

attempts by EMEs to build up reserves to be able to meet unpredictable and temporary imbalances in international payments and thereby, provide confidence to financial markets. Nonetheless, the persistent external flows have begun to pose problems in the conduct of discretionary monetary policy since such flows can threaten domestic macroeconomic stability.

3.46 Following Mundell, it is well-known that the trinity of desirable objectives, *viz.*, a fixed/managed exchange rate (for relative price stabilisation purposes and as a credible nominal anchor), an independent monetary policy (for output stabilisation purposes) and an open capital account (for greater efficiency) can not be achieved simultaneously. For instance, if the domestic macroeconomic conditions necessitate that the domestic interest rates should be higher than international rates, this would attract capital flows from the rest of world for an open economy. Sustained capital flows would put upward appreciation pressure on the exchange rate with implications for external competitiveness. Alternatively, the monetary authorities may attempt to moderate the appreciation

through absorption of these flows; this would, however, have an expansionary effect on domestic money supply which, over time, could create inflationary pressures. Since only two out of the three desirable objectives are mutually consistent, the policy makers have to give up one of the objectives leading to what is called "policy trilemma" (Obstfeld and Taylor, 2002) (Box III.3).

3.47 Sterilisation through open market operations is the most popular policy response and has been used by several countries facing capital surges during the 1990s (RBI, 2003). Such operations leave domestic money supply unaffected and avoid the burden of higher reserve requirements on the banking system. Moreover, by limiting the role of the banking system in intermediating the flows, sterilisation operations reduce banks' vulnerability to sudden reversal of flows (Lopez-Mejia, 1999). Empirical evidence, however, suggests that the effectiveness of sterilisation over time is limited by its implications for domestic interest rates as well as quasi-fiscal costs (Lee, 1996). Furthermore, intensification of sterilisation operations could be counter-productive

Box III.3

Macroeconomic Policy Trilemma

A historical analysis of the monetary and exchange rate arrangements since 1870 shows shifting perspectives of the policy authorities in resolving the trilemma. The gold standard era (1870-1914) was marked by a policy preference for an open capital account and a fixed exchange rate at the cost of monetary policy independence. In the subsequent decades, the pursuit for an independent monetary policy geared towards domestic stabilisation has been the preferred policy choice; the way out of the trilemma was provided by capital controls during the Bretton Woods era and by a flexible exchange rate policy in the recent decades (Table). The efficacy of flexible exchange rates in recent years in providing a resolution to the trilemma is debatable. Calvo and Reinhart (2002)

among others, for instance, argue that even countries with flexible exchange rates do not pursue independent monetary policies. This is due to "fear of floating" on account of concerns such as exchange rate pass-through or high levels of foreign currency-denominated debt.

Obstfeld *et al.* (2003) find empirical evidence in support of the policy trilemma in that countries with open capital account and fixed exchange rates lose considerable monetary independence while non-pegged countries have a reasonable amount of monetary independence. Frankel *et al.* (2002) noted that interest rates in countries with fixed exchange rates show greater sensitivity to foreign interest rates *vis-à-vis* countries with flexible exchange rates. They, however, find considerable differences between industrial and developing economies. In case of developing countries, it is difficult to draw any clear inferences for the 1970s and 1980s, given the imprecise estimates. For industrial countries, empirical estimates over the same period are generally more precise and the results suggest that only pegged regimes exhibited full interest rate transmission, while other regimes fell significantly short of it. Furthermore, they document falling monetary independence during the 1990s as all countries in their sample, with the notable exception of Germany and Japan, displayed full or near-full adjustment - and in some case, more than full adjustment - of local interest rates to foreign interest rates, irrespective of the exchange rate regime.

Table: The Macroeconomic Policy Trilemma

Era	Resolution of Trilemma: Countries Choose to Sacrifice		
	Activist Policies	Capital Mobility	Fixed Exchange Rate
1	2	3	4
Gold Standard (1870-1914)	Most	Few	Few
Inter-war	Few	Several	Most
Bretton Woods	Few	Most	Few
Post-Bretton Woods Float	Few	Few	Many

Source : Obstfeld and Taylor (2002).

as the resultant higher interest rates attract more short-term inflows and increase the overall volume of capital inflows rather than reducing them (Montiel and Reinhart, 1999). The availability of sufficient marketable government securities with the central bank could also constrain the extent of sterilisation operations (see Chapter VI).

3.48 Shifting of public sector and government deposits from the commercial banks to the central bank, if not already held with the latter, can also provide a one-off measure to absorb liquidity from the market. Foreign exchange swaps - sale of foreign exchange by the central bank against domestic currency and a simultaneous agreement to buy the same amount at a certain date in the future at the forward exchange rate - provide another avenue for the central banks to absorb liquidity. To be effective, such swaps might have to be done at a margin favourable to commercial banks, but this would involve quasi-fiscal costs (QFCs). If capital flows persist, the monetary policy instruments would need to be supplemented by other durable macroeconomic policies such as fiscal adjustment, liberalisation of trade policies and capital outflows, and finally, a greater degree of flexibility in the exchange rate (see Chapter VI).

