

## THE FISCAL POLICY OF INDIA: IMPACT OF REFORMS ON THE STRUCTURE OF TAXATION

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### ABSTRACT

*India offers a well-structured tax system for its population. Taxes are the largest source of income for the government. This money is deployed for various purposes and projects for the development of the nation. Taxes are determined by the Central and State Governments along with local authorities like municipal corporations. The government cannot impose any tax unless it is passed as a law. In 1991, India adopted fiscal policy reforms with the aim to improve the structure of taxation to mobilise resources in the long term. This paper seeks to provide a bird eye's view of the taxation structure in India. The attention of this research paper is on the estimation of the growth rates of taxes and a comparison of the growth rates in the post and pre-reform periods.*

### INTRODUCTION

According to a sound tax policy, as an economy develops, reliance on indirect taxes should fall and that on direct taxes should increase.” According to the Indian Development report (1999), Indirect taxes were the main source of tax in India in the pre-reform period. The share of indirect taxes went up from 63.21% in 1950-51 to 85.91% in 1985-90. This fell slightly to 80.5% in 1995-96 whereas share of direct taxes in total tax revenue was 36.79% in 1950-51 after that it fell sharply and reached a nadir in 1990-91, i.e. 13.9 percent. It has picked up a little in 1995-96 but it was only about half its level in 1950-51. The tax revenue in India in both pre and post reform period was aimed at gainful public expenditure. Thus, the focus of this study is to see whether reforms implemented by the government in 1991 have impacted the tax structure and its contribution to government revenue positively.

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## REVIEW OF LITERATURE

The existing studies on the structure of taxation in India have been briefly summarised in this section. According to OECD Economic Survey of India (2007), tax structure of India has undergone major reforms since 1990 like there were large cuts in direct tax rates, which have strengthened the economy. The share of direct tax revenues in GDP has risen but it still has certain loopholes and exemptions which introduce distortions and complexity. Shankar Acharya (2005) has observed the changes in the tax structure of India from mid 1970 to 2005 by using the central government data. He found that India has made a huge progress in its structure of tax, judged by the standards of economic efficiency, equity, built-in revenue elasticity and transparency. Bagchi Amaresh (1988) made an attempt to study statistically whether the increase in tax revenues since 1985 can be regarded as significant or not. He also examined the soundness of some of the components of the strategy of lowering the rates of income and wealth tax together with vigorous enforcement. Muhleisen (1998) assessed the performance of tax reforms which were implemented by the Central Government since 1991. This study showed that overall revenue had declined relative to GDP due to substantial tax cuts, although elasticity estimates revealed that revenue generating capacity of the tax system has improved a little. Bagchi Amaresh (1995) has analysed the structure of direct taxes in India. He found that both personal income and corporation tax has shown an impressive growth in the years of economic reform, i.e. from 1991-92 to 1993-94 as Tax Reform Committee has used a two – pronged strategy to improve the yield of income tax.

## DATA AND METHODOLOGY

The secondary data required for this study was collected from databases of Centre for Monitoring Indian Economy (CMIE), Economic Survey of 2010 – 11 and website of Ministry of Finance. The data has been taken for the period 1970-71 to 2007-08 for GDP, GTR, Public Expenditure, Total Receipts, Direct Taxes, Indirect Taxes Income Tax, Corporation Tax, Custom Duty, and Excise Duty. The time period has been divided into two different phases i.e. Phase 1: From 1970-71 (pre-reform period) to 1989-90 and Phase 2: From 1990-91 to 2007-08 (post reform period). To achieve the objectives of the study, I have used different statistical tools like Compound Annual Growth Rate (CAGR), t – Test, Percentage Share and Tax Buoyancy. To analyze whether there has been any structural change taken place over the period of time, I have initially calculated CAGR of Gross Tax Revenue as a percentage share of GDP, Public expenditure and Total Receipts of Government. Further, the CAGR and percentage share of different sub categories of taxes in Gross Domestic Product (GDP) and Gross Tax Revenue (GTR) have been analysed for both Phase 1 and Phase 2. To know the changes which has taken place after reforms are significant or not, the Dummy variable technique (along with t – test) has been used. In

last I have calculated tax buoyancy using the Regression Approach to measure the responsiveness of tax revenue with respect to Gross Domestic Product (GDP).

