CHAPTER III

REVIEW OF LITERATURE

A review of research literature is necessary to understand the role of tax revenue in the different aspects of economic development. Such an attempt is also useful to identify the existing research gaps. It also provides the basis for the conceptualization of the problem. The present exercise is not exhaustive in its coverage, but provides an insight into the remarkable studies on the area concerned. It would help the researcher to minimize the difficulties to be faced in conducting a research study. For the present study, the review of literature has been discussed as follows,

Venkataraman, K. had analysed the finances of all the State Governments of India during the first three Five Year Plan periods from 1951-52 to 1965-1966. In this study he had studied the overall trends in respect of state finances, financing of the State Plans, tax revenues and the tax efforts of the states. His inferences related to the nature of the Tamil Nadu State finances could be explained under financing the state plans, tax revenue and tax efforts. He was of the opinion that the Tamil Nadu state had done well in the matter of raising additional revenue through taxation during the fifteen year period of the study.¹

Rajkumar and Chidambram had estimated the elasticities of certain taxes such as the state’s excise duties, the sales tax, the land revenue, the motor

vehicles tax and the agricultural tax in Tamil Nadu during the period from 1961 to 1967 assuming stable rates. According to this study, the sales tax and the motor vehicles tax were found to be elastic while the agricultural income tax and the land revenue were found to be inelastic. They had expressed the opinion that the tax resources allotted to the Tamil Nadu state were insufficient to enable and perform its nation building functions.²

Reddy had examined the various measures of the tax efforts made by all the Indian States with a view to arrive at a reliable indicator for comparing the tax efforts made by the different states. He had used the following three measures to estimate the actual tax efforts of the States using the averages for the years 1970-72. According to this study, Tamil Nadu was assigned the first rank in respect of its Tax efforts.³

Atul Sharma had explained the growth pattern of the state tax revenue of a particular state (Gujarat) over a decade (1960-61 to 1970-71) using the compound growth rate estimates for each of the taxes and their proportionate contribution to the total tax revenue at the beginning and at the end of the periods. Land revenue had recorded the lowest growth rate (5.24 per cent) while taxes on commodities and services had claimed a more dominant role in the state’s tax structure as judged by the compound growth rates.⁴

Purohit’s study had concluded that the taxes on the agricultural land and income as well as the property taxes had been dwindling. Taxes on commodities and services on the other hand, had been contributing to a larger part of the state’s own tax revenues. The role of these taxes in the state’s own tax structure was becoming increasingly important over a period of time. This was due to the effect of the policy of least resistance of the tax payers adopted by the state governments contrary to the idea of opting for a progressive tax structure.5

The tax system of a country is an integral part of the overall economic activities of the country and is expected to contribute a lot in the real attainment of the chosen social and economic objectives. A high rate of taxation in respect of the direct and the indirect taxes, a low recovery of taxes, double taxation, poor implementation of the tax laws, difficult tax producers, conflicting aims and attitudes and faulty policy-decisions at the political circle appear to be the prime factors responsible for the failure of the taxation policy in India.6

According to Purohit’s study, the tax system as a whole was found to be income elastic and possessing in-built-flexibility. The buoyancy and the elasticity coefficients were found to be positive for all the major sources of tax revenue except for the land revenue. The values of the coefficients were found to be greater than those of stamps and registration fees, sales tax, general sales tax, sales tax on motor spirit, passenger and goods tax, motor vehicles tax,

entertainment tax, state excise and electricity duty. The agricultural income tax
should be income inelastic, while land revenue was found to possess negative
coefficients. This study had made him arrive at the following conclusions:

i) The tax resources assigned to the states were elastic though the elasticity
depended upon the structure of the tax system to a very greater extent.

ii) The development of the state might affect the elasticity base causing and
upsurge in the income elasticity of the taxes.

iii) With the development of the state, it was also possible to secure higher
revenues and greater elasticity through better tax administration.7

Sury addressed himself to the task of analyzing the measurement
problems in the estimation of the elasticity and the buoyancy of a tax system
taking India as a special case for the purpose of his study. The study had
reviewed the existing practice of calculating tax elasticity and buoyancy and the
measurement problems therein that could be found. Based on the Indian
experience, he proposed a modified methodology to disentangle the effects of
the expected automatic changes from the unexpected automatic changes while
calculating the tax elasticity. The study had also taken into account unexpected
automatic changes while calculating the tax elasticity. The study had also laid
stress on the fact that the modified methodology would enable the government to
take effective steps in realizing the effects of the tax structure on resource
mobilization.8

