although banks have entered the domain of term-lending, there are limits on the extent to which commercial banks may be able to fill this vacuum. The shift from fixed to flexible interest rate regime, development of instruments for hedging interest rate risk, and effectiveness of timely resolution of NPA-related problems would influence the flow of funds from banks for meeting long-term financing requirements. Banks alone, however, may not be able

to compensate the decline in long-term funds by DFIs to the corporate sector. To fill the gap, the development of a private corporate debt market is of crucial importance. The development of a benchmark in the fixed securities market and development of secondary market for corporate debt would also stimulate banks' investment in corporate securities.

8.59 In the case of mutual funds, while reforms have been successful in creating a competitive environment, the growth of mutual funds slowed down sharply partly due to depressed market conditions and partly due to the problems faced by the Unit Trust of India. Reforms in the insurance sector, which are of recent origin, have also been successful in enhancing competition even as the impact of increased competition on the insurance penetration is yet to be felt.

8.60 Financial sector reforms have been successful in bringing significant improvements in various market segments by effecting regulatory and legal changes, building up of institutional infrastructure, constant fine-tuning in market microstructure and substantial upgradation of technological infrastructure. Efficient, stable and healthy financial markets constitute the bedrock for successful conduct of monetary policy; hence, improving the effectiveness of the transmission channel of monetary policy necessitated significant reforms in the money and government securities markets. Facilitating integration of domestic financial markets was the other major objective of financial market reforms.

8.61 Financial market reforms have helped in improving the price discovery in the primary market, while the secondary markets have attained greater depth and liquidity. The number of instruments and participants has also increased. The capital market has become a safer place for investors as various risks involved at various stages of trading and settlement have been either completely eliminated or reduced considerably. Liquidity in the stock market has improved considerably. The government securities market has witnessed a transformation from a captive bank-dominated market to an active debt market operating at market related/determined interest rates. Among the financial market segments, the linkages among the money, government securities and foreign exchange markets have been established and are growing. The presence of foreign institutional investors has strengthened the integration between the domestic and international capital markets.

8.62 The Reserve Bank's short-term liquidity management is centred around the LAF operations

through repo/reverse repo transactions. However, certain impediments need to be overcome for the smooth operation of LAF. These include the presence of non-bank players in the call market and skewed distribution of liquidity among market players. Further development of the term money market would help in removing the segmentation in the yield curve. This is crucial for effectiveness of monetary policy transmission. Placing limits on banks' exposure to call money market, making call money market a purely inter-bank market, encouraging development of the collateralised repo market, adherence to prudential asset-liability and risk management guidelines, and on-line connectivity between major bank branches are expected to preserve the integrity of financial markets and facilitate emergence of term money/repo markets in the near future. Significant achievements have been made through the operationalisation of the Clearing Corporation of India Ltd. (CCIL) and the Negotiated Dealing System (NDS). The wider accessibility of NDS to facilitate the development of a repo market in a risk free environment for settlement would need to be expedited.

8.63 Future developments in the Government securities market hinge on legislative changes consistent with modern technology and market practices. Other measures include the introduction of an RTGS system, integration of the payment and settlement systems for government securities, standardisation of practices with regard to manner of quotes, conclusion of deals and code of best practices for repo transactions and retailing of government securities. The recently proposed introduction of trading in government securities through a nation-wide, anonymous, order-driven, screen-based trading system of the stock exchanges, in the same manner in which trading takes place in equities, would further enhance the operational and informational efficiency of the market as well as its transparency, depth and liquidity, thereby providing for a country-wide retail investor base.

8.64 Derivatives can play an important role in risk mitigation. There has been a substantial increase in Interest Rate Swaps (IRS)/Forward Rate Agreements (FRA) transactions in 2002. With the increased popularity of the derivatives, a range of possibilities for efficient pricing, hedging and managing of interest rate risks will open up. These would raise new issues like counterparty risks and liquidity risks. For optimising the capital charges, the clearing and settlement of contracts could increasingly be through a centralised counterparty. It may, however, be noted that derivatives market is in an evolving stage in India. A cautious,

gradual and sequenced approach to introduction of derivatives instruments to avoid pitfalls is in order. Like derivatives, introduction of floating rate bonds can promote effective management of balance sheet risks when interest rate outlook is uncertain.

8.65 Depth and liquidity in the spot as well as forward segments in the foreign exchange markets need to be enhanced further. A way to address these concerns lies in the further development of the money market as well as in assumption of the role of 'market makers' by large public sector banks who handle the major portion of the export-import transactions. The pre-conditions for the pick-up of activity in forex derivatives include sequentially, the development of (i) a deep and liquid inter-bank term money market, (ii) a liquid forward dollar-rupee market, and (iii) rupee-based derivatives. Expedient development of these market segments would remove the irritants in the healthy development of the foreign exchange market. In the light of the experience of the East Asian crisis, the movement would need to be 'gradual' as the 'big-bang' approach could have adverse repercussions for the exchange rate regime, foreign exchange reserves, BoP situation and the overall growth prospects of the economy.

8.66 Although the capital market has made significant strides in information acquisition, processing and dissemination, there is little evidence that it is now processing the information more efficiently than before reforms. Both, the primary market for private debt (with preponderance of privately placed debt issues) and the secondary market are lagging behind the equity markets in terms of transparency, thus adversely affecting the process of price discovery. Preponderance of the private placement market can potentially strip the market of its ability to discipline issuers and thereby enhance systemic risk. Not all privately placed issues are listed. As a result, investors cannot signal their changing evaluation of the business prospects of the issuers. Some recent regulatory initiatives have been taken to contain risks. In addition, norms for corporate disclosure would also require to be strengthened that would enable investors to take informed decisions as well as to promote transparency. Measures to revive the public issues segment of the primary market could also be contemplated.

External Sector

8.67 External sector reforms were initially conditioned by the need to correct the deficiencies that led to the payments imbalance of 1991. Inappropriate exchange rate regime, unsustainable current account deficit and a rise in short-term debt

in relation to the official reserves were the key factors contributing to the crisis. The swift transition to a market determined exchange rate regime was felt necessary to create an important pre-condition to deal with the uncertain responses to reforms introduced in other spheres of the external sector. These reforms include: dismantling of trade restrictions alongwith tariff rationalisation, moving in the direction of current account convertibility, liberal inflows of private capital, removal of restrictions on all inflow-related outflows and gradual liberalisation of restrictions on outflows involving residents. Simultaneously, priority was accorded to make available better quality products at globally competitive prices, and provide greater freedom of choice to residents to undertake current transactions on a global scale.

8.68 The strength and resilience of the external sector has been the hallmark of India's macroeconomic environment during the last decade. Amidst a series of crises in several emerging markets, India successfully avoided any crisis while consistently pursuing a process of opening up to benefit from larger access to global markets, private capital, foreign technology and global competition. At every stage of major policy reforms - from the switchover to a market determined exchange rate regime in March 1993 to the recent phasing out of quantitative restrictions on imports - there were apprehensions in certain quarters that the economy may become more vulnerable to crises as a result of reforms. However, in the pursuit of a prudent capital account liberalisation, the timing, pacing and sequencing of reforms seemed to have been influenced by both the capability of the economy to withstand shocks in terms of its ability to meet initial pre-conditions, and the need for avoiding policy reversals. On account of this gradualist approach to the reform process, the external sector acquired strength and greater stability. This is exemplified by modest deficit/surplus in the current account, strong capital flows in relation to the financing-gap and absorptive capacity of the economy, orderly exchange rate, comfortable foreign exchange reserves and sustainable external debt.

8.69 The success of India's exchange rate policy in managing volatility without a fixed exchange rate target has been reflected in maintaining the exchange rate of the Rupee at a realistic level during the reform period. Recent international research on viable exchange rate strategies in emerging markets has lent considerable support to the exchange rate policy followed by India.

8.70 The policy of emphasising non-debt creating flows and de-emphasising debt creating flows and

short-term debt has been reflected in the consolidation of external debt. The accretion to higher level of foreign exchange reserves brought about primarily by non-debt creating capital flows has ensured sustainability of the external debt. These achievements not only led India to be classified as a "less indebted country" by the World Bank but also enhanced the credibility of the Indian economy in international fora.

8.71 In terms of reserve adequacy indicators, India is among the leading reserve holding countries in the world, which has encouraged the authorities to utilise reserves to prepay high cost debt. The high level of foreign exchange reserves has not only provided strength to the Indian economy by fostering stability to the exchange rate, sustainability to the external debt and credibility to the capital account liberalisation process, but also provided enormous support against unforeseen external shocks.

8.72 The reserve management policy coupled with the exchange rate management and monetary policy pursued by the Reserve Bank has created an atmosphere of a soft interest rate regime which is conducive to higher economic growth. In addition, the recent policy initiatives undertaken by the Reserve Bank and the Central Government have created an investment atmosphere where foreign investment supplements domestic investment, which in a medium term perspective, would ensure a growth trajectory consistent with the Tenth Five Year Plan.