## ANALYSIS OF DATA

### (A) Compound Annual Growth Rates

To see the change in growth rates of different taxes as a percentage share of GDP and GTR for two different phases i.e. PHASE 1: From 1970-71 to 1989-90 and PHASE 2: From 1990-91 to 2007-08. Phase 1 represents the growth of tax revenue in pre – reform period and Phase 2 exhibits the growth of tax revenue in post reform period. The CAGR for complete period i.e. from 1970-71 to 2007-08 has also been computed.

**Table no. 1**

| S.No. | COMPONENTS                           | PHASE 1 | PHASE 2 | COMPLETE PERIOD |
|-------|--------------------------------------|---------|---------|-----------------|
| 1.    | Gross Tax Revenue/GDP                | 1.81    | 0.60    | 0.50            |
| 2.    | Gross Tax Revenue/Public Expenditure | -0.50   | 1.30    | 0.20            |
| 3.    | Gross Tax Revenue/Total Receipts     | 0.20    | 0.60    | -0.19           |
| 4.    | Direct Taxes /Gross Tax Revenue      | -2.38   | 5.02    | 1.40            |
| 5.    | Indirect Taxes/GTR                   | 0.70    | -2.57   | -0.80           |
| 6.    | Personal Income Tax/GTR              | -3.35   | 3.25    | 0.80            |
| 7.    | Corporation Tax/GTR                  | -2.92   | 6.82    | 2.42            |
| 8.    | Custom Duty/GTR                      | 4.39    | -4.31   | 0.20            |
| 9.    | Excise Duty/GTR                      | -1.19   | -2.76   | -1.69           |
| 10.   | Direct Taxes/GDP                     | -0.60   | 5.65    | 2.40            |
| 11.   | Indirect taxes/GDP                   | 2.53    | -2.00   | -0.30           |
| 12.   | Personal Income Tax/GDP              | -1.60   | 3.66    | 1.20            |
| 13.   | Corporation Tax/GDP                  | 0.60    | 7.25    | 2.83            |
| 14.   | Custom Duty/GDP                      | 6.20    | -3.73   | 0.70            |
| 15.   | Excise Duty/GDP                      | 0.60    | -2.20   | -1.20           |

Table 1 show that CAGR of GTR/GDP has decreased from 1.8 percent in Phase 1 to 0.6 % in phase 2. The reason for this downfall is the poor buoyancy of excise duties in post reform period. The CAGR of direct taxes as a proportion of gross domestic product has shown a significant increase in phase 2 because the direct tax rates were

reduced which helped in increasing the number of assesses. Even the CAGR of gross tax revenue as a proportion of public expenditure has steadily increased from -0.50 percent in phase 1 to 1.30 percent in phase 2 because our country is a developing economy and it needs public expenditure to enhance physical infrastructure and increased social sector spending but it has grown at a lesser pace than GTR. For the overall period the personal income tax and corporation tax as a proportion of GTR and GDP experienced the compound annual growth rate of 0.8%, 2.42 percent, 1.2 percent and 2.83 percent respectively. The CAGR of both personal income tax and corporation tax as a percentage share of GDP has also shown a considerable increase but CAGR of both custom and excise duties as percentage share of GDP has declined to a great extent in the post reform period.

