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Ankita Gupta*

Abstract

In a developing country the choice of an economic policy conducive to the economic growth constitutes a major thrust area in the development and improving social welfare of the country. Demand for increased public expenditure due to enhanced political consciousness and implementation of investment programmes through mechanism(s) infected with diseconomies are the two important forces among several others to put increased pressure on the fiscal resources available within a state. The developing countries are not poor in resources but suffer from sub-optimal exploitation of the resources. The four major constraints of development include low level of savings and investment, foreign exchange constraint, backward agriculture and low level of human resource development. . Resources can be mobilized through domestic and foreign resources. The foreign resources include inflow of foreign capital, foreign aid and foreign loans, which have advantage of bringing modern technology, but too much reliance on these sources, may lead to problems of debt servicing. On the other hand domestic sources include taxation, domestic savings. Taxation serves as an instrument for saving and investment in the community. Therefore, it is referred to as compulsory saving. By taxing expenditure and exempting that part of income, which is saved or invested, taxation also stimulates investment within the private sector. Short-term measures undertaken by a Sate viz., dependence on federal transfers and resorting to overdraft evidently has their respective detrimental implications on fiscal health of the state. The remedial approach pervasively suggested by the contemporary fiscal strategists to tackle the ever-increasing fiscal gap moves towards attaining an appropriate degree of financial self reliance However, the policy of taxation suffers from inherent contradictions, which make its application complex. Thus, the obvious solution of fiscal restructuring dwells on an in-depth understanding of the fiscal system of a state particularly on a temporal

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analysis of the indicators that throw light on the performance of a tax system in respect of two objectives: (i) siphoning off into the state exchequer the collection of revenue without endangering the incentive for private savings and investment and (ii) helping to release resources for private investment by reducing private consumption. While the indicators like the compound growth rate and marginal tax rates do not take in to account the taxable capacity, the tax ratio and the tax efforts measures generally fail to indicate the responsiveness of the tax structure to changes in state's income over time. Thus, the temporal analysis of tax responsiveness in terms of buoyancy of taxation becomes imperative to have an evaluative insight into the effectiveness of a tax system. The present paper titled 'The Trends and Responsiveness of Personal Income Tax in India', analyses the major trends in the taxation of personal income tax in India during the period 1980-2008. The Tax selected for the present study is:

- Personal Income Tax

The paper is divided into four sections; the first section outlines the history, structure and importance of personal income tax. The second section explains the earlier studies on personal income tax and their estimates of the buoyancy and elasticity of personal income tax in India, Source of data and period of study; Hypothesis and Methodology. The third section deals with the trends in personal income tax in India during the study period, it also presents the estimates of buoyancy of personal income tax for the study period. The fourth section analyses the estimated coefficients of buoyancy it also presents the comparative results of the sub-divisions in period of study and conclusions.

The Trends and Responsiveness of Personal Income Tax in India*

The introduction of economic reforms in 1990 and the subsequent revisions in Indian income tax laws for rationalising the tax administration of India have resulted in the increase of tax collections from the individual assesses from Rs. 24.56 billion in 1990 to 103.76 billion in 2000.

A good tax system is characterized by a high responsiveness of tax revenue to changes in income of public bodies or national income; the technique of measuring this response is *tax elasticity* and *tax buoyancy*. Tax policy forms an important part of development process in a developing economy. The total tax revenue is dependent upon three variables viz., tax rate, tax base and national income. Out of these three the functional relationship between tax revenue and national income is used to determine the responsiveness of taxation. In this case tax revenue is taken as dependent variable while national income is taken as independent variable. The Tax buoyancy is defined as actual changes in tax yield, with respect to changes in national income. There are discretionary changes that take place in the tax structure each year which impact the revenue yield of tax. Tax buoyancy attempts to estimate the responsiveness of taxation resulting from the discretionary measures in taxation.

The study attempts to find out the responsiveness of Personal Income taxation with respect to National Income, the various indicators of income used include Non-Agricultural GDP, GDP at factor cost. Generally PIT is imposed upon the income, it is practically impossible to delineate the concept of income. Theoretically, income is the money value of the net accretion between two points of time. According to flow of wealth concept, income means the net flow of wealth to the taxpayer during a period. Under section 14 of the Indian Income Tax Act, 1961 income of a person is computed under the following heads:

- Salaries

Salary is defined to include: 1) wages, 2) any annuity, 3) any type of fees, commission, 4) any type of advance or salary, 5) arrears of salary and value of certain perquisites provided by the employer.

