EMPIRICAL FISCAL RESEARCH IN INDIA: A SURVEY*

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This study makes an attempt to thematically chronicle the empirical fiscal research in India during the past six decades since independence. The empirical research work undertaken showed certain shifts in focus, marking distinct phases and also reflecting the theoretical and policy developments. Contributions by fiscal researchers have been seminal and pioneering, covering the spectrum of fiscal policy relevant to the times. Research methodology and techniques have also undergone significant changes. While early research was a reflection of collective knowledge, latter studies have placed equal emphasis on empirical and quantitative analysis. Over the years, researchers have moved from trend analysis to more sophisticated tools based on econometrics and statistics. The conclusions of various research studies have, by and large, been robust with good predictive power and policy insight. A number of fiscal economists from the country have received wide international acclaim.

JEL Classification : H2, H3, H5, H6
Key words : Taxation, Public Expenditure, Deficit, Public Debt, Fiscal Policy

I. INTRODUCTION

In India, fiscal policy has played a pivotal role since independence, contributing significantly to the socio-economic development process of the country. Reflecting this, a large, growing and erudite body of literature has emerged over the years. A thematic cataloguing of the empirical research work in India covering the entire fiscal arena is, however, sparse[1] as authors have largely confined themselves to surveying the literature in specific areas such as taxation, public expenditure, public debt and fiscal federalism. A comprehensive survey of this nature is, however, important to understand the evolution of empirical work in the context of *ex ante* policy formulation and *ex post* policy evaluation in

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1 Bagchi and Nayak (1994) primarily focused on the role of public finance in the plan process in terms of fulfilling the Plan objectives and meeting the financing needs of the plans. Roy (1996) gives an exposition of the prevailing debates in the area of fiscal policy in the context of their 'wider applicability to the Indian political economy'. Both these studies primarily, although not exclusively, focused on fiscal literature prior to the economic reforms of the 1990s.

terms of research methodology and quantitative techniques. It also helps in identifying the emerging and contemporaneous issues and set out a future agenda for fiscal research.

In view of the above, the present paper makes an attempt to bridge the gap in the existing fiscal literature by thematically chronicling the empirical fiscal research in India during the past six decades since independence[2]. This task is admittedly large in terms of volume, time span, issues and also in capturing the policy paradigms. Apart from this, the approach to undertaking such a survey is beset with difficulties as there are various alternatives to catalogue in terms of (a) fiscal policy objectives; or (b) school of economic thought; or (c) fiscal instruments or a combination of (a), (b) and (c).

Over the years, various instruments of fiscal policy *viz.,* taxation, public expenditure and public borrowings have been employed, with varying degrees of importance, to achieve higher economic growth and stability, efficient resource allocation and equitable distribution of income. Furthermore, in India, as in many developing countries, fiscal policy does not operate in isolation as it has close macroeconomic linkages with real, monetary and external sectors. Thus, the macroeconomic impact of fiscal policy is critical for achieving the broader economic goals. The present paper, therefore, attempts to survey the empirical fiscal research in terms of instruments of fiscal policy and fiscal policy in a macroeconomic framework.

The survey was attempted on the basis of published articles in leading journals, books, working papers of specialised institutions/organisations and reports by the Government of India and the Reserve Bank. The survey covers the post-independence period. The bibliography is compiled under three broad heads, *viz.,* (i) articles and books, (ii) reports/ publications by the Reserve Bank and (iii) reports/publications by the Government of India. The paper also includes annexes of time series data on important fiscal variables as far back as comparable series were available. The data are mostly sourced from Budget documents of the Government of India supplemented by other sources such as (i) articles on Central Government Finances published by the Reserve Bank; (ii) Finance Accounts of the Government of India (iii) Handbook of Statistics on the Indian Economy published by the Reserve Bank; (iv) 'Primer on Budget deficit in India' (Reserve Bank Staff Studies, an internal publication) and (v) 'The Corporation Income Tax in India', (Rao, 1980).

The study is essentially synoptic, following the principles of 'ruthless selectivity' in a country where 'practically every conceivable problem has been raised and discussed by

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2 The issues relating to devolution and transfer of resources from the Central Government (Centre) to the State Governments (States) and States specific studies are not covered in this survey due to enormity of literature which deserves a separate survey of literature.

economists'[3]. The remainder of the paper is organised in four Sections. Section II presents a detailed survey of empirical literature under five major heads *viz.,* taxation; public expenditure; deficit and debt; and fiscal policy in a macro-economic framework, across four phases. The first phase covers the period between 1947 and 1968; the second phase, the period between 1969 and 1980; the third phase, the period between 1981 and 1990; and the last phase, the reform period from 1991 onwards. Section III sets out the issues emerging from the literature survey and puts forth the agenda for future research. Conclusions are in Section IV.

II. SURVEY OF EMPIRICAL LITERATURE

In the post-independence years, with the gradual abatement of political and economic uncertainty, stimulating and accelerating growth was one of the primary objectives of fiscal policy. In a nascent economy where the income levels and financial savings were low, the fisc assumed the responsibility of creating the capital base in the form of infrastructure to stimulate growth. Thus, India embarked on a planning process since 1950 which assigned a large role to the public sector and taxation was made the mainstay of public finances. Early empirical literature on the operation of fiscal policy in India since independence was, thus, skewed more in favour of taxation reflecting its significance in the strategy of resource mobilisation for planned development. With the public sector assuming the 'commanding heights' of the economy during the plan era, studies on public expenditure were closely associated with the performance of the five-year plans.

Fiscal policy focused on achieving greater equity and social justice during the 1970s and both taxation and expenditure policies were employed towards fulfilling this objective. High marginal tax rates did not yield the necessary revenue to support the envisaged public expenditure. The growth in receipts thus lagged behind the surge in disbursements despite substantial amount of resources mobilised through additional taxation and hike in the administered prices.

Thus, during the 1980s Indian public finance was in a state of disarray with the fiscal pattern destabilising the relationship between the economy and the budget. This resulted in persistently large deficits which were seemingly intractable. Therefore, the decade of 1980s could be called the decade of fiscal deterioration which, in turn, raised the question of sustainability of fiscal stance of the Government. Empirical research thus, took cognisance of alternative concepts of deficit to analyse its impact on the economy.

[3] Bhagwati and Chakravarty, 1969, 'Contributions to Indian Economic Analysis', American Economic Review, Supplement, September.

The fiscal imbalances of the 1980s spilled over to the external sector resulting in the macroeconomic crisis of 1991. Another disquieting feature of the fiscal system was the large size of monetised deficit which exerted inflationary pressures. The persistent and burgeoning revenue deficit which became endemic in the system pre-empted the borrowed resources, reducing the availability of resources for capital investment. The structural adjustment programme and the consequent economic reforms gave a fresh dimension to empirical analysis of fiscal policy which focused not only on the various instruments of fiscal policy and issues of debt but also on the overall fiscal sustainability in the context of an open economy framework. Although the first half of the 1990s witnessed some fiscal correction, its retraction during the second half of the decade underlined the need for a consistent and sustainable fiscal consolidation process. The Government, therefore, formulated and enacted the fiscal responsibility legislation which signalled a new dawn in fiscal consolidation. Empirical research focused on evaluating the fiscal reforms and the means to achieve the targets set under the Fiscal Responsibility and Budget Management Rules, 2004.

In the ensuing paragraphs, a survey of the empirical research in the various areas listed above is undertaken.

II.1 Taxation

In the planned economy model adopted since Independence, taxation was used as an instrument for reducing private consumption and transferring resources to the Government to enable it to undertake large-scale public investment in an effort to spur economic growth. Taxation was also used to reduce inequalities through progressivity in respect of income and wealth, particularly during the 1970s. The non-integrated and complex nature of the indirect tax structure and the problems it created in terms of multiplicity of levies and the resultant cascading effects received attention in the mid-1980s. Preliminary steps to reform the tax structure were taken in the form of introducing the modified value added tax (MODVAT). Tax reforms received a boost in the early 1990s under the structural adjustment programme initiated in the wake of the economic crisis of 1991. Since then, reforms in the tax structure, both direct and indirect, have been a continuous process.

II.1.1 Phase I: 1947-1968

In the post-independence era, taxation policy was geared towards achieving the economic objectives of promoting employment through grant of tax incentives to new investment; reducing inequality through progressive taxes on income and wealth; reducing

pressure on balance of payments through increase of import duties; and stabilising prices through tax rebate in excise duties on consumption goods. Given the narrow tax base, the tax policy relied more on indirect taxes. The first comprehensive attempt at reforming the tax system was by the Taxation Enquiry Commission (TEC)-1953-54 (Chairman: John Matthai). The Commission reviewed the structure of taxes on income and carried out an in-depth study of the central taxes and their administration, recommended widening and deepening the tax structure both at the Centre and in the State level, specifically for the purpose of financing development outlay and reducing large inequalities of income, modified where necessary to provide tax incentives so as to stimulate capital formation. The Commission also called for a periodic appraisal of the extent to which tax incentives given for production and investment result in the fulfillment of the objectives for which they were instituted. Furthermore, the Commission recommended the financing, in select research institutions, of small research section in public finance and public utilities which would liaison with the proposed Tax Research Bureau attached to the Finance Ministry.

A review undertaken in 1956 by Prof. Nicholas Kaldor at the behest of the Government found the prevailing taxation system in India at the time 'inefficient and inequitable', primarily because the income category was not found to be an adequate measure of taxable capacity. Thus, Kaldor's review recommended the 'broadening of the tax base through the introduction of an annual tax on wealth; the taxation of capital gains; a general gift-tax; and a personal expenditure tax.' These recommendations were implemented by the Government, although suggestions for reducing the scope of tax evasion through a comprehensive reporting system for transactions of a capital nature and lowering of the maximum rate of income tax to 45 per cent were not accepted. Despite this, tax collections failed to improve.

Against the above backdrop, the empirical research during the period covered the issues relating to tax compliance, tax incidence, cost of tax collections and tax elasticity and buoyancy. On the issue of tax compliance, the Matthai Commission found evidence of considerable tax evasion on the basis of statistics made available to it by the Central Board of Revenue, with the difference between income originally returned and that disclosed to the tax department on an average being as high as 600 per cent. The Kaldor Review also made an estimate of the extent of tax lost through evasion which was in the neighbourhood of Rs.2-3 billion[4]. Some authors attributed the lack of buoyancy in tax collections to the high propensity to evade taxes (Bardhan, 1962; Rao, 1961). Bardhan also observed that the penalty for evasion was not severe enough to act as a deterrent.

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4 This works out to about 50-80 per cent of tax revenue of the Centre (net of States share) for 1954-55.

The first major official study on the incidence of direct and indirect taxation was brought out by the Matthai Commission. This was followed up by similar studies during 1961 and 1969 which employed derivatives of the original study. Shifting of corporate income tax incidence in India was studied by Lall (1967) and Laumas (1966). Lall confined to employing some profit ratios over time without isolating the effects of different causative factors on the profitability of the corporate sector. Laumas applied the econometric approach developed by Krzyzaniak and Musgrave and found that for the period 1950-1962, the corporate sector was able to shift the tax incidence to the consumers.

The cost of collecting the various Central taxes was analysed by computing their fixed and marginal costs and their specific cost elasticities for the period 1950-51 to 1966-67 (Ahmed 1968). The author found a close linear relationship between cost of tax collection and tax yield, implying a constant marginal cost for all the taxes and the cost elasticity of all taxes was less than unity. Marginal costs and cost elasticities differed considerably across taxes. Cost of collections was also found to be higher for direct taxes than indirect taxes.

The Indian tax structure was found to be highly buoyant with respective to income (Jain, 1969). Analysing the tax yields through log linear functions for the period 1955-56 to 1965-66, he found that while the buoyancy co-efficients were greater than unity for both direct and indirect taxes, indirect taxes had a much higher co-efficient than direct taxes, reflecting the tax efforts which were largely in the form of commodity taxes or taxes on transactions. However, a tax-wise analysis showed corporation tax to have the highest co-efficient of buoyancy. The built-in flexibility of the tax system was also found to be high which is attributed to the additional taxes imposed during the Second and Third five-year plans.

The effect of taxation on foreign private investment, domestic private investment and housing were examined in studies undertaken by the National Council of Applied Economic Research (NCAER). The first such study was undertaken in 1957 which was revised in 1958 and 1964. The study on taxation and domestic investment underlined that the cumulative impact of income and wealth taxes had adverse implications both on the incentives to save as well as on the initiatives to undertake risk. The studies called for a more liberal approach to both personal and corporation income tax which would remove the distortionary effect of taxation. Several of these suggestions, including removal of penal tax on bonus shares and reduction of tax on inter-corporate dividends were accepted by the Government (NCAER, 1966).

In addition to the above issues, during this phase the issue of taxing the agricultural sector engaged the attention of economists. Following the recommendations of Matthai

Commission, there was an animated debate on the general question of taxation of agriculture. A case for introduction of agricultural taxation and non-abolition of land revenue was put forth by Gulati (1966) and Gulati and Kothari (1968). Gandhi (1966) argued that the tax burden was indeed low and income taxation of agriculture was imperative.

It is important to note that during this phase literature on taxation was mostly in the nature of debates backed a strong theoretical flavour. This could possibly be due to the fact that there were limited data / observations to undertake empirical research.