Changing Monetary Policy Paradigm in India

3.49 The evolving international situation as also domestic contingencies in the early 1990s called for changes in the formulation and conduct of monetary policy in India. Accordingly, monetary policy evolved with increasing current and capital account liberalisation, liberalisation of the financial sector, changing pattern of credit requirements from the real sector and rapid changes in the world economic scenario. The operating procedure of monetary policy in terms of targets and instruments, therefore, saw substantial changes.

3.50 The twin objectives of monetary policy *viz.*, maintaining price stability and ensuring availability of adequate credit to productive sectors of the economy to support growth have remained unchanged, though their relative emphasis varied depending on the circumstances. In line with this, in recent years, a preference emerged for a soft and flexible interest rate environment within the framework of macroeconomic stability. At the same time, the large inflows of external capital have contributed to the liquidity conditions remaining very comfortable. Consequently, the emphasis of monetary policy within the broad objectives of price stability and growth has been on liquidity management

so as to ensure orderly conditions in financial markets without impeding the legitimate credit needs of industry.

3.51 Reflecting the development of financial markets and the opening up of the economy, the use of broad money as an intermediate target has been de-emphasised, but the growth in broad money (M3) continues to be used as an important indicator of monetary policy. A multiple indicator approach was adopted in 1998-99, wherein interest rates or rates of return in different markets (*i.e.*, money, capital and government securities markets) along with high-frequency data on currency, credit extended by banks and financial institutions, fiscal position, trade, capital flows, inflation rate, exchange rate, refinancing and transactions in foreign exchange are juxtaposed with output data for drawing policy perspectives.

3.52 With increasing market orientation of the financial structure and deregulation of the operations of commercial banks, the Reserve Bank has restructured its armoury of instruments with direct instruments gradually giving way to indirect instruments. The thrust of monetary policy in recent years has been to develop an array of instruments to transmit liquidity and interest rate signals in the short-term in a more flexible and bi-directional manner. A Liquidity Adjustment Facility (LAF) was introduced in June 2000 to modulate short-term liquidity and signal short-term interest rates. The LAF operates through repo and reverse repo auctions thereby setting a corridor for the short-term interest rate consistent with policy objectives. The Reserve Bank is able to modulate the large market borrowing programme by combining strategic devolvement/private placement of government securities with active open market operations.

Recent Challenges

3.53 In recent period, monetary policy had to contend with a surge in capital inflows. Coupled with modest current account surpluses, this led to a sharp increase in the Reserve Bank's market purchases of foreign currency. Such operations in the foreign exchange market cause unanticipated expansion of base money and money supply, which may not necessarily be consistent with the prevailing monetary policy stance. The appropriate management of monetary policy may require the monetary authorities to consider offsetting the impact of such foreign exchange market intervention, partly or wholly, so as to retain the intent of monetary policy through such intervention (RBI, 2003).

3.54 The Reserve Bank took a number of steps to manage the excess supply in the foreign exchange market. These included a phased liberalisation of the policy framework in relation to current as well as capital account, encouraging pre-payment of external debt and flexibility in the exchange rate of the rupee *vis-à-vis* the US dollar. The declining level of the stock of the Government of India securities with the Reserve Bank has raised concerns about its ability to continue sterilising capital flows of the present order. Against this background, the Reserve Bank's Working Group on Instruments for Sterilisation observed that while the Reserve Bank may continue to use the existing instruments of sterilisation, certain new instruments would enhance its ability to sterilise the impact of increases in its foreign currency assets (see Chapter VI).

3.55 In sum, in a world of generalised uncertainty, the conduct of monetary policy has become increasingly complex. The operation of monetary policy has to take into account the risks that greater interest rate or exchange rate volatility entails for a wide range of participants in the economy. The vicissitudes of capital movements have important bearing on the conduct of monetary policy. Monetary policy has played an important role in taming inflation in recent years. In India, the operating procedure of monetary policy changed dramatically with the opening up of the Indian economy in the 1990s. It was driven by (i) the need for a market-oriented policy mix of open market operations and interest rate signals consistent with the process of price discovery; (ii) the need to manage capital flows following the opening up; and (iii) the need for swift policy reactions to maintain orderly conditions in the financial markets.

IV. FINANCIAL SECTOR OPENNESS

3.56 The financial sector of an economy, comprising institutions, markets and instruments, is multi-dimensional in nature with both domestic and external facets. At the risk of generalisation, one can discern the following broad contours of financial liberalisation, *viz.*, (i) withdrawal of credit controls and excessively high reserve requirements; (ii) interest rate deregulation; (iii) privatisation; (iv) deregulation and development of markets; (v) lowering of entry barriers, limits on participation of foreign banks, and restrictions on specialisation or diversification of banks; and (vi) easing of restrictions on international financial transactions, such as on current and capital account convertibility, and the use of multiple

exchange rates. It is interesting to note that out of the six broad attributes, only the last two are related to financial openness. In other words, financial openness is merely a subset, *albeit* an important one, of features characterising financial liberalisation.

