

## TAX BUOYANCY AND ECONOMIC GROWTH: AN EMPIRICAL STUDY OF INDIA

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### *Abstract*

*This paper made a modest attempt to present the empirical evidence on tax buoyancy and economic growth of India. The main objective this research article is to estimate the tax buoyancy of India using time series data for Post-Liberalization period from 2001-02 to 2021-22, and OLS method is used to calculate it with Double – log model. This paper will be helpful to frame the implementable policies to rectify the issues.*

**Keywords:** Tax Buoyancy, Tax Revenue and Economic Growth

### INTRODUCTION

The constructive public financing system plays a significant role in Economic growth and development of every nation. The tax system and structure of the country is one of the fundamental part of it. Revenue receipts are one of the major source of India, under revenue receipts tax revenue plays a dominant role for the public expenditure. Tax revenue is been divided into two components namely 1. Direct tax and 2. Indirect tax. According to the report published by Ministry of Finance on April 2022, that the tax revenue in the union budget for 2021-22 was estimated at Rs. 22.17 lakh crore against the revised estimates of Rs. 19 lakh crore with a growth of 17%. Against the Union Budget estimates of Rs. 22.17 lakh crore, the revenue collection as per the pre-actual figure is Rs. 27.07 lakh crore, almost Rs. 5 lakh crore above the budget estimates. This is a growth of 34% over last year revenue collection of Rs. 20.27 lakh crore, led by growth of 49% in direct taxes and supported by 20% growth in indirect taxes. The tax-GDP (Gross Domestic Product) ratio of 2021-22 marked highest with 11.7%, with direct tax to GDP at 6.1% and indirect tax to GDP ratio at 5.6%. These figures shows the good trends in the collection of taxes revenues through two of its major sources.

### OBJECTIVES OF THE STUDY

- To give an overview of tax revenue and tax buoyancy.
- To analyze the Tax buoyancy and economic growth in India.

### METHODOLOGY

This study is based on secondary data collection. The secondary data are collected from various published Journals, Articles, and Government of India authentic reports. For estimating the tax buoyancy for time series data, empirical studies have used the Ordinary Least Square Method. The functional equation form of equation used for measuring the elasticity and buoyancy coefficient is:

$$T = a Y^b$$

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 to 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.

## REVIEW OF LITERATURE

**(Aruna and Padmavathi 2014)** they states in their analysis that Tax incomes of the government contribute the country's administration and resources required for its economic progress. India with 29 states and seven union territories, heterogeneous in terms of per capita GDP, population, urban development, culture and very large untaxed informal sector. India's largest modern tax amendment was Goods and Service Tax (GST) which was introduced with the Finance Bill, 2017. Owing to the contemporary relevance an attempt is made in this paper to estimate and establish relationship between tax revenue and gross domestic product at market prices for the period 2000-01 to 2013-14. So as to understand short run and long run tax buoyancy during the study period by employing Nerolvia Partial Adjustment mechanism. The estimated results of the long run tax buoyancy is positive and more than unity , indicating that the growth rate of tax revenue will be relatively higher than the growth rate of the income in the study period.

**(Belinga. V et.al. 2014)** in their IMF working paper they found that, for aggregate tax revenues, short-run tax buoyancy does not significantly differ from one in the majority of countries; yet, it has increased since the late 1980s so that tax systems have generally become better automatic stabilizers. Long-run buoyancy exceeds one in about half of the OECD countries, implying that GDP growth has helped improve structural fiscal deficit ratios. Corporate taxes are by far the most buoyant, while excises and property taxes are the least buoyant. For personal income taxes and social contributions, short- and long-run buoyancies have declined since the late 1980s and have, on average, become lower than one.

**(Tagkalakis.A 2014)** his study investigates the tax buoyancy effects in VAT, corporate income tax (CIT) and personal income tax (PIT) revenue in Greece based on previous IMF and OECD studies. The paper finds that the implied estimated elasticity of VAT, PIT and CIT revenue to GDP will be 1.2-1.3, 1.7-1.9 and 1.2-1.3, respectively in the period 2014-2016. Using these elasticities, the OECD elasticities of excise taxes, social security contributions and property taxes to GDP computed by Belinga et al. (2014), as well as the share of each revenue category to total revenue we find that the implied elasticity of tax revenue to GDP is 1.06 in the short run and 1.22 in the long run in Greece. These findings imply that the tax buoyancy effects are larger than those estimated by Belinga et al (i.e. 0.89 in the short run and 1.09 in the long run).