8.73 Notwithstanding the favourable developments in the external sector, there are several short-run and medium-run policy challenges. In the short-run, the major challenge comes from the surge in capital inflows and there is a need for fully channelling these flows into the productive activities. Assuming that the short run absorptive capacity of the economy is sticky but can be augmented in the medium-term, there are at least four policy options to deal with excess market supply. The first option is to allow the Rupee to appreciate, which by increasing imports and reducing exports would allow capital inflows to be utilised. This, however, raises the issue of sustainability of balance of payments, particularly, in view of the synchronised current global economic slowdown that has implications for the export prospects of developing countries. Under these circumstances of the BoP turning unsustainable due to weak export performance, a change in market expectations could induce reversal of capital flows and can trigger a crisis. The second alternative is to tighten regulation of capital inflows, which needs to be avoided keeping in view the medium-term larger financing requirements for growth as envisaged in the Tenth Five Year Plan. The third

alternative is to hasten the pace of liberalisation of restrictions on capital outflows, which would be justifiable only when all the preconditions to liberalisation are met. The fourth option is to absorb capital inflows in the form of higher foreign exchange reserves.

8.74 In the medium-run, the policy challenges primarily arise from the need to meet both the Tenth Plan growth targets and the export targets envisaged by the Government. Accordingly, the current account deficit (CAD) is targeted at a higher average of about 2.8 per cent of GDP consistent with the Tenth Plan growth target. Such widening of the current account deficit will only be achieved if there is a much higher import growth than experienced in recent years. Such change will take place only if there is a resurgence of both public and private sector investment. A 12 per cent compound annual growth in exports is also envisaged in the Medium Term Export Strategy (2002-03 to 2006-07) and this would have to be achieved and sustained if India were to raise its share in world exports from 0.7 per cent at present to 1 per cent over the next five years. This is perceived as a necessary condition for the sustainability of balance of payments; else, there could be a significant depletion of reserves, which may have adverse consequences unless the exchange rate depreciates substantially. The important challenge, thus, would be to boost export growth, along with higher import, attract larger capital inflows to finance the planned level of CAD and maintain comfortable reserves consistent with the requirements of a growing and increasingly integrated economy. As regards the exchange rate policy, the preferred option would be to continue with the present policy approach of managing volatility with no fixed rate target, which has stood the test of time.

8.75 Despite the success of the policy efforts pursued in the external sector, there remain a few areas of challenge requiring sustained efforts. India's tariff rates continue to be high relative to South East Asian levels. The Government has, however, already indicated a move in tariffs comparable to the East Asian levels by 2004-05. The customs procedures, though somewhat simplified, need further rationalisation. The growth in merchandise exports needs to be leveraged further. A robust growth in exports alongwith import growth would impart efficiency gains to the economy. India has taken an active role in the Doha Development Agenda but collective efforts would be required from all developing countries in order to benefit from the negotiations. In addition, larger financing requirements for growth as

envisaged in the Tenth Five Year Plan underline the need for further concerted efforts in the direction of attracting higher FDI. Therefore, along with the liberalisation of both, inward and outward capital flows, a more focused approach should be pursued for attracting higher FDI flows which is important for achieving higher economic growth.

8.76 Despite a relatively lower degree of openness, synchronisation of global business cycles has emerged as a policy concern, particularly because a global slowdown in economic activity seems to influence the domestic investment climate more than the actual volume of trade and capital flows. The current phase of global slowdown that started in mid-2000 suggests a weaker and delayed global recovery than was initially anticipated. Uncertain global prospects would also have a bearing on the course of future reforms in the external sector.

Conclusion

8.77 India's experience with reforms has reflected the pursuit of an open-ended, eclectic and pragmatic approach on questions of economic policy. The issue of the supremacy of markets over Government and of the private sector over the public sector is now in the realm of ideology without practical relevance. Recognising that both market and State failures exist,

the practical issue is about harnessing the productive resources available in each. This could be done on the basis of identification of the dynamic comparative advantage that the public and the private sectors have in the various segments of the economy. A policy of entry and exit and economic restructuring on lines of competitiveness needs to be put in place. There is also the practical issue of reinforcing the markets by providing a wider menu of instruments. This would need to be backed by a stronger legal and institutional system, which is a necessary pre-condition for successful transition to a market oriented economy. In this regard, the State has to establish the regulatory framework that minimises the regulatory burden on the market players and hindrance to the free-play of market forces, for the ultimate objectives of growth and development with financial stability. As observed by Jalan (1992), 'The historical lesson is that most of the successful cases of development are those which have managed to combine the virtues of conflicting paradigms rather than rely exclusively on a single-set of pre-ordained theoretically right policies'. The challenge today is to take the reforms further by addressing the remaining agenda. Policy reforms would need to focus more sharply on the gaps mentioned in this Report, specially in the areas of real and fiscal sectors.

SELECT REFERENCES

III. THE REAL ECONOMY

- Acharya, Shankar. "Macroeconomic Management in the Nineties". *Economic and Political Weekly*, April 20, 2002, Volume 37, No.16, pp. 1515-38.
- Administrative Staff College of India. *A Study of the Fiscal and Monetary Implications of Excess Stocks of Foodgrains*. Hyderabad: ASCI, 2002.
- Ahluwalia, I. J. *Industrial Growth in India: Stagnation since the Mid-Sixties*. New Delhi: Oxford University Press, 1985.
- Ahluwalia, I. J. *Productivity and Growth in Indian Manufacturing*. New Delhi: Oxford University Press, 1991.
- Arora, A. and S. Athreye. "The Software Industry and India's Economic Development". WIDER Discussion Paper 2001/20, 2001.
- Balakrishnan, P. and K. Pushpangadan. "Total Factor Productivity Growth in Manufacturing Industry: A Fresh Look". *Economic and Political Weekly*, July 30, 1994, Volume 29, No.31, pp. 2028-35.
- Bhalla, S. S., Peter Hazell and John Kerr. "Prospects for India's Cereal Supply and Demand to 2020". Food, Agriculture and Environment Discussion Paper No.29, Washington D.C.: IFPRI, November 1999.
- Bhowmik, R. "Role of Services Sector in Indian Economy: An Input-Output Approach". *Artha Vijnana*, 2000, Volume 42, No.2, pp. 158-69.
- Brahmananada, P. R. *Productivity in the Indian Economy: Rising Inputs for Falling Outputs*. Mumbai: Himalaya Publishing House, 1982.
- Desai, A. V. "A Decade of Reforms". *Economic and Political Weekly*, December 30, 2001, Volume 36, pp.4627-30.
- De Mello, J. "Sources of Growth and Structural Change in Republic of Korea and Taiwan: Some Comparisons". In *Export Oriented Development Strategies*. V.Corbo; A.O. Krueger and F. Ossa (eds.), Boulder: Westview Press, 1998.
- Dhawan, B. D. "Relationship between Public and Private Investments in Indian Agriculture with Special Reference to Public Canals". *Indian Journal of Agricultural Economics*, January-June 1996, Volume 51, Nos. 1 and 2, pp. 209-19.
- Dholakia B. H. and R. H. Dholakia. "Total Factor Productivity Growth in Indian Manufacturing". *Economic and Political Weekly*, December 31, 1994, Volume 29, No.53, pp. 3342-44.
- Donde K. and M. Sagar. "Potential Output and Output Gap: A Review". *RBI Occasional Papers*, 1999, Volume 20, No.3, pp. 439-67.
- Ganesh Kumar, A. "Spatial Variability in Crop Yields: The Case of Cereals Across Districts of Andhra Pradesh". *Indian Journal of Agricultural Economics*, January-March, 1999, Volume 54, No.1, pp. 53-78.
- Gertler, M. and S. Gilchrist. "Monetary Policy, Business Cycles and the Behaviour of Small Manufacturing Firms." *Quarterly Journal of Economics*, 1994, No.109, pp. 309-40.
- Goldar, B. "Employment Growth in Organised Manufacturing in India". *Economic and Political Weekly*, 2000, Volume 35, No.14, pp. 1191-95.
- Government of India. *India Infrastructure Report* (Chairman: Rakesh Mohan). New Delhi: 1996.

- . Draft of *Tenth Five Year Plan (2002-07) - Dimensions and Strategies, Volume I*. Planning Commission, New Delhi: 2002a.
- . *Report of The High Level Committee on Long-Term Grain Policy*. Ministry of Food, Consumer Affairs and Public Distribution, New Delhi: 2002b.
- . *Annual Report on the Working of State Electricity Boards and Electricity Departments*. Planning Commission, New Delhi: 2002c.
- . *Economic Survey 2002-03*. New Delhi: 2003.
- Government of Orissa. *Report of the Committee on Power Sector Reform in Orissa*. Government of Orissa, Cuttack: 2001.
- Government of Uttar Pradesh. *Uttar Pradesh Electricity Regulatory Commission's Tariff Order: 2002-03*. Uttar Pradesh: 2002.
- Gulati, Ashok and S. Bathla. "Capital Formation in Indian Agriculture: Re-visiting the Debate". *Economic and Political Weekly*, May 19, 2001, Volume 36, No.20, pp. 1697-1708.
- Hindu Business Line*. "Service Sector Growth: What Does It Mean?" January 22, 2000.
- Hindu Business Line*. "The Threat of an Industrial Recession." January 22, 2002.
- International Monetary Fund. *World Economic Outlook*. Washington D.C.: 2002.
- Kumar M. "Economic Reforms and their Macro-economic Impact". *Economic and Political Weekly*, Volume 35, No.10, March 4, 2000, pp. 803-12.
- Lee, J. "Government Interventions and Productivity Growth in Korean Manufacturing Industries". *Journal of Economic Growth*, 1996, Volume 1, No.3, pp. 391-414.
- Majumdar, S. K. "Fall and Rise in Productivity in Indian Industry." *Economic and Political Weekly*, November 30, 1996, Volume 31, No.48, pp. 46-53.
- Mckinnon, R. I. *Money and Capital in Economic Development*. Brookings Institution, Washington D.C.: 1973.
- Meenakshi, J. V. "Food Consumption Trends in India: Seasonal Analysis". In *Public Support for Food Security*. N. Krishanaji and T. N. Srinivasan (eds.), New Delhi: Sage Publications, 2002.
- Modigliani, F. and M. Miller. "The Cost of Capital, Corporation Finance and the Theory of Investment". *American Economic Review*, 1958, Volume 48, No.3, pp. 261-97.
- Mohan, R. "A Decade After 1991: New Challenges Facing the Indian Economy". *RBI Bulletin*, November 2002, pp. 771-78.
- Nagaraj, R. "Growth Rate of India's GDP, 1950-51 to 1987-88: Examination of Alternative Hypothesis". *Economic and Political Weekly*, June 30, 1990, Volume 25, No.26, pp. 1396-1403.
- Nagaraj, R. "Indian Economy since 1990: Virtuous Growth or Polarisation?" *Economic and Political Weekly*, August 5, 2000, Volume 35, No.32, pp. 2831-37.
- National Council of Applied Economic Research. *The Impact of India's Economic Reforms on Industrial Productivity, Efficiency and Competitiveness: A Panel Study of Indian Companies 1980-1997*. New Delhi: NCAER, 2001.
- Nayyar, D. *Economic Liberalisation in India: Analytics, Experience and Lessons*. R C Dutt Lectures, New Delhi: Orient Longman, 1996.
- Noland, M. "Has Asian Export Behaviour Been Unique?" *Journal of International Economics*, 1997, Volume 43, No.79, pp. 79-101.