Financial Openness

3.57 Three decades have lapsed since Mckinnon (1973) and Shaw (1973) had indicated the prevalence of financial repression in developing countries. Theories and cross-country evidence have shown that financial repression is harmful for economic growth. Worldwide, financial reforms mainly involved elimination of financial repression with steps to contain the vulnerability of the financial system. It has been observed that trade openness is correlated with financial market development, especially when cross-border capital flows are free, and that changes in openness are correlated with changes in the size of financial markets (Rajan and Zingales, 2001).

3.58 While it is widely accepted that reduction or removal of financial repression and financial openness enhances efficiency and potential growth of an economy, there is no such unanimity regarding the pace and sequence of reforms. The initial condition of the economy undoubtedly would influence the pace and sequence of desirable policy changes or reforms. This calls for a detailed discussion of the benefits and cost of reforms in charting out the optimal pace and roadmap (Box III.4).

Evolution of Financial Openness in India

3.59 In India, unlike in most other countries, liberalisation of the financial sector was initiated simultaneously with liberalisation of the real sector and led the latter in terms of the extent of reforms undertaken. Opening up of the financial sector in terms of entry of foreign entities and easing of restrictions on international transactions took place within the broader process of reforms. The constant policy concern in this respect has been that of preparing the financial sector for global competition and taking preventive measures for the potential vulnerabilities that it might engender. Notwithstanding their extensive branch network, the biggest banks in India are miniscule compared to most multi-national banks, in terms of standard parameters like assets or deposits. Illustratively, India accounted for only 1.1 per cent of world's bank deposits in 2000. Hence, the initial focus of reforms in the financial sector has been

Box III.4

Cost-Benefit Analysis of Financial Sector Openness: Theory and Evidence

The benefits of opening up of the economy are varied. Financial openness permits domestic firms to finance investment projects with rates of return greater than the costs of borrowing, and makes higher yielding assets accessible to savers. As long as the marginal return on investments is at least equal to the cost of capital, net resource inflows can supplement the domestic saving, a binding constraint to higher growth in developing countries. Openness also provides to the residents the gains of greater portfolio diversification. This would increase levels of physical capital per worker. The potential benefits are particularly large for certain types of capital inflows like FDI. By facilitating the transfer of managerial and technological know-how, and by improving the skills composition of the labour force, FDI may have significant positive long-run effects on growth. World capital markets play a counter-cyclical role as a country can borrow from abroad in bad times and lend at good times. Opening up would thus permit an improved inter-temporal allocation of consumption. This counter-cyclical role is justified if shocks are temporary in nature. By increasing the rewards of good policies and the penalties for bad policies, financial openness may induce countries to follow more disciplined macro policies and reduce the frequency of policy mistakes. To the extent that greater policy discipline translates into greater macro-stability, it may also facilitate higher rates of growth.

On the impact on banks, it has been observed that opening of the economy, among others, results in more competition and greater banking efficiency and stability. It enables the banks to reap economies of scale and scope. It helps in diversification of risks. Foreign bank penetration improves the quality and availability of domestic financial services by increasing competition and enabling the application of more sophisticated banking techniques and technology. The risk management capabilities are upgraded. It serves to stimulate the development of the domestic bank supervisory and legal framework. It enhances a country's access to international capital, either directly or through their parent banks. It contributes to the stability of the domestic financial system, if, for example, during turbulent times depositors shift their funds to foreign institutions that are perceived to be stronger than local banks, instead of transferring their assets abroad. Empirical evidences in Asia support the view that presence of foreign financial intermediaries leads to decline in cost of financial intermediation and improvement in quality of financial services.

The capital flows can be harmful also. The ability to monitor the financial system gets eroded with increasing capital flows. Large capital inflows can lead to rapid monetary expansion, inflationary pressures, and real exchange rate appreciation. Under a fixed exchange rate regime loss in

competitiveness and external imbalances may eventually lead to currency crisis. Many countries can borrow in world capital markets in good times, whereas in unfavourable times, they face credit constraints. Procyclicality, particularly of short-term flows, as well as herding, contagion and volatility of capital flows expose the economy to greater instability. The capital inflows may finance low quality investments, such as speculation in the real estate sector, which would have limited impact on growth and may increase instability. Low-productivity investments in the non-tradable sector may reduce over time the economy's capacity to export and lead to growing external imbalances.

Entry of foreign banks may lead to relatively greater flow of resources to large firms while the flow of resources to small firms may be rationed. This would have adverse impact on output and employment. The foreign banks may enjoy regulatory advantages and the possibility of domestic savings fleeing the economy also increases. Mergers, resulting from increased competitiveness, may create banks that are too big to fail and lead to greater moral hazard. Opening up of the economy and greater competition also impel domestic banks and firms to take on greater foreign exchange risks and riskier projects than domestic financial liberalisation. By calling loans and drying up credit lines, foreign banks may aggravate a shock. They can also propagate the crisis by calling loans elsewhere.