- Income from House Property

Rental income from house property is taxable subject to certain conditions

- Profits or Gains of Business or Profession

Income from business and profession are chargeable to tax.

- Capital Gains

Profits or gains from transfer of a capital asset

Personal Income tax is the only notable source of direct tax revenue in India. However, its importance as a source of revenue has declined since independence, other taxes such as Corporate tax and Union excise duties ousted Personal Income Tax in terms of revenue contribution to the state exchequer.

Role and Importance of Personal Income Tax

Personal income tax in India may be said to consist of taxes on the non-agricultural incomes of three types of assesses:

- Individuals
- Hindu Undivided families
- Unregistered firms and other associations of persons.

The significant role played by personal income tax in the national economy may be studied in various ways. One of the common and most empirically used ways is the ratio of personal income tax to total tax revenue, national income (GDP, GNP, NNP). The estimation of the buoyancy and elasticity of personal income tax in India was made by various economists for different time periods. The very first attempt towards estimating buoyancy and elasticity of Personal Income tax in India was made by G.S.Sahota[8] during 1951-52 to 1957-58. The estimates by G.S. Sahota show that the elasticity of PIT is comparatively low than the buoyancy of PIT, the high value of buoyancy shows a high level of exploitation. However the coefficients of buoyancy and elasticity estimated by G.S. Sahota are not strictly comparable because of disparity in time periods.

II

Objectives of Study

To find out the relationship between the tax rate schedule and tax revenue of Personal income tax the following objectives have been formulated:

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[8] G.S.Sahota (1961)-Indian Tax Structure and Economic Development– Asia Publishing House

a.) To estimate the progressivity of the Indian income tax system along with the measurement of responsiveness of the personal income tax.

b.) To ascertain the factors affecting the trends in the responsiveness of personal income taxation in India.

Source of Data and Period of Study

The study has been based primarily on the secondary sources of data. The main sources of data are, the study is secondary database where data is collected from the following publications of Government of India namely:

- Indian Public Finance Statistics 2004-05, 2005-06, 2006-07 - Government of India.
- Handbook of Statistics- CSO, Government of India.
- RBI Handbook of Statistics on Indian Economy 2006-07
- Economic Survey various issues- Ministry of Finance, Economics Division Government of India.

Hypothesis

In order to test the findings of the study the following hypothesis have been formulated:

H_0 – Buoyancy of Personal income tax in pre and post liberalisation period has remained same.

H_1 – Buoyancy of Personal income tax has been significantly different in pre and post liberalisation period.

Methodology

The hypothesis is tested using the methodology given below. The responsiveness of gross tax revenue to changes in gross income is referred to as buoyancy or tax buoyancy. The tax buoyancy is also defined as the ratio of proportionate change in gross tax revenue to the proportionate change in income.

$$E_{y.x}= Y_t\text{-}Y_{t-1}/\ Y_{t-1}/X_t\text{-}X_{t-1}/X_{t-1}$$

Y_t = gross tax revenue in t year (current year)

Y_{t-1} = gross tax revenue in t-1 year (previous year)

X_t = National Income in t year

Y_t = National Income in t-1 year

For estimating the tax buoyancy for time series data, empirical studies have used the Ordinary Least Squares Method. The functional form of equation used for measuring the elasticity and buoyancy coefficients is of type:

$$T=a\,Y^{b}$$

When the exponential form of equation is transformed into logarithmic form we obtain:

$$\text{Log } T= \log a+ b \log Y$$

Where,

T = tax revenue

Y = national income

a = constant

b = buoyancy/elasticity coefficient

When this equation is fitted into the data, the regression coefficient b gives the percentage change in tax revenue (T) corresponding with one percent change in income If the coefficient b turns out to be more than one, the responsiveness of tax system will be considered relatively high and if it is less than one, the same will be considered as relatively low.