7 Purohit.M.C, “Buoyancy and Income Elasticity of State Taxes in India”, Artha Vijnana, Vol.20,
No.3, September 1978,pp.244-287.
Rao made the following observations about the tax structure in Tamil Nadu. The state relied heavily on the non-agricultural sector and there was considerable scope for raising more resources from the agricultural sector, changes in the rate structure of the stamp duties had not been commensurate with the changes in the resource requirements of the state, substantial efforts had been made by the state to increase the yield from the motor vehicles tax there was a felt need for a fresh look at the sales tax structure, no discretionary changes had taken place in the case of the state's excise duties, that is the growth in the receipts from the state's excise duties had been mainly through the increased liquor consumption and the tightened strict administrative controls.9

Thimmiah analyzed the overall revenue potential and the revenue mobilization of its efforts of four southern states in India in the field of individual sources of revenues during the period from 1969-70 to 1973-74. Regarding revenue potential and the revenue efforts made in respect of the various individual taxes of the Tamil Nadu State Government, this study had arrived at the following conclusion. Tamil Nadu did not tap the potential yield in respect of the land revenue; Revenue effort of Tamil Nadu with respect to the agricultural sector were lower than those of Andhra Pradesh and Karnataka; With regard to the state's excise duty, Tamil Nadu had not deliberately utilized its revenue potential on account of its partial or total prohibition policy; The state had tapped its revenue potential in respect of sales tax and even in respect of the entertainment tax to the maximum extent and hence its revenue efforts was found to be higher.

than that of all the other States; In motor vehicles taxation, Tamil Nadu had put in the maximum efforts in respect of tax collection compared to the other southern states; Tamil Nadu had tapped its entire average revenue potential in the field of stamp duties and registration fees; Average revenue efforts of Tamil Nadu were found to be lower in the fields of electricity tariff applicable to non-domestic users; and Tamil Nadu had failed to utilize its marginal revenue potential in the field of forest revenue during the period from 1969-70 to 1973-74 during which period its marginal revenue effort had reached its full potential.¹⁰

Sen had pointed out, “The estimates cannot be relied up on too much, not because of any deficiency in their computations, but because of things beyond the control of the author”.¹¹

Compared to Rao’s estimate of income elasticity (0.83) for the period from 1960-61 to 1973-74, Khadye’s estimate of income elasticity (0.88) for the period from 1960-61 to 1978-79 was found to be slightly higher and Khadye had considered it as an evidence of the increasing responsiveness of the Indian (Union and State’s) tax system.¹²

Raja Chelliah and Narian Sinha estimated the tax effort of 15 Indian states between 1973 and 1976. According to them the average annual growth rate of state tax during the study period was higher in Madhya Pradesh (25.27%) followed by Uttar Pradesh (25.09%). This growth rate was less in Tamil Nadu

(6.4%). In Tamil Nadu, the performance in terms of tax revenue by sales tax, stamps and registration fees, tax on motor spirit, Motor vehicle tax, Passengers and goods tax and electricity duty were higher than the all state average where as the performance was less in the case of land revenue, profession tax, entertainment tax and state excise.\(^{13}\)

Tulasidhas.V.B and Govinda Rao. M have studied the sales tax system in Madhya Pradesh. They considered that Madhya Pradesh, a backward state has the most liberal sales tax subsidy scheme among all states. They have brought out the fact that Madhya Pradesh has adopted potentially the most expensive open- ended comprehensive type of sales tax incentive scheme which violates the economic efficiency criterion in many respects.\(^{14}\)

Mahesh C. Purohit has examined the structure of sales tax in India. Sales tax System in India consists of states sales tax and the federal sales tax. The revenue from this tax alone accounts for 57% of the states' own tax revenue. Makesh C.Purohit has disclosed that Punjab, Haryana, Himachal Pradesh, Gujarat, Jammu and Kashmir provide some concessional–treatment. Maharashtra and Orissa provide four percent, Madhya Pradesh provides two percent, Bihar provides three percent and Assam Provides no concessional treatment.\(^{15}\)

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Krishna Rao attempted to estimate the elasticity of personal income tax on the basis of time series data. The period chosen by him was from 1953-54 to 1974-75. He used the data of assessed personal income tax or tax payable. He employed the following equation to estimate the elasticities

$$\log Y = \log a + b_1 \log X_1 + b_2 \log X_2 + \ldots + b_n \log X_n + e$$

Where,

- $Y$ = dependent variable,
- $X_1, X_2, \ldots, X_n$ = independent variables,
- $b_1, b_2, \ldots, b_n$ = elasticities of the corresponding variables and
- $e$ = error term.