Based on cross country experience in 1980s and 1990s, it has been observed that instability of banking systems distinguishes economic crises from ordinary recessions. Some of the suspected reasons for banking crises were found to be lending booms, exchange rate regime, destabilising external factors, rapid financial liberalisation, inadequate prudential supervision and weakness in the legal and institutional framework. Robust causes of banking crises have been found to be rapid domestic credit growth, large bank liabilities relative to the reserves, and deposit rate control. There is little evidence of any particular relationship between the exchange rate regime and banking crises. The relationship that weak institutional environment causes greater risks of financial liberalisation was empirically found to be weak. The relationship between deposit insurance and crisis risks in emerging markets was also not well established (Eichengreen and Arteta, 2002).

On implications for global stability, it has been argued that financial events, such as devaluation or defaults, trigger adverse chain reactions in other countries in the presence of "the unholy trinity": (i) these events follow a large surge in capital flows; (ii) they come as a surprise; and (iii) they involve a leveraged common creditor. Similar events, however, have little international repercussions when they are widely anticipated or take place at a time when capital flows are already subsided (Kaminsky *et al.*, 2003).

to strengthen the domestic financial infrastructure, make it more competitive and to provide banks greater freedom in their foreign operations. While there has been a significant progress towards globalisation in the recent past in India, the extent to which India is globalised is considerably low as compared with other emerging economies. This indicates not only the existence of enormous opportunities but also challenges in terms of transition from a low base. More importantly, the issue of financial integration and in particular the integration of banking sector has to be considered in terms of overall sequencing in the process of integration with the rest of the world.

Policies towards Developing and Strengthening Financial Infrastructure

3.60 Given that inherent soundness of bank balance sheets, presence of well-established institutions, presence of adequate safety nets and vigilant supervision are the pre-requisites for successful financial liberalisation, the reform process in India within the banking system sought to strengthen the balance sheets of individual banks, empower banks to respond in the most optimal manner to market stimuli and to establish institutions to ensure a level playing field for all market participants and provide a back-up system for contingencies.

3.61 Measures to strengthen the financial sector include capital adequacy requirements, prudential norms and means to enhance transparency in the balance sheets of banks and financial institutions by appropriate disclosures. With greater integration of financial markets and institutions, steps have been taken towards consolidated accounting and supervision and standardisation of accounting norms. Prudential norms have progressively been brought closer to international best practices and the process of convergence continues. Higher provisioning norms, tighter asset classification norms, dispensing with the concept of 'past due' for recognition of NPAs, guidelines in respect of debt restructuring/rescheduling/renegotiating, and lowering of ceiling on exposure to a single borrower are among the important measures in this area.

3.62 Measures to enable banks to operate freely in a commercially justifiable manner and competitive environment include the reduction of statutory pre-emptions, deregulation of interest rates and giving banks greater autonomy and flexibility in day to day operations. Other measures in this direction include

greater streamlining of the operations of development financial institutions and deregulation of the capital market. Competition has been infused into the financial system by licensing new private banks since 1993. Foreign banks have also been given more liberal entry. The Union Budget 2002-03 announced the intention to permit foreign banks, depending on their size, strategies and objectives, to operate either as branches of their overseas parent, or, as subsidiaries in India. The latter would impart greater flexibility to their operations and provide them with a level-playing field *vis-à-vis* their domestic counterparts. Progress has also been generated through demonstration and spread effects of advanced technology and risk management practices accompanying new private banks and foreign banks. Given the fiscal constraint being faced by the Government and in keeping with the evolving principles of corporate governance, the Government permitted public sector banks to raise fresh equity from markets to meet their capital shortfalls or to expand their lending. Several public and private sector banks have accessed the domestic equity market. Public sector banks have also raised capital through GDR/ADRs while many banks have raised subordinated debt through the private placement route for inclusion under tier-II capital.

3.63 The quality of financial regulation and supervision as well as of information and the legal system are important for reaping the benefits of globalisation. Hence, enactment of enabling legislation has been a priority area of the reforms. With the switchover to international best practices on income recognition, asset classification and provisioning, the problem of non-performing loans (NPL) assumed critical importance. It was widely perceived that the level of NPLs in India was high by international standards. The problem needed to be tackled urgently and from different fronts. A menu approach has been adopted to tackle this major constraint confronting the banking sector. These policy measures have resulted in reduction in gross NPAs in the banking system from about 15 per cent of gross advances at end-March 1999 to 8.8 per cent at end-March 2003.

3.64 The need for monitoring and supervising becomes even more important systemically with the opening up of the economy. Thus, the prudential regulations were fortified by reorientation of 'on-site inspections' and introduction of 'off-site surveillance'. The focus of inspection has shifted from ensuring appropriate credit planning and credit allocation under

a closed economy framework to assessment of the bank's safety and soundness and to identify areas where corrective action is needed to strengthen the institution and improve its performance. The Board for Financial Supervision (BFS) was constituted in 1994, with the mandate to exercise the powers of supervision and inspection in relation to the banking companies, financial institutions and non-banking financial companies.

Financial Openness in Indian Banking

3.65 An analysis of the financial openness of the Indian banking sector in the broader context of reforms discussed above reveals that the presence of foreign entities within the Indian banking sector has increased and international transactions of Indian banks have increased substantially.

Liberalisation of Operation of Domestic Banks

3.66 The process of opening up is reflected in the foreign exchange related operations of the domestic banks. Authorised dealers (ADs)³ have been given substantial autonomy to conduct foreign currency business by augmenting the delegated powers vested with them.