The above mentioned method assumes that buoyancy is constant over the range of income considered i.e., the proportionate change of the tax in response to one percent change in income is the same irrespective of the level of income. It assumes the existence of significant correlation between T (tax revenue) and Y (national income). An indication of this is provided by the statistic R^2 that measures the goodness of fit of the functional relationship being measured. It can be easily discerned that the functional form of equation devised for estimating the buoyancy and elasticity coefficient is same, it is therefore necessary to distinguish between the statistical derivations between the two coefficients. In order to obtain the buoyancy coefficient the series of gross tax receipts is regressed (inclusive of revenue yield from discretionary measures) on the income series.

Review of Literature

Several studies have been carried out earlier for estimating the buoyancy and trends in Central taxes including Personal Income Tax. A few of them have been outlined below:

Sahota (1961)- the earliest attempt towards estimating the responsiveness of Indian tax system was made by G.S.Sahota, his study reveals that the buoyancy coeffiscient of personal income tax for the period 1900-1947 is 1.7 while that of corporation tax was1.47, the buoyancy of Union Excise Duty is estimated at 3.9 , for overall taxes the buoyancy was 2.3.

Pawan. K. Agarwal (1991)- The paper is an attempt to estimate the responsiveness of personal income tax as a result of a change in inequality in the distribution of income. The study also develops the methodology for estimating the elasticity of taxation given a change in the distribution of personal income. Interestingly, the study reveals that an increase in tax inequality in the distribution of income among the taxpayers increases yield of personal income tax in India. The study empirically finds that during 1966-67 to 1983-84, when the inequality in taxable income had a declining trend the elasticity of tax also decelerated. The estimated elasticity 1.17 will vary with the rise and fall of inequality during the reference period.

M.Q.Dalvi, M.M.Ansari. (1985), - The study attempts to study the fiscal performance of the Centre and the States in India within the framework of their taxation powers. It also focuses upon estimating the elasticity and buoyancy coefficients of different taxes for the period 1960-61. The study employs regression method for estimating buoyancy and elasticity coefficients; the buoyancy coefficients both combined and separate for Centre and States are greater than unity, thereby showing more than proportionate revenue generation capacity of these taxes in response to increase in income.

Central Buoyancy- 1.25, State Buoyancy- 1.24, Combined Buoyancy – 1.24;

III. The Trends in Personal Income taxation 1980-81 to 2007-08

The tax rates in Personal Income Tax were exorbitantly higher by any standards during the decade of 1970-80. The need for rationalization of tax structure was felt long back before the economic reforms took place during 1990s. The increase in revenue productivity was brought about by drastic reduction in the top marginal rates of tax. The tax structure of Personal Income Tax has been rationalized to a large extent during the past fifteen years, or since the initiation of tax reforms. This is reflected in the rate structure and the top marginal rates of personal income tax that are reduced and rationalized. The impact of this reform is now widely felt in the responsiveness of personal income tax returns. The top marginal rate has been reduced from 69 % to 30 %, the exemption limit has been largely increased from, Rs. 8000 in 1980-81 to Rs. 1.5 lacs in 2007-08.

The responsiveness of personal income tax measured for the two sub periods (1980-81 to 1993-94), (1994-95 to 2007-08), to make a comparative study of personal tax structure.

The comparison of the two sub-periods is made towards studying the impact of fiscal restructuring on revenue realized from Personal Income tax, after the tax reforms initiated in the liberalisation era. This can also be seen from the chart below showing trends in Personal income tax and GDP FC in the two sub- periods (Chart-1, 2)