II.1.2 Phase II: 1969-1980

During this phase, in addition to promoting economic growth, fiscal policy was also used as a means to reduce income inequality. Taxation was used as a prime instrument to achieve this objective during the initial years. To meet its objective of alleviating poverty and bringing about greater social justice, the Government raised the income tax rates to substantially high levels during the 1970s - marginal rate of taxation moved up to 97 per cent and, together with the incidence of wealth tax, crossed 100 per cent. Wealth tax, estate duty (on inherited wealth) and gift tax (on transfer of wealth) were imposed. Indirect taxes were hiked on goods considered luxuries or inessential.

Research during this period focused on examining the progressivity of taxation, use of tax incentive to promote investment, effect of high marginal rates of direct tax, inflationary impact of taxation, tax compliance and alternative forms of taxation.

Studies covering this period showed that while the prevailing tax system did have an impact on the concentration of declared income/wealth, the level of progressivity which is required to ensure equity left much to be desired. Indirect taxes which formed the bulk of the taxes were found to be progressive in terms of per cent of expenditure (Chelliah and Lall, 1978). They also found that the Central indirect taxes were more progressive than State indirect taxes and that the incidence was the highest on consumption goods and the lowest for capital goods, both for urban and rural households. On the other hand, Sen (1978) found that for income tax the rate of increase was maximum for the lowest income group, even though the tax burden in real terms was generally increasing during the period 1970-78. The increase in burden was found to be progressively declining. In fact, it was found that the two highest income classes enjoyed a reduction in their liability, indicating that the rate of progression in the income tax structure falls with rising income. Gupta (1977) found that the multiplicity of tax exemptions and tax deductible business expenses and perks available to upper income groups diminished the equity of both direct and indirect taxes of the Central Government.

This view was reinforced by Toye (1976) who found that data used to calculate tax incidence tended to understate the consumption of upper expenditure groups, as perks and business consumption expenditures were in effect personal consumption expenditure.

The issue of using tax incentives to promote investment was examined by Jhaveri (1973) who studied the inducement effects of development rebates which was introduced in 1955 for new investment in plant and machinery to all industries and was in existence for seventeen years. He concluded that a development rebate increases the scope of substitution of capital for labour as it reduces the price of capital. This, he considered as not desirable in a capital scarce economy. He further opined that incentives given for a very long period become a part of the tax system and lose their inducement value and, therefore, advocated that tax incentives should be time-bound, selective and linked to the attainment of plan targets.

The high marginal rates of direct taxes invited considerable criticism. Gandhi (1970) used a partial equilibrium framework to argue that high marginal tax rates led to severe disincentive effects and low tax collection and, in turn, placed undue burden on indirect taxes with concomitant effect on industrial and manufacturing output. The Direct Taxes Enquiry Committee,1971 (Chairman: Justice K.N.Wanchoo) was also in favour of reducing the marginal tax rate from 97.75 per cent to 75 per cent in an effort to fight tax evasion. The Wanchoo Committee also attempted to estimate the extent of tax evasion as research work in this area was limited due to basic data infirmities. The study employed a variant of the Kaldor method to estimate the income evading tax for the years 1961-62 and 1965-66 and forecast the values for 1968-99. Gulati (1972), however, found that there was little theoretical or empirical correlation between tax compliance and tax rates.

The impact of inflation on nominal incomes of income tax payers was examined by Jhaveri (1974) for the period 1969-70 to 1973-74 who found that the increase in tax burden on account of inflation was generally inversely related to the level of income. The erosion of real disposable incomes was likely to be more in case of people with lower incomes than higher incomes. The author suggested raising of exemption limit, reduction in marginal rates of taxes, particularly for the lower income group and graded tax deduction for savings, *i.e.,* declining tax incentives for higher before-tax income, as measures to address the regressivity in the income tax structure.

On the issue of role of tax policy on resource allocation, the Expert Committee on Tax Measures to Promote Employment (Chairman: Shri.V.M.Dandekar) which submitted its report in 1980 found that the implicit subsidy for employment resulting from differential excise duties varied widely across industries.

The debate on agricultural income tax intensified during this phase. Shetty (1971) validated empirically that the rich farmers were under-taxed and not the agricultural sector as a whole. The Government of India constituted a Committee under the Chairmanship of Dr.K.N.Raj in 1972 to examine this issue. The Committee devised a tax on agricultural holdings which would integrate taxation on agriculture and wealth. The asset component in the proposed tax would allow for equity and the income component, which would be determined by normal net output, would introduce progressivity. The proposed tax was criticised on the grounds that it was iniquitous with the existing arrangements for taxation of non-agricultural incomes (Thavaraj, 1973 and Toye, 1978). Rao (1972) and Toye (1978) observed that there were problems of tax evasion as the proposed tax was to be levied on operational holdings and not on total holdings.

Another tax which received some attention during this phase was the value added tax which was examined as an alternative to other taxes such as corporation income tax, customs duties, excise duties and sales tax (Lakdawala, 1976). He concluded that while corporation income tax and customs duties may not be substituted, substitution of central excise duties with a value added tax would largely depend on whether commodity taxation should be universal or selective and whether commodity-wise rate determination is essential. He felt that the real advantage of a value added tax would be realised if it was substituted for sales tax on a national scale.

Chelliah (1980) recommended the re-introduction of the expenditure tax as a remedy to the anomalies arising out of income received in kind which often remained out of tax net.

During this phase, from the point of view of policy, empirical research focused on high marginal rates of tax and their effect on tax evasion. Taxation policy was also used to tackle high inflation, particularly during the mid 1970s. The techniques used during this phase included partial equilibrium framework and regression analysis.

II.1.3 Phase III: 1981-90

This phase began with a grim economic situation characterised by low economic growth, high inflation and deterioration in balance of payments due to sharp increase in prices of crude oil imports. The Government sought to reduce its deficit through tax increases. New tax savings instruments were introduced to enable financing of the large plan expenditure. Tax concessions were also given to non-residents to encourage flow of foreign exchange remittances to address the balance of payments problem. Customs duties were hiked to contain growth in imports, augment revenue and protect the domestic industry.

The Long-term Fiscal Policy announced by the Government of India in 1985 presented for the first time a long-term perspective for fiscal policy in which the Central Government recognised the deteriorating fiscal position as the most important challenge of the 1980s and set out specific targets and policies for achieving fiscal turnaround. It indicated a direction of change in tax policy required to promote growth, increase built-in elasticity of the tax system, secure better tax compliance and move towards a more equitable distribution of the burden of financing the Plan. A technical study group was appointed by the Government in 1985 to review and revise the Central Excise Tariff, keeping in view the need for simplification and rationalisation of the tariff. The Group also examined facilitating collection of data regarding the incidence of excise duty for purposes of policy formulation. As a result, a modified system of Value Added Tax (MODVAT) was introduced in 1986 in a phased manner to reduce the distortionary effect of tax on production, minimise tax cascading and increase progressivity. Reforms in customs duty focused on increased reliance on tariff system rather than on quantitative restrictions to regulate imports in order to yield more revenue.

Empirical research during this phase, continued to focus on tax incidence, tax compliance, tax elasticities and tax incentives. In addition, studies also examined the tax efforts and impact of tax on inflation. Tax incidence continued to remain a predominant area in which studies were undertaken. Indirect taxes were found to be progressive, particularly in respect of excise duties, and import duties were found to be proportional for rural households but progressive for urban households (Jha and Srinivasan, 1988). Measures taken on the direct taxes front were found to reduce inequality. A study undertaken by the National Institute of Public Finance and Policy (NIPFP) on the operation of estate duty and gift tax in India found that there was a trend towards reducing the concentration of inherited wealth during the 1970s as compared to the 1960s which could be attributed to presence of the estate duty (Bagchi and Chaudhury, 1983).

The compliance of taxation was another issue that received attention of the analysts during the phase as tax evasion was a serious concern of fiscal policy particularly in view of the increasing requirement of resources for financing the Plan outlays. Chopra (1982) employed a variant of the Kaldor/Wanchoo methodology to estimate the tax-evaded income. In a NIPFP study undertaken for the Government of India, Acharya and Associates (1985) made an analysis of various aspects pertaining to unaccounted income including the measurement and definitional issues. The approach was confined to non-corporate income and involved estimating a distribution of income by earner and then allowing for the main exclusions, exemptions and deductions which are permitted under the tax laws in order to

arrive at an estimate of the incomes which should have been assessed to tax. The study noted that measures such as demonetisation and voluntary disclosure schemes failed to stem black economy since they do not address the underlying causes of black income generation. The study suggested that it is important to change polices including reduction in rates and simplification of tax structure in order to reduce the generation of black income. Public administration should strive to inculcate integrity and honesty among the officials. Apart from these, a mechanism to ensure strict enforcement of taxes and punishment of tax-evaders is also critical in reining in the generation of black income. In this context, Guhan (1986) opined that fear of strict enforcement enabled an increase in tax collection by 39 per cent in 1975-76 without any change in rates.

On the issue of tax exemptions for savings, Chitale (1983) found that savings related tax benefits which were limited to certain specific instruments have distortionary impact on capital markets. He suggested that an alternative would be for the Government to raise resources at market rates which would ensure sufficient income to the investors. Das-Gupta (1990) concluded that tax incentives had significant adverse effects on the burden of public debt without any increase in savings as high after-tax returns to some assets from upper brackets taxpayers lead to the possibility that savings may actually be discouraged in these cases. He also found that the financial incentives through tax saving instruments accorded a greater favour to upper tax brackets which erodes the progressivity of the tax system. An NIPFP sample study of 223 companies for the period 1961-62 to 1975-76, presenting empirical evidence in respect of the tax savings effect of fiscal incentives granted for corporation taxes, found the effective tax rate to be 45.7 per cent as compared to the average statutory tax rate of 54.9 per cent (Lall, 1983).

On the issue of tax elasticity, Shome (1988) found the tax system to be lacking the design that would automatically yield higher tax revenue with growth in gross domestic product. He felt that in the event of low tax elasticity, even the discretionary measures may fail to evoke the desired response in the form of improvement in tax-GDP ratio. According to him, the improvement in tax elasticity would call for expansion of coverage, a regular adjustment in rates on inflation and reasonable progressivity in the system as a whole. Removal of various exemptions in income tax would be critical for improving elasticity. For tax on goods and services, a broad-based general sales tax or value added tax would yield a higher elasticity. Malhotra (1988) also expressed concern regarding low elasticity of revenue from direct taxes which was 0.79 during the period 1974-75 to 1984-85 due partly to evasion and partly to the plethora of concessions for promoting savings and other objectives. This led to the large the dependence of Indian fiscal system on indirect taxes. He

concluded that there was an imperative need to raise the share of direct taxes in total tax collections.

The tax efforts across 15 major States in India were analysed by Chelliah and Sinha (1982) using the representative tax system approach. This approach was derived by computing the average effective rates of different taxes as a proportion of yield to the relevant bases and these rates were then applied to the respective bases in each of the 15 States. The tax efforts were, thus, measured in terms of the ratio of actual tax collections to taxable capacity of a State. A State having a ratio of more than one could be said to be making more than the average effort. The authors concluded that during the period 1973-76, only three states *viz.* Punjab, Kerala and Haryana were found to have been making distinctly above the average tax efforts and four states *viz.* Tamil Nadu, Maharashtra, Gujarat and Andhra Pradesh showed just above the average tax efforts. Oommen (1987) analysed the tax efforts of various States in terms of comparison of States' own tax revenue with State Domestic Products (SDP), elasticity and buoyancy of individual states. The relationship between the tax revenue collected and SDP was considered to be a good measure of tax efforts of a state. He concluded that while some of the South Indian States, particularly Tamil Nadu, have an excellent record of tax efforts, states like West Bengal and Gujarat were found to have tapped lower resources than their potential.

The prevailing taxation policy was found to encourage tax-push-inflation-cum-recession (Patnaik, 1983). Patnaik argued that the pressure to reduce budget deficits as a consequence of the IMF loan availed by India in the early 1980s resulted in duty and price hikes which were recessionary and counter-productive. Studying the MODVAT system introduced in 1986 and applying some simulations, Jha (1989) concluded that the twin objectives of minimising price increases for the consumers and maximising government revenue could be achieved through taxing engineering industry.

This phase marked the first real effort towards a long-term perspective for tax reform, which in turn was spurred by the realisation on the part of the policy makers that (a) the economic effects of taxation have to be considered to ensure against distortions in resource allocation and adverse effect on economic growth; (b) the administrative implications and the possible behavioural response of both tax administrators as well as tax payers have to be considered while designing the tax structure. Thus, considerable importance was given to the issue of tax evasion and the factors which determined it. Several studies also critiqued the Government's policy of providing tax incentives. The studies particularly during the late eighties along with the Government's long-term fiscal policy underscored the need for tax reform. The studies used fairly sophisticated modeling.