He also estimated the elasticity of personal income tax based on cross section data, almost in the line of Vito Tanzi who estimated the elasticity of personal income tax in United States of America on the basis of the data of different states. Krishna Rao's estimation showed that there was considerable difference between results of time series data and cross section data. But he did not satisfactorily explain the causes for such a difference.\(^{16}\)

Murty. M.N argued that while an expenditure tax is superior than an income tax from the point of view of horizontal equity and other economic objectives, partial tax reforms like substituting an expenditure tax for a personal income tax may not be welfare improving.\(^{17}\)


For forecasting the tax revenue one has to find out the relevant determinants of the growth of tax revenues using appropriate model. Prof. P. Mishra’s study suggests that industrialization and per capita income are the two most important determinants, of union tax revenues in India.\textsuperscript{18}

Pawn K. Aggarwal has estimated the elasticity of personal income tax in India. He maintained that mitigating inequity in the distribution of income and imparting built-in-flexibility to the tax system have been the main objectives of India. His study discloses that a rise in inequality has the positive effect on elasticity of the personal income tax.\textsuperscript{19}

The Raja Chelliah Tax Reform committee’s interim report rightly felt that the method of tax administration need to be modernized and tax enforcement visibly improved. It suggested the abolition of wealth tax and introducing a “Presumptive Tax Scheme”.\textsuperscript{20}

Thom used a sample of 32 countries where he found out the per capita income to be significant determinant of the Tax ratio. Further, he found the import ratio to be an insignificant determinant. In addition, he used dummy variables to show that revenue share to Gross National Product was greater for former British colonies and smaller for highly decentralized government structure.

regardless of the level of their per capita income and import ratio which he attributed to 'cultural style'.

Government of India Tax Reforms committee’s final report observed that evasion of tax by particular sections of potential tax payers was an important cause of inequity. There are inequities between honest and dishonest tax payers and between those who mainly receive monetary salaries on the one hand and others with prerequisites on the other hand. Several anomalies and inequities are inherent in the tax structure and interaction of the progressive system with inflation in any case causes inequities and disincentives that need to be minimized.

The validity of per capita income as the most important determinant in the context of developing countries was questioned by Hinrichs. His analysis was multiple regression equation covering a period from 1987 to 1990 for sixty countries. He contended that it was the degree of openness as measured by the ratio of imports to Gross National Product which was a more relevant determinant of tax revenue in these countries.

Musgrave in his empirical analysis took a sample of forty countries with different levels of per capita income to investigate the determinants of tax ratio. He used a five yearly average data for the period 1993-1998. The dependent variable was tax revenue as a ratio of Gross National Product and

regressed it on per capita income and openness of the economy. For the group of countries as a whole, he found that the per capita income had a significant explanatory power for tax revenue but for low income countries (less than 300 dollars), per capita income and degree of openness did not give a good fit. Regarding the structure of tax revenues he was of the view that there was a close relationship between tax structure and available bases particularly in the early stages of development. He proved the hypothesis that the ratio of indirect taxes was related inversely to per capita income.24

Based on data for the period 1984-85 to 1997-98, Nambiar and Govinda Rao made a study of the important variables influencing tax revenue represented by GNP in 30 developing countries. The explanatory variables included were per capita income, degree of openness and degree of monetization of the country. The analysis indicated the degree of monetization to be the major determinant, with the influence of the remaining variable being weak on revenue share of these countries.25

William Vickrey suggested a large number of slabs of income ranges each having smaller width, particularly at the lower income ranges. The size should be evenly graduated and it is appropriate that the ratio of the upper limit of each bracket to the lower limit fluctuate as little and as smoothly as possible, from one bracket to the next. The ratio may be fairly steady or show a

rising or falling trend with the tax base. Unnecessary sudden jumps should be avoided, he added.  

Le-yin-Zhang reported that the Chinese government launched important reforms to the central provincial fiscal relationship, aiming to replace the previous revenue sharing system with a tax–sharing system, and ultimately to stem the so called fiscal decline in 1994. The connections between revenue collection, allocation and expenditure within the budgetary relationship were underlined by the reform of 1994.

Up to 1993, the central government had no tax collecting agencies of its own apart from the State Bureau of Customs, which collected custom duties, and the State Administration for Taxation (SAT), which collected indirect taxes. A small number of large (SOEs) State Owned Enterprises paid directly to the central government. The centre relied heavily on the provinces to collect revenue. From 1994, the centre holds most of the formal authority, including the power to define taxes, tax bases and tax rates, to determine the allocation of spending responsibilities and the authority of issuing bonds to finance debts. This reform has succeeded in increasing the centre’s share in total revenue collection. It has also started to stem the decline in the budgetary revenue GDP ratio. Budgetary revenue growth began to outstrip the growth of the economy in 1996 and widened its lead in 1997. Le-yin-Zhang stated that the 1994 reform was successful in changing the pattern of revenue collection. But it has not led to