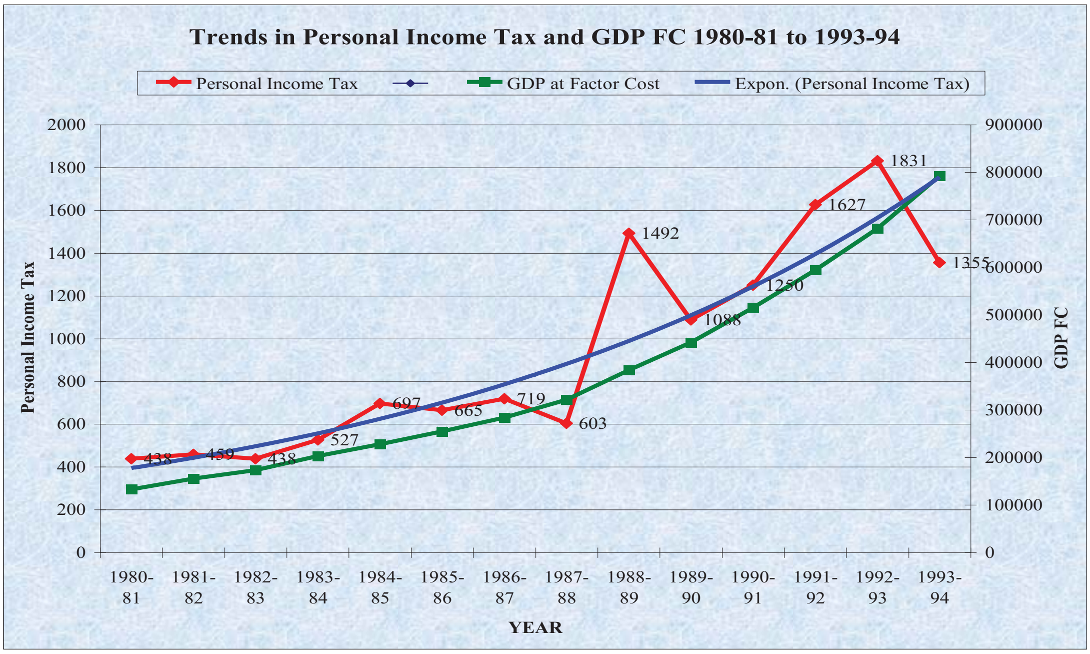

Chart-1 a

The period 1980-81 to 1993-94 reveals the inconsistent trend in personal income tax as the actual figure of personal income tax and the trend line different levels.