II.1.4 Phase IV:1991 onwards

Tax reform efforts prior to 1991 focused on enhancing revenue productivity to finance large developmental plans and promoting equity. Tax reforms since 1991 were initially undertaken as a part of the structural reform process following the macroeconomic crisis of 1991 (Box 1). The reforms aimed at augmenting revenues and removing anomalies in the tax structure through restructuring, simplification and rationalisation of both direct and indirect taxes drawing mainly from the recommendations of the Tax Reforms Committee 1991 (Chairman:Dr.Raja J. Chelliah). The key tax reforms include lowering the maximum marginal rate on personal income tax; widening of the tax base by way of a series of steps including introduction of presumptive taxes, adoption of a set of six (one-by-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; 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 and rationalisation of excise duties.

The need for tax rationalisation was the focus of various Committees appointed by the Government. The 'Advisory Group on Tax Policy and Tax Administration for the Tenth Plan', 2001 (Chairman: Dr.Parthasarathi Shome) recommended the deletion of exemptions and deductions which have become redundant. The Expert Committee to Review the System of Administered Interest Rates and Other Related Issues, 2001 (Chairman: Dr.Y.V.Reddy) recommended withdrawal of tax concessions available on small savings. Task Force on Direct Taxes and Indirect Taxes, 2002 (Chairman: Dr.Vijay Kelkar) reiterated the need to withdraw exemptions and concessions to widen the tax base.

Empirical research during this phase primarily focused on the efficacy of tax reforms. Muhleisen (1998), assessing the performance of tax reforms implemented by the Central Government since 1991, showed that overall revenue had declined relative to GDP due to substantial tax cuts in recent years, although elasticity estimates pointed to small improvements in the revenue-generating capacity of the tax system. In the short-term, the study recommended that the reform priorities should be on base-broadening measures, while longer-term steps need to include shifting to Value Added Tax (VAT), improving taxation of agriculture and strengthening tax administration. Rao (2002) also advocated VAT but recommended a dual system in which a manufacturing VAT would be levied by the Centre and a destination-based consumption-type VAT, retail stage VAT, would be levied by the States. Such a VAT should be a general rather than a selective tax in order to reduce administrative costs. Rajaraman (2004) noted that while a price-neutral destination-based

Box 1: Tax Reforms

Tax reforms and movements in tax rates in India validate the Laffer Curve relationship between tax rate and tax collections particularly in the current decade. The tax structure evolved in the event of large resource requirement during the initial decades after independence was characterised by multiplicity of tax rates which were increased to very high levels across all the taxes. Analysts viewed such a tax structure as a hindrance in achieving the full potential of the economy. The need for large scale tax reforms became increasingly imperative during the 1980s which is considered to be the decade of tax reforms.

The marginal rate for personal income tax was increased to 85 per cent in the beginning of 1970s and taking into account the surcharge, the effective rate for the highest income slab was even higher. For instance, the marginal income rate in 1973-74, including surcharge of 15 per cent, was 97.5 per cent. Taking into account the wealth tax rate of 5 per cent, the tax payees in the highest income brackets were liable to pay tax more than 100 per cent of their income. Gandhi (1970) found that such a high level of marginal tax rates had severe disincentive effects and resulted in low tax collections. Direct Taxes Enquiry Committee (1971) also attributed the large scale tax evasion to confiscatory rates. Reflecting the impact such criticism of the high rates, marginal income tax rates were reduced to 66 per cent and wealth tax rates to 2.5 per cent in 1976-77. Since then there has been almost consistent reduction in the level and number of income tax rates (Table 1). The effective marginal income tax rates, including surcharge, in 2006-07 would work out to be 33 per cent. With a view to stimulating investment in productive assets, the Finance Act, 1992, abolished wealth tax on all assets except certain specified assets with effect from April 1,1993. Wealth-tax was abolished on assets such as shares, bank deposits, fixed deposits, bonds, debentures, *etc*., and is levied only in respect of unproductive assets such as residential houses, farm houses, urban land, jewellery, bullion, motor car, plane, boats, yacht, *etc*. Wealth-tax is charged at the rate of 1 per cent of the amount by which the net wealth exceeds Rs.15 lakh. The tax on unproductive assets may be justified on the grounds that the productive assets get taxed in the form of tax on income stream generated by such assets whereas there is no income generation from unproductive assets.

Table 1 : Income Tax Rates for the Highest Slab (%)*

1	2
1954-55	78.1
1955-56	84.4
1956-57	87.5
1960-61	70.0
1962-63	72.5
1971-72	85.0
1974-75	70.0
1977-78	60.0
1984-85	55.0
1985-86	50.0
1992-93	40.0
1997-98#	30.0

** Surcharge is excluded. # Continuing till present.*

Historically, indirect taxes have been dominant in the tax revenue of the Central and State governments in India. Although there was some decline in the share of indirect taxes of the Centre in the first of half of the 1970s, it increased thereafter to around 84 per cent in 1990-91. Bagchi (1997) notes that the increase in level of customs revenue in the 1980s was brought about by a rise in the volume of imports as well as successive hikes in the import tariffs. Taxes on external trade being a convenient tax to handle, faced with growing expenditure need, governments often tend to jack up the customs tariff to collect more revenue with little regard for the impact on the

Box 1: Tax Reforms *(Concld.)*

competitiveness of domestic industry and efficiency in the use of resources in the economy. He further noted that India was ranked as a country with the highest level of customs tariff in the world with maximum rate of duty rising to as much as 300 per cent. Panchamukhi (1974), along with other contemporary analysts, highlighted the ill-effects of such high tariff structure in terms of impediment to growth. Thus, the reforms undertaken since the beginning of 1990s were aimed at moderating the detrimental effect of high import duty on economic growth. The peak rate of customs duties has since been reduced to 12.5 per cent (for non-agricultural goods) in 2006-07 from 255 per cent in 1990-91.

The Taxation Enquiry Commission of 1953-54 noted that broadening the base of excise duties was essential to attain a stable tax structure in the country. With this began the process bringing more and more commodities under excise. By 1976, all the commodities manufactured in India, including industrial inputs and capital goods, were brought under purview of excise duties unless specifically exempted. Bagchi (1997) noted that the rates of excise varied widely across commodities, reflecting the concerns of social and economic policy, as also lobby pressure from industry interests. Non-transparency and cascading effects of the excise structure adversely affected the exports and provided an impetus for evasion. Recognising the need for substantial reforms, the Central Government introduced modified value added tax (MODVAT) in March 1986 which is considered to be a major step towards simplifying the excise duty structure. After the introduction of MODVAT, excise duty structure has been simplified further by replacing it with CENVAT with the aim of reducing the tax rates to a single CENVAT rate. The Union Budget 2005-06 stated that the medium term goal would be to cover the entire production–distribution chain by a national VAT, or even better, a goods and services tax, encompassing both the Centre and the States. Implementation of VAT at State level since April 2005 is a major milestone in moving to a national level Goods and Services Tax (GST) that should be shared between the Centre and the States. The Union Budget proposed April 1, 2010 as the date for introducing GST.

References:

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3. Government of India (2005)- Union Budget , 2005-06.

VAT may be the solution provided in the theoretical literature for compensating loss of revenue on account of trade tariff reforms, there seemed to be no evidence of revenue enhancement from VAT collections in low-income countries. Fiscal restructuring in India has to, therefore, focus on enhanced revenue collections at the Centre rather than at the level of States. Purohit (2001) looked into the issues to be addressed in introducing VAT based on prior experiences of States in implementing VAT in its various forms. Purohit (2006) undertook a comparative study on the tax effort and taxable capacity of the Central

Government in India *vis-à-vis* the average tax effort of other similar countries and also a comparative assessment on the taxable capacity of the State governments with the average tax effort of all the States in India.

Chelliah and Rao (2002), analysing the trends in tax revenue of the Centre and the States during the 1990s, concluded that the significant fall in customs and excise collections to GDP ratio could have been reduced considerably had the plethora of the tax exemptions been curtailed. They, however, contended that, simplification of the income tax system, reduction in rates and attempts to make the tax base more comprehensive have improved collection under income tax. A change in the share of potential tax base was also found to have contributed to the observed trends in income tax collections in addition to changes in structure and compliance. They opined that a more efficient tax administration could have resulted in a rapid rise in income tax to GDP ratio in the 1990s.

In a recent analysis of the tax system in India, Poirson (2006) assessed the effects of India's tax system on growth, through the level and productivity of private investment. She undertook a comparison of India's indicators of effective tax rates and tax revenue productivity with other countries and showed that the Indian tax system was characterised by a high dependence on indirect taxes; low average effective tax rates and tax productivity; high marginal effective tax rates; and large tax-induced distortions on investment and financing decisions. She opined that the most recently proposed package of tax reforms undertaken to fulfill the commitments under the FRBM Act would improve tax productivity and lower the marginal tax burden and tax-induced distortions. The firms that relied on internal sources of funds or encountered problems in borrowing would, however, continue to face high marginal tax rates.

Acharya (2005), in assessing the tax reform process from the mid-1970s to the present found that enormous progress was made in the last 30 years, judged by the standards of economic efficiency, equity, built-in revenue elasticity and transparency. However, he felt that the key issues for further reform included the removal of plethora of complex exemptions plaguing customs tariff, low buoyancy of excise, integration of CENVAT with state VAT and the broad-basing of direct taxes. He also advocated the use of information technology and modern risk management methods in tax administration. Bagchi *et al.,* (2005) put forward a set of proposals to improve tax revenues by limiting the extent of tax-breaks in the country. Shome (2002) stated that a major lacuna in tax structure was that although the tax reform measures were broadly in line with international movements in tax reforms, the measures have not been accompanied by commensurate expansion in the tax base.

On the issue of tax administration, Rao and Rao (2005) found that while a significant progress had been made in tax administration in recent years, there is still scope for improvement as reform in administration should be a continuous exercise.

Cost of tax compliance was studied by the NIPFP for the Planning Commission based on a sample of 44 private sector companies (Chattopadhyaya and Das-Gupta, 2002). It was found that although compliance costs were high for some firms, they were reasonable by international standards. Legal compliance costs were found to be relatively high, although companies in general were found to be able to recover them. The need to engage professional tax advisors who accounted for 39 per cent of the total legal costs, was ascribed to instability in tax structure followed by tax ambiguity and complexity of tax laws. Das Gupta (2004), in a study of the compliance costs of income taxation for the companies in India, estimated it to be between 5.6 per cent and 14.5 per cent of corporation tax revenues. The net compliance costs[5] were estimated to be between minus 0.7 and plus 0.6 per cent of corporation tax revenue. Both gross and net compliance costs were found to be regressive.

Cashin, Olekalns and Sahay (2001) examined evidence for tax-smoothing behaviour in India for the period 1951-52 to 1996-97 using the vector-autoregressive approach developed by Huang and Lin (1993) and Ghosh (1995). The tax-smoothing approach predicts that in response to a temporary increase in government spending, the tax burden of financing this expenditure will be spread over time, resulting in rising fiscal deficit in the short-run. The authors found evidence that the inter-temporal tax-smoothing model was successful in explaining the behaviour of fiscal deficit, implying that the Government was found to keep the tax rates constant in the face of temporary shocks in expenditure.

This phase witnessed the setting up of three major committees by the Government of India under the chairmanship of Dr.Raja Chelliah, Dr.Parthasarthy Shome and Dr.Vijay Kelkar to specifically study the tax structure and suggest reforms. The enactment of the Fiscal Responsibility Legislation provided renewed impetus to the need to augment the Government's revenue in the context of achieving the FRBM targets. The Task Force for implementation of the FRBM Act, also chalked out the reforms required in the Indian tax system. Empirical research during this period thus focused on the impact of tax reforms and the areas that require further restructuring. The sophisticated econometric techniques used during the 1980s were further strengthened during this period.

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[5] Net compliance costs are the difference between gross compliance cost and the value of benefits from compliance activities.

II.2 Public Expenditure

Public expenditure in India assumed significance in the context of the mixed economy model adopted since Independence whereby the primary responsibility of building the capital and infrastructural base rested with the Government. The concerns regarding equity and poverty alleviation, particularly since the 1970s, added another important dimension to public expenditure in terms of redistribution of resources. The inadequate returns on the huge capital outlays over the years as well as the macroeconomic crisis of 1991 stemming from high fiscal imbalances led to a shift in the focus from mere size to efficiency in public expenditure management so as to facilitate adequate returns and restore macroeconomic stability. The cutbacks in capital outlay undertaken as part of the expenditure management in the first half of the 1990s, however, raised concerns over the inadequate infrastructural investment and the repercussions on the long-term growth potential. The upward movement in Government's revenue expenditure was partly responsible for fiscal deterioration which set in during the latter half of 1990s. With a renewed commitment towards fiscal consolidation since 2003-04, re-prioritisation of expenditure and emphasis of outcomes rather than outlays are the guiding principles of public expenditure management.

II.2.1 Phase I: 1947-68

During the initial years after independence, faced with problems associated with the partition of the country and the need to contain inflationary pressures brought about by World War II, the Government had to follow a judicious mix of raising taxes, resorting to borrowing or reducing expenditure. The Government set up the Central Economy Committee, 1947 to suggest, *inter alia*, measures to eliminate wasteful expenditure in administration and for reorganisation of the administrative ministries on an economical basis. With the Government embarking on the Five-year plans since 1950, the expenditure policy reflected the objectives of the plan as the 'expenditure budget was the vehicle and the framework in which the plan schemes were adjusted and acknowledged' (Premchand, 1966). As financing of capital formation had to be undertaken on non-commercial terms due to the long gestation periods and high capital-output ratios associated with such projects, the Government undertook the responsibility of creating the necessary capital base. On the non-plan front, efforts were taken to prevent the growth of personnel and Economy Committees were set up in each Ministry to scrutinise proposals for creation and continuance of posts. Emphasis was on better utilisation of resources and avoidance of delays rather than on reduction of aggregate expenditure. However, these measures failed to have the desired effect as non-developmental expenditure continued to increase both in absolute and relative terms adding to the inflationary pressures.