### (B) Dummy variable technique (along with t – test)

To measure the changes in the parameters of the tax revenue function after the reforms, a linear trend equation (along with dummy variable) has been fitted by OLS method. The regression Equation used is:

$$\log T = a + a_1 d + bt + b_1 dt$$

where,  $T$  = Tax Revenue (gross tax revenue, personal income tax, corporation tax, custom duty, and excise duty)

$t$  = Time Period ( $t = 1$  for 1970-71 and  $t = 38$  for 2007-08)

$d$  = dummy variable, for pre – reform period = 0  
post – reform period = 1

If  $a_1, b$  and  $b_1$  are significant, then there will be notable changes in the intercept and regression coefficients of the tax revenue after the reform period and to measure the significance of regression coefficients, the t – test has been used. 1 % level of significance has been considered for dummies to be statistically significant t value should lie outside the range of -2.704 to 2.704. The t – statistics for dummy variable of total tax revenue, personal income tax, corporation tax, custom duty and excise duty lie outside this range. It shows that t – values for dummy coefficient are statistically significant at 1% level of significance which means that there are remarkable changes in the intercept and slope coefficient of these variables in post-reform period.

**(C) Percentage Shares**

To analyze whether any structural change has taken place over the period of time, the percentage share of taxes in GDP and GTR for both the phases, i.e. Phase I representing the pre-reform phase from 1970-71 to 1989-90 & Phase II representing the post-reform phase from 1990-91 to 2007-08 have been studied.

**Table no. 2**

| Years   | Direct Taxes |          | Indirect Taxes |          |
|---------|--------------|----------|----------------|----------|
|         | % of GDP     | % of GTR | % of GDP       | % of GTR |
| 1970-71 | 1.90         | 27.10    | 5.12           | 72.90    |
| 1971-72 | 2.14         | 27.00    | 5.78           | 73.00    |
| 1972-73 | 2.29         | 27.40    | 6.07           | 72.60    |
| 1973-74 | 2.10         | 27.10    | 5.63           | 72.90    |
| 1974-75 | 2.13         | 26.10    | 6.03           | 73.90    |
| 1975-76 | 2.65         | 29.00    | 6.49           | 71.00    |
| 1976-77 | 2.59         | 28.10    | 6.62           | 71.90    |
| 1977-78 | 2.37         | 27.10    | 6.35           | 72.90    |
| 1978-79 | 2.30         | 24.00    | 7.26           | 76.00    |
| 1979-80 | 2.33         | 23.50    | 7.58           | 76.50    |
| 1980-81 | 2.08         | 22.70    | 7.08           | 77.30    |
| 1981-82 | 2.25         | 23.90    | 7.15           | 76.10    |
| 1982-83 | 2.20         | 23.40    | 7.20           | 76.60    |
| 1983-84 | 2.05         | 21.70    | 7.39           | 78.30    |
| 1984-85 | 1.95         | 20.40    | 7.61           | 79.60    |
| 1985-86 | 2.02         | 19.60    | 8.29           | 80.40    |
| 1986-87 | 2.00         | 19.00    | 8.55           | 81.00    |
| 1987-88 | 1.91         | 17.90    | 8.72           | 82.10    |
| 1988-89 | 2.09         | 19.90    | 8.46           | 80.10    |
| 1989-90 | 2.06         | 19.40    | 8.56           | 80.60    |
| 1990-91 | 1.93         | 19.20    | 8.17           | 80.80    |
| 1991-92 | 2.34         | 22.80    | 7.94           | 77.20    |
| 1992-93 | 2.41         | 24.30    | 7.50           | 75.70    |
| 1993-94 | 2.34         | 26.80    | 6.4            | 73.20    |

|         |      |       |      |       |
|---------|------|-------|------|-------|
| 1994-95 | 2.65 | 29.20 | 6.43 | 70.80 |
| 1995-96 | 2.81 | 30.20 | 6.51 | 69.80 |
| 1996-97 | 2.80 | 30.00 | 6.53 | 70.00 |
| 1997-98 | 3.16 | 34.70 | 5.95 | 65.30 |
| 1998-99 | 2.66 | 32.40 | 5.55 | 67.60 |
| 1999-00 | 2.96 | 33.70 | 5.82 | 66.30 |
| 2000-01 | 3.24 | 36.20 | 5.72 | 63.80 |
| 2001-02 | 3.03 | 37.00 | 5.17 | 63.00 |
| 2002-03 | 3.40 | 38.60 | 5.40 | 61.40 |
| 2003-04 | 3.74 | 40.60 | 5.48 | 59.40 |
| 2004-05 | 4.24 | 43.90 | 5.43 | 56.10 |
| 2005-06 | 4.62 | 45.30 | 5.58 | 54.70 |
| 2006-07 | 5.59 | 48.80 | 5.87 | 51.20 |
| 2007-08 | 6.26 | 52.80 | 5.90 | 47.20 |