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significant changes in the nature of the central provincial fiscal relations in terms of revenue allocation and spending. He has also pointed out that this reform has not altered the actual distribution of funds between the centre and provinces. It suggests tremendous efforts taken by the central government to gain dominant control over financial resources. Therefore, progress so far represents neither a stalemate nor a landslide victory for the centre.27

Ashok. K. Lahiri in his study, “Sub-national Public Finance in India” analysed the financial position of Indian states from 1970-71 to 1996-97. This study focuses on five states, namely Assam, Haryana, Kerala, Punjab and Tamil Nadu. According to this study, persistent fiscal stress and consequent pressures on liquidity management have led to the frequent use of ways and means advances and the overdraft facility by the states. Moreover, it pointed out that populist policies such as the supply of free power to farmers and cheap power to households, inadequate water charges, supply of subsided rice and the inability of states to mobilize resources promised at the time of formulating the Five Year Plans have contributed to the worsening of the fiscal position of the states.28

Montek.S.Ahulwalia focused on the economic performance of the individual states in the post reforms period. His study covers the period between 1980-81 and 1997-98. According to this study, inter-state inequality as measured by the Gini Co-efficient, has clearly increased showing that the rich states got richer and the poor states got poorer is not entirely accurate. State plan

Expenditure to SDP declined and the Interest payments as percentage of revenue has increased. Over the years both the centre and the states have seen a burgeoning on non-plan expenditure in the face of inadequate buoyancy of revenues.29

Weiss.J.Steran examined the determinants of revenue share by including urbanization, literacy rate, percentage of employment in agriculture, index of degree of mass communication and socio-political and cultural factors represented by dummy variables as the independent variables. The findings showed that general cultural homogeneity and a relatively representative political system had a significant positive impact on the revenue share.30

Pawan K. Aggarwal in his study brought inequality and elasticity into relation. His study reveals that during 1976-77 to 1993-94 inequality in taxable income was marked by a declining trend and this had substantial negative impact on elasticity of the tax. Had the inequality remained unchanged, elasticity of the tax with respect of gross domestic product would have been greater.31

Hunter and Scott wanted to find empirical support for the fiscal illusion hypothesis by determining whether relatively elastic tax structure explains strong expenditure growth. But they reasoned that if there is evidence that tax rate reductions occur often in states where tax structure is more elastic; then

there is indirect evidence that voter taxpayer’s exercise well informed control over the fiscal process.\textsuperscript{32}

Ganti Subramanyam, Kamaiah and Swamy employed past growth rate technique, the simplest of the parametric method available in the field of tax revenue forecasting. They called it 'Black Box' approach. It projects the future values of a given variable based on its compound growth rate in the past. They found that the income elasticity methodology constitutes an attempt to transform the alleged cause-and-effect relationship of the theoretical world between the tax yield and its base into the stylized forms of buoyancies and elasticities of the empirical world of tax forecasting. But until we succeed in rigorously establishing the pervasive character and durable nature of the tax base and state income relationship, the income elasticity methodology would remain as no more than an instrument of pure prediction devoid of any explanatory power.\textsuperscript{33}

Bardhan conducted a study on the pattern of income distribution in India. His study was supplemented by Srinivasan on similar lines. Their findings revealed that there were inequalities in income distribution and they have to be tackled by proper fiscal policy of the government, in addition to other policy measures such as land reforms, ceiling of property, industrial policy and pricing and distribution. According to them fiscal policy is the most effective instrument to bring about the income distribution.\textsuperscript{34}

Sabine indicated that when Pitt introduced income tax in 1799, he had proposed graduated tax. The idea was nothing but the equity aspect, burden and redistribution.\(^{35}\)

Ved. P. Gandhi made a study in the area of personal income taxation and income distribution for the period 1985-86 to 1998-99. He calculated the tax payable as a percentage of the assessed income of individuals for the said years. He found that this percentage to be declining over the years and came to the conclusion that the income tax as a tool for controlling the growth in income inequalities has become less effective to-day than it was a decade and half ago. He also proved that the personal income tax was less effective as an equity measure.\(^{36}\)

G.S. Sahota examined the tax payer responsiveness to change in income tax rates in India. Tax payer responsiveness to changes in tax rates is computed by separating it out from the effects of dynamic progressivity, the income growth effect, and the technical effect of the tax rate changes. Year to year calculations of responsiveness thus calculated for three decades, from 1971 through 1999 for India, produced an overwhelming evidence of a negative relationship between tax payer responsiveness and changes in the rates. A sensible prediction from this finding is that revenue will probably increase with further cuts in the marginal tax rates at the upper end. A top marginal tax rate not exceeding 40 per cent, a rate suggested in several writings by Dr. Chelliah for

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India, finds ample support from the findings of the study. The indicated tax payer response is consistent with received theory.\textsuperscript{37}