Empirical work during this phase was focused on classification, composition and control of public expenditure.[6] In his analysis of the Central Government expenditure on the revenue account during the period 1950-51 to 1961-62, Gulati (1961a) concluded that the broad pattern of increase in revenue expenditure followed the prevailing accent on social and developmental services. Presenting an applied theory of public expenditure Panchmukhi (1967) brought out the importance of cost-benefit analysis in public expenditure, clarifying the economic aspects of the effects of expenditure on education and health.

In his study on the Central Government's capital expenditure over the period 1950-51 to 1961-62, Gulati (1961b) questioned the treatment of all capital expenditures as developmental and reclassified the entire expenditure on civil works as non-developmental. Gulati (1963) emphasised the need to separate government expenditures on administrative, social and developmental services from other expenditures.

Departing from the prevailing thought, Premchand (1966) for the first time raised the issue of control in public expenditure and examined the working of the administrative machinery established for the purpose of ensuring control and the techniques adopted to achieve its objectives and purposes.

The NCAER undertook a study for reclassifying Government expenditure, both by the Centre and the States on the basis of function in order to elucidate the division of expenditure between consumption and investment (NCAER, 1966). A major contribution of the study was an estimate of developmental expenditure. The study found the developmental expenditure increased more rapidly than non-development expenditure. The study also found that the Government draft on real resources of the economy had not only increased in absolute terms but also in terms of GDP.

During this phase, expenditure policy was shaped to achieve reduction in income inequality and counter inflation. On the issue of price stability, the emphasis was on long-term price stability through large expenditure on production of goods and services.

II.2.2 Phase II: 1969-80

Apart from the emphasis on undertaking large-scale capital outlay, expenditure policy was also geared towards promotion of equity and social justice through public expenditure on social welfare and poverty alleviation schemes. Rural development received special attention in terms of larger outlays and directed lending by the newly nationalised banks.

[6] The survey of literature for this phase has been taken from Mahendra Pratap Singh (1988), 'Economic of Government Expenditure Growth', Reliance Publishing House.

Several employment schemes were inaugurated and small-scale industry, which was touted to promote employment, was given special privileges. Exchange control and industrial licensing were tightened during this period. Strong fiscal measures were taken to reign in inflation during 1974-76. Over the years, in addition to the commitment towards a large volume of developmental expenditure, the Government's expenditure widened to include a rising volume of subsidies. Large interest payments on a growing debt and downward rigidity in prices further contributed to increased current expenditure. Current revenues, on the other hand were less buoyant leading to the emergence of sizeable revenue deficits in the Central government budget from 1979-80 onwards and in the combined budgets from 1982-83 onwards.

Empirical work during this phase continued to focus on expenditure composition. In addition, research was also undertaken to examine the extent to which the expenditure policy was reflected in reduction of income inequality.

On the impact of public expenditure on income distribution, Zahir (1972) found that, for the period 1952-1966, the growth of public expenditure made very insignificant contribution towards the achievement of social justice. This view was supported by Gupta (1977) who evaluated the extent of the impact of Central Government expenditure on mitigating economic inequality and poverty, the pattern of consumption and the generation of employment opportunities.

Empirical literature during this phase critiqued the Government's policy of using expenditure as a tool to achieve income redistribution.

II.2.3 Phase III: 1981-1990

During this phase, expenditure of the Government was seen as an instrument having bearing upon aggregate demand, resource allocations and income distribution. In all these functions, however, expenditure was conceived at best to supplement the taxation policy for achieving desired results. The emergence of structural imbalances in the Budget resulted in the pre-emption of resources for non-plan expenditure. In 1987 the Government announced a virtual freeze on expenditure and a ceiling on budget deficit. This had only given a temporary reprieve and the fiscal situation started to deteriorate by the mid-1988 as a result of the unbridled growth in public expenditure and insipid performance of the public sector enterprises.

The role of expenditure in accelerating economic growth, expenditure elasticities and expenditure control were the issues examined in empirical work undertaken during this period. On the issue of employing expenditure as a tool to accelerate economic growth,

Malhotra (1988) noted that in order to accelerate the pace of growth through higher investments, the size of outlays were raised from Plan to Plan. Regarding the impact of government expenditure on growth, Bhattacharya (1984) found that the multiplier effect in the short-run was highest for the expenditure met from deficit financing. In the long-run, the government expenditure multiplier depended only on the rate of taxation of income. He also found that the government expenditure is not an exogenous policy variable, as a part of it is endogenously determined by previous budget decisions. Analysing the impact of government expenditure on various sectors of the economy using the Leontif static input-output model for the year 1971-72, Sarma and Tulasidhar (1984) found that the impact of expenditure on salary disbursals was more than that of the expenditure on commodity purchases by the Government.

A study undertaken by the NIPFP for the Planning Commission analysed, between the period 1950-51 and 1977-78, the causes of growth in public expenditure; its composition and impact of government purchases on sectoral output; and estimated income elasticities of major categories of expenditure (Reddy *et al.*, 1984). To study the impact of Government expenditure on sectoral output, the study constructed Government commodity expenditure vector and computed the indirect demand for sectoral output using an open-ended Leontief model. The study concluded that there has been a significant change in the composition of Central Government expenditure with a pronounced shift towards expenditure on economic services. The expenditure policy was also found to favour decentralisation in spending. Income elasticities of expenditure were found to be greater than unity and were generally found to be higher when computed in real terms than in nominal terms.

Ways to reduce public expenditure were explored (Chona, 1980). Similar concerns were expressed regarding the profligacy of non-Plan expenditure particularly in respect of defence expenditure, subsidies and interest payments (Datta, 1986). Malhotra (1988), perceived the persistent and sharp rise in non-Plan expenditure, particularly under interest payments, defence and subsidies, a factor responsible for deterioration in finances of the Central Government in the 1980s. Singh (1988) found that a very large part of Central Government expenditure was consumed by the committed expenditure and a very paltry proportion was left for developmental heads. The share of developmental expenditure, however, showed sign of some improvement since 1978. Furthermore, he concluded that though a larger proportion of capital expenditure was incurred under developmental heads, it remained very low as proportion of GNP. He pointed out that the existence of incremental budgeting, under which the current levels of expenditures largely depend on the levels prevailing in the earlier period, was quite detrimental to the interests of any rational

government expenditure policy. In this context, introduction of zero-base budgeting (ZBB) and quarterly budgeting were considered to be the remedies.

The rise in expenditure was sought to be explained in terms of Wagner's hypothesis of increasing government expenditure with the economic growth. Murthy (1981, 1982), using the data for 1961-76, estimated long run elasticity which was found greater than unity. Madhavachari (1982) explored the significance and validity of Wagner's Law and its possible applicability in estimating future government expenditure. He found that there was significant shift in income elasticity during 1960s and 1970s mainly for economic expenditure whereas the elasticity of consumption expenditure was relatively stable. Over a long period, however, income elasticities were found to exceed unity and showed signs of stability.

Specific aspects of Government expenditure were also analysed during this phase. Asha (1986) highlighted the phenomenal growth in subsidies since 1970-71 and found that while food and export subsidies were predominant up to 1975-76, fertiliser subsidies have gained importance since then and were the largest in magnitude by the mid-1980s. Developmental subsidies were found to account for two-thirds of the total subsidies. The author called for a periodical cost-benefit analysis of various subsidies to justify their continuance. Malhotra (1988) noted that whenever there was a sharp increase in the ratio of public sector Plan expenditure to GDP, there was a substantial rise in the share of market borrowings, deficit financing and external assistance in plan financing. This, in turn, put pressure on expenditure through increase in interest payments.

Concerns over the unabated increase in public expenditure, particularly since the first of half 1980s, were reflected in the studies undertaken during this phase. Although there was a compositional shift in the expenditure pattern towards developmental expenditure, the emergence of fiscal imbalances both at the Centre and the States led to a rise in debt servicing, thereby increasing the committed component of expenditure.

II.2.4 Phase IV: 1991 onwards

Although sharp cuts in expenditure were effected as part of the stabilisation package in 1991, attempts to curb expenditure growth in successive Central Government budgets in the 1990s were found to be mostly 'sporadic and arbitrary in nature' (Premchand and Chattopadhyay, 2002). It is only in the second generation of economic reforms that expenditure reform has become an integral part of the overall fiscal reform. Expenditure Reforms Commissions set up by the Government suggested a host of measures to curb built-in-growth in expenditure and to bring about structural changes in the composition of

expenditure. Some of these measures have been implemented by the Government. These included subjecting all ongoing schemes to zero-based budgeting, assessment of manpower requirements of Government departments through reviewing norms for creation of posts and introduction of Voluntary Retirement Scheme (VRS) for surplus staff, 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 maximize generation of internal resources. Some major expenditure management policies initiated by the Government during the current decade include restriction on fresh recruitment to 1 per cent of the total civilian staff strength over the 4 years beginning fiscal 2002-03, introduction of a new pension scheme of defined contribution for new recruits since January 2004 and introduction of an outcome budget in 2005-06 to evaluate the quality of expenditure.

The various expenditure commissions had sought to identify areas in the Government to curtail and improve the quality of non-plan expenditures. A major step forward in assessing the nature of subsidies in India and in generating a discourse on the same was the Government of India (1997) discussion paper on the extent of government subsidies. The Government of India (2004) report on subsidies tried to take stock of the reasons for the continuing high levels of subsidies and possible direction of reforms in government subsidies.

Trends and unevenness in public expenditure have been analysed by Rao, Sen and Ghosh (1995), Shome (1996), Shome, Sen and Gopalakrishnan (1996) and Srivastava and Sen (1997) among others. Mundle and Rao (1997) had shown that the sharp growth of current expenditure since the mid-1980s has crowded out both public and private investment, built-up inflationary pressures and stress on balance of payments and led to emergence of the debt-deficit spiral.

Studying the empirical relationship between development expenditure and public debt in India during the period 1969-70 to 1985-86, Bhatt (1994) found that increase in public debt is basically due to the increasing development expenditure. In the absence of commercial viability and high linkage and spread effects of the projects so financed through debt and the prevalence of an inelastic tax structure, the public debt can impose a chronic burden on the society. He, therefore, suggested a de-emphasis of the developmental role of the Government and a greater stress on the role of private enterprise in economic development.

Shome (2002) advocated the restructuring and sustenance of expenditure levels with fiscal deficit targets in focus in a scenario where tax rates were already lowered to internationally competitive rates. Lahiri (2000), analysing the persistently high levels of fiscal deficit in the country, argued that a strategy for its reduction should also focus on

sound expenditure management through better budgeting techniques. The study stressed that expenditure prioritization would have to be made so as to contain the deficits on one hand and provide adequate outlays for essential social sector programmes on the other.

Studies were also undertaken to look into specific aspects of expenditure. On the issue of subsidy burden, Srivastava and Sen (1997) estimated that in 1994-95 subsidies constituted 14.4 per cent of GDP at market prices. Lahiri (2000) called for the Government, both at the Centre and State level, to undertake measures to reduce untargeted subsidies and also the total outlay on subsides in general. Srivastava and Amarnath (2001) and Srivastava and Rao (2004) also brought to the fore the critical issues pertaining to subsidies in India. On the issue of expenditure on wages and salaries, Acharya (2002) commented that 'the Fifth Pay Commission effects constitute the single largest adverse shock to India's public finances in the last decade, with corresponding negative consequences for aggregate savings and investment in the economy'. Howes and Murgai (2004), on restructuring of Government expenditure, noted that though subsidies were often considered for effecting expenditure savings, the government salary bill too should receive a lot more attention from policy makers and that significant savings can feasibly be extracted from the salary bill, *via* both wage and hiring restraint, without sacrifice of expenditure quality. Tzanninis (1996) also emphasised on the need for civil service reforms including the implementation of the 30 per cent cut in staff strength, improving mechanisms to adjust pay scales and increases in retirement age to address long-term pressures on pension outlays as means to reduce the public sector wage bill and improve efficiency. Mohan (2000), however, found that although the Fifth Pay Commission was widely regarded as the 'villain' causing fiscal problems in the 1990s, analysis of data suggested that this was not the case at the Central Government level. The total cost of Government salaries after implementation of Fifth Pay Commission, excluding defence and police, as a proportion of GDP, was found to be much lower than it was throughout the 1980s.