3.67 Between 1998-99 and 2002-03, turnover in foreign exchange business of banks has increased at nearly five per cent per annum in US dollar terms. It is important to note that merchant banking business of the ADs has grown much faster than inter-bank transactions (Table 3.5).

Table 3.5: Growth in Foreign Exchange Turnover of ADs

(Per cent)

	Merchant		Inter-Bank		Total	
	Purchase	Sale	Purchase	Sale	Purchase	Sale
1	2	3	4	5	6	7
1998-99	20.6	20.2	-3.1	-0.7	0.4	2.9
1999-00	4.8	-4.7	-13.8	-12.8	-10.5	-11.2
2000-01	7.7	15.4	26.7	20.7	22.7	19.6
2001-02	1.3	-7.2	2.4	8.5	2.2	5.3
2002-03	22.7	19.1	3.2	3.5	6.8	6.3
Annual Average	11.4	8.6	3.1	3.8	4.3	4.6

³ Banks authorised to deal in foreign exchange.

⁴ The market access for foreign financial service providers to undertake 'banking activity' as defined under Section 6 of the Banking Regulation Act, 1949, is limited to branch operations of a foreign bank licensed and supervised as a bank in its home country. The different forms of market access by foreign suppliers of banking services include (i) representative office; (ii) agency arrangements with individuals, firms/companies or other organisations in India; and (iii) equity participation in domestic Indian banks up to a stipulated limit.

International Banking by Banks in India

3.68 In view of the growing liberalisation of the external sector, monitoring of the cross-border flow of funds has assumed importance. The Reserve Bank now compiles and disseminates international banking statistics (IBS) on the lines of the reporting system devised by the Bank for International Settlements (BIS). The locational banking statistics (LBS) provide the gross position of international assets and international liabilities of all banking offices located in India. They report exclusively banks' international transactions including the transactions with any of their own branches/subsidiaries/joint ventures located outside India.

3.69 International liabilities of banks recorded a sharp increase during both 2001-02 and 2002-03 driven by their large-scale foreign currency borrowings (Table 3.6). The share of international liabilities in the total liabilities of scheduled commercial banks hovers above 11 per cent.

3.70 There was a change in the composition of banks' international assets, with a large scale substitution of *nostro* balances, including term deposits with non-resident banks, with foreign currency loans to residents, reflecting higher domestic demand for relatively cheaper foreign currency loans.

3.71 The consolidated claims of banks based on immediate country risk as at end-March 2003 were mainly concentrated on the US, Hong Kong and the UK. The distribution of consolidated international claims of banks on various countries, other than India, according to residual maturity reveals that banks continue to prefer to invest/lend for short-term purposes although there was a slight shift to longer-term maturities during 2002-03.

Foreign Banks in India

3.72 Minimum capital requirements have been stipulated for foreign banks with the additional requirement that the capital be brought into the country before the start of banking operations.⁴ Additional branches are permitted after monitoring performance of existing branches of the banks, their financial results, inspection findings, etc. The number of licences offered per year is fixed in conformity with

Table 3.6: International Liabilities of Banks in India: Classified According to Type

(Rupees Crore)

Liability type	Amount outstanding as at end-March		
	2001	2002	2003
1	2	3	4
1. Deposits and Loans	1,04,148	1,20,604	1,45,930
<i>of which:</i>			
Foreign Currency Non-Resident Bank [FCNR(B)] scheme	37,991	39,636	43,989
Foreign Currency Borrowings*	1,222	5,514	18,411
Non-resident External Rupee (NRE) Accounts	29,413	33,233	53,124
Non-Resident Non-Repatriable (NRNR) Rupee Deposits	25,867	27,181	15,207
2. Own Issues of Securities Bonds (including IMDs /RIBs)	43,652	43,582	44,087
3. Other Liabilities	4,580	7,150	10,475
ADRs / GDRs	850	1,862	3,833
Equities of banks held by non-residents	382	547	556
Capital/remittable profits of foreign banks in India and other unclassified international liabilities	3,348	4,741	6,086
Total International Liabilities	1,52,380	1,71,336	2,00,493
<i>Memo:</i>			
International Liabilities as per cent of Total Liabilities of SCBs	11.8	11.2	11.8

* Inter-bank borrowing in India and from abroad, external commercial borrowings of banks. SCBs: Scheduled Commercial Banks.

India's commitment made to the World Trade Organisation (WTO). As on March 31, 1993, there were 24 foreign banks operating in India with 138 bank offices. By end-September 2003, the number increased to 35 with 207 branches. Foreign banks have also set up representative offices in India. As on September 30, 2002, there were 26 representative offices in India. They are essentially metropolitan based and cater to large corporates.

3.73 An analysis of the performance of foreign banks in India during the 1990s reveals that the share of foreign banks increased during the 1990s. In the last two years, however, due to the merger of a large financial institution (FI) to a new private sector bank, the share of foreign banks has declined (Table 3.7).