- Noland, M. and H. Pack. *Industrial Policy in an Era of Globalisation – Lessons from Asia*. Washington: Institute of International Economics, 2003.
- Pack, H. "Industrial Policy: Growth Elixir or Poison?" *World Bank Research Observer*, 2000, Volume 15, No.4, pp. 47-68.
- Pack, H. and D. Lin. *The Role of Industrial Policy in Taiwan's Development*. Philadelphia: University of Pennsylvania, 2001.
- Pradhan, G. and K. Barik. "Fluctuating Total Factor Productivity: Evidence from Selected Polluting Industries". *Economic and Political Weekly*, February 28, 1998, Volume 33, No.9, pp. M25-30.
- Radhakrishna, R. and K. Subbarao with S. Indrakant and C. Ravi. "India's Public Distribution System: A National and International Perspective". World Bank Discussion Paper No.380, Washington D.C.: 1997.
- Rao, J. Mohan. "Manufacturing Productivity Growth: Method and Measurement". *Economic and Political Weekly*, November 2, 1996, Volume 31, pp. 2927-36.
- Reserve Bank of India. *Report on Currency and Finance 2000-01*. Mumbai: Reserve Bank of India, 2002.
- Saha, Anamitra. "Risk in HYV and Traditional Rice Cultivation: An Enquiry in West Bengal Agriculture". *Indian Journal of Agricultural Economics*, January-March 2001, Volume 56, No.1, pp. 55-70.
- Sarap, Kailash and D. C. Vashist. "Adoption of Modern Varieties of Rice in Orissa: A Farm Level Analysis". *Indian Journal of Agricultural Economics*, January-March 1994, Volume 49, No.1, pp. 88-93.
- Sawant, S. D., V. Darpatdar and S. Mhatre, "Capital Formation and Growth in Agriculture: Neglected Aspects and Dimensions". *Economic and Political Weekly*, March 16, 2002, Volume 37, No.11, pp. 1068-72.
- Sen, A.; S. Sarkar and R. Vaidya. "Industry: Coping with New Challenges". *India Development Report*. Mumbai: Indira Gandhi Institute of Development Research, 1997.
- Shetty, S. L. "Inadequacy of Domestic Saving and Other Macro-Economic Issues: The Unorganised Sector". *Margin*, July 28, 1997, Volume 30, No.1, pp. 69-76.
- Shetty, S. L. "Reviving the Economy". *Economic and Political Weekly*, 2001, Volume 36, No.30, pp. 2824-30.
- Small Industries Development Bank of India. *Report on Small Scale Industries Sector: 2000*. Lucknow: SIDBI, 2000.
- Trivedi, P.; A. Prakash and D. Sinate. "Productivity in Major Manufacturing Industries in India: 1973-74 to 1997-98". Development Research Group Study No. 20, Mumbai: Reserve Bank of India, 2000.
- Unni, J.; N. Lalitha and U. Rani. "Economic Reforms and Productivity Trends in Indian Manufacturing". *Economic and Political Weekly*, October 13, 2001, Volume 36, No.41, pp. 3914-22.
- Vaidyanathan, A. "Depletion of Ground Water: Some Issues". *Indian Journal of Agricultural Economics*, January-June 1996, Volume 51, Nos.1 and 2, pp. 184-92.
- Vyas, V. S. and V. Ratna Reddy. "Economic Reforms in Indian Agriculture: Recent Experience and Long-term Issues". In *India's Economy in the 21st Century*. Raj Kapila and Uma Kapila, (eds.), 2nd Revised Edition, New Delhi: Academic Foundation, 2002.
- World Bank. *India - Long Term Issues in the Power Sector*. Washington D.C.: World Bank, 1991.
- . *World Development Report – Infrastructure for Development*. Washington D.C.: Oxford University Press, 1994.
- . *World Development Indicators 2002*. Washington D.C.: World Bank, 2002.

IV. FISCAL POLICY

- Acharya, S. "India's Macroeconomic Management in the 1990s". *Economic and Political Weekly*, April 20-27, 2002, Volume 37, No.16, pp. 1515-38.
- Ahluwalia, I. J. and I. M. D. Little. (eds.) *India's Economic Reforms and Development*. New Delhi: Oxford University Press, 1998.
- Alessina, A. and R. Perotti. "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects". National Bureau of Economic Research Working Paper No. 5730, August 1996.
- Bajaj, J. L. "Impact of Pay Revision on State Governments' Finances". *Economic and Political Weekly*, May 29-June 4, 1999, Volume 34, No.22, pp. 1341-58.
- Bajpai, N. and D. J. Sachs. "The State of the State Government Finances in India". Development Discussion Paper No. 719, Harvard University, September 1999.
- Balakrishnan, P. and B. Ramaswami. "Vision and Illusion in Fiscal Correction". *Economic and Political Weekly*, April 1-7, 2000, Volume 35, No.14, pp. 1137-39.
- Blanchard, O. "Suggestions for a New Set of Fiscal Indicators". OECD Working Paper No. 79, 1980.
- Butler, W. J. and U. Patel. "Debt, Deficits and Inflation: An Application to the Public Finances in India". *Journal of Public Economics*, March 1992, Volume 47, No.2, pp. 171-205.
- Chakraborty, L. S. "Fiscal Deficit and Rate of Interest: An Econometric Analysis of the Deregulated Financial Regime". *Economic and Political Weekly*, May 5-11, 2002, Volume 37, No.19, pp. 1831-38.
- Chakravarty, P. "Recent Trends in State Government Finances - A Comment". *Economic and Political Weekly*, October 30-November 5, 1999, Volume 34, No.44, pp. 3146-48.
- Chandrasekhar, C. P. "Economic Reform and the Budget". *Economic and Political Weekly*, April 1-7, 2000, Volume 35, No.14, pp. 1140-42.
- Chelliah, R. J. "The Nature of the Fiscal Crisis in the Indian Federation and Calibrating Fiscal Policy". *ICRA Bulletin on Money and Finance*, January-June 2001, pp. 52-75.
- Chelliah, R. J. *Towards Sustainable Growth - Essays in Fiscal and Financial Sector Reforms in India*. New Delhi: Oxford University Press, 1996.
- Giavazzi, F. and M. Pagano. "Non-Keynesian Effects of Fiscal Policy Changes: International Evidence and the Swedish Experience". *Swedish Economic Policy Review*, May 1996, pp. 75-111.
- Government of India. *Interim Report of the Tax Reforms Committee* (Chairman: Raja J. Chelliah). New Delhi: Ministry of Finance, 1991.
- . *Finance Commission- Report for 1995-2000* (Tenth Finance Commission). New Delhi: Government of India, 1994.
- . "Government Subsidies in India". Discussion Paper, May 1997.
- . *Economic Survey 1999-2000*. New Delhi: Government of India, 2000a.
- . *Report of the Committee on Fiscal Responsibility Legislation*. New Delhi: Ministry of Finance, 2000b.
- . *Report of the Eleventh Finance Commission, 2000-2005*. New Delhi: Ministry of Finance, June 2000c.
- . *Report of the Expert Group on Settlement of SEBs Dues* (Chairman: Montek Singh Ahluwalia). New Delhi: Ministry of Power, 2001d.