Rakshit (2000), analysing the budgetary imbalances in the economy, found that they emanated from the composition of government expenditure and modes of its financing and suggested its re-orientation towards investment in agriculture and infrastructural facilities, roll-back of public consumption expenditure and enhanced allocation for social sector especially for primary health care services. Premchand and Chattopadhyay (2002) analysed the Central Government expenditures since 1970s and brought out the issues in relation to expenditure management. They suggested measures for a sound expenditure management for prudent fiscal management in the country. World Bank (2003) report emphasised the need for reallocation of expenditures from subsidies towards investments in infrastructure so as to stimulate poverty-reducing growth and avoid an unsustainable path for public debt. Heller (2004), on reviewing

the fiscal policy framework, noted that it did not provide for an appropriate expenditure programme that was responsive to the necessary and immediate needs of the economy. Vital spending-on primary education and medical care as well as on physical infrastructure - was also not found to be taking place because of unproductive outlays on subsidies and transfers and on excessive compensation and employment in unproductive areas of the public sector. Sarma (2004), analysing the quality of expenditure, stressed the need to introduce zero-based budgeting at Centre/State levels. Pattnaik *et al.* (2005) in analyzing the role of public expenditure in India found that public sector management remains the primary fiscal policy tool for achieving the goals of higher growth, equity and stability.

Most of the studies that analysed expenditure trends during this period were in the context of the worsening levels of fiscal deficit in the economy and the substantial increases in public expenditure were identified as a major source of the problem. Empirical examination of the components of government expenditure primarily focused on the estimation of the extent of subsidies. Empirical research also focused on the question of improvement in government finances through a reduction in government expenditure in a regime of fiscal consolidation.

II.3 Deficit and Debt

The concept of budget deficit or deficit financing as it was popularly known has occupied a unique place in the designing of the fiscal policy and planning in India. The developmental planning in India assigned a prominent role to the public sector and thus the role of Government has assumed crucial importance. The revenue potential was however, inadequate to meet the growing expenditure requirements arising from developmental needs. Therefore, deficit financing assumed a critical role in financing plan outlays. The underlying economic rationale was that since resources mobilised through deficit financing were spent on developmental projects, to that extent it was desirable. Furthermore, it was assumed that borrowings to finance capital expenditure would be self financing, *i.e.,* the returns from the investment expenditure would meet the debt service. In realty, however, these assumptions did not hold true. During the 1980s large deficits emerged, accompanied by large debt and debt service burden. Consequent upon this development, empirical research since the late 1980s addressed the issues relating to alternative measures of deficit and sustainability of deficit and debt. Fiscal stabilisation programme introduced since July 1991 added a new dimension to the underlying issues of budget deficit. Thus, at present the approaches to the issues relating to budget deficit are no more confined to economic growth and inflation. Rather, the analysis covers a wide spectrum of issues such as measurement, sustainability, economic consequences and deficit reduction strategies.

II.3.1 Phase I: 1947-68

Doubling of the plan outlay in the second plan and the subsequent increases in successive plans necessitated generation of resources both internally *i.e.,* within the Government as well as from sources outside the Government to meet the financing needs. Deficit financing was used as a means to cover the gap between ambitious investment plans and the low levels of savings in an underdeveloped economy. This policy was, however, not without its share of criticism. Rao (1953) cautioned that the safe limit of deficit financing should not be crossed as it would lead to hyperinflation and no growth. B.R.Shenoy (1955), one of the panel of economists with the Planning Commission, reviewing the experience with deficit financing between 1947 to 1954, noted that the concept of the 'initial inflationary impact of deficit financing being "liquidated" by a "compensatory" increase in output, resulting on the maturity of the investment was not economically tenable, as the increase in the output would simultaneously create a commensurate increase in money incomes.' He opined that such finance was self-defeating as it impeded overall economic development through the distortion and wastages it produced. This view was also shared by Vakil and Brahmananda (1956) who apprehended that the high scale of deficit financing envisaged for the second Five-Year Plan would fuel inflationary pressures which, in turn, would require further increases in money supply, thereby generating a vicious circle. Reviewing the experience of the first Five-Year Plan, they concluded that the deficit financing did not have an impact on inflation largely due to the increase in output enabled by favourable monsoons. The stabilising of output subsequently could, therefore, lead to a discontinuous spurts in prices unless imports are resorted to, which would be difficult given the low sterling balances. Vasudevan (1967) maintained that deficit financing as a source of financing economic development should be resorted to only when the tax structure could not be widened.

The NCAER undertook a study to examine the extent and nature of India's public debt and the problems of public borrowings. It found that the progressive enlargement of internal market borrowing of the Government had narrowed the government securities market. Suggestions were made to increase the attractiveness of gilt-edged investment. These included increasing the coupon rate, expanding the banking system and imposing supplementary reserve ratio in the form of government securities. The study also suggested that while major policy decisions relating to government securities should be taken by the Government, Reserve Bank should have the freedom to manage debt operations. The study also opined that small savings administration should be vested with the Reserve Bank (NCAER, 1966).

II.3.2 Phase II: 1969-80

Swamy (1975) and Kharadia (1979) analysed the impact of budget deficit on money supply and inflation. Mongia (1971) provided an extensive study of the use of deficit financing for financing economic development *vis-à-vis* other sources of financing such as tax and non-tax resources and borrowings. Sreekantaradhya (1972) examined the role of public borrowing in resource mobilisation and the implications of mounting public indebtedness on the domestic and external sector stability. He advocated that additional resources required to finance development should take the form of borrowing in excess of the official targets, as taxation burden was already high and deficit financing exerted inflationary pressure. He contended that as the borrowings would be undertaken to finance public investment, the benefits of the resultant growth may outweigh the burden of public debt. He further suggested that as contributions by the Reserve Bank or the banking sector would have a monetary impact, public debt should be held by non-banking institutions. Sunderajan and Thakur (1980) analysed the linkage between public investment and private investment in the framework of macro-econometric model. This study essentially formed the basis for the discussion on crowding out although it did not analyse directly the behaviour of budget deficit on private sector behaviour.

II.3.3 Phase III: 1981-1990

There was a structural change in the Government Budgets during the 1980s. The emergence of revenue deficit in 1979-80 in the Centre's Budget continued to enlarge during the 1980s, raising concerns over the rising public debt and interest payments and the consequent constraint of the availability of resources for meeting developmental needs. The 1980s witnessed a steady increase in market borrowings along with an increase in Reserve Bank's support to such borrowings. Interest rates were sharply raised during the period 1979-81 to contain inflationary pressures. With the dampening of inflation rates, lending rates were brought down from 1983 onwards.

The empirical work during this phase focused on the concepts and measurement of deficits, assessment of sustainability of deficits and debt and macroeconomic impact of public debt.

The official definition of debt was questioned by researchers during this period on the ground that this definition is not meaningful in the economic sense (Seshan, 1987) and (Rangarajan, Basu and Jadhav,1989). Seshan (1987) who suggested a concept of net debt which excluded certain items from the budget documents such as non-interest, non-negotiable securities issued to the IMF and reserve funds which are only inter-governmental debts.

Rangarajan, Basu and Jadhav (1990) suggested netting out of all deposits, in addition to the adjustments suggested by Seshan (1987) to derive the net debt of the Government. According to them, the net debt thus derived conceptually corresponds to the net primary deficit and is more meaningful in the context of fiscal sustainability.

The concept and measurement of deficit in Indian context has evolved over a period of time (Box 2). The use of a single measure of budget deficit to assess the impact of fiscal policy was in vogue till the late 1980s. Patnaik (1984) opined that the budgetary deficit being

Box 2: Measurement of the Fiscal Gap – Budget Deficit, Monetised Deficit and Fiscal Deficit

The fiscal gap up to the mid-1980s was measured in terms of 'budget deficit' which referred mainly to the changes in the amount of ad hoc Treasury Bills and other 91-day Treasury Bills outstanding and the changes in the Central Government's deposit balances with the Reserve Bank and its other cash balances. In fact, until the beginning of the 1990s, there was no unique concept of budget deficit relevant to all purposes and occasions. Depending on the nature of the quest, the relevant budget deficit concept could have been the government revenue deficit, the capital deficit, or overall deficit (Gill, 1991). While the budget deficit, as was defined at that time, severely understated the monetary impact of fiscal operations since it did not include Reserve Bank's investment in dated securities, there was also some overstatement of the monetary impact to the extent that the Treasury Bills were held by the banks. In view of this, the Chakravarty Committee emphasised the need to have a measure for the full extent of Government's reliance on Reserve Bank so as to quantify the monetary impact of fiscal operations. Since a sizeable part of the new issues of Government securities was taken up by the Reserve Bank in the absence of adequate response from the market and subscriptions to dated securities had as much effect on the reserve money growth as purchase of Treasury Bills, the Committee recommended that the net changes in the Reserve Bank's holding of dated securities and Treasury Bills after adjusting the Government deposits with the Reserve Bank, i.e., the net RBI credit to the Government, may be taken to measure the extent of monetisation of Government deficit. The Committee also recommended that the fiscal gap be measured in terms of fiscal deficit which would measure the net borrowing requirement of the Government. The Economic Survey of the Government of India for 1989-90 brought out a measure of the fiscal gap in terms of the difference between Government expenditure and net lending on the one hand and current revenue and grants on the other. The Budget for 1999-2000, switched over to a new accounting practice from April 1, 1999 whereby loans to States against small savings collections are to be made from the especially created 'National Small Savings Fund' (NSSF) under the Public Account. Hence, these were not included in the Centre's expenditure and were, therefore, not part of its fiscal deficit.

Reference:

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Gill, K.S. (1991), Budget Deficit of the Central Government, Economic and Policital Weekly, January, XXVI (1-2).

a narrow concept to some extent disguises the fiscal crisis which was emerging in India. Rangarajan, Basu and Jadhav (1990) for the first time, introduced multiple deficit indicators.

One of the first to draw attention to the possibility of domestic debt in India reaching an unacceptably high level in the not too distant future was Seshan (1987). Subsequently, the Report of the Comptroller and Auditor General (CAG) of India (1988) also warned against "the alarming growth in domestic debt". These early studies, based on simple trend analysis, were criticised by Rangarajan, Basu and Jadhav (1990), on the grounds that they lacked "analytical constructs" behind their findings. They called for a comprehensive and much deeper analysis on the measurement of budget deficit and debt and the dynamic nexus between the two. Using data for the 1970s and the 1980s, they simulated two alternative scenarios for financing the deficit: a debt-financing scenario and a monetary-financing scenario. Under the debt-financing scenario, they concluded that "the higher interest burden may invariably lead to a squeeze on budgetary capital outlays, thereby stifling economic growth". Under the monetary-financing scenario they concluded, "resorting to monetary financing is likely to set in motion a vicious circle of large deficit, higher monetary financing, greater inflation leading again to a larger deficit".

II.3.4 Phase IV: 1991 onwards

The deterioration of fiscal situation and increased dissaving of Government administration by the latter half of 1990s renewed the urgency for improving public finances at both Centre and State levels, particularly, in view of the need to benchmark Indian codes and practices to international standards in the aftermath of its membership to G-20 group of countries. The Central Government, through the enactment of the Fiscal Responsibility and Budget Management Legislation in August 2003 and its subsequent notification, along with the FRBM Rules in July, 2004, set for itself a rule-based fiscal consolidation framework. Under the stipulations of the FRBM Act and Rules, the revenue deficit of the Centre is to be eliminated by March 2009 (with a minimum annual reduction of 0.5 per cent of GDP) and fiscal deficit is to be reduced to 3 per cent of the GDP (with a minimum annual reduction of 0.3 per cent of GDP). Although commitments to fulfil the recommendations of the Twelfth Finance Commission led to the Government setting a 'pause' in the FRBM implementation in 2005-06, the Union Budget for 2006-07 has announced the resumption of FRBM process in which revenue augmentation and expenditure re-orientation are the main planks. Following the initiative of the Central Government and the incentivised schemes available under the recommendations of the Twelfth Finance Commission, several State Governments have also enacted their own fiscal responsibility legislation.

A prime concern of empirical work distinctive of this phase was the steady accumulation of public debt. Measurement issues continued to receive attention. An abiding objective of the Government's macroeconomic stabilisation policy since 1990s was to rein the fiscal deficit which would enable the prevention of further accumulation of public debt. Studies have found that since the public debt of the Government was broadly the accumulation of liabilities created by the Government to finance its deficit over the years, debt parameters in general moved in tandem with the trends in fiscal deficit.

Contributions to the measurement of public debt were made by Rajaraman and Mukhopadhyay (2000) and Rangarajan and Srivastava (2003). Rajaraman and Mukhopadhyay defined public debt as the deemed face value of the accumulated stock of Government's non-monetary financial liabilities. In other words, they emphasised on the public debt not owned by the Reserve Bank. Rangarajan and Srivastava argued that the outstanding liabilities shown in the Receipt Budget of the Union Government are overstated as the borrowings by the State Governments from the National Small Savings Fund (NSSF) is also taken as part of the Centre's liabilities. As the liabilities as reported in the Comptroller and Auditor General (CAG) Report on the Union Government does not include the NSSF's lending to State Governments, they advocated that this was a more accurate measure of Central Government liabilities.

On the issue of measuring deficit, empirical work continued with Pattnaik (1996 and 1999) developing a long term data series extending the study done by Rangarajan, Basu and Jadhav (1990). Rangarajan and Srivastava (2003) pointed out that the official figures of fiscal deficit show discrepancies, as the non-cash transactions are not included. They, therefore, derived the fiscal deficit series by taking the change in the outstanding liabilities as given the CAG report.