3.74 To sum up, cross-country empirical evidence has shown that the cost of financial intermediation declines and quality of financial services improves with opening of the economy. Openness should, however, be preceded by deregulation and strengthening of institutional framework in order to limit contagious influences. The strategy adopted in India was to maximise the beneficial effects of openness while minimising the adverse consequences. Financial crises, internally or from contagious influences in the neighbourhood, have been averted, while the financial system has been progressively deregulated and strengthened. The convergence of the domestic prudential norms with

Table 3.7: Share of Banking Market

(Per cent)

Year	Bank Group	Assets	Loans	Deposits
1	2	3	4	5
1991	Public sector Banks	90.1	91.6	90.9
	Private Banks			
	Old	3.6	3.4	4.1
	New	-	-	-
	Foreign Banks	6.3	5.0	5.1
1996	Public sector Banks	82.4	82.2	85.4
	Private Banks			
	Old	6.2	1.9	1.3
	New	1.5	7.0	6.7
	Foreign Banks	7.9	8.9	6.6
1999	Public sector Banks	81.0	80.4	82.6
	Private Banks			
	Old	6.9	7.5	7.3
	New	4.1	4.1	4.0
	Foreign Banks	8.1	8.0	6.2
2002	Public sector Banks	75.2	74.4	80.3
	Private Banks			
	Old	6.1	6.6	6.7
	New	11.4	11.5	7.4
	Foreign Banks	7.3	7.5	5.6
2003	Public sector Banks	75.7	74.2	79.6
	Private Banks			
	Old	6.2	6.7	6.7
	New	11.3	12.1	8.5
	Foreign Banks	6.8	7.0	5.2

international best practices and of the performance of domestic banks *vis-à-vis* foreign banks in the domestic sector has provided the ground for further openness with minimisation of potential vulnerabilities. The policy of gradualism that has been followed by India focuses on evolution of appropriate institutional framework and the sequencing of reforms based on the experience gained as reforms progresses. Recent studies have also lent support to this approach towards reforms.

3.75 In the context of maximising benefits of financial integration and minimising the risks, the link with the real sector cannot be lost sight of. In India, reforms in financial sector started early in the reform cycle which imparts significant efficiency and stability to the financial sector. The financial sector can add competitive strength and growth if reforms in the financial and real sectors keep apace. In other words, flexibility in product and factor markets plays a part not only in capturing the gains from financial sector reforms but also more generally from globalisation. A major agenda for reform at this juncture for India, given the impressive all-round confidence in the economy, relates to the structure and functioning of institutions and in particular lowering the high transaction costs prevalent in our systems. There are several dimensions to the transaction costs - ranging from legal provisions, the judicial system and procedures to attitudes.

V. SYNCHRONICITY OF BUSINESS CYCLES

3.76 The globalisation process has been strengthened and reinforced in the 1990s and beyond under a confluence of forces, embracing trade, technology, and investment flows. The impact of globalisation on the degree of synchronicity of business cycles, however, remains unsettled in practice. Co-movement of business cycles across countries can arise mainly in two ways. First, countries may be hit by common shocks, which cause them to experience similar cyclical characteristics irrespective of the degree of integration. Second, the cross-country transmission channels may intensify by way of increasing international trade - corporate connection (*e.g.*, FDI route), and financial linkages. Thus, co-movements could increase as a result of globalisation. Trade linkages lead to demand linkages across countries which could then lead to closely synchronised business cycles. On the other hand, financial linkages could generate or reinforce the

demand side effects, leading to contagion effects, which could have quick cross-country ramifications through financial linkages. For instance, a dampened international stock market could have adverse implications for demand in the investor countries. While there are a number of studies that explore synchronisation of business cycles among OECD economies, the literature is not so rich in the context of other countries.

3.77 The Indian annual growth cycle during 1950 to 1975 indicated a close temporal relation with the growth cycles in GDP and industrial production of the market economies, in general, and, industrial production of North America, in particular (Chitre, 1982). While external demand has traditionally played a relatively limited role in the course of business cycles in India, the patterns of exports and industrial production have since started exhibiting co-movement with the global business cycle (RBI, 2001). Similarly, cyclical exports and cyclical output in India were found intertwined in a bi-directional causality. On the other hand, cyclical output of advanced countries had unidirectional causal effects on cyclical output in India. This clearly brings out the impact of business cycles of advanced countries on India's industrial sector (Chitre, 2003). Mall (2001) finds that the Indian output cycles have positive relationship with the UK as also with the US output cycles, especially during the post-1980s with a stronger relation with the former.