D.N. Dwivedi in his article measured elasticity of union excise duty in India. Out of 115 excisable commodities, 35 commodities have been selected for the study. Elasticity and buoyancy for those commodities have been estimated by log linear regression model. He categorized the commodities into four, according to their relevance in consumption, viz., i) essential consumer goods ii) non-essential consumer goods, iii) commercial-cum consumer goods and iv) intermediate goods. He found that the essential goods responded proportionately to the enhancement of excise duty. He inferred that the lower is the degree of non-essentiality of a commodity; the lower will be the buoyancy of excise revenue. Consumer-cum commercial goods are highly buoyant and elastic, and they have high revenue potential. The intermediate goods had buoyancy and elasticity higher than unity. On the whole, 21 out of 35 commodities are fairly buoyant and highly elastic and only two commodities have lower buoyancy and elasticity.\textsuperscript{38}

M.C. Purohit empirically analysed the buoyancy and income elasticity of state taxes for all the states in India. The study period was from 1983-84 to 1993-94. The responsiveness of tax has been calculated for estimating both the buoyancy and the income elasticity of state taxes. This has been calculated by proportional adjustment method. The findings showed that

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Gujarat, Karnataka, Andhra Pradesh, Maharashtra, Tamil Nadu, West Bengal, Punjab and Haryana had elastic tax structure. Andhra Pradesh was the only state under the category of under developed state which had income elasticity greater than unity.39

Experiences have shown that the elasticity and buoyancy of progressive taxes in India are very low and lower than those of indirect taxes. This is a weakness of the Indian tax structure.40

Tejinder Singh and Jain. A.K analysed the growing importance of the Corporation tax in the direct tax structure in India and the relative position of the direct taxes in the total tax receipts in India for a period from 1951-52 to 1995-96. They found that the share of direct taxes in total tax revenue has declined steadily from 37 percent in the early fifties to 14 percent in 1989-90. However, with rationalization and harmonization of the tax structure under the New Economic Policy, the receipts from direct taxes rose from 14 percent in 1990-91 to 19.5 percent in 1995-96. With the passage of time, the company form of organization is increasing its importance in India. This is evident from the fact that the contribution of corporation tax as percentage of gross direct tax revenue of the centre is increasing. The yield from corporation tax which was a meager Rs.40 crores in 1950-51 increased to Rs.5335 crores in 1990-91 and to

Rs.21860 crores in 1997-98. Today Corporation tax contributes more of the revenue from taxes on income.41

Shyam Nath states that urban property taxes in India are levied against the annual rental value of the property. He concluded that Rent control has adversely affected the level and growth of property tax revenue in Indian cities.42

Michael.S and Panos Hatzipanayotou in their study, “Impact of Rent Control on Property tax base in India”, constructed a general equilibrium trade model of a two-class small open host and source country. When consumption tax revenue finances the provision of a public good, marginal migration reduces social welfare in the source country and raises it in the host. When consumption tax revenue is equally distributed among domestic households in each country, then migration has an ambiguous impact on social welfare in either country. When tariff revenue in either country is either equally distributed among domestic households, or it is used to finance the provision of a public good, then migration has an ambiguous effect on social welfare in the host country, and is expected to reduce social welfare in the source country. 43

Edger K. Browning developed a theoretical analysis on the responsiveness of tax revenue to a change in tax rates on labour income. He found that tax revenue was likely to be less responsive to higher tax rates.\textsuperscript{44}

Chitale. M.P in his study, “Tax Incentives for Saving and Investment” said that, the larger the amount saved, the larger the tax benefit. \textsuperscript{45}

Hemalata Rao analysed the tax incidence on agricultural sector in Uttar Pradesh. The conclusion is that the agricultural sector is less taxed than non–agricultural sector. \textsuperscript{46}

M.M. Ansari attempted to identify the determinants of tax ratio of less developed countries. The determinant factors taken into account for this study are real Gross Domestic Product, size of overseas trade measured by the share of exports plus imports in National income and the demographic pressure measured by the density of population. His main conclusion is that the three explanatory variables such as real per capita Gross Domestic Product, size of overseas trade and measure of demographic conditions could explain differences in the inter-country tax ratios to a significant extent as compared to earlier studies. While the coefficients had the expected sign and were generally significant at one per cent level of confidence. The density of population showed the expected negative sign and it is significant at one per cent level, it emerged


inversely related to the efforts made by the countries in exploiting the existing taxable capacity which is contrary to our priori reasoning.\textsuperscript{47}

Gulati. I.S in his study, “Agenda for Tax Base Reform”, pointed out that in the year 1990-91, the changes introduced in income-tax and wealth tax were to contribute Rs.15 crores. The source of erosion of tax base is the tax treatment of agricultural incomes. Agricultural income is taxed only at the state level through a combination of land revenue and agricultural income tax.\textsuperscript{48}