Estimates of the structural and cyclical components of Government deficits in India showed that structural deficit was quite predominant; cyclical deficit though present was found to be not significant (Pattnaik *et. al,* 1999, Reserve Bank of India, 2002, Rangarajan and Srivastava, 2005 and Pattnaik *et. al,* (2005). The studies concluded that given the small size of the automatic stabilizers, counter-cyclical measures would have to depend upon discretionary fiscal policy measures.

Several studies went into the issue of debt sustainability in India. Chelliah (1991) showed that maintaining the primary deficit even at a level of 3.5 per cent then was unsustainable leading to a debt-to-GDP ratio to 77.4 per cent in 2000-01 from 60.2 per cent in 1989-90. Using annual data for 18 years (1970-71 to 1987-88), Buiter and Patel (1992)

demonstrated with four alternative interest rates that discounted public debt in India is non-stationary. They pointed out that unless measures are taken to reverse the primary deficit to a primary surplus, avoiding repudiation or default would require the mobilisation of large seigniorage or inflation tax which has a high cost in terms of long-run inflation. Moreover, even maximal use of inflation tax will not be sufficient to close the solvency gap.

On the other hand, Khundrakpam (1998) and Moorthy *et. al* (2000) found that the Indian public debt was sustainable in terms of Domar's stability condition. This was, however, questioned since the GDP growth rate was compared with call money rate and commercial bank lending rate, which was considered inappropriate (Jha, 1999). Lahiri and Kannan (2000), Acharya (2001, 2002), Ahluwalia (2002), Srinivasan (2002) and World Bank (2003) also commented upon the high and unsustainable level of deficit and debt. Pinto and Zahir (2004) observed that without fiscal adjustment, debt/GDP ratio for the General Government Sector would increase to the level of 110 per cent in 2006-07 and with adjustment, this ratio would increase to 92.5 per cent. Cashin, Olekalns and Sahay (2001) found evidence of a significant bias toward deficit financing, leading to excessive public borrowing as well as resort to seigniorage and financial repression. The authors, thus, argue that the public debt is well in excess of the optimal level and not consistent with inter-temporal solvency.

Pattnaik, *et. al* (2004) assessed the sustainability in the context of fiscal rules and concluded that there is evidence of only weak sustainability in India. Roubini and Hemming (2004), using a balance sheet approach, found that debt in India is unsustainable over the longer term although it appears to be financeable in the short term. But despite some reasons for optimism as regards the continuing financeability of the debt, comparisons with other emerging market economies suggest that India may be more vulnerable to a crisis than is generally perceived-especially by Indian policymakers-and that fiscal adjustment is urgently needed to reduce vulnerability and the likelihood of a crisis. Reynolds (2001), using a simple long-horizon growth model, found that, despite large fiscal deficit, fiscal crisis in India has been avoided due to the favourable differential between real interest rates and overall economic growth. The simulations, however, suggest that although the maintenance of high fiscal deficit might be sustainable for several more years, it would undermine growth and exert upward pressure on interest rates thereby increasing the risk of India moving to an explosive debt path. The paper concluded that ambitious fiscal reforms that include improved fiscal discipline at the state level, tax measures to raise the tax/GDP ratio and cutbacks in unproductive expenditure would be needed to provide resources for infrastructure investment.

Rajaraman *et. al* (2005) made an assessment of the debt sustainability of the States in India. It attempted to identify the fiscal correction avenues that call for priority attention in

each State. The study argued that the worrying aspect of the trajectory of debt among the major states was the more indebted states prior to 1997 in general saw larger increases in their debt ratio. Excluding Goa, the rank correlation coefficient between rankings by levels in 1992-97, and the ranking by change to 2002-03, worked out to 0.73, and was statistically significant. After operationalising the analytics of debt sustainability for sub-national governments, states were grouped and ranked by the indicators selected. The selected indicators were the change in debt to GSDP ratio starting from the average for 1992-97; the sign of the primary revenue balance in aggregate over 1997-02; own tax buoyancy, estimated over the period 1980-02; and the annual growth in non-interest revenue expenditure over 1997-02. The study identified states in need of expenditure compression and improvement in own revenue collection effort, and lists four other institutional changes required. These were introduction of guarantee caps and fiscal responsibility legislation, and participation in the Consolidated Sinking Fund and the Guarantee Redemption Fund. Fiscal responsibility legislation has to explicitly prohibit budgetary malpractices, whereby unproductive expenditures are merged with productive capital outlays. Loss cover for non-departmental state PSUs is extended through incremental equity contributions to share capital under the head of non-Plan capital outlays, and servicing of off-budget borrowing, including capitalised interest, is routed under the head of Plan capital outlays.

Reserve Bank of India, in its successive Annual Reports, has been voicing concerns regarding the fiscal situation since 1991. The research conducted in the Department of Economic Analysis and Policy (DEAP), and published in the Reserve Bank's Report on Currency and Finance (RCF) for the years 1998-99, 2000-01 and 2001-02 highlighted the issues relating to sustainability of public debt and deficit. The RCF, 1998-99, assessed sustainability of deficit and debt with the help of an indicator analysis. This Report observed that persistence of significant primary and revenue deficits of the Government sector over the years is a major concern and would lead to an unsustainable accumulation of Government debt. According to the Report, growth in nominal GDP was lower than the growth in the domestic debt of the Government sector, which may exert pressure on the interest rate and crowd out private investment. In view of this, the Report concluded that the reduction in combined Government debt to a sustainable level in the medium-term horizon, therefore, had gained immense relevance. The RCF, 2000-01, assessed sustainability of Government debt with the help of unit root tests. These tests showed that discounted series of nominal stock of Government debt remained non-stationary, implying that Government debt continues to be unsustainable. Sustainability of public debt was assessed in terms of Domar stability condition and present-value budget-constraint approach in RCF, 2001-02. The Report observed that during the 1990s, except for few occasions, the Domar stability condition was fulfilled. The present value budget

constraint approach was tested for stationarity using the Augmented Dicky-Fuller and Phillips-Perron Unit root tests. Both the unit root tests showed that the discounted series of nominal public debt was non-stationary. The Report, therefore, concluded that continuation of current fiscal stance could make public debt of both the Central and State Governments unsustainable unless, corrective measures were undertaken to rein in the fiscal deterioration.

The efficacy of expansionary fiscal policy has been seriously questioned in several studies (Lahiri and Kannan, 2004; Acharya, 2001; and Srinivasan, 2001). Mohanty (1995) examined the implications of rising public deficit on savings in India under the framework of Ricardian Equivalence Theory and found Government consumption and transfer payments have an expansionary outcome on the consumption level while public investment and interest payments generally dampen private consumption and contribute to national savings. Joshi and Little (1996), analysing the fiscal adjustment effort since 1991, found the adjustment inadequate, with deterioration visible in both the magnitude (quantity) and composition (quality) of the fiscal deficit. In this context, both the size and quality of fiscal adjustment assume critical importance (Reddy, 2000). The Report of the Economic Advisory Council (EAC, 2001) stressed that high fiscal deficits, by raising real interest rates, crowd out private investment, especially in the context of the Government borrowing being predominantly used to finance revenue deficits. The EAC observed that the existing level of public debt is "too high… and clearly unsustainable". Ahluwalia (2002) observed that India's fiscal and debt indicators are comparable to or worse than that of Argentina, Brazil and Turkey - countries which have actually experienced a serious recent macroeconomic crisis. The study, nevertheless, concluded that India is not vulnerable to a repeat of its 1991 fiscal and balance-of-payments (BoP) crisis because of the build up of foreign exchange reserves, capital controls, flexible exchange rate system and widespread public ownership of banks. Pinto and Zahir (2004) have argued for further fiscal adjustment to eliminate the threat to sustained growth stemming from the crowding out of public and private investment, and constraints imposed on the domestic financial system by the financing needs of the Government budget. While commenting upon India's recent deficit on capital formation and growth**,** Feldstein (2004) observed that if India did not have a Central Government deficit of some 6 per cent of GDP, the gross rate of capital formation could have risen from 24 per cent of GDP to 30 per cent which, in turn, could have added nearly one percent to the annual economic growth.

Examining the long-term profile of the GFD and debt relative to GDP, Rangarajan and Srivatsava (2005) underlined the need to reduce fiscal deficit of the General Government as it was adversely affecting growth process of the economy. The debt to GDP ratio was to be reduced by means of adjustment and stabilisation phases with the aim of stabilising the

fiscal deficit at 6 per cent of GDP and the debt to GDP ratio at 56 per cent. Buiter and Patel (1997) opined that debt to GDP ratio remained solvent due to the changed composition of public debt from that of 1991. The authors, however, cautioned that the continued steady increase in debt to GDP ratio might raise the public debt to unsustainable levels.

Buiter and Patel (1994) and Mohan (2000) emphasised the need for fiscal correction if rapid economic growth is to be achieved and the key objective of fiscal reforms has to be a reduction in public debt service payments. Reynolds (2001), analysing the sustainability of fiscal policies pursued finds them unsustainable in the long run and comments that it could become unsustainable even in the short run due to the increased risk of crisis associated with high deficits and debt levels. The Report of the Economic Advisory Council (EAC, 2001) stressed that high fiscal deficits, by raising real interest rates, crowd out private investment, especially in the context of the Government borrowing being predominantly used to finance revenue deficits. The EAC observed that the existing level of public debt is "too high… and clearly unsustainable". Ahluwalia (2002) observed that India's fiscal and debt indicators are comparable to or worse than that of Argentina, Brazil and Turkey - countries which have actually experienced a serious recent macroeconomic crisis. The study, nevertheless, concluded that India is not vulnerable to a repeat of its 1991 fiscal and balance-of-payments (BoP) crisis because of the build up of foreign exchange reserves, capital controls, flexible exchange rate system and widespread public ownership of banks. Kochhar (2004) found that fiscal imbalances may not have resulted in a crisis, but have resulted in forgone growth. With deterioration in composition of public expenditure and limited space for implementing macro economic policy in the event of shocks among others, efforts aimed at rapid poverty reduction in the country would be stalled.

Moorthy (2004) argued that the fiscal crisis scenario in Indian is essentially due to worsening of primary deficit and not revenue deficit or debt burden. It stressed that the rising debt ratio, which might appear to be caused by unfavorable interest payments, could be due to an increase in the primary deficit in the earlier periods. Hausmann and Purfield (2004), considering the political economy of debt and public deficits, defined them as the undesired residual of multiple revenue and expenditure decisions and the reasons for lack of fiscal crisis in India, given the size of its imbalances and the impact of FRBM on the imbalances.

Buiter and Patel (2006) opined that FRBM Act does not address the issues of financial repression, and that there is an absence of a mechanism that encourages counter-cyclical fiscal policy stance during above normal-economic activity. While Srivastava (2006) also agreed that it would be useful to define fiscal deficits in countercyclical terms, he underlined the need for an effective framework for forecasting counter-cyclical movements in the

economy in order to have an effective use of countercyclical policy. He also stressed on the need for adherence to fiscal responsibility targets, particularly in respect of revenue deficit, so as to achieve a growth rate of 8.5 per cent to 9.0 per cent during the Eleventh Plan period.

Empirical studies on issues pertaining to public debt in India received considerable attention in the post-1991 period. The various dimensions of government debt analysed included studies on the methodology and estimation of public debt of the country and the issue of solvency and sustainability of the public debt. Research on the solvency and sustainability of public finances made use of diverse techniques in their analysis including the extensive use of time series econometric analysis with simulations on the projected debt levels under alternative scenarios of growth and interest rates. Research was also directed to empirically analyse the impact of high levels of debt on growth process of the economy. Furthermore, studies tried to determine the optimum level of debt and deficits that ensures fiscal sustainability as well as sustain the high levels of growth. Empirical research on the issues of debt management at the State level and its implications for the combined Government finances has been garnering increased attention in the recent years. The recent studies on debt sustainability, while commenting on the adverse consequence of the high level of debt in for an emerging market like India, have also tried to explain the favourable conditions that prevailed in the last few years which led to the tolerance of the high fiscal deficit and debt levels in country without resulting in a macroeconomic crisis witnessed in other emerging markets with similar high levels of debt and fiscal deficit.

II.4 Fiscal Policy in a Macro-economic Framework

Fiscal Policy assumes a central place in the overall macroeconomic framework. As government sector and private sector compete for resources and for consumption in the economy, fiscal policy needs to be designed in a framework where an increase in government activity would result in net gains to the economy even when it may negatively impact in private sector activity, or reduce foreign exchange reserves or increase the monetary base. The inter-linkages among fiscal, monetary and external sectors need to be clearly specified in the macroeconomic framework in which the fiscal policy operates. There does not seem to be evidence of macroeconomic modelling of fiscal policy during the first two phases.

II.4.1 Phase III: 1981-90

Early empirical work on the effect of fiscal policy on money supply and inflation had followed a simple aggregative approach of modelling deficit in terms of total government expenditure and total government receipts. Sarma (1982) employed the Aghevli-Khan model

for India which showed how an initial government deficit leads to an increase in money supply, which, *ceteris paribus*, raises the price level. The increase in price level, in turn, increases government expenditure faster than receipts, thereby raising the government deficit in its wake. The process repeats till equilibrium is established. Thus the self-perpetuating process of deficit induced inflation and inflation induced deficits was established through empirical support. Jadhav and Singh (1990), using a macroeconometric model developed to capture the inter-relationships between budget deficit, money stock, inflation and economic growth, also found empirical support for two-way causality between fiscal deficit and inflation.