- . *Report of the Advisory Group on Tax Policy and Tax Administration for the Tenth Plan* (Chairman: Parthasarathi Shome). Planning Commission, May 2001a.
- . *Report of the Expert Committee to Review the System of Administered Interest Rates and Other Related Issues* (Chairman: Y. V. Reddy). September 2001b.
- . *Task Force on Direct Taxes - Consultation Paper* (Chairman: Vijay Kelkar). New Delhi: Ministry of Finance and Company Affairs, October 2002a.
- . *Task Force on Indirect Taxes - Consultation Paper* (Chairman: Vijay Kelkar). New Delhi: Ministry of Finance and Company Affairs, October 2002b.
- . *Working of State Electricity Boards & Electricity Departments, Annual Report 2001-02*. New Delhi: Planning Commission, 2002c.
- . *Expenditure Reforms Commission*. New Delhi: Ministry of Finance, various reports.
- Goyal, A. "Monetary–Fiscal Interaction". In *India Development Report*. Kirit Parikh and R. Radhakrishna (eds.), Mumbai: Indira Gandhi Institute of Development and Research, 2002, pp. 157-76.
- Hemming, R.; M. Kell and S. Mahfouz. "The Effectiveness of Fiscal Policy in Stimulating Economic Activity – A Review of the Literature". International Monetary Fund Working Paper No. 208, December 2002.
- Jha, R. "Macroeconomics of Fiscal Policy in Developing Countries". WIDER Discussion Paper No. 2001/71, September 2001.
- Joshi, V. and I. M. D. Little. *India's Economic Reforms-1991-2001*. New Delhi: Oxford University Press, 1996.
- Khatri, Y. and K. Kochhar. "India's Fiscal Situation in International Perspective". International Monetary Fund Staff Seminar, October 2002.
- Kurian, N. J. "State Government Finances: A Survey of Recent Trends". *Economic and Political Weekly*, May 8-14, 1999, Volume 34, No.19, pp. 1115-34.
- Lahiri, A. "Subnational Public Finance in India". *Economic and Political Weekly*, April 29- May 5, 2000, Volume 35, No.18, pp. 1539-49.
- Lahiri, A. and R. Kannan. "India's Fiscal Deficits and Their Sustainability in Perspective". Paper presented at World Bank-NIPFP Seminar on Fiscal Policies for Growth, 2001.
- McCarten, W. J. "The Challenge of Fiscal Discipline in the Indian States". Mimeo, 2001.
- McDermott, C. J. and F. R. Wescott. "Fiscal Reforms that Work." *Economic Issues*, No.4, November 1996.
- Mohan, R. "Fiscal Correction for Economic Growth: Data Analysis and Suggestions". *Economic and Political Weekly*, June 10-16, 2000, Volume 35, No.24, pp. 2027-36.
- NCAER. *Report of the Expert Group on Commercialisation of Infrastructure Projects* (Chairman: Rakesh Mohan). New Delhi: National Council of Applied Economic Research, 1996.
- Patnaik, P. "On Fiscal Deficits and Real Interest Rates". *Economic and Political Weekly*, April 14-20, 2001, Volume 36, No.15, pp. 1160-63.
- Perron, P. "Further Evidence on Breaking Trend Functions in Macroeconomic Variables". *Journal of Econometrics*, September 1997, Volume 80, No.1, pp. 355-85.
- Pillai, S. M.; S. Chatterjee; B. Singh; S. Das and A. Gupta. "Fiscal Policy: Issues and Perspectives". *Reserve Bank of India Occasional Papers*, March 1997, Volume 18, No.1, pp. 187-223.

Radhakrishna, R. and K. Subbarao. "India's Public Distribution System". Discussion Paper No. 380, Washington D.C.: World Bank, 1997.

Rakshit, M. "On Correcting Fiscal Imbalances in the Indian Economy – Some Perspectives". *ICRA Bulletin on Money and Finance*, July-September 2000, pp. 19-57.

Rangarajan, C.; A. Basu and N. Jadhav. "Dynamics of Interaction Between Government Deficit and Domestic Debt in India". *Reserve Bank of India Occasional Papers*, September 1989, Volume 10, No.3, pp. 163-220.

Reserve Bank of India. *Report of the Technical Committee on State Government Guarantees*. Mumbai: 1999.

———. *Report on Currency and Finance, 2001-02*. Mumbai: 2002.

———. *State Finances*. Mumbai: various issues.

———. *Report of the Advisory Committee on Ways and Means Advances to State Governments* (Chairman: C. Ramachandran). Mumbai: Reserve Bank of India, 2002.

Rao, M. J. M. "Fiscal Deficits, Interest Rates and Inflation – Assessment of Monetisation Strategy". *Economic and Political Weekly*, July 22-28, 2000, Volume 35, No.31, pp. 2637-45.

Rao, M. G. "Tax Reform in India: Achievements and Challenges". *Asia-Pacific Development Journal*, December 2000, Volume 7, No.2, pp. 59-74.

———. "State Finances in India: Issues and Challenges". *Economic and Political Weekly*, August 3-9, 2002, Volume 37, No.32, pp. 3261-71.

Seshan, A. "The Burden of Domestic Public debt in India". *Reserve Bank of India Occasional Papers*, June 1987, Volume 8, No.1, pp. 45-77.

Shetty, S. L. "Reviving the Economy – Some Explorations". *Economic and Political Weekly*, December 1-7, 2001 Volume 36, No.48, pp. 4501-05.

Shome, P. "Trends and Future Directions in Tax Policy Reform: A Latin American Perspective". *Bulletin for International Fiscal Documentation*, Amsterdam: September 1992.

———. "Recent Tax Policy Trends and Issues in Latin America". In *Policies for Growth: The Latin American Experience*. Andre Lara Resende (ed.), Washington D.C.: International Monetary Fund, 1995, pp. 140-81.

Stella, P. "Fiscal Impact of Public Enterprises". In *How to Measure the Fiscal Deficit - Analytical and Methodological Issues*. Blejer, M.I. and Cheasty (eds.), Washington D.C.: International Monetary Fund, 1993, pp. 207-35.

Srinivasan, T. N. "India's Fiscal Situation: Is a Crisis Ahead?" In *Economic Policy Reforms and the Indian Economy*. Anne O. Krueger (ed.), Yale University, May 2000.

V. MONEY, CREDIT AND PRICES

Akerlof, G.; W. Dickens and P. George. "The Macroeconomics of Low Inflation". *Brookings Papers on Economic Activity*, 1996, 1, pp. 1-76.

Angeloni, I.; A. Kashyap; B. Mojon and D. Terlizzesse. "Monetary Transmission in the Euro Area: Where Do We Stand?" European Central Bank Working Paper No. 114, 2002.

- Arif, R. R. "Money Demand Stability: Myth or Reality – An Econometric Analysis". Development Research Group Study 13, Reserve Bank of India, 1996.
- Ball, L. "Short-run Money Demand". National Bureau of Economic Research Working Paper No. 9235, 2002.
- . "Another Look at Long-run Money Demand". *Journal of Monetary Economics*, February 2001, Volume 47, No.1, pp. 31-44.
- Bank of England. *The Transmission Mechanism of Monetary Policy*. 1999.
- Batini, N. and E. Nelson. "The Lag from Monetary Policy Actions to Inflation: Friedman Revisited." External MPC Unit Discussion Paper No. 6, Bank of England, 2002.
- Bernanke, B. "Constrained Discretion and Monetary Policy". *BIS Review*, No. 5, 2003.
- Bernanke, B. and M. Gertler. "Inside the Black Box: The Credit Channel of Monetary Policy Transmission". *Journal of Economic Perspectives*, Fall 1995, Volume 9, No.4, pp. 27-48.
- Bernanke, Ben S.; T. Laubach; F. S. Mishkin and A. Posen. *Inflation Targeting: Lessons from the International Experience*. Princeton University Press, 1999.
- Bhattacharya, P. C. "Monetary Policy and Economic Development" 1966. In *50 Years of Central Banking – Governors Speak*. Mumbai: Reserve Bank of India, 1997, pp. 99-118.
- Boivin, J. and M. Giannoni. "Assessing Changes in the Monetary Transmission Mechanism: A VAR Approach". *Federal Reserve Bank of New York Economic Policy Review*, May 2002, pp. 97-111.
- Bordo, M. D. and L. Jonung. *The Long-run Behaviour of the Velocity of Circulation*. New York: Cambridge University Press, 1987.
- Borio, Caludio E. V. "The Implementation of Monetary Policy in Industrialised Economies". Bank for International Settlements Economic Paper No.47, 1997.
- Borio, C.; W. English and A. Filardo. "A Tale of Two Perspectives: Old or New Challenges for Monetary Policy". Bank for International Settlements Working Papers No.127, 2003.
- Business Standard. "Demand for Working Capital Dead". Mumbai: March 18, 2003.
- Christiano, L. J.; M. Eichenbaum and C. Evans. "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy". National Bureau of Economic Research Working Paper No.8403, 2001.
- Dhal, S. C. "Short-term Interest Rate and Economic Activity". *Reserve Bank of India Occasional Papers*, March 2000, Volume 21, No.1, pp. 61-78.
- Duca, J. V. "Financial Technology Shocks and the Case of the Missing M2". *Journal of Money, Credit and Banking*, November 2000, Volume 32, No.4, pp. 820-39.
- Els, Peter van; A. Locarno; J. Morgan and Jean-Pierre Villette. "Monetary Policy Transmission in the Euro Area: What do Aggregate and National Structural Models Tell Us?" European Central Bank Working Paper No. 94, 2001.
- Friedman, B. M. and K. N. Knutter. "A Price Target for U.S. Monetary Policy? Lessons from the Experience with Money Growth Targets." *Brookings Papers on Economic Activity*, 1996, I, pp. 77-146.
- Friedman, M. and A. Schwartz. "A Monetary History of the United States, 1867-1960". Princeton University Press, 1963.
- Goldfeld, S. M. and D. E. Sichel. "The Demand for Money". In *Handbook of Monetary Economics*, Volume I. B.M. Friedman and F.H. Hahn (eds.), Elsevier Science, 1990, pp. 299-356.