3.78 The business cycle literature on India has so far examined the cyclical trends in relation to a block of countries - the developed or the Association of South East Asian Nations (ASEAN) economies. An attempt has been made to test for synchronicity of the Indian business cycle with those of its major trading partners from the developed world and the emerging economies, as also the world output for the period 1972 to 2000. The analysis focused on ascertaining whether the opening up of the economy in the 1990s has increased the synchronicity of the Indian business cycles with those of her major trading partners. The Indian business cycle was represented by non-agricultural GDP as also by industrial GDP instead of aggregate GDP.⁵

3.79 An exercise undertaken to analyse correlation of business cycles of India with her trading partners indicates that the synchronicity with the developed world has been relatively strong during 1972-2000 with the UK and Canada, and

⁵ This is because agricultural developments are largely weather-driven and market forces do not affect the sector much.

weak with Japan, Belgium and Germany, both in terms of non-agricultural as well as industrial GDP. On the other hand, relatively strong synchronicity was observed in the developing world with Philippines and Thailand, while the relation turned out to be weak in respect of China and Middle East. A comparative analysis of the periods before and after opening-up of the economy indicates that the cyclical synchronicity of India with the UK, Canada, Australia, New Zealand and the US has strengthened in the latter phase in terms of both non-agricultural GDP as well as industrial GDP. On the other hand, the relation has weakened in respect of Japan and Germany. Simultaneously, within the developing world, the relation has become stronger with the Philippines, Brazil, China and Hong Kong in the post-opening up phase. The exercise throws up divergent signals in terms of non-agricultural GDP as against industrial GDP in respect of the remaining developing countries like Singapore and Malaysia. The improved cyclical synchronicity with Singapore, Malaysia and Indonesia in terms of non-agricultural as against industrial GDP possibly testifies to the emergence

of a new relationship based on services and information technology. On the whole, the cyclical correlation between India and the world turned out stronger in the post opening up phase both in terms of industrial and non-agricultural GDP (Table 3.8).

3.80 In order to ascertain the role of trade and capital account linkages as also of the structural features in the observed cross-country business cycle correlations, the cyclical correlations of India's non-agricultural GDP growth with her 16 major trading partners (excluding Brazil and Middle East) were regressed on the degree of trade openness and structural features in line with Cosby and Voss (2002).⁶ The similarity of structures across countries is sought to be represented by differential in short-term real interest rates and standard deviation of bilateral exchange rate in respect of monetary policy, and differential in the manufacturing shares in GDP in respect of other structural features. It is generally perceived that large variation in exchange rates and manufacturing share should lead to a lower degree of synchronisation of cycles. The results indicate that the

Table 3.8: Correlation Coefficients of India's Business Cycles with Major Trading Partners

Country	Overall Period (1972-2000)		Pre-Opening up Phase (1972-90)		Post-Opening up Phase (1991-2000)	
	Non-Agricultural GDP	Industry GDP	Non-Agricultural GDP	Industry GDP	Non-Agricultural GDP	Industry GDP
1	2	3	4	5	6	7
Australia	0.43	0.31	0.23	-0.01	0.67	0.61
Belgium	0.05	0.06	-0.10	-0.04	0.21	0.27
Brazil	0.12	-0.01	-0.20	-0.50	0.66	0.64
Canada	0.47	0.45	0.35	0.32	0.72	0.71
China	-0.12	-0.21	-0.21	-0.57	0.05	0.22
Germany	-0.48	-0.41	0.11	0.35	-0.60	-0.57
Hong Kong	-0.10	0.10	-0.14	0.05	0.002	0.23
Indonesia	0.12	0.34	-0.17	0.42	0.21	0.36
Japan	0.24	0.28	0.34	0.37	0.12	0.18
Korea	0.25	0.28	0.33	0.24	0.23	0.32
Malaysia	0.04	0.30	-0.09	0.50	0.13	0.27
Middle East	-0.20	-0.04	0.00	0.25	-0.65	0.49
New Zealand	0.28	0.42	-0.07	0.26	0.55	0.58
Philippines	0.34	0.49	0.20	0.51	0.67	0.71
Singapore	0.09	0.40	-0.10	0.54	0.23	0.37
Thailand	0.28	0.48	0.40	0.66	0.26	0.44
UK	0.54	0.41	0.38	0.01	0.74	0.78
USA	0.36	0.37	0.35	0.37	0.54	0.55
World	0.35	0.38	0.22	0.10	0.54	0.72

⁶ The degree of trade openness has been taken as export plus import to GDP ratios using data for the post-opening up phase from the Direction of Trade Statistics, IMF.

degree of trade openness seems to have a negative bearing on the synchronicity of Indian business cycles even though the relation is not statistically significant.⁷ Thus, trade liberalisation of the early 1990s may not have contributed to the observed increasing synchronicity in the post-opening up phase. The increased bilateral trade in this phase could, thus, be a manifestation of specialisation in line with the comparative advantage rather than of intra-industry nature. The signs of all other determinants, *viz.*, exchange rate volatility, divergences in interest rate policy and manufacturing share have been in keeping with the theory even though the first two variables are not statistically significant. Thus, a flexible exchange rate regime, by absorbing any external shocks, might avoid greater synchronisation of cycles as against a fixed exchange rate system. Nevertheless, the observed synchronisation in the post opening up phase could have been facilitated by a process of convergence in the manufacturing base of India and her trading partners. In other words, the observed synchronicity appears to be rooted more in the emerging structural similarity than in the trade linkages.