Madhur, Nayak and Roy (1982) presented a model of the fiscal and monetary sectors of the Indian economy for short-term macroeconomic forecasting and policy formulation and, in particular, for analysing the implications of the Union Budget on money, credit and inflation. The authors concluded that the central bank needs to use an appropriate structure of differential interest rates to achieve its objectives. The model's fiscal sector equations showed why actual budget deficits differ from the budget estimates. The results also highlighted the importance of feedback effects from the real sector and the need for government to be able to accurately predict inflation and growth rate in the economy.

II.4.2 Phase IV: 1991 onwards

The theoretical and empirical literature on transmission mechanism in the open economy context assumed importance in India in the context of the economic stabilisation and structural adjustment programmes initiated in the early 1990s. In the context of investigating the dynamic relationship between government deficit, money supply and inflation in India, Jadhav (1994) for the first time modelled the government expenditure and government receipts by following a disaggregated approach over the period 1970-71 to 1987-88. The rationale for following such an approach was to capture the positive feedback of those government expenditures promoting Indian economy's production potential leading to higher output; the negative feedback of mounting interest payments; and the differential impact of growth and inflation on government receipts and expenditure. The differential evolution of the two fiscal policy aggregates showed that government expenditure adjusts faster than government receipts to their desired levels. The price and income elasticities of government expenditure were also found to be higher than those of government receipts. The disaggregated model also affirmed greater speed of adjustments of non-interest non-developmental government expenditures and non-tax receipts rather than government tax receipt. Furthermore, the short-run real income elasticity of non-interest non-development government expenditures were found to be greater than that of tax receipts.

Mohanty and Joshi (1992) examined the nature and extent of linkage between fiscal deficit and trade balance in India and evaluated the effectiveness of fiscal policy in restoring external balance. Using the model developed by Mansur (1989), the authors found that stabilising Central Government's fiscal deficit at 6.4 per cent would lead to appreciable increase in trade balance even though at the cost of recession in real economic growth to some extent.

Mohanty (1997) found that a fiscal stance embodying a zero net primary deficit target resulted in a remarkable improvement in prices and interest rates showed a considerable decline in the long-run. He also underlined the importance of fiscal deficit as a policy instrument for maintaining the viability of the external sector particularly in the light of greater integration of domestic and international financial markets. In the context of growth, he advocated for the tailoring of fiscal policy to reverse the declining trend in infrastructure investment and basic social services and to improve the productivity of the public sector.

Rangarajan and Mohanty (1997) examined the various macroeconomic impacts of fiscal deficit in India with special emphasis on the nature of relationship between deficit, external balance and monetary growth. The macro-model covering the period 1971-72 to 1993-94 provided an integrated framework to study the various dimensions of fiscal deficit and to evaluate different policy options for maintaining sustainable internal and external balances in the Indian economy. The policy simulation results revealed that fiscal deficit, in general, resulted in widening the current account deficit if it is money- financed. In this case, the price and income effects reinforce each other, leading to the deterioration in the external balance both in the short-run and in the long-run. Thus, the authors concluded that recourse to deficit financing to promote public investment and growth involves a loss of control on inflation. The study also suggested that there should be a prudent limit even on bond-financed borrowing.

Rao (2000) in analysing the relationship between budget deficits, monetisation of deficit, market borrowings and inflation suggests that interest rate targeting and inflation control are both monetary and fiscal policy issues. Looking into the implications of the government imbalances witnessed in Union Budget 2000-01, the paper states that in absence of a substantial reduction in fiscal deficit, if about 40 per cent of deficit is not monetised, interest payments as well interest rate would be substantially higher than their fundamental levels.

The extent of co-ordination between monetary and fiscal policies was studied through the relationship between the Reserve Bank credit to the Central Government and the Central Government's fiscal deficit (RCF, 2004-05). The exercise showed that the evolving

Government securities market and surge of capital inflows have substantially altered the financing of the Government's deficit. With banks using the monetary resources available through swapping of capital inflows to purchase government securities and with the Reserve Bank concomitantly divesting its stock of government securities to neutralise the monetary impact, the financing pattern of GFD has undergone a change resulting in lower monetisation.

The thrust of the empirical research on fiscal policy in a macroeconomic framework was in establishing links between deficits, inflation and interest rates. Empirical research was also concerned with the links between budget deficit and trade deficits and the possibility of the existence of twin deficits in India. Recent research in this area has focused on the impact of fiscal policy in an environment where there is a high degree of global market integration. Here the concerns were mainly regarding the high levels of debt and the constraints it imposes on the effectiveness of monetary policy and also the impact on fiscal policy outcome in determining sovereign bond spreads and exchange rate movements.

III. Contempotary Issues and Future Research Agenda

Indian public finance today has reached a turning point. The future course of public finance would critically hinge upon the following developments. First, fiscal policy can be a powerful tool for accelerating growth, provided resources are raised efficiently without causing distortions and utilised for delivering public goods and services, including physical and social infrastructure and helping the underprivileged. Total government expenditure as proportion of GDP needs to be maintained, and raised at the State level, in order to ensure the maintenance of existing infrastructural facilities and create new ones. This calls for a change in the composition of expenditure. Second, adherence to fiscal legislation, both at Centre and State level, is critical for macroeconomic, financial, external sector and budgetary sustainability. Third, fiscal empowerment *i.e,* expanding the scope and size of revenue flows into the budget, through tax reforms appropriate user charges and restructuring of public sector undertakings assumes critical importance. Fourth, as the Indian economy becomes more open and integrated with the rest of the world, fiscal policy would have to face greater challenges. Fifth, the approach to fiscal federalism, both in terms of addressing the vertical and horizontal imbalances, would have to focus on institutional reforms which align needs with revenue capacities. Sixth, the changing demographic profile would make designing an appropriate fiscal policy more complex.

Against the above backdrop, this paper offers a few suggestions for the future research agenda. In this context, the balancing of macro-fiscal issues and micro-fiscal issues is important. While the macro approach is useful in terms of analysing the impact and inter-

linkages, it has limitations in providing a clear and unambiguous direction to a specific policy issue. Therefore, it is important to have micro-level studies.

In the area of measurement of deficit, the empirical work should focus on measurement of public sector deficit, both from the public policy and liquidity angle. In a medium-term perspective, the macroeconomic impact of fiscal deficit in an open economy context could also be examined. Once the neutral level is reached in the post-FRBM scenario, the cyclically adjusted deficit assumes importance. Empirical research should focus on this. Micro-level studies on user charges, efficiency of public spending, and local finances assume importance.

IV. Conclusion

The paper has made a modest attempt to put forth a fairly comprehensive survey of empirical fiscal research in India since independence. The objective was to focus on issues of analytical and policy interest rather than to cover all aspects of Indian public finance. There was no attempt to establish any common theme beyond the general objective stated above. Nevertheless, this survey would be useful to examine the contemporary problems in a historical perspective.

Empirical fiscal research has come a long way since independence, reflecting the theoretical and policy developments. Contributions by fiscal researchers have been seminal and pioneering covering the spectrum of fiscal policy relevant to the times. Research methodology and techniques have also undergone significant changes. While early research was a reflection of collective knowledge, latter studies have placed equal emphasis on empirical and quantitative analysis. Furthermore, researchers have over the years moved from trend analysis to more sophisticated tools based on econometrics and statistics. Seminal contributions made by institutions such as the Reserve Bank in terms of data resources have facilitated researchers to apply advanced quantitative techniques. The conclusions have, by and large, been robust with good predictive power and policy insight. It is heartening to note that a number of fiscal economists from the country have received wide international acclaim.

Any empirical research work should have the twin broad objectives viz. a) diagnosis of the problem and b) prescription or solution to such a problem. In case of the former, the most important element is the understanding and interpretation of the data. In this context, the research methodology and technique is also important. As far as the latter is concerned, it is important to recognise that there is an academic solution to all economic problems. The empirical works need to focus more on feasible, practicable and policy oriented solution. In this context, micro level research assumes importance with an emphasis on primary data base.

Annex 1 : A. Rates of Income Tax for Select Years		
Year	**Slab of Income (Rupees)**	**Rates (per cent)**
1	2	3
1969-70	Up to 5,000	5
	5,001-10,000	10
	10,001-15,000	17
	15,001-20,000	23
	20,001-25,000	30
	25,001-30,000	40
	30,001-50,000	50
	50,001-70,000	60
	70,001-1,00,000	65
	1,00,001-2,50,000	70
	2,50,001 and above	75
1970-71	Up to 5,000	Nil
	5,001-10,000	10
	10,001-15,000	17
	15,001-20,000	23
	20,001-25,000	30
	25,001-30,000	40
	30,001-40,000	50
	40,001-60,000	60
	60,001-80,000	70
	80,001-1,00,000	75
	1,00,001-2,00,000	80
	2,00,001 and above	85
1980-1981	Up to Rs. 8,000	NIL
	8,001 to Rs. 15,000	15
	15,001 to Rs. 20,000	18
	20,001 to Rs. 25,000	25
	25,001 to Rs. 30,000	30
	30,001 to Rs. 50,000	40
	50,001 to Rs. 7,0,000	50
	70,001 to Rs. 1,00,000	55
	Above Rs. 1,00,000	60
1981-1982	Upto Rs. 15,000	NIL
	15,001 to Rs. 25,000	30
	25,001 to Rs. 30,000	34
	30,001 to Rs. 50,000	40

Annex 1 : A. Rates of Income Tax for Select Years *(Contd.)*		
Year	**Slab of Income (Rupees)**	**Rates (per cent)**
1	2	3
	50,001 to Rs. 7,0,000	50
	70,001 to Rs. 1,00,000	55
	Above Rs. 1,00,000	60
1982-83	Upto Rs. 15,000	NIL
	15,001 to Rs. 25,000	30
	25,001 to Rs. 30,000	34
	30,001 to Rs. 40,000	40
	40,001 to Rs. 50,000	40
	50,001 to Rs. 6,0,000	50
	60,001 to Rs. 7,0,000	52.5
	70,001 to Rs. 85,000	55
	85,001 to Rs.1,00,000	57.5
	Above Rs. 1,00,000	60
1983-84	Upto Rs. 15,000	NIL
	15,001 - 20,000	25
	20,001 - 25,000	30
	25,001 - 30,000	35
	30,001 - 40,000	40
	40,001 - 50,000	40
	50,001 - 60,000	50
	60,001 - 70,000	52.5
	70,001 - 85,000	55
	85,001 -1,00,000	57.5
	Above 1,00,000	60
1984-1985	Upto 15,000	NIL
	15,001 to 20,000	20
	20,001 to 25,000	25
	25,001 to 30,000	30
	30,001 to 40,000	35
	40,001 to 50,000	40
	50,001 to 60,000	45
	60,001 to 70,000	45
	70,001 to 85,000	50
	85,001 to 1,00,000	50
	Above 1,00,000	55

Annex 1 : A. Rates of Income Tax for Select Years *(Contd.)*

Year	Slab of Income (Rupees)	Rates (per cent)
1	2	3
1985-1986	Upto 18,000	NIL
	18,001 to 25,000	25
	25,001 to 50,000	30
	50,001 to 1,00,000	40
	Above 1,00,000	50
1986-1987	Upto 18,000	NIL
	18,001 to 25,000	25
	25,001 to 50,000	30
	50,001 to 1,00,000	40
	Above 1,00,000	50
1987-1988	Upto 18,000	NIL
	18,001 to 25,000	25
	25,001 to 50,000	30
	50,001 to 1,00,000	40
	Above 1,00,000	50
1988-89	Upto 18,000	NIL
	18,001 to 25,000	25
	25,001 to 50,000	30
	50,001 to 1,00,000	40
	Above 1,00,000	50
1989-90	Upto Rs. 18,000	NIL
	Rs. 18,001 to Rs. 25,000	25
	Rs. 25,001 to Rs. 50,000	30
	Rs. 50,001 to Rs. 1,00,000	40
	Above Rs. 1,00,000	50
1990-91	Upto Rs. 18,000	NIL
	Rs. 18,001 to Rs. 25,000	20
	Rs. 25,001 to Rs. 50,000	25
	Rs. 50,001 to Rs. 1,00,000	40
	Above Rs. 1,00,000	50
1991-1992	Upto 22,000	NIL
	22,001 to 30,000	20
	30,001 to 50,000	30
	50,001 to 1,00,000	40
	Above 1,00,000	50

Annex 1 : A. Rates of Income Tax for Select Years *(Contd.)*

Year	Slab of Income (Rupees)	Rates (per cent)
1	2	3
1992-1993	Up to 28,000	NIL
	28,001 to 50,000	20
	50,001 to 100,000	30
	Above 1,00,000	40
	Surcharge on the income above Rs.1 lakh	
1993-1994	Up to 30,000	NIL
	30,001 to 50,000	20
	50,001 to 1,00,000	30
	Above 1,00,000	40
1994-1995	Up to 35,000	NIL
	35,001 to 60,000	20
	60,001 to 1,20,000	30
	Above 1,20,000	40
1995-1996	Up to 40,000	NIL
	40,001 to 60,000	20
	60,001 to 1,20,000	30
	Above 1,20,000	40
1996-1997	Up to 40,000	NIL
	40,001 to 60,000	15
	60,001 to 1,20,000	30
	Above 1,20,000	40
1997-1998	Up to 40,000	NIL
	40,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
1998-1999	Up to 50,000	NIL
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
1999-2000	Up to 50,000	NIL
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
2000-01	Up to 50,000	NIL
	50,001 to 60,000	10