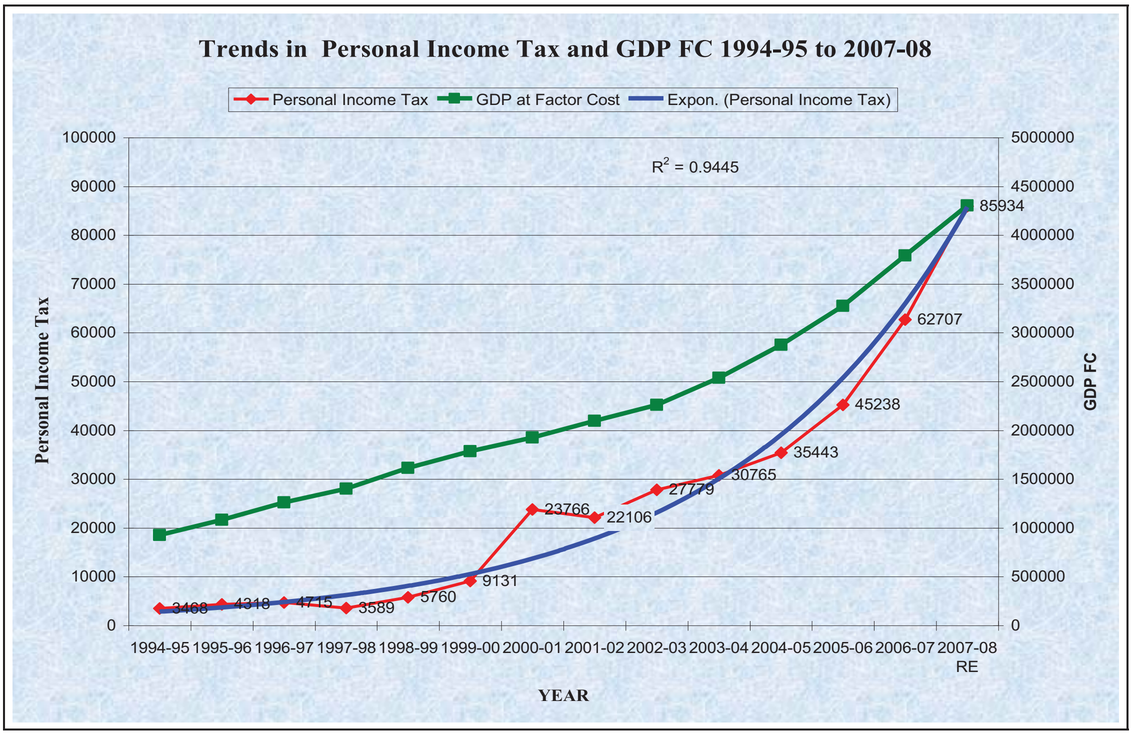

Chart- 1b

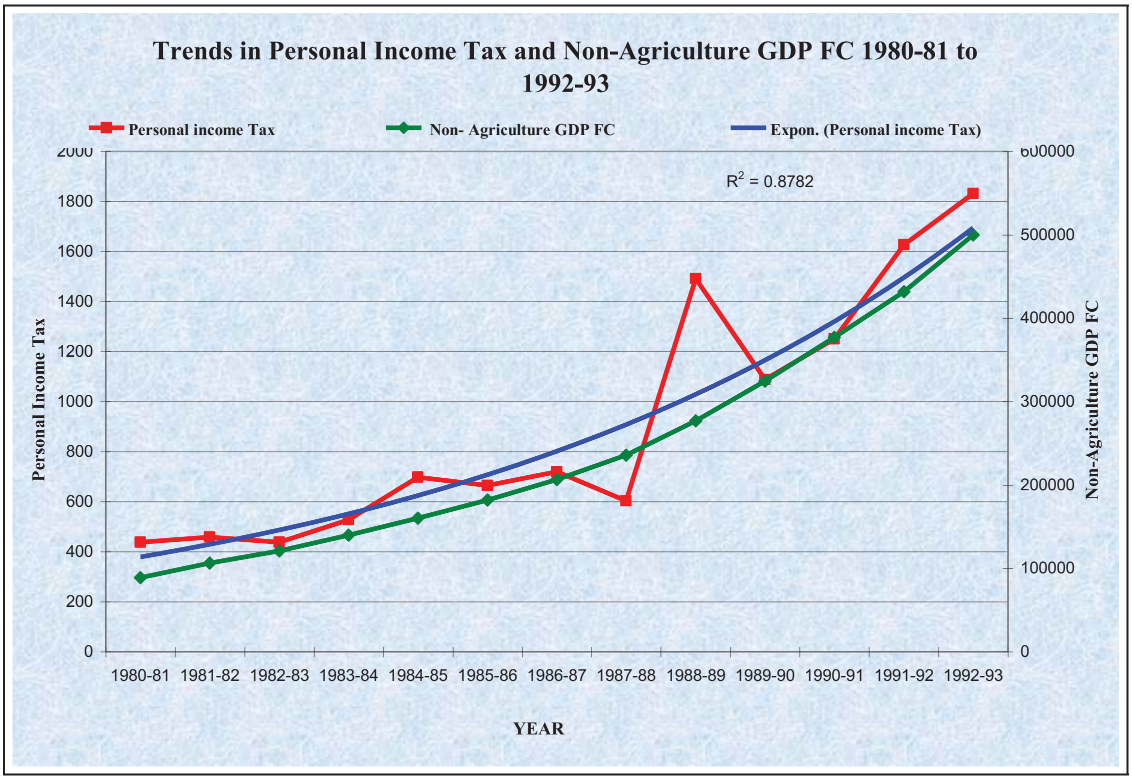

Chart-2a

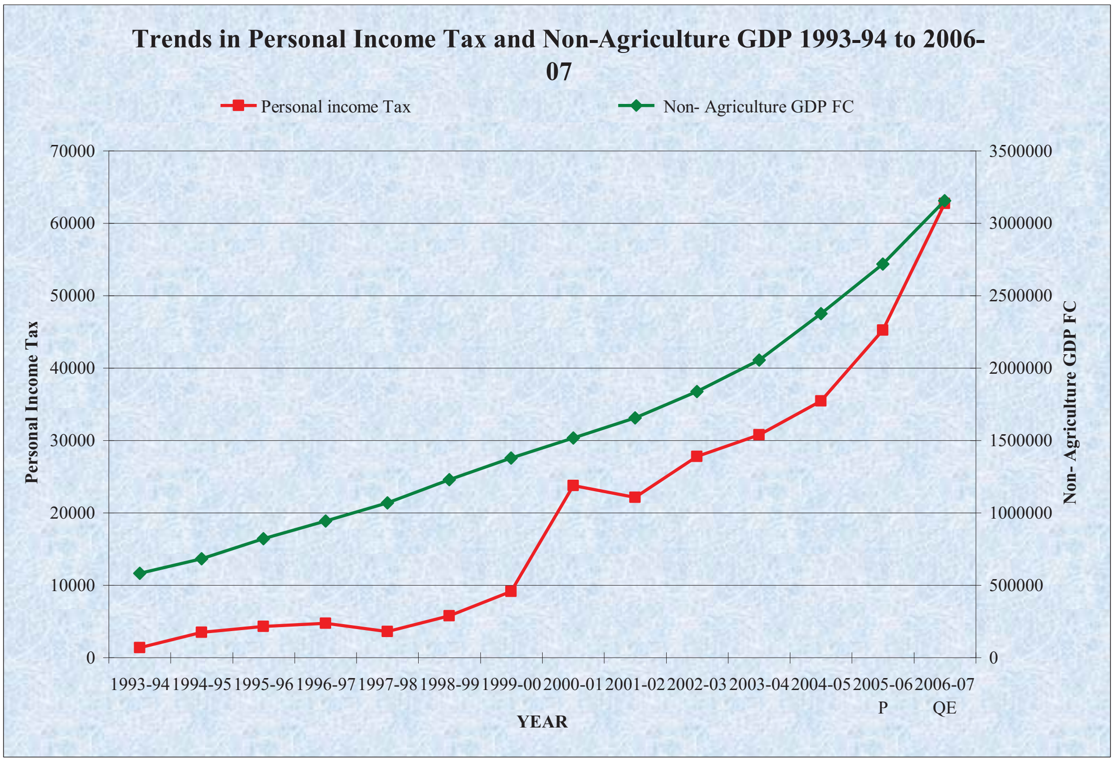

Chart-2b

The trends in Personal Income tax during the period 1994-95 to 2007-08 reveal a consistent increase along with the trend line, despite a few years when fluctuations were recorded.

The buoyancy of Personal Income Tax with respect to GDP FC and Non- Agriculture GDP FC has been the same, Table-1.1

Table-1.1
Buoyancy of Personal Income Tax

Year	Explanatory Variable	Buoyancy	t-statistic	Compound Growth rate of Personal Income Tax
1980-81 to1993-94	GDP FC	0.847 (0.85)	8.88	3.50
	Non-Agriculture GDP FC	0.884 (0.88)		
1994-95 to 2007-08	GDP FC	2.42 (0.92)	12.3	9.95
1993-94 to 2006-07	Non-Agriculture GDP FC	2.28 (0.92)	12.8	

Whereas the buoyancy of personal income, tax after tax reforms were initiated 1994-95 to 2007-08, shows improvement as it is above 2 with respect to GDP FC and Non-Agriculture GDP FC.

The trends in Personal Income Tax show that reforms have a favorable impact on the growth of personal income tax, the major factors that can be cited fro this increase in revenue responsiveness of personal income tax are:

- Reduction in top marginal rate of Personal Income tax.
- Reduction in the number of tax slabs, thereby resulting in the simplification of tax structure.
- Increasing compliance through wider coverage of tax assesses in terms of PAN, TDS and TIN.
- Increase in the number of tax assesses.
- High GDP growth rate.

The buoyancy of personal income tax with respect to independent variables, has improved for both the periods. This is attributable to the reforms in tax structure which has resulted in better compliance of taxes. The variations in the growth rate of income tax as well as the level of differences in the buoyancy coefficient can be better traced to the various discretionary measures taken by the government in the Personal Income Tax structure each year. In order to measure the differences in the buoyancy coefficient of the two sub-periods we used t-test. The results show that there has been significant increase in buoyancy of taxation in the two sub-periods. This further implies that the tax reforms undertaken by the government have a positive impact on the responsiveness of the personal income tax and trends and growth of the tax with the growth of national income (GDP FC).

However, there seems to be significant potential for realization of more revenue which is revealed in the number of taxpayers, which were only 293.95 during 2005-06. Therefore, tax rate simplification and broadening of the base are some important reforms that can be undertaken for reforming the tax structure and increasing its responsiveness.

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