Review Of Research

Abstract:-

The Tax - GDP ratio is a significant feature of any country's Tax system and thus governments make constant efforts to advance them. In the case of India, the ongoing process of development and liberalization has made major contribution to its Tax potential but still, a lot more needs to be done to make it comparable with other countries of the world. The paper seeks to attempt the comprehensive study of Tax-GDP ratio in India from 1990-91 to 2010 - 11, we have conducted Ordinary Least Square Regression taking total Tax and GDP as dependent variable, GNP per capita, share of industry in GDP, trade openness, share of agriculture in GDP, proportion of developmental expenditure as independent variables. In this study, we also attempt to explain the reason for low Tax GDP ratio in India and possible solution for above.

AN EMPIRICAL ANALYSIS OF TAX - GDP RATIO OF INDIA

critically analyse the importance of gender in the process of SSR. Also, the progress made by Afghanistan in integrating gender in the peace building vis-a-vis decision making process. The paper further highlights the challenges and issues concerning gender and SSR.

Keywords:

Empirical Analysis , Tax - GDP Ratio , liberalization , economic role .

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INTRODUCTION

The main objective of the Tax policy in developing countries is to mobilise resources for the public sector to finance welfare activities and developmental plans. The degree to which Tax policy is used for this purpose is a matter of interest for national policymakers and foreign aid donors. Foreign governments and international organisations frequently assess the efforts made by recipient countries to lift-up resources domestically. Level of Taxation in a country is usually judged in terms of the ratio which Taxes bear to some measure of national income. This ratio is called Tax-GDP ratio and the change in it is determined by variations in both the numerator (total Tax revenue) and the denominator (national income).

The denominator of the ratio suffers from more ambiguities because there are various measures of national income (GDP, GNP, and NNP).

In choosing from the alternative measures of national income, the important considerations are;

☒ The measure chosen should be easily available,
☒ It is extensively understood, and
☒ It is consistent.

In view of these considerations, we use GDP at market prices as the denominator of the Tax-GDP ratio.

The study of Tax-GDP ratio is important because trends in Taxation in a country are analysed mainly in terms of this ratio, and the composition of Tax revenues. Tax-GDP ratio is generally regarded as an index of relative Tax burden in a country over a period of time

SIGNIFICANCE OF THE STUDY

Since Tax-GDP ratio indicates the % of national income that is mandatorily transferred from private pockets to public exchequer and hence, the relative share of government in the disposition of national income, it signifies the economic role of a government in the national economy. The ratio does not reflect the significance of government sector as a final purchaser of goods and services because Tax revenue is returned to the private sector in the form of transfer payments and public welfare. If such transfer payments are deducted from the total Tax revenue, the ratio of the remaining Tax revenue to GDP will show importance of government as a final purchaser of goods and services. Since Tax-GDP ratio reflects movements in both Tax receipts and GDP, any major amendment in GDP figures will affect the ratio.

RESEARCH METHODOLOGY

To identify the determinants of Tax-GDP ratio in India, the ordinary least squares regression analysis is used in this paper. It examines the impact of per capita GDP, share of industry in GDP, share of agriculture in GDP, trade openness and percentage of developmental expenditure in total expenditure of the government. The dependent variable initially used is the ratio of total Tax collections to India's GDP. The independent variables include per capita GNP, share of industry in GDP, proportion of developmental expenditure in total expenditure, trade openness and share of agriculture in GDP.

Stage of economic development is one of the foremost determinants of Tax ratio and the variable frequently used as a proxy is per capita income. It is expected to be positively related with the government's ability to collect Taxes and citizens' ability to pay them. Another variable is the share of industry in GDP. As industrialisation facilitates the levy and collection of Taxes (due to reasons mentioned above), hence, there is an expected positive correlation between share of industry in GDP and the Tax-GDP ratio. The Tax-GDP ratio is also related to the size of the foreign trade sector. Given the relative ease in taxing foreign trade compared to domestic activities, we follow the literature to include trade openness in the regression and expect it to have a positive impact on Tax-GDP ratio.

Another explanatory variable included is the proportion of developmental expenditure in the total expenditure of the government. As explained before, if government expenditure pertains mainly to welfare and developmental activities, it will favourably influence the Taxpaying capacity of the citizens. Conversely, if a large proportion of expenditure is devoted to non-developmental activities, the Taxpaying capacity will be reduced. Hence, there is an expected positive correlation between this variable and the Tax-GDP ratio. Finally, we have included share of agriculture in GDP as an explanatory variable. The preponderance of agriculture is dictated by general difficulties (administrative and political) of Taxing agriculture and the intention of government to either provide Tax exemptions or subsidies or both. Further, it is generally believed that the larger the agricultural

sector, the greater is the dispersion of income and the greater are the income inequalities, making Taxation difficult. As mentioned above, predominance of agricultural sector also means lack of industrialization and existence of a large subsistence sector. Moreover, there is effective political resistance to Taxation of agricultural sector. All these factors explain the negative influence of the agricultural sector on Tax ratio. The following estimating equation is used in the analysis;

Tax-GDP ratio = a + β_1 (per capita GNP) + β_2 (share of industry in GDP) + β_3 (proportion of developmental expenditure in total expenditure) + β_4 (trade openness) + β_5 (share of agriculture in GDP).