Hutton and Lambert have given an exact formula for calculating the elasticity of income tax and was applied to the United Kingdom for the period from 1995 to 2000. They developed a simplified model of the United Kingdom income tax which enables the variations in elasticity from year to year to be broken down into component identifiable with income growth and discretionary changes by combining the linear tax schedule for most tax payers with a Pareto distributional assumption for higher rate tax payers.\textsuperscript{49}

Sarma. K.S.R.N and Thavaraj. M.J.K in their study, “Estimation of Tax incidence in India”, have examined the incidence of taxes in India. Their study reveals that the incidence of corporate income tax is on the non – agricultural population, the incidence of central excise and property tax falls on

the non-agricultural sector and the incidence of estate duty is borne by the agricultural and non-agricultural sector.\textsuperscript{50}

Amaresh Bagchi in his suggestion in strengthening direct taxes noted with strong emotions that the revenue from direct taxes has shown impressive growth. The ratio of direct taxes collection to gross domestic product in India is still poor with that in other developing countries. Rough calculations suggest that the 'tax gap' continues to be quite large and the personal income tax is able to capture only about 50 per cent of its potential. The tax reforms committee has laid out a two-pronged strategy to improve the yield of income tax widening the tax base combined with moderation in rates on the one hand and strengthening the administration on the other. Several measures have been taken to implement these recommendations, but much still remains to be done.\textsuperscript{51}

In his study, Revesz employed a combination of two LES (Linear Engel Curves) preference maps to investigate the structure of optimal commodity tax rates under Non-linear Engel Curves demand specifications. The model illustrates the situation where the consumption of some goods starts at intermediate or high income levels. It shows that under Non-linear Engel Curves demand conditions large variations can arise in optimal commodity tax rates. This involves much higher taxes on luxuries than on necessities. However, the gains in social welfare compared to the uniform tax solution are relatively small. It also demonstrates that a change over from direct to progressive indirect taxation

will improve social welfare and labour supply. Moreover, it indicates very close relationship between consumer group income and optimal tax rates. Further it suggests that evasion- prone necessities should be taxed at lower rates than other necessities.52

Anupam Gupta has pointed out that the elasticity of personal income tax with respect to income cannot be greater than one, under a progressive tax structure. It ranges between 0.5266 and 0.6339.53

Krishnan. T.N examined the tax on property and net wealth in India. His analysis revealed that the yield from such a tax can vary from Rs.220 crores to Rs.350 crores per annum.54

Vasant Sathe in his study, “Tax without Tears”, feels that for reducing the large number of indirect taxes, value added tax was introduced. The presumptive co-operate or institutional tax method is an instrument for taxing the hard to tax groups.55

Jayasimhulu Naidu.N and Par Vathy. K.A in his study, “Trends in Tax revenue of Andhra Pradesh, Survey of Two Decades,” stated that during the period from 1976-77 to 1997-98, the tax revenue increased from Rs.23.07 crores to 367.61 crores registering a growth of 1493 percent. The tax structure in Andhra Pradesh is more regressive. The yield from indirect tax increased faster than direct taxes. The ratio of direct to indirect taxes in Andhra Pradesh was

28:72 in 1933-94, whereas the ratio for all taxes was 15:85. Thus the ratio of
direct to indirect tax revenue in Andhra Pradesh is better than the all state
average. During 1976-77, the yield from tax revenue was more than non-tax
revenue but in 1997-98, non-tax revenue increased gradually.\textsuperscript{56}

Raja Chelliah. J. in his study, “Reforming the Tax Base for
Economic Development”, observes that although direct taxes formed less than
three per cent of gross domestic product, they exerted a profound influence on
economic decisions. The impact of the direct taxes on the economy was
disproportionate to their relatively small share in total tax revenue. The system of
direct taxation was unnecessarily complicated, deficient in terms of horizontal
equity and destructive of incentive, because of high combined marginal rates of
personal income and wealth taxation. Erosion of horizontal equity arose through
unjustified concessions, provision of tax shelters in the form of untaxed
perquisites and weak enforcement which made it possible for a large section of
the tax payable population to get away with no or little payment of tax.\textsuperscript{57}

Kanneth. V. Greene and Brian Hawley addressed their study
towards fly paper effect, debt illusion, renter illusion, the complexity of the tax
structure and its income elasticity. He establishes that if there is fiscal illusion,
high elasticity of tax will not lead to tax rate reduction. The improved measure of
income tax elasticities reveal a positive and significant effect on the likelihood
that states will cut their income tax rates. When one controls for the effect of the