The percentage share of direct tax in GDP experienced the highest growth rate from 1.9 percent in 1970-71 to 2.65 percent in 1975-76 and after that it decreased continuously till 2002-03 when it was 3.40 percent. At the end of the period i.e. 2007-08 it reached to 6.26 percent, whereas percentage share of direct taxes in GTR has shown a significant improvement. It has increased from 27.1 percent in 1970-71 to 52.8 percent in 2007-08

The percentage share of indirect taxes in GDP increased from 5.12 percent in 1970-71 to 8.72 percent in 1987-88 and after that it started decreasing and reached to 5.9 percent in 2007-08, whereas percentage share of indirect taxes in GTR has shown a declining trend. It has decreased from 72.9 percent in 1970-71 to 47.2 percent in 2007-08.

**Table no. 3**

| Years   | Personal Income Tax |       | Corporation Tax |       | Custom Duty |       | Excise Duty |       |
|---------|---------------------|-------|-----------------|-------|-------------|-------|-------------|-------|
|         |                     |       |                 |       |             |       |             |       |
| 1970-71 | 1.02                | 14.75 | 0.80            | 11.54 | 1.13        | 16.34 | 3.80        | 54.86 |
| 1971-72 | 1.08                | 13.86 | 0.95            | 12.18 | 1.40        | 17.94 | 4.16        | 53.21 |
| 1972-73 | 1.14                | 13.87 | 1.01            | 12.34 | 1.56        | 19.02 | 4.25        | 51.58 |
| 1973-74 | 1.11                | 14.61 | 0.87            | 11.50 | 1.49        | 19.64 | 3.91        | 51.32 |
| 1974-75 | 1.11                | 13.82 | 0.9             | 11.21 | 1.69        | 21.08 | 4.11        | 51.10 |
| 1975-76 | 1.44                | 15.95 | 1.02            | 11.32 | 1.68        | 18.64 | 4.56        | 50.50 |