- Goodhart, C. A. E. "Can Central Bank Survive The IT Revolution?" London School of Economics, June 2000.
- Gordon, R. J. "Foundations of the Goldilocks Economy: Supply Shocks and the Time-Varying NAIRU". *Brookings Papers on Economic Activity*, 1998, 2, pp. 297-346.
- Government of India. *Report of the Committee on Banking Sector Reforms* (Chairman: M. Narasimham). 1998.
- Iyengar, H. V. R. "Current Price Situation and the Role of Monetary Policy" 1960. In *50 Years of Central Banking – Governors Speak*. Mumbai: Reserve Bank of India, 1997, pp. 69-74.
- International Monetary Fund. *International Financial Statistics*. Washington D.C.: International Monetary Fund, January 2003.
- Jadhav, N. *Monetary Economics for India*, MacMillan India, 1994.
- Jalan, B. "India's Economy in the Twenty-First Century: A New Beginning or A False Dawn". In *India's Economy in the New Millennium: Selected Essays*. B. Jalan (ed.), Mumbai: UBS Publishers' Distributors, 2002a, pp. 1-26.
- . "Monetary Policy: Is a Single Target Relevant?" In *India's Economy in the New Millennium: Selected Essays*. B. Jalan (ed.), Mumbai: UBS Publishers' Distributors, 2002b, pp. 211-16.
- Joshi, H. and M. Sagar. "The Demand for Money in India: Stability Revisited". *Reserve Bank of India Occasional Papers*, 1995, Volume 16, No.2, pp. 79-100.
- Joshi, H. and I. Bhattacharya. "The Dynamics of Money Supply Process in India: An Alternative Empirical Framework". *Reserve Bank of India Occasional Papers*, June 1999, Volume 16, No.2, pp. 223-41.
- Kahn, J. A.; M. M. McConnell and G. Perez-Quiros. "On the Causes of the Increased Stability of the U.S. Economy". *Federal Reserve Bank of New York Economic Policy Review*, May 2002, pp. 183-202.
- Kamin, S.; P. Turner and J. van't Dack. "The Transmission Mechanism of Monetary Policy in Emerging Market Economies: An Overview". Bank for International Settlements Policy Paper No.3, 1998.
- Kanagasabapathy, K. "Monetary Policy Underpinnings: A Perspective". *Economic and Political Weekly*, January 27, 2001, Volume 36, No.4, pp. 303-10.
- Kannan, R. and H. Joshi. "Growth-Inflation Trade-Off: Empirical Estimation of Threshold Rate of Inflation for India". *Economic and Political Weekly*, October 17-23/24-30, 1998, Volume 33, Nos.42 and 43.
- Kapur, M. and M. D. Patra. "The Price of Low Inflation". *Reserve Bank of India Occasional Papers*, 2000, Volume 21, Nos.2 and 3, pp. 191-233.
- Khan, M. S. and A. H. Senhadji. "Threshold Effects in the Relationship between Inflation and Growth". International Monetary Fund Working Paper No.110, 2000.
- King, M. "The Inflation Target Ten Years On". Speech delivered at the London School of Economics, November 19, 2002.
- Krugman, P. "Stable Prices and Fast Growth: Just Say No". *The Economist*, August 1996.
- Kuttner, K. N. and P. C. Mosser. "The Monetary Transmission Mechanism: Some Answers and Further Questions". *Federal Reserve Bank of New York Economic Policy Review*, May 2002, pp. 15-26.
- Mall, O. P. "Composite Index of Leading Indicators for Business Cycles in India". *Reserve Bank of India Occasional Papers*, 1999, Volume 20, No.3, pp. 373-414.

- Meltzer, A. H. "Monetary, Credit and (Other) Transmission Processes: A Monetarist Perspective". *Journal of Economic Perspectives*, Fall 1995, Volume 9, No.4, pp. 49-72.
- Mishkin, F. S. and K. Schmidt-Hebbel. "One Decade of Inflation Targeting in the World: What do We Know and What Do We Need to Know?" National Bureau of Economic Research Working Paper No. 8397, 2001.
- Mohan, R. "Transforming Indian Banking: In Search of a Better Tomorrow". Valedictory Address at the Bank Economists' Conference, Bangalore: December 2002.
- Mohanty, D. and A. K. Mitra. "Experience with Monetary Targeting in India". *Economic and Political Weekly*, January 16-22/23-29, 1999, Volume 34, Nos.3 and 4, pp. 123-32.
- Mohanty, D.; D. P. Rath and M. Ramaiah. "Measures of Core Inflation for India". *Economic and Political Weekly*, January 29-February 4, 2000, Volume 35, No.5, pp. 273-82.
- Mohanty, J.; B. Singh and R. Jain. "Business Cycles and Leading Indicators of Industrial Activity in India". *Reserve Bank of India Occasional Papers*, 2000, Volume 21, Nos.2 and 3, pp. 235-69.
- Mojon, B. and G. Peersman. "A VAR Description of the Effects of Monetary Policy in the Individual Countries of the Euro Area". European Central Bank Working Paper No. 92, 2001.
- Moorthy, V.; B. Singh and S. C. Dhal. "Bond Financing and Debt Stability: Theoretical Issues and Empirical Analysis for India". Development Research Group Study No. 19, Reserve Bank of India, 2000.
- Morsink, J. and T. Bayoumi. "A Peek Inside the Black Box: The Monetary Transmission Mechanism in Japan". *International Monetary Fund Staff Papers*, 2001, Volume 48, No.1, pp. 22-57.
- Neumann, M. J. M. and Jurgen von Hagen. "Does Inflation Targeting Matter?" *Federal Reserve Bank of St. Louis Review*, July/August 2002, Volume 84, No.4, pp. 127-48.
- Patel, I. G. "Some Thoughts on Monetary and Credit Policy" 1979. In *50 Years of Central Banking – Governors Speak*. Mumbai: Reserve Bank of India, 1997, pp. 237-46.
- Pethe, A. and G. P. Samanta. "A Composite Leading Indicator for Tracking Inflation". *Economic and Political Weekly*, January 27, 2001, Volume 36, No.4, pp. 311-16.
- Piger, J. "Pushing on a String". *Monetary Trends*. Federal Reserve Bank of St. Louis, March 2003, p.1.
- Prasad, A. and J. K. Khundrakpam. "Government Deficit and Inflation in India". *Reserve Bank of India Occasional Papers*, June 2000, Volume 21, Nos.2 and 3, pp. 271-89.
- Rangarajan, C. "Issues in Monetary Management". Presidential Address, 71st Annual Conference of the Indian Economic Association, 1988.
- . "Dimensions of Monetary Policy" 1997. In *50 Years of Central Banking – Governors Speak*. Mumbai: Reserve Bank of India, 1997, pp. 427-37.
- Rangarajan, C.; A. Basu and N. Jadhav. "Dynamics of Interaction between Government Deficit and Domestic Debt in India". *Reserve Bank of India Occasional Papers*, September 1989, Volume 10, No.3, pp. 163-220.
- Rangarajan, C. and R. R. Arif. "Money, Output and Prices: A Macroeconometric Model". *Economic and Political Weekly*, April 21, 1990, Volume 25, No.16, pp. 837-52.
- Rao, M. "Fiscal Deficits, Interest Rates and Inflation – An Assessment of Monetisation Strategy". *Economic and Political Weekly*, July 22-28, 2000, Volume 35, No.30, pp. 2632-45.
- Rakshit, M. "On Correcting Fiscal Imbalances in the Indian Economy – Some Perspectives". *ICRA Bulletin on Money and Finance*, July-September, 2000, pp. 19-57.

- Rath, D. P. and I. Sen Gupta. "Residency in Money Supply". *Reserve Bank of India Occasional Papers*, 1999, Volume 20, No.1, pp. 1-21.
- Reddy, Y. V. "Fiscal and Monetary Policy Interface: Recent Developments in India". *Reserve Bank of India Bulletin*, November 2000.
- Reserve Bank of India. *Report of the Committee to Review the Working of the Monetary System* (Chairman: S. Chakravarty). Mumbai: Reserve Bank of India, 1985.
- . *Report of the Committee on the Financial System* (Chairman: M. Narasimham). Mumbai: Reserve Bank of India, 1991.
- . *Annual Report, 1992-93*. Mumbai: Reserve Bank of India, 1993.
- . *Annual Report, 1993-94*. Mumbai: Reserve Bank of India, 1994.
- . *Monetary and Credit Policy for the Year 1998-99*. Mumbai: Reserve Bank of India, April 1998a.
- . *Report of the Working Group on Money Supply: Analytics and Methodology of Compilation* (Chairman: Y.V. Reddy). Mumbai: Reserve Bank of India, June 1998b.
- . *Monetary and Credit Policy for the Year 1999-2000*. Mumbai: Reserve Bank of India, April 1999a.
- . *Report on Currency and Finance, 1998-99*. Mumbai: Reserve Bank of India, 1999b.
- . *Report of the Committee on Capital Account Convertibility* (Chairman: S. S. Tarapore). Mumbai: Reserve Bank of India, May 1997.
- . *Monetary and Credit Policy for the Year 2000-01*. Mumbai: Reserve Bank of India, April 2000a.
- . *Annual Report, 1999-2000*, Mumbai: Reserve Bank of India. August 2000b.
- . *Advisory Group on Transparency in Monetary and Financial Policies* (Chairman: M. Narasimham). Standing Committee on International Financial Standards and Codes, Mumbai: Reserve Bank of India, September 2000c.
- . *Monetary and Credit Policy for the Year 2001-02*. Mumbai: Reserve Bank of India, April 2001a.
- . *Annual Report, 2000-01*. Mumbai: Reserve Bank of India, 2001b.
- . *Report of the Expert Committee to Review the System of Administered Interest Rates and Other Related Issues* (Chairman: Y.V. Reddy). Mumbai: Reserve Bank of India, September 2001c.
- . *Report on Currency and Finance, 2000-01*. Mumbai: Reserve Bank of India, January 2002a.
- . *Report of the Working Group on Economic Indicators*. Mumbai: Reserve Bank of India, June 2002b.
- . *Report of the Working Group on Electronic Money*. Mumbai: Reserve Bank of India, July 2002c.
- . *Annual Report, 2001-02*. Mumbai: Reserve Bank of India, August 2002d.
- . *Mid-Term Review of Monetary and Credit Policy for 2002-03*. Mumbai: Reserve Bank of India, October 2002e.
- Romer, C. D. and D. H. Romer, "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz". In *NBER Macroeconomics Annual*. O. J. Blanchard and S. Fischer (eds.), MIT Press, 1989.