\textsuperscript{57} Raja Chelliah. J, "Reforming the Tax Base for Economic Development", Inaugural Address of
relative burden of the personal income, it too has marginally significant positive effect on the likelihood of tax reduction and shows doubt on the thesis that fiscal illusion due to high tax elasticities can substantially over stand the size of the public sector. He indicated that there is a limit beyond which automatic tax increase built into a system through progressive income taxation can serve the interests of Leviathan.$^{58}$

Pulin B. Nayak and Satya Paul in his study, "Personal Income Tax in India - Alternative Structures and Their Distributive Effect", examined the structure of personal income tax in India and their redistributive effects with alternative income tax schedules. Their study has revealed that the personal income tax in India has been indeed progressive. Since personal income tax covers less than one per cent of the total population, there are obvious limits with which the personal income tax may be expected to play the redistributive role. It is very effective with honest people and is the least effective under parallel economy in operation.$^{59}$

Edgar K. Browning developed a theoretical analysis of the responsiveness of tax revenue to a change of tax rates on labour income. The model incorporates three features and they are progressive change in marginal tax rates, non-comprehensive tax base and presence of capital income tax. The

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central finding is that tax revenue is likely to be less responsive to higher tax rates.\textsuperscript{60}

Parthasarathi Shome concentrated on the study of buoyancy and elasticity of the tax systems of developing countries with particular reference to Asia. He discusses the impediment of an traumatic response and elasticity of taxes revenue to economic growth. He presents a framework for estimating the buoyancy and elasticity of taxes and then provides some estimates of these measures from selected Asian economies. He argues that there is some built-inflexibility in raising the elasticity of a typical tax system. He also recommends some measures for improving the system, such as sustained expansion of coverage, judicious use of differentiated rates, regular adjustment for inflation, minimization of collection lags and increased utilization of withholding of presumptive taxation.\textsuperscript{61}

Thomas Stratman derived implications from Atkinson's measures of inequality of equally distributed equivalent income. He diagrammatically represented inequality in several dimension using Lorenz curves. This technique allows us to judge which distribution associated with crossing Lorenz curves in preferably to society in terms of total welfare.\textsuperscript{62}

Formby John P. and David Sykes in their study, "State Income Tax Progressivity", reveals that, the trends in progressivity of personal income taxes

in selected states of the United States of America. They have shown that almost all the decline in the tax progressivity in North Carolina can be explained in terms of inflation, real growth in per capita income and the binary variables representing the tax changes.⁶³

Sham Bhat and Kannabiran.G in their study, "Measuring Elasticity and Buoyancy of Tax Revenue in Tamil Nadu: A Divisia Index Approach", reveals that during the period 1979-1980 to 2002-03, taxes such as land tax, state excise, sales tax and entertainment tax are largely buoyant and elastic constituting 81.8 per cent of the total tax revenue in Tamil Nadu. Further, discretionary measures taken by the government of Tamil Nadu had a negative influence on the tax revenue except the state excise and sales tax. Hence, it calls for taking more efforts to improve administration of taxes so as to realise all the potential tax revenue instead of depending on the centre to meet the growing demands of state expenditure.⁶⁴

Sury. M.M in his study, "Buoyancy and Elasticity of Union Excise Revenue in India: 1970-71 to 2000-01", examined that elasticity and buoyancy of union excise duty between 1970-71 and 2000-01. He subdivided the period into two sub groups between 1970-71 to 1984-85 and 1985-86 to 2000-01. The estimated elasticity and buoyancy is on the basis of proportional adjustment method. Union excise duty between 1965-66 and 1980-81 had buoyancy coefficient of more than unity which shows that union excise revenue grew more

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than proportionately to national income. But during the same period the elasticity coefficient was less than unity reflecting in a lack of inherent response of union excise revenue to change in national income.\(^65\)

Johi. S.S in his study, "Taking farm incomes", brought out the fact that the percentage of land revenue and agricultural income tax to the total revenue from the state taxes was not only low but decreasing also.\(^66\)

Vito Tanzi in his study, “How effective is Taxation as a weapon to control inflation”, concludes that there is no direct casual connection between the level of taxation and the level of prices.\(^67\)

Agarwal. A.K in his study, “Replacement of Sales Tax by Additional Duties of Excise”, suggested that the sales tax should be levied and collected by the centre and the revenue might be distributed among states. It again demanded replacement of sales tax by additional excise duties and there is greater need to simplify the sales tax structure.\(^68\)

Bhat, K. Sham and Nirmala. V, made a study of political economy of tax revenue determinants in 22 Indian states. The study was for the financial year 1988-89. Ten independent variables were taken into account to separately identify the important determinants of five main items of per capita tax revenue, viz., a) total tax revenue, b) states' own tax revenue c) share in central tax