Annex 1 : A. Rates of Income Tax for Select Years *(Concld.)*

Year	Slab of Income (Rupees)	Rates (per cent)
1	2	3
	60,001 to 1,50,000	20
	Above 1,50,000	30
2001-02	Up to 50,000	NIL
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
2002-03	Up to 50,000	NIL
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
2003-04	Up to 50,000	NIL
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
2004-05	Up to 50,000	Nil
	50,001 to 60,000	10
	60,001 to 1,50,000	20
	Above 1,50,000	30
2005-06	Up to Rs. 1,00,000	Nil
	1,00,001 to 1,50,000	10
	1,50,001 to 2,50,000	20
	Above 2,50,000	30
2006-07	Up to 1,00,000	NIL
	1,00,001 to 1,50,000	10
	1,50,001 to 2,50,000	20
	Above 2,50,000	30
2007-08	Up to 1,00,000	NIL
	1,00,001 to 1,50,000	10
	1,50,001 to 2,50,000	20
	Above 2,50,000	30
2008-09	Up to 1,50,000	NIL
	1,50,001 to Rs.3,00,000	10
	3,00,001 to 5,00,000	20
	Above 5,00,000	30

Source: Budget Documents

Annex 1 : B. Corporation Tax Rates for Select Years		
Assessment Year	**Total Tax Rate [Income Tax Rate + Super Tax Rate] (in per cent)**	
1950-51	40.62	
1951-52	43.44	
1952-53	43.44	
1953-54	43.44	
1954-55	43.44	
1955-56	43.44	
	Public Companies	Private Companies
1956-57	43.44	43.4
1957-58	51.50	51.5
1958-59	51.50	51.5
1959-60	51.50	51.5
1960-61	45.00	45
1961-62	45.00	45
1962-63	50.00	45
1963-64	50.00	50
1964-65	50.00	i) Industrial companies with total income not exceeding Rs. 5,00,000 on first Rs. 21 lakh, 50%, on balance 60%. ii) Other companies 60%
1965-66	50.00	i) Industrial companies with total income up to Rs. 10 lakh 50% on balance 60%. ii) Other companies 60%
1966-67	55.00	i) Industrial companies on income up to Rs. 10 lakh 55% on balance 65%. ii) Other companies 65%
1967-68	55.00	i) Industrial companies on income up to Rs. 10 lakh 55%, on balance 60%. ii) Other companies 65%
1968-69	55.00	-do-
1969-70	55.00	-do-
1970-71	55.00	-do-
1971-72	55.00	-do-
1972-73	56.38	i) Industrial companies on income up to Rs. 10 lakh 56.38 %, on balance 61.5%. ii) Other companies 66.75%
1973-74	57.75	i) Industrial companies on income up to Rs. 10 lakh 56.38 %, on balance 61.5%. ii) Other companies 66.75%
1974-75	57.75	i) Industrial companies on income up to Rs. 10 lakh 57.75 %, on balance 63%. ii) Other companies 68.25%
1975-76	57.75	-do-
1976-77	57.75	i) Industrial companies on income up to Rs. 2 lakh 57.75 %, on balance 63%. ii) Other companies 68.25%
1977-78	57.75	-do-
1978-79	57.75	-do-

Annex 1 : B. Corporation Tax Rates for Select Years *(Concld.)*

(Per cent)

Year	Domestic Company		Foreign Company	
	Closely held	Widely Held	Closely held	Widely Held
1	2	3	4	5
1980-81	45	65	50	70
1981-82	45	65	50	70
1982-83	45	65	50	70
1983-84	45	65	50	70
1984-85	55	65	50	70
1985-86	55	65	50	70
1986-87	50	60	50	65
1987-88	50	60	50	65
1988-89	50	60	50	65
1989-90	50	60	50	65
1990-91	40	50	65	65
1991-92	40	50	50	65
	45 (15)	50 (15)	50	65
1992-93	45 (15)	50 (15)	50	65
1993-94	45 (15)	50 (15)	50	65
1994-95	40 (15)	40 (15)	55	55
1995-96	40 (15)	40 (15)	50	55
1996-97	40 (15)	40 (15)	50	55
1997-98	35	35	48	48
1998-99	35	35	48	48
1999-2000	35 (10)	35 (10)	48	48
2000-01	35	35	48	48
2001-02	35	35	48	48
2002-03	35	35	40	40
2003-04	35 (5)	35 (5)	40 (5)	40 (5)
2004-05	35 (2.5)	35 (2.5)	40 (2.5)	40 (2.5)
2005-06	30 (10)	30 (10)	40 (2.5)	40 (2.5)
2006-07	30 (10)	30 (10)	40 (2.5)	40 (2.5)
2007-08	30 (10)	30 (10)	40 (2.5)	40 (2.5)
2008-09	30 (10)	30 (10)	40 (2.5)	40 (2.5)

Note : Figures in brackets relate to surcharge.

Source : 1. Rao, V.G (1980) The Corporation Income Tax in India, 1950-1965.
2. Finance Bill, Government of India, for various years.

Annex 1: C. Customs Duty Rate

(Per cent)

Year	Peak Rate*
1	2
1991-92	150
1992-93	110
1993-94	85
1994-95	65
1995-96	50
1996-97	50
1997-98	40
1998-99	45
1999-2000	40
2000-01	35
2001-02	35
2002-03	30
2003-04	25@
2004-05	20
2005-06	15
2006-07	12.5
2007-08	10.0
2008-09	10.0

* : On Non-Agricultural Goods
@ : Reduced to 20 per cent in January 2004

Annex 2: Tax Revenue of the Centre

(Per cent)

Year	Customs/Imports	Excise/Manufacturing GDP
1	2	3
1950-51	25.8	0.4
1951-52	26.1	0.4
1952-53	24.8	0.4
1953-54	26.1	0.5
1954-55	26.4	0.5
1955-56	21.6	0.6
1956-57	20.6	0.7
1957-58	17.4	1.0
1958-59	15.2	1.0
1959-60	16.2	1.2
1960-61	15.2	1.2
1961-62	19.4	1.3
1962-63	21.8	1.5
1963-64	27.4	1.7
1964-65	29.5	1.7
1965-66	38.3	1.9
1966-67	28.2	2.1
1967-68	25.5	2.3
1968-69	23.4	2.5
1969-70	26.7	2.6
1970-71	32.1	3.0
1971-72	38.1	3.4
1972-73	45.9	3.7
1973-74	33.7	4.1
1974-75	29.5	5.0
1975-76	27.0	5.6
1976-77	30.6	5.7
1977-78	30.3	5.6
1978-79	36.0	6.2
1979-80	32.0	7.2
1980-81	27.2	7.5
1981-82	31.6	8.0
1982-83	35.8	8.4
1983-84	35.3	9.8
1984-85	41.1	10.1
1985-86	48.5	11.2
1986-87	57.1	11.8
1987-88	61.6	12.5
1988-89	56.0	13.2
1989-90	51.1	14.2
1990-91	47.8	14.4
1991-92	46.5	16.7
1992-93	37.5	17.6
1993-94	30.4	17.1
1994-95	29.8	18.3
1995-96	29.1	17.5
1996-97	30.8	18.2
1997-98	26.1	18.7
1998-99	22.8	20.0
1999-00	22.5	15.0
2000-01	20.6	15.5
2001-02	16.4	16.0
2002-03	15.1	17.0
2003-04	13.5	23.4
2004-05	11.5	21.9
2005-06	9.9	21.4
2006-07	10.3	19.0
2007-08	10.4	18.1

Annex 3: Central Government Expenditure

(Per cent of GDP)

Year	Total Expenditure	Revenue Expenditure	Capital Expenditure
1	2	3	4
1950-51	5.1	3.9	1.3
1951-52	4.9	3.8	1.1
1952-53	4.1	3.8	0.4
1953-54	3.8	3.6	0.2
1954-55	5.5	3.9	1.6
1955-56	8.1	4.6	3.5
1956-57	7.2	3.9	3.3
1957-58	8.0	4.9	3.1
1958-59	7.5	4.8	2.7
1959-60	10.4	5.0	5.5
1960-61	10.1	5.6	4.5
1961-62	10.4	5.8	4.6
1962-63	12.5	6.9	5.7
1963-64	13.7	7.4	6.2
1964-65	13.2	7.0	6.2
1965-66	13.3	7.3	6.0
1966-67	14.6	7.2	7.3
1967-68	11.4	6.8	4.6
1968-69	10.0	7.0	3.0
1969-70	9.7	6.8	2.8
1970-71	12.3	6.9	5.5
1971-72	14.1	8.1	6.0
1972-73	14.6	8.4	6.2
1973-74	12.5	7.3	5.2
1974-75	12.8	7.3	5.5
1975-76	14.9	8.4	6.5
1976-77	15.2	9.2	6.0
1977-78	15.3	9.0	6.3
1978-79	17.0	9.7	7.3
1979-80	15.7	9.8	5.9
1980-81	15.8	10.0	5.8
1981-82	15.0	9.1	5.8
1982-83	16.4	10.0	6.4
1983-84	16.2	10.1	6.1
1984-85	17.8	11.3	6.5
1985-86	18.9	12.2	6.7
1986-87	20.2	13.1	7.1
1987-88	19.3	13.0	6.2
1988-89	18.8	12.8	5.9
1989-90	19.1	13.2	5.9
1990-91	18.5	12.9	5.6
1991-92	17.1	12.6	4.5
1992-93	16.4	12.4	4.0
1993-94	16.5	12.6	3.9
1994-95	15.9	12.1	3.8
1995-96	15.0	11.8	3.2
1996-97	14.7	11.6	3.1
1997-98	15.2	11.8	3.4
1998-99	16.0	12.4	3.6
1999-00	15.2	12.7	2.5
2000-01	15.4	13.2	2.3
2001-02	15.9	13.2	2.7
2002-03	16.9	13.8	3.0
2003-04	17.1	13.1	4.0
2004-05	15.8	12.2	3.6
2005-06	14.1	12.3	1.9
2006-07	14.1	12.4	1.7
2007-08RE	14.3	12.5	1.8
2008-09BE	14.2	12.4	1.8

Annex 4: Combined Expenditure of Centre and States

(Per cent of GDP)

Year	Combined Total Expenditure	Combined Revenue Expenditure	Combined Capital Expenditure
1	2	3	4
1950-51	9.1	7.4	1.7
1951-52	9.6	7.4	2.7
1952-53	9.3	7.7	1.6
1953-54	9.4	7.9	1.5
1954-55	11.5	8.4	3.2
1955-56	13.2	9.5	3.8
1956-57	13.0	8.4	4.6
1957-58	15.5	9.6	5.9
1958-59	14.7	9.3	5.3
1959-60	15.2	9.4	5.8
1960-61	15.6	9.9	5.7
1961-62	15.8	10.5	5.3
1962-63	17.9	11.7	6.2
1963-64	18.8	12.0	6.8
1964-65	18.3	11.4	7.0
1965-66	19.7	12.4	7.4
1966-67	13.1	12.3	0.7
1967-68	17.1	11.6	5.5
1968-69	16.6	12.1	4.4
1969-70	16.1	12.3	3.7
1970-71	17.2	12.5	4.7
1971-72	19.1	14.3	4.8
1972-73	19.3	14.5	4.8
1973-74	17.5	13.2	4.3
1974-75	18.1	12.8	5.4
1975-76	20.8	14.2	6.6
1976-77	22.1	15.4	6.6
1977-78	20.8	14.8	6.0
1978-79	22.5	15.8	6.7
1979-80	23.7	16.8	6.8
1980-81	26.3	18.2	8.2
1981-82	26.4	17.4	9.0
1982-83	27.7	18.7	9.0
1983-84	27.4	18.8	8.5
1984-85	29.2	20.2	8.9
1985-86	28.3	21.3	7.0
1986-87	32.3	22.7	9.6
1987-88	31.1	22.9	8.2
1988-89	30.0	22.5	7.5
1989-90	29.9	23.4	6.5
1990-91	28.8	22.8	6.0
1991-92	28.5	22.9	5.6
1992-93	27.1	22.3	4.9
1993-94	27.1	22.3	4.8
1994-95	26.9	22.1	4.8
1995-96	25.6	21.5	4.1
1996-97	25.1	21.6	3.5
1997-98	25.3	21.4	3.9
1998-99	26.6	22.9	3.7
1999-00	27.6	23.7	3.8
2000-01	28.3	24.6	3.7
2001-02	28.6	24.5	4.1
2002-03	28.7	25.1	4.5
2003-04	28.9	24.6	4.3
2004-05	27.6	23.2	4.4
2005-06	26.8	22.5	4.3
2006-07	26.8	22.5	4.3
2007-08RE	28.8	23.3	5.5
2008-09BE	28.0	23.3	4.7

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