|         |      |       |      |       |      |       |      |       |
|---------|------|-------|------|-------|------|-------|------|-------|
| 1976-77 | 1.31 | 14.43 | 1.08 | 11.89 | 1.71 | 18.78 | 4.65 | 51.03 |
| 1977-78 | 0.98 | 11.31 | 1.18 | 13.78 | 1.77 | 20.60 | 4.32 | 50.21 |
| 1978-79 | 1.05 | 11.18 | 1.12 | 11.88 | 2.17 | 23.03 | 4.81 | 51.00 |
| 1979-80 | 1.10 | 11.15 | 1.14 | 11.59 | 2.39 | 24.34 | 4.92 | 50.03 |
| 1980-81 | 0.99 | 10.95 | 0.95 | 10.47 | 2.34 | 25.93 | 4.47 | 49.43 |
| 1981-82 | 0.86 | 9.33  | 1.15 | 12.46 | 2.51 | 27.19 | 4.34 | 46.92 |
| 1982-83 | 0.82 | 8.87  | 1.14 | 12.35 | 2.67 | 28.93 | 4.21 | 45.54 |
| 1983-84 | 0.76 | 8.20  | 1.12 | 12.03 | 2.50 | 26.94 | 4.59 | 49.32 |
| 1984-85 | 0.77 | 8.21  | 1.03 | 10.89 | 2.82 | 30.00 | 4.47 | 47.50 |
| 1985-86 | 0.89 | 8.76  | 1.02 | 9.99  | 3.38 | 33.23 | 4.60 | 45.19 |
| 1986-87 | 0.91 | 8.77  | 1.00 | 9.62  | 3.64 | 34.94 | 4.59 | 44.06 |
| 1987-88 | 0.89 | 8.47  | 0.96 | 9.11  | 3.82 | 36.38 | 4.59 | 43.60 |
| 1988-89 | 1.00 | 9.54  | 1.04 | 9.91  | 3.72 | 35.54 | 4.43 | 42.36 |
| 1989-90 | 1.03 | 9.70  | 0.97 | 9.16  | 3.69 | 34.93 | 4.59 | 43.39 |
| 1990-91 | 0.94 | 9.33  | 0.94 | 9.27  | 3.62 | 35.86 | 4.30 | 42.58 |
| 1991-92 | 1.03 | 10.00 | 1.20 | 11.66 | 3.39 | 33.04 | 4.29 | 41.73 |
| 1992-93 | 1.05 | 10.57 | 1.18 | 11.92 | 3.15 | 31.86 | 4.09 | 41.31 |
| 1993-94 | 1.05 | 12.04 | 1.16 | 13.28 | 2.56 | 29.30 | 3.66 | 41.85 |
| 1994-95 | 1.18 | 13.03 | 1.36 | 14.98 | 2.63 | 29.03 | 3.67 | 40.47 |
| 1995-96 | 1.31 | 14.02 | 1.38 | 14.82 | 3.00 | 32.15 | 3.37 | 36.13 |
| 1996-97 | 1.32 | 14.16 | 1.35 | 14.42 | 3.1  | 33.28 | 3.26 | 34.95 |
| 1997-98 | 1.12 | 12.28 | 1.31 | 14.38 | 2.63 | 28.87 | 3.14 | 34.45 |
| 1998-99 | 1.16 | 14.08 | 1.4  | 17.06 | 2.32 | 28.28 | 3.04 | 37.03 |
| 1999-00 | 1.31 | 14.94 | 1.57 | 17.87 | 2.48 | 28.19 | 3.17 | 36.04 |
| 2000-01 | 1.51 | 16.84 | 1.70 | 18.93 | 2.26 | 25.21 | 3.25 | 36.33 |
| 2001-02 | 1.40 | 17.11 | 1.61 | 19.57 | 1.76 | 21.53 | 3.18 | 38.79 |
| 2002-03 | 1.50 | 17.05 | 1.88 | 21.35 | 1.82 | 20.74 | 3.35 | 38.06 |
| 2003-04 | 1.50 | 16.27 | 2.31 | 24.99 | 1.76 | 19.12 | 3.29 | 35.69 |
| 2004-05 | 1.52 | 16.16 | 2.55 | 27.11 | 1.82 | 18.89 | 3.14 | 32.50 |
| 2005-06 | 1.52 | 15.29 | 2.74 | 27.66 | 1.81 | 17.77 | 3.10 | 30.38 |
| 2006-07 | 1.75 | 15.86 | 3.36 | 30.48 | 2.09 | 18.23 | 2.84 | 24.84 |
| 2007-08 | 2.06 | 17.30 | 3.87 | 32.52 | 2.20 | 17.55 | 2.61 | 20.84 |

The percentage share of personal income tax in GDP has also increased slightly from 1.02 percent in 1970-71 to 1.03 percent in 1991-92 and finally to 2.06 percent in 2007-08 but the percentage share of corporation tax in GDP has shown a considerable increase from 0.80 percent in 1970-71 to 3.87 percent in 2007-08. The percentage share of custom duty in GDP has increased from 1.13 percent in 1970-71 to 3.39 percent in 1991-92 but it has fallen to 2.2 percent in 2007-08 and percentage share of excise duty in GDP has also increased from 3.80 percent in 1970-71 to 4.29 percent in 1991-92 but it has decreased to 2.61 percent in 2007-08.