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revenue, d) tax revenue from property and capital transaction and e) tax revenue from commodities and service. The states covered in the study were 22 and the study did not include newly formed states. The analysis reveals that per capita debt, percentage of urban population to total population, per capita income and per capita expenditure have a positive influence on per capita tax revenue, while the percentage of Scheduled caste and Scheduled Tribe population in total population has a negative impact. The effect of such variables is similar on per capita state's own tax revenue. The state's per capita share in central taxes tends to increase with a rise in its per capita debt, percentage of Scheduled Caste and Scheduled Tribe population in total population and per capita expenditure, which is likely to decrease with an increase in per capita grants, primary sectoral contribution and per capita income. Tax on property and capital transaction responded positively to a rise in per capita grants, while its response to a decline in literacy rate and percentage of Scheduled Caste and Scheduled Tribe population in total population emerged negative. The study also reveals that the political party in power is not found to be a significant determinant of the states' tax revenue and that although the ideologies of the political parties differ from one another, they have little impact on the determination of tax revenue in practice.69

Ganti Subramanyam in his study, "Some Implications of the Popular Approach to Tax Elasticity Estimates", recommends that the use of exponential forms on the specification of tax revenue functions in estimating

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income elasticity of taxes. His suggestions on some implications of the popular approach to tax elasticity estimating' are useful in developing a new approach to elasticity estimation.\textsuperscript{70}

Kakwani N in his study, "Measurement of Tax Progressivity: An International Comparisons" observed the trends in tax progressivity in Australia, Canada, the United Kingdom and United states. He found that tax progressivity has declined in all the four countries during the period of analysis and that amongst these countries, there is a substantial variation in the tax progressivity.\textsuperscript{71}

Fitzerald, John and Tim Maloney, "The Impact of Federal Income Taxes and Cash Transfers on the Distribution of Life Time House Hold Income, 1999- 2001", reveals that, the impact of Federal income taxes and cash transfers on the distribution of lifetime household income for the period 1999-2001. The study used longitudinal sample of stable household to assess the impact of federal taxes and cash transfers. After controlling the upward movement in age income profile across birth year cohorts, earned lifetime incomes are found to be more equally distributed than earned incomes. The overall tax and transfers system is found to have a larger redistributive effect on lifetime incomes. While taxes are relatively more important than transfers in reducing lifetime income inequality among married couple, the opposite is true for single-headed


households. Taxes and transfers also redistribute lifetime income from married couples to single headed households.\textsuperscript{72}

John Formby, P, James Smith and Paul Thistle reexamined the controversy that existed over the last decade on the measurement of global tax progressivity. They found that the debate did not reflect irrevocable conceptual differences but was a consequence of the failure to fully recognize the role of average tax burden on the relationship between global progressivity and welfare. They demonstrated that controlling the effects of tax height plays a critical role in the welfare analysis of taxes. They showed that once the average tax burden was properly controlled for, the Dalton/Musgrave-Thin and Kakwani/Suits approaches to global tax progressivity measures must rank tax systems consistently with one another and with welfare theory. If the welfare effects of tax heights are not controlled, the two approaches are neither consistent with each other nor fully consistent with welfare theory.\textsuperscript{73}

Robert M. Coen and Bert G. Hickman in their study, “Tax Policy, Federal Deficits and U.S. Growth in the 2004s”, disclosed that the personal tax reductions raise output in the short run but leave actual and potential output virtually unchanged in the longer run.\textsuperscript{74}

S. Guhan reviewed the finances of Tamil Nadu for the 25 years period between 1980 and 2005. In this study, he analyzed the revenue source of


state government and the effect of resource mobilization. According to this study, in the Indian fiscal system, the developmental responsibilities of the states are wider while resources available for fulfilling them are limited and inelastic. Contribution of tax revenues in total receipts has significantly increased from 50% to 72%. Taxes have grown much faster than non – tax sources of revenue. Tax revenue as a proportion of NSDP has increased from 4.9% to 8.5% whereas the share of non- tax revenue went down. The reason for the relatively low proportion of non – tax revenue to total revenue is that Tamil Nadu does not have the benefit of significant income from forest products or mineral royalties compared to the states such as Assam, Bihar, Madhya Pradesh and Orissa.75

Subrahmanyam.G and Rama Krishna Rao.B in their study, “Reform of Direct Taxes, Some Suggestions”, state that Direct taxes in India have so far remained ineffective in performing their redistributive role of reducing inequality in the distribution of income and wealth in India.76

Reddy. K.N in his study, “A Note on Indirect Tax Structure”, has suggested that it is unfair to use the veil of indirect taxation to mobilize the revenues too much and the revenues of sales tax may be shared with the local bodies.77