- Rudebusch, G. D. "Do Measures of Monetary Policy in a VAR Make Sense?" *International Economic Review*, November 1998, Volume 39, No.4, pp. 907-31.
- Samanta, G. P. "Core Inflation in India: Measurement and Policy Perspectives". *Reserve Bank of India Occasional Papers*, March 1999, Volume 20, No.7, pp. 23-53.
- Samantaraya, A. and A. Prasad. "Growth and Inflation in India: Detecting the Threshold". *Asian Economic Review*, December 2001.
- Sarel, M. "Non-linear Effects of Inflation on Economic Growth". International Monetary Fund Staff Papers, 1996, Volume 43, No.1, pp. 199-215.
- Schadler, S.; M. Carkovic; A. Bennett and R. Kahn. "Recent Experiences with Surges in Capital Inflows". International Monetary Fund Occasional Paper No.108, 1993.
- Schaechter, A.; M. R. Stone and M. Zelmer. "Adopting Inflation Targeting: Practical Issues for Emerging Market Countries". International Monetary Fund Occasional Paper No. 202, 2002.
- Schaechter, A. "Liquidity Forecasting". International Monetary Fund MAE Operational Paper No. 07, 2002.
- Sen Gupta, I.; I. Bhattacharyya; S. Sahoo and S. Sanyal. "Anatomy of Liquidity Management". *Reserve Bank of India Occasional Papers*, June 2000, Volume 21, Nos.2 and 3, pp. 291-321.
- Sims, C. A. "Macroeconomics and Reality". *Econometrica*, 1980, No.48, pp. 1-48.
- . "Comments on Glenn Rudebusch's "Do Measures of Monetary Policy in a VAR Make Sense?"" *International Economic Review*, November 1998, Volume 39, No.4, pp. 933-41.
- Singh, M. "Credit Policy of the Reserve Bank of India" 1982. In *50 Years of Central Banking – Governors Speak*. Mumbai: Reserve Bank of India, 1997, pp. 285-94.
- Stella, P. "Central Bank Financial Strength, Transparency, and Policy Credibility". International Monetary Fund Working Paper No.137, August 2002.
- Stock, J. and M. Watson. "Forecasting Inflation". *Journal of Monetary Economics*, 1999, No.44, pp. 293-335.
- Svensson, Lars E. O. "Monetary Policy and Real Stabilisation". National Bureau of Economic Research Working Paper No.9486, 2003.
- Taylor, J. B. "The Monetary Transmission Mechanism: An Empirical Framework". *Journal of Economic Perspectives*, Fall 1995, Volume 9, No.4, pp. 11-26.
- Vasudevan, A.; B. K. Bhoi and S. C. Dhal. "Inflation Rate and Optimal Growth: Is There a Gateway to Nirvana?" In *Fifty Years of Developmental Economics: Essays in Honour of Prof. Brahmananda. A. Vasudevan (ed.)*, Mumbai: Himalya Publishing House, 1998.
- Venkitaramanan, S. "Some Unpleasant Monetarist Arithmetic". *The Economic Times*, June 29, 1995.

VI. FINANCIAL SECTOR

- Altunbas, Y. L. Evans and P. Molyneux. "Bank Ownership and Efficiency". *Journal of Money, Credit and Banking*, November 2000, Volume 33, No.4, pp. 926-54.
- Amanulla S. and B. Kamaiah. "Indian Stock Market: Price Integration and Market Efficiency". Institute for Social and Economic Change, Working Paper No.50, 2000.

- Barua, Samir and J. R. Varma. "Recent Research in Indian Capital Markets". *Vikalpa*, Jan-Mar 1994, Volume 19, No.1, pp. 15-31.
- Bencivenga, V. and D. B. Smith. "Financial Intermediation and Endogenous Growth". *Review of Economic Studies*, April 1991, Volume 58, No.2, pp. 195-209.
- Bhoi, B. K. and S. C. Dhal. "Integration of Financial Markets in India: An Empirical Evaluation". *Reserve Bank of India Occasional Papers*, December 1998, Volume 19, No.4, pp. 15-31.
- Calomiris, C. and A. Powell. "Can Emerging Market Regulators Establish Credible Discipline: The Case of Argentina, 1992-1999". National Bureau of Economic Research Working Paper No. 7715, May 2000.
- Claessens, S.; A. Demirguc-Kunt and H. Huizinga. "How does Foreign Entry affect the Domestic Banking Market?" World Bank Policy Research Paper No.1918, June 1998.
- De Gregario, J. and P. Guidotti. "Financial Development and Economic Growth". *World Development*, March 1995, Volume 23, No.3, pp. 433-48.
- Demirguc-Kunt, A. and E. Detragiache. "Financial Liberalisation and Financial Fragility". In *Financial Liberalisation: How Far, How Fast?* G. Caprio, P. Honohan and J. E. Stiglitz (eds.), New York: Cambridge University Press, 2002.
- Denizer, C.; M. Tarimcilar and M. Dinc. "Measuring Banking Efficiency in the Pre- and Post-Liberlisation Environment: Evidence from the Turkish Banking System" World Bank Policy Research Paper No. 2476, November 2000.
- Diaz-Alejandro, C. "Good-bye Financial Repression, Hello Financial Crash". *Journal of Development Economics*, September-October 1985, Volume 19, No.1, pp. 1-24.
- Goyal, R. and R. I. McKinnon. "Japan's Negative Risk Premium in Interest Rates: The Liquidity Trap and Fall in Bank Lending". Lecture delivered at Reserve Bank of India, January 2003.
- Hawkins, J. and P. Turner. "Bank Restructuring in Practice: An Overview". In *Bank Restructuring in Practice*. Bank for International Settlements Policy Paper No. 6, 1999.
- Hawkins, J. and D. Mihaljek. "The Banking Industry in the Emerging Market Economies: Competition, Consolidation and Systemic Stability - An Overview". In *The Banking Industry in the Emerging Market Economies: Competition, Consolidation and Systemic Stability*. Bank for International Settlements Paper No. 4, 2001.
- Insurance Regulatory and Development Authority. *Annual Report*. New Delhi: Insurance Regulatory and Development Authority, 2002.
- International Monetary Fund. *International Financial Statistics Yearbook*. various issues.
- Jacques, K. and P. Nigro. "Risk-based Capital, Portfolio Risk and Bank Capital: A Simultaneous Equation Approach". *Journal of Economics and Business*, November/December 1997, Volume 49, No.6, pp. 533-47.
- Joshi, H. "Liquidity Effects on the Term Structure of Government Securities Market in India". *Reserve Bank of India Occasional Papers*, December 1998, Volume 19, No.4, pp. 381-94.
- Kaminsky, G. and C. Reinhart. "The Twin Crises: The Causes of Banking and Balance of Payments Problems". *American Economic Review*, June 1999, Volume 89, No.3, pp. 473-500.
- Kwan, S. and R. A. Eisenbis. "Bank Risk, Capitalisation and Operating Efficiency". *Journal of Financial Services Research*, October/December 1997, Volume 12, No.2/3, pp. 117-31.