Personal income tax as a percentage share of GTR has increased from 14.75 percent in 1970-71 to 17.3 percent in 2007-08. But percentage share of corporation tax has shown a huge increase from 11.54 percent in 1970-71 to 32.52 percent in 2007-08. The percentage share of custom duty was 16.34 percent in 1970-71, it reached a zenith at 36.38 percent in 1987-88 and then it declined to 17.55 percent in 2007-08. The excise duty as a percentage share of GTR has shown a remarkable decrease from 54.86 percent in 1970-71 to 20.84 percent in 2007-08.

#### (D) Tax Buoyancy

The concept of Tax Buoyancy was introduced by G.S. Sahota. It measures the relationship between Tax revenue and GDP in terms of proportional increase in tax revenue following one percent change in GDP. SP Mishra explained the difference between tax elasticity and tax buoyancy. The tax elasticity measures the relationship between tax revenue at a constant tax structure and GDP. If there is no change in the tax rate and tax base during the reference period, buoyancy will be same as elasticity.

There are a number of different ways to find buoyancy. In this study the tax buoyancy for a given time period has been studied by fitting regression equation of tax revenue on GDP by OLS method. The mathematical form of the regression used in the study is of double log linear form, i.e.

$$\log T = a + b \log Y$$

where,     a is the intercept and  
               b is interpreted as buoyancy



The tax buoyancy for gross tax revenue, personal income tax, custom duty and excise duty has been calculated separately for all the 3 periods, i.e. Overall Period :- 1970-71 to 2007-08, Pre-reform Period :- 1970-71 to 1989-90 and Post – reform Period :- 1990-91 to 2007-08.

**Table no. 4**

| <b>Taxes</b>        | <b>Overall Period</b> | <b>Pre-reform Period</b> | <b>Post-reform Period</b> |
|---------------------|-----------------------|--------------------------|---------------------------|
| Gross Tax Revenue   | 1.037                 | 1.144                    | 1.047                     |
| Personal Income Tax | 1.100                 | 0.874                    | 1.316                     |
| Corporation Tax     | 1.219                 | 1.039                    | 1.594                     |
| Custom Duty         | 1.057                 | 1.491                    | 0.687                     |
| Excise Duty         | 0.903                 | 1.047                    | 0.817                     |

This table shows the buoyancy of all the taxes. The tax buoyancy for gross tax revenue, personal income tax and corporation tax is more than one in post – reform period except custom and excise duties. For overall period all taxes increased by almost same rate with 1 percentage increase in GDP except excise duties. In pre – reform period the tax buoyancy of personal income tax was 0.874 which shows that with one percentage increase in GDP, revenue from personal income tax has increased only by 0.874.

## CONCLUSION

The primary objective of this paper was to see study the change in growth rates of different taxes as a percentage share of GDP and GTR. The CAGR of direct taxes, personal income tax and corporation tax as a proportion of GDP and GTR has shown a significant increase in post-reform period but growth rate of indirect taxes, custom duty and excise duty as a proportion of GDP and GTR has shown a decline in phase II. The CAGR of gross tax revenue as a proportion of public expenditure and total receipts has revealed an increase in phase II.

The secondary objective of this study was to explore the change in structure of taxation. For this purpose percentage shares of different taxes in GDP and GTR have been used. Direct taxes as a percentage share of GDP and GTR has shown an upward trend in post-reform phase whereas indirect taxes as a percentage share of GDP and GTR has shown a declining trend. Under direct taxes, personal income tax and corporation tax as a percentage share of GDP and GTR has also revealed an increasing trend in phase II but corporation tax has

increased at a greater pace than personal income tax. Under indirect taxes, custom duty and excise duty has shown a falling trend in post-reform phase. The observations confirm that the reforms have significantly impacted the taxation structure in India in the post-reform period. There is a shift from indirect taxes to direct taxation in phase II. And under direct taxes, reliance has shifted from personal income tax to corporation tax.

The third objective was to measure the tax buoyancies of different taxes. The tax buoyancy for gross tax revenue, personal income, corporation tax and custom duties have increased by almost same rate with 1 percentage increase in GDP after reform period whereas the tax buoyancy for excise duty has decreased significantly in post-reform phase.

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