3.81 The amplitude of business cycles is influenced by the degree of openness of an economy. Often globalisation is held responsible for increasing volatility of business cycles (Buch, 2002). Increased volatility could as well be an outcome of the rapid and badly coordinated capital account liberalisation across the countries. The Indian economy is found to have witnessed the influence of cyclical fluctuations during the post-opening up phase as reflected in the higher amplitude (Table 3.9). However, the amplitude of cycles remained lower than those of her five major trading partners, *viz.*, Indonesia, Korea, Malaysia, Thailand and Germany, which also witnessed higher amplitude in the post opening up phase.⁸ Thus, the opening up of the Indian economy during the 1990s was marked by low fluctuations *vis-à-vis* her select major trading partners, vindicating the effectiveness of the post-reform policy framework in maintaining stability.

Table 3.9: Amplitude of Business Cycles: India and Major Trading Partners@

Country	1972-2000	1981-1990	1991-2000
1	2	3	4
Australia	1.8	2.2	1.5
Belgium	1.6	1.4	1.3
Brazil	3.1	4.2	2.0
Canada	2.0	2.7	1.6
China	3.1	4.1	1.9
Germany	2.5	1.4	3.6
Hong Kong	4.3	4.2	3.8
India (Industry GDP)	3.1	1.9	3.5
India (non-Agricultural GDP)	1.9	1.0	2.1
Indonesia	3.5	1.9	5.6
Japan	1.8	1.4	1.3
Korea	3.7	1.9	4.9
Malaysia	3.7	3.2	4.8
Middle East	3.5	3.1	1.2
New Zealand	2.9	3.5	3.1
Philippines	3.2	4.7	2.2
Singapore	3.1	3.7	3.3
Thailand	3.5	2.6	5.1
U.K.	2.0	1.7	1.6
U.S.A.	2.1	2.3	1.2
World	1.2	1.3	0.9

@ Measured as standard deviation of the cyclical component.

VI. CONCLUDING OBSERVATIONS

3.82 A large increase in cross-border trade and investment in recent years has brought about a growing integration of commodity and financial markets across the world. This has highlighted increasing interdependence among economies and the growing need for a new approach to public policy. The forces of change can only accelerate in the near future and this requires policymakers to proactively explore new instruments, targets and leading indicators for policy purposes.

3.83 Several initiatives have been taken in the Indian fiscal policy in line with the greater openness of the economy. The fiscal deficit, however, has proved to be largely intransigent. In this respect the

$${}^7 \text{ BBCS} = 0.54 - 0.05 \text{ OPENNESS} - 0.016 \text{ VEXCHRATE} - 0.016 \text{ DMFG} - 0.011 \text{ INTDIFF}$$

$$(3.5)^{***} \quad (-0.6) \quad (-1.4) \quad (-2.6)^{**} \quad (-0.2)$$

$$\bar{R}^2 = 0.48 \quad \text{DW} = 1.62$$

Where BBCS = Bilateral Business Cycle Synchronicity of India;
 OPENNESS = Trade Openness (Export *plus* Import/GDP);
 VEXCHRATE = Volatility of Bilateral Exchange Rate;
 DMFG = Differential in Manufacturing Shares in GDP;
 INTDIFF = Differential in Short-term Real Interest Rates; and
 *** Significant at 1 per cent level

⁸ The mean difference in amplitudes across the pre and post opening up phase was found to be statistically significant at one per cent level.

intermediate targets of the FRBM Act will have to be achieved if fiscal policy in India is to play its fitting role in the economy's growth process. Fiscal reforms at the State levels will assume greater importance in this context in consolidation of the variables at the margin.

3.84 In a world of generalised uncertainty, the conduct of monetary policy has become increasingly complex. The operation of monetary policy has to take into account the risks that greater interest rate or exchange rate volatility entails for a wide range of participants in the economy. The vicissitudes of capital movements have an important bearing on the conduct of monetary policy. Monetary policy in India has been responsive to the developments in the external sector and has been able to reinvent itself in tune with the new priorities and changed operational environment. A new challenge in the last two years has been the high order of capital inflows. This has resulted in burgeoning reserves and raised concerns regarding the ability of the Reserve Bank to continue its sterilisation operations into the future. Initiatives are already underway to explore new means and instruments of sterilisation. A medium term concern in this respect relates to enhancing the economy's absorptive capacity to achieve higher levels of real investment.

3.85 The external sector liberalisation in India, which led to a greater opening up of the economy,

was undertaken as part of a gamut of reforms encompassing the real and financial sectors in addition to the monetary and fiscal sectors. Among the more visible impacts of the increased openness of the Indian economy has been the increased synchronicity of domestic and international business cycles and the increasing effects of trade cycles within the economy.

3.86 The financial sector has made rapid strides in reforming itself and aligning itself to the new competitive business environment. While the operational and supervisory practices in the sector has progressively approximated international best practices, the process of convergence is not yet complete. Openness should, however, be preceded by deregulation and strengthening of institutional framework in order to limit contagious influences. Greater conformity to prudential norms of international standards as also adoption of better systems of risk management will enhance the stability of the financial system even as banks expand the range and volume of their operations. A mature financial sector will go a long way in stabilising policy transmission channels and ensuring efficient allocation of resources. The strategy adopted in India was to maximise the beneficial effects of openness while minimising the adverse consequences. The financial system has been progressively deregulated and strengthened with the convergence of the domestic prudential norms with international best practices.