- La Porta, R. F.; Lopez-de-Silanes and A. Shleifer. "Government Ownership of Banks". *Journal of Finance*, February 2002, Volume 57, No.1, pp. 265-301.
- Levine, R. and S. Zervos. "Stock Markets, Banks and Economic Growth". *American Economic Review*, June 1998, Volume 88, No.3, pp. 537-58.
- Madhusoodan, T. P. "Persistence in the Indian Stock Market Returns: An Application of Variance Ratio Test". *Vikalpa*, October-December 1998, Volume 23, No.4, pp. 61-73.
- McKinnon, R. I. *Money and Capital in Economic Development*. Washington D.C.: Brookings Institution, 1973.
- . *The Order of Economic Liberalisation*. Baltimore: John Hopkins University Press, 1993.
- Morck R.; B. Young and W. Yu. "The Information Content of Stock Markets: Why do Emerging Markets have Synchronous Stock Price Movements?" *Journal of Financial Economics*, 2000, 58, pp. 215-60.
- Pattanaik, S. and B. Chatterjee, "Stock returns and volatility in India: An Empirical Issue?" *Reserve Bank of India Occasional Paper*, Summer 2000, Volume 21, No.1, pp. 37-60.
- Raju, M. T. "Transaction Cost for Equity Shares in India". Securities and Exchange Board of India, Working Paper Series No. 3, November 2000.
- Reserve Bank of India. *Report on Currency and Finance 1999-2000*. Mumbai: Reserve Bank of India, 2000.
- . *Report of the Informal Group to Study the Role of Bank Deposits in Savings Mobilisation* (Chairman: A.P. Kurien). Mumbai: Reserve Bank of India, 2000.
- . *Report of the Advisory Group on Insurance Regulation* (Chairman: R. Ramakrishnan). Mumbai: Reserve Bank of India, 2001.
- . *Report on Trend and Progress of Banking in India*. Mumbai: Reserve Bank of India, various issues.
- . *Statistical Tables Relating to Banks in India*. Mumbai: Reserve Bank of India, various issues.
- Roll, R. "R²." *The Journal of Finance*. July 1998, Volume 43, No.2, pp. 541-66.
- SEBI. *Survey of Indian Investors*. Mumbai: Securities and Exchange Board of India, June 2000.
- Sarkar, J.; S. Sarkar and S. K. Bhaumik. "Does Ownership Always Matter? Evidence from the Indian Banking Industry". *Journal of Comparative Economics*, March/April 1998, Volume 26, No.2, pp. 262-81.
- Shaw, G. *Financial Deepening in Economic Development*. New York: Oxford University Press, 1973.
- Shirai, S. "Road From State to Market – Assessing the Gradual Approach to Banking Sector Reforms in India". Asian Development Bank Institute Research Paper No. 32, February 2002.
- Shrieves, R. and D. Dahl. "The Relationship between Risk and Capital in Commercial Banks". *Journal of Banking and Finance*, April 1992, Volume 16, No.6, pp. 439-57.
- Thorat, U. "Developing Bond Markets to Diversify Long-term Development Finance: Country Study of India". *Asia-Pacific Development Journal*, June 2002, Volume 9, No.1, pp. 45-63.
- Tulkens, H. "On FDH Efficiency Analysis: Some Methodological Issues and Applications to Retail Banking". *Journal of Productivity Analysis*, January/February 1993, Volume 4, No.1, pp. 183-210.
- Williamson, J. and M. Mahar. "A Survey of Financial Liberalisation". Princeton Essays in International Finance No. 214, 1998.



VII. EXTERNAL SECTOR

- Acharya, S. "Macroeconomic Management in the Nineties". *Economic and Political Weekly*, April 20-27, 2002, Volume 37, No.16, pp. 1515-38.
- Ahluwalia, M. S. "Economic Reforms in India since 1991: Has Gradualism Worked". *Journal of Economic Perspectives*, Summer 2002, Volume 16, No.3, pp. 67-88.
- Aizenman, J. and N. Marion. "The High Demand for International Reserves in the Far East: What's Going on?" NBER Working Paper No.9266, October 2002.
- Arteta, C; B. Eichengreen and C. Wyplosz. "When Does Capital Account Liberalisation Help More Than It Hurts?" NBER Working Paper No.8414, August 2001.
- Balassa, B. "Outward Orientation". In *Handbook of Development Economics, Volume II*. H. Chenery and T. N. Srinivasan (eds.), Elsevier Science, 1989.
- Baldwin, R. E. and J. F. Francois. *Dynamic Issues in Commercial Policy Analysis*. U.K.: Cambridge University Press, 1999.
- Bannister, G.J. and K. Thugge. "International Trade and Poverty Alleviation". *Finance and Development*, December 2001, No.4, pp. 48-51.
- Ben-Bassat, A. and D. Gottlieb. "Optimal International Reserves and Sovereign Risk". *Journal of International Economics*, November 1992, Volume 33, No.3/4, pp. 345-62.
- Bhagwati, J. "Regionalism and Multilateralism: An Overview". In *Asia Pacific Regionalism: Readings in International Economic Relations*. R. Garnaut and P. Drysdale (eds.), Pymble, Australia: Harper Educational Publishing, 1994.
- Bhagwati, J. "The Design of Indian Development". In *India's Economic Reforms and Development: Essays for Manmohan Singh*. I. J. Ahluwalia and I.M.D. Little (eds.), New Delhi: Oxford University Press, 2001, pp. 23-39.
- Bhatt, P. R. "India's Trade Competitiveness and Exchange Rate Policy". *Prajnan*, October 2000, Volume 29, No.3, pp. 245-64.
- Blejer, M. and A. Cheasty. "Fiscal Implications of Trade Liberalisation". In *Fiscal Policy in Open Developing Economies*. V. Tanzi (ed.), Washington D.C.: International Monetary Fund, 1990, pp. 66-81.
- Brash, D. T. "Address to Canterbury Employers' Chamber of Commerce in Christchurch". *BIS Review*, August, 1998.
- Buiter, W. H. "Optimal Currency Areas: Why Does the Exchange Rate Regime Matter With an Application to UK Membership in EMU". *Scottish Journal of Political Economy*, August 2000, Volume 47, No.3, pp. 213-50.
- Cerra, V. and S.C. Saxena. "What Caused the 1991 Currency Crisis in India ?" International Monetary Fund Staff Papers, September 2002, Volume 49, No.3, pp. 395-425.
- Das, T. "East Asian Economic Crisis and Lessons for Debt Management". In *External Debt Management-Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.
- Dholakia, R. and R. Saradhi. "Exchange Rate Pass Through and Volatility: Impact on Indian Foreign Trade". *Economic and Political Weekly*, November 2000, Volume 35, No.47, pp. 4109-16.
- Eaton, J. and M. Gersovitz. "LDC Participation in International Financial Markets". *Journal of Development Economics*, 1981, Volume 7, No.1, pp. 3-21.

- Edison, H.H.; M.W. Klein; L. Ricci and T. Sloek "Capital Account Liberalisation and Economic Performance, Survey and Synthesis". NBER Working Paper No.9100, August 2002.
- Edwards, S. "Exchange Rate Regimes, Capital Flows and Crisis Prevention". Paper prepared for National Bureau of Economic Research Conference on Economic and Financial Crises in Emerging Market Economies, October 2000.
- . "The Order of Liberalisation of the External Sector in Developing Countries". Princeton Essays in International Finance No. 156, Princeton: December 1984.
- Edwards, S. and S. van Wijnbergen. "The Welfare Effects of Trade and Capital Market Liberalisation". *International Economic Review*, February 1986, Volume 27, No.1, pp. 141-48.
- Eichengreen, B; M. Mussa; G. Dell' Ariccia; E. Detragiache; G. Maria; Milesi-Feretti and A. Tweedie. "Capital Account Liberalisation: Theoretical and Practical Aspects". International Monetary Fund Occasional Paper No.172, 1998.
- Fischer S. "Capital Account Liberalisation and the Role of IMF". Mimeo, International Monetary Fund, October 1997.
- Flood, R. and N. Marion. "Holding International Reserves in an Era of High Capital Mobility". Paper presented at the Brookings Trade Forum, The Brookings Institution, Washington D.C.: May 10-11, 2001.
- Frankel, J. A. "The Demand for International Reserves by Developed and Less Developed Countries". *Economica*, February 1974, Volume 41, No.1, pp. 14-24.
- Frankel, J. A. and B. Jovanovic. "Optimal International Reserves: A Stochastic Framework". *Economic Journal*, June 1981, Volume 91, No.362, pp. 507-14.
- Frankel, J. A. "Regional Trading Blocs in the World Economic System". Institute for International Economics, Washington D.C.: 1997.
- Ghosh, A. and Jonathan D. Ostry. "Export Instability and the External Balance in Developing Countries". International Monetary Fund Staff Papers, June 1994, Volume 41, No.2, pp. 214-35.
- Greenspan A. "Currency Reserves and Debt". World Bank Conference on Recent Trends in Reserves Management, Washington D.C.: April 29, 1999.
- Greenaway, D. "Trade Liberalisation". Lecture Notes for Course on Macroeconomic Management: New Methods and Current Policy Issues, Mimeo, Ankara: 1998.
- Greenaway, D. and C. Milner. "Fiscal Dependence on Trade Taxes and Trade Policy Reform". *Journal of Development Studies*, 1991, Volume 27, No..3, pp. 95-132.
- Government of India. *Budget Speeches of the Union Finance Minister, 1990-91 to 2003-04*. New Delhi: Government of India.
- . *Report of the Committee on Import-Export Policies and Procedures* (Chairman: P. C. Alexander). New Delhi: Government of India, 1978.
- . *Report of the Committee on Export Strategy* (Chairman: Prakash Tandon). New Delhi: Government of India, 1980.
- . *Report of the Committee on Trade Policies* (Chairman: Abid Hussain). New Delhi: Government of India, 1984.
- . *Report of the Committe to Examine Principles of a Possible Shift from Physical to Financial Controls* (Chairman: M. Narasimham). New Delhi: Government of India, 1985.
- . *Tax Reforms Committee: Final Report Part-I* (Chairman: Raja J. Chelliah). New Delhi: Government of India, 1992.