**(Tandev. S and Todorov 2019)** they stated in their study that the buoyancies of aggregate tax revenue, personal income tax and social security contributions significantly differ from one another

in the long-run. The buoyancies of the value-added tax and the corporate tax are above one in the long run. In the short-run the buoyancy of the aggregate tax revenues, the corporate tax, the income tax and the social security contributions are different from one. The short-run buoyancy of VAT exceeds one, hence dynamics of VAT revenues is sustainable. The collectability of the aggregate tax revenue, personal income tax and social security contributions has increased neither in the long run nor in the short run. It is therefore recommended that inefficient taxes, whose collectability does not increase, be reformed.

**(Gupta et. al. 2022)** they estimated short- and long-term tax buoyancy for 44 sub-Saharan African (SSA) countries during 1980–2017 using time series and panel techniques. They found that the long-term tax buoyancy is either one or slightly above one for most SSA countries. Fragile states have a lower short-term tax buoyancy reflecting their institutional weaknesses. Short-term buoyancy of personal income tax is significantly less than one. Both short- and long-run tax responses are lower than those reported in previous cross-country studies, which can be interpreted as a reduced power of both automatic stabilization in the short run and fiscal sustainability in the long run. They found that central government debt and shadow economy exert a downward pressure on tax buoyancy. An important implication of these results is that the current tax systems in SSA would not be able to generate domestic revenues to the extent needed for financing the Sustainable Development Goals (SDGs).

## COMPONENTS OF TAX REVENUE

As mentioned above there two major components of the tax revenue that is direct tax and indirect tax. Direct tax includes income tax, corporate tax and wealth tax and the indirect tax includes Excise duty, Custom duty, Sales tax and Service tax etc.

### Taxation

Taxation is the means by which a government or the taxing authority imposes or levies a tax on its citizens and business entities (cleartax.in).

#### 1. Direct Tax

It is a tax levied directly on a tax payer who pays it to the government and cannot pass it on to someone else. In India, the Central Board of Direct Taxes (CBDT), is responsible for the collection and administration of direct taxes. It is governed by the Department of Revenue (cleartax.in).

#### 2. Indirect Tax

It is a tax levied by the government on goods and services and not on the income, profit or revenue of an individual and it can be shifted from one taxpayer to another (cleartax.in).

### Tax Buoyancy Meaning

Tax buoyancy is the relationship among variation in the government's tax revenue growth change and the potential changes in GDP. It is an indicator to measures efficiency and responsiveness of revenue mobilization in response to growth in the Gross Domestic Product or National Income. A tax is said to be buoyant if the tax revenue increase more than proportionately in response to a rise in national income or output (en.wikipedia.org). Table 1 shows the regression results of Buoyancy of Taxes.

**Table 1. Regression Results of Buoyancy of Taxes**

| Variables  | B     | Std. Error | t-statistics | Sig.  |
|------------|-------|------------|--------------|-------|
| Constant   | 1.757 | 1.13       | 15.54        | 0.000 |
| Log of GNP | 1.938 | 0.71       | 27.27        | 0.000 |

\*R<sup>2</sup> = 0.97 percent

It is revealed from Table.1, that the above mentioned method assumes that buoyancy is constant over the range of income considered that is 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<sup>2</sup> is 0.97 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. The b value received for tax revenue is 1.757 and for GNP it was 1.938, this means that the proportionate change of the tax Rs.1.757 crores in response to change is income or GNP Rs. 1.938 crores. It is clear that if there is an increase in the per capita income it leads to increase in the tax revenue, this is because of increase in population which leads to increase in the tax payers.

## FINDINGS

- It is observed from the analysis that the tax buoyancy has increased in India which revealed that overall tax productivity in India has improved over the years from 2001-02 to 2021-22 period of study period.
- Due to the digitalization and improvement in the technology the tax compliance also increased over the study period and in the tax revenue, the direct tax share has been increased more than compare to indirect tax.

## CONCLUSION

This analysis reveals that the Gross tax buoyancy estimate is above the unity level during the study period. It shows that the Gross tax revenue to GDP was increasing with the increase in Gross Domestic Product. It is also revealed from the study that there is an increase in the share of direct tax in the tax revenue compare to indirect tax. The reasons for such increase in tax revenue is progression in the technology, as well as the tax compliance also increased which improved the productivity of tax revenue in India.

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