- . *Tax Reforms Committee: Final Report Part-II* (Chairman: Raja J. Chelliah). New Delhi: Government of India, 1993.
- . *Report of the Task Force on Employment Opportunities* (Chairman: M. S. Ahluwalia). New Delhi: Planning Commission, 2001.
- . *Medium Term Export Strategy*. New Delhi: Ministry of Commerce and Industry, 2002a.
- . Press Releases dated July 19, 2002, November 22, 2002 and March 3, 2003. New Delhi: Government of India.
- . *Export Import Policy 2002-07*. New Delhi: Ministry of Commerce and Industry, 2002b.
- . *India's External Debt: A Status Report*. New Delhi: Government of India, 2002c.
- . *Economic Survey*. New Delhi: various issues.
- Grubel, H. "The Demand for International Reserves: A Critical Review of the Literature". *Journal of Economic Literature*, December 1971, Volume 9, No.4, pp. 1148-66.
- Heller, J.R. and M.S. Kahn. "The Demand of International Reserves under Fixed and Floating Exchange Rates". *International Monetary Fund Staff Papers*, Volume 25, No.4, December 1978, pp. 623-49.
- Heller, H. R. "Optimal International Reserves". *Economic Journal*, June 1966, Volume 76, No.302, pp. 296-311.
- Helpman, E. and P. R. Krugman. *Trade Policy and Market Structure*. MIT Press, Cambridge, Massachusetts, 1989.
- International Monetary Fund. *International Financial Statistics Yearbook*. various issues.
- . *Trade Liberalisation in IMF-Supported Programs*. *World Economic and Financial Surveys*, February, 1998.
- . *Revenue Implications of Trade Liberalisation*, International Monetary Fund Occasional Paper No.180, 1999.
- Jalan, B. "International Financial Architecture: Developing Countries' Perspective". *RBI Bulletin*, Mumbai: Reserve Bank of India, October 1999.
- . *India's Economy in the New Millennium: Selected Essays*. New Delhi: UBS Publishers and Distributors, 2002.
- Jha, R. and D.P. Rath. "On Endogeneity of the Money Multiplier in India". Australian National University Working Paper No. 3, March 2001.
- Kamin, S. B. and P. R. Wood. "Capital Inflows, Financial Intermediation and Aggregate Demand: Empirical Evidence from Mexico and other Pacific Basin Countries". In *Managing Capital Flows and Exchange Rates: Perspectives from the Pacific Basin*. R. Glick (ed.), London: Cambridge University Press, 1998.
- Kappagoda, N. "The Financial Crisis and Its Impact on Debt Management in India". In *External Debt Management- Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.
- Kelly, M. "The Demand for International Reserves". *American Economic Review*, April 1970, Volume 60, No.4, pp. 655-67.
- Krueger, A. "Why Trade Liberalisation is Good for Growth". *Economic Journal*, September 1998, Volume 108 No.450, pp. 1513-22.
- Kumar, R. "Debt Sustainability Issues: New Challenges for Liberalising Economies". In *External Debt Management - Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.

- Lal, D.; S. Bery and D. K. Pant. "The Growth Slowdown: Real Exchange Rate Misalignment, Fiscal Deficits and Capital Flows". Mimeo, New Delhi: NCAER, January 2003.
- Landell-Mills, J.M. "The Demand for International Reserves and Opportunity Cost". International Monetary Fund Staff Papers, September 1989, Volume 36, No.3, pp. 708-32.
- Lane-Philip, R. and D. Burke. "The Empirics of Foreign Reserve". Trinity College, CEG Working Paper No.3, Dublin: 2001.
- Loser, C. and M. Guerguil. "Trade and Reform in Latin America and the Caribbean in the 1990's". *Journal of Applied Economics*, May 1999, Volume 2, No.1, pp. 61-96.
- Margit, S. and A. Raychaudhuri. *India's Exports – An Analytical Study*. New Delhi: Oxford University Press, 1997.
- Milesi-Ferretti, M. Gian and A. Razin. "Sharp Reduction in Current Account Deficit: An Empirical Analysis". Working Paper No. 168, Washington D.C.: International Monetary Fund, 1997.
- Mohan, R. "Small-Scale Industry Policy in India: A Critical Evaluation". In *Economic Policy Reforms and the Indian Economy*. A. O. Krueger (ed.), New Delhi: Oxford University Press, 2002, pp. 213-302.
- Mohanty, D.; D. Ajit and B. N. Ananthaswamy. "Short Term and Volatile Capital Flows: The Indian Experience". In *External Debt Management- Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.
- Mussa, M. "Adjustment Process and the Timing of Trade Liberalisation". National Bureau of Economic Research Working Paper No.1458, September 1984.
- Organisation for Economic Co-operation and Development. *A Decade of Trade Liberalisation in Transition Economies*. CCNM/TD(2000)110/Final, May, 2001.
- Patra, M. D.; S. Basu; S. Sahoo and S. Kumar. "External Debt Management: The Indian Experience". In *External Debt Management- Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.
- Patra, M. D. and S. Pattanaik. "Exchange Rate Pass Through and the Trade Balance: The Indian Experience". *Reserve Bank of India Occasional Papers*, December 1994, Volume 15, No.4, pp. 281-34.
- Pattanaik, S. "Target and Instruments for the External Sector with an Open Capital Account". *Economic and Political Weekly*, October 1997, Volume 32, No.40, pp. 4418-27.
- Pattanaik, S. and A. K. Mitra. "Interest Rate Defence of Exchange Rate: Tale of the Indian Rupee". *Economic and Political Weekly*, November 2001, Volume 36, No.46-47, pp. 4418-27.
- Pattnaik, R. K.; M. Kapur and S. C. Dhal. "Exchange Rate Policy and Management: An Assessment of the Indian Experience". Mimeo, Reserve Bank of India, December 2002.
- Rangarajan, C. and A. Prasad. "Capital Account Liberalisation and Controls: Lessons from the East Asian Crisis". *ICRA Bulletin on Money and Finance*, June 1999, No.9, pp. 13-45.
- Rangarajan, C. and A. Prasad. "Emerging International Financial Architecture: The Role of the Fund". *ICRA Bulletin on Money and Finance*, January-June 2001, Volume 2, Nos.4 and 5, pp. 25-51.
- Rath, D. P. "Impact of Capital Flows on Money Supply Process of India". *Udyog Pragati, Special Issue on Money and Finance*, April-June 2002, Volume 26, No.2.
- Reddy, Y. V. "Exchange Rate Management: Dilemmas". in *RBI Bulletin*, September 1997.
- . "Operationalising Capital Account liberalisation: Indian Experience". *RBI Bulletin*, October 2000, pp. 1095-1110.
- . "India's Foreign Exchange Reserves: Policy, Status and Issues". *RBI Bulletin*, May 2002.

- Reserve Bank of India. *Report of the High Level Committee on Balance of Payments* (Chairman: C. Rangarajan). Mumbai: Reserve Bank of India, 1993.
- . *Report of the Committee on Capital Account Liberalisation* (Chairman: S. S. Tarapore). Mumbai: Reserve Bank of India, 1997.
- . *Mid Term Review of the Monetary and Credit Policy 2002-03*. Mumbai: Reserve Bank of India, October 2002.
- . *Accretion to Foreign Exchange Reserves in India: Sources, Arbitrage and Costs*. Mumbai: Reserve Bank of India, 2003.
- . *Annual Report*. Mumbai: Reserve Bank of India, various issues.
- . *Report on Currency and Finance*. Mumbai: Reserve Bank of India, various issues.
- Rodrik, D. "Trade and Capital Account Liberalisation in a Keynesian Economy". *Journal of International Economics*, April 1987, Volume 23, No.1/2, pp. 113-29.
- . "Trade and Industrial Policy Reform in Developing Countries: A Review of Recent Theory and Evidence". National Bureau of Economic Research Working Paper No. 4417, August 1993.
- Sachs, J. and A. Warner. "Economic Reform and the Process of Global Integration". *Brookings Papers on Economic Activity*, 1995, Volume 1, pp. 1-118.
- Sala-i-Martin, X. *Lecture Notes on Economic Growth (I): Introduction to the Literature and Neoclassical Models*. National Bureau of Economic Research Working Paper No.3563, Cambridge: December 1990.
- Summers, L. H. "International Financial Crisis: Causes, Prevention and Cures". *American Economic Review: Papers and Proceedings*, May 2000, Volume 90, No.2, pp. 1-16.
- Tanzi V. "Impact of Macroeconomic Policies on the Level of Taxation and the Fiscal Balance in Developing Countries". *International Monetary Fund Staff Papers*, September 1989, Volume 36, No.9, pp. 633-56.
- Tarapore S.S. "Financing of Indian Industry in an Open Economy". Address at the Seminar Organised by the Indo-American Chamber of Commerce, 1995.
- Williamson, J. "Implications for East Asian Crisis for Debt Management". In *External Debt Management-Issues, Lessons and Preventive Measures*. Mumbai: Reserve Bank of India, 1999.
- . "Exchange Rate Regimes for Emerging Markets: Reviving the Intermediate Option". Washington D.C.: Institute for International Economics, 2000.
- World Bank. *World Development Indicators*. New York: Oxford University Press, 2002.
- World Trade Organisation. "India's Trade Policy Review - Report of the Government". Geneva: WTO, May 2002.
- Yeung, May T.; P. Nicholas and W. A. Kerr. *Regional Trading Blocs in the Global Economy*. U.K.: Edward Elgar Publishing Ltd., 1999.

VIII. ASSESSMENT OF REFORMS

- Government of India. *Recommendations of Prime Minister's Economic Advisory Council on Economic Reforms: A Medium-term Perspective*. New Delhi: 2001.
- Jalan, B. "Introduction" In *The Indian Economy, Problems and Prospects*. Bimal Jalan (ed.), New Delhi: Viking, 1992, pp. ix-xxiii.
- Jalan, B. "India's Economy in the Twenty-First Century: A New Beginning or a False Dawn?" 18th C. D. Deshmukh Memorial Lecture, New Delhi: India International Centre, 2001.
- Mohan, R. "Small-scale Industry Policy in India: A Critical Evaluation". In *Economic Policy Reforms and the Indian Economy*. A. O. Krueger (ed.), New Delhi: Oxford University Press, 2002, pp. 213-302.