Sample Period and Data Source: The regression analysis is done on yearly data for a 25-year period from 1980-81 to 2004-05. The data for the dependent and explanatory variables has been obtained from Handbook of Statistics on Indian Economy, RBI.

RESULTS OF THE REGRESSION ANALYSIS
Testing stationarity of time series: To avoid spurious regression, unit root testing was done to see if the time series of different variables are stationary or not. For stationarity, the Dicky-Fuller test for unit root was applied.

Augmented Dicky-Fuller Test for Unit Root

Variable	Test statistic Z(t)	
Tax-GDP ratio	-2.357	I(1)
Per capita GNP	4.076	I(0)
Ind - GDP	-2.364	I(1)
Devexp	-1.683	I(1)
Trade openness	3.992	I(0)
Agri - GDP	-2.224	I(1)

MacKinnon critical values at 1%, 5% and 10% are -3.750, -3.000 And -2.630 respectively.

It was found that for per capita GNP and trade openness, the value of the computed test statistic is higher than the critical value at 1% significance level thereby implying stationarity. However, for all other variables, the computed test statistic has a lower value than critical values at 1% and 5% levels, implying non-stationarity. To convert the non-stationary time series into stationary time series, we take the first differences of the non-stationary series and then apply the Dicky-Fuller test. As the results shown below indicate, all the series have now become stationary.

Augmented Dicky-Fuller Test for Unit Root

(after taking the first differences of the non-stationary time series)

Variable	Test statistic Z(t)	
Tax-GDP ratio	-15.486	I(0)
IndGDP	-4.274	I(0)
Devexp	-4.727	I(0)
AgriGDP	-4.158	I(0)

MacKinnon critical values at 1%, 5% and 10% are -3.750, -3.000 And -2.630 respectively.

The results of the regression analysis obtained by using specification mentioned above are

reported in Table A. In general, the data fits the model reasonably well with R2 around 40%. All the coefficients have the expected signs. While the estimated coefficients are significant in case of per capita GNP and trade openness, they are insignificant for indGDP, agriGDP and devexp.

Table A

Explanatory variables	Dependent variable: Tax-GDP ratio
Per capita GNP	0.0002*
	(0.0001)
IndGDP	0.4449
	(0.7341)
Devexp	0.0843
	(0.1727)
Trade openness	1.0625
	(0.4068)
AgriGDP	-1.0968
	(0.6471)
R²	0.40

* indicate significance at 5% level

The estimated elasticity of Tax-GDP ratio with respect to per capita GNP is [0.0002*(14116/0.18)] = 15.684. The estimated elasticity of Tax-GDP ratio with respect to trade openness is [1.0625*(0.13/0.18)] = 0.7674.

ANALYSIS OF THE RESULTS AND INFERENCES

In general, while the results show expected signs for all the explanatory variables taken up for study, only per capita GNP and trade openness are found to be significant. This implies that as India's development process gained momentum manifested in its rising per capita GNP, it had a favorable impact on Tax-GDP ratio. With people having a greater surplus available for Taxation, the scope for Taxation increased. Trade openness was also found to be a insignificant explanatory variable. India's trade openness ratio has improved consistently, particularly after liberalization in 1990-91. The insignificance of this variable implies that the increasing size of external sector in the Indian economy has not been conducive for Taxation by virtue of administrative ease and perhaps indicative of a larger organized industrial sector.

The composition of GDP is not found to be a significant determinant in explaining the scope for Taxation. For instance, the proportion of industry in total GDP is not a significant explanatory variable. A possible explanation could lie in the fact that the proportion of industry in GDP has not varied significantly over the period under study. Further, Tax reforms have reduced rates of excise duty over a period of time. So, even if there was an increase in the share of industrial sector, the expected increased Tax revenues might have been offset by reduction in rates (e.g. excise duties) which would then have not impacted the Tax-GDP ratio in a significant manner. Likewise, the share of agriculture in GDP was found to be insignificant. Normally, a higher agricultural share in GDP is indicative of a lack of industrialisation, existence of a large subsistence sector, and administrative difficulties in implementing Tax laws. Moreover, there is effective political resistance to Taxation of agricultural sector. All these factors explain the negative influence of the agricultural sector on Tax ratio. In our case, it has been observed that for the period under study, the share of agriculture has consistently fallen, which would normally imply that a larger part of Tax revenues would then come from other sectors more favourably placed for Taxation. As the proportion of industry in GDP has not changed much for the period under study, it is actually the services sector that has become the single largest component of GDP. However, despite the growing importance of services sector in the Indian economy, the inadequate Taxation of services remains an important weakness of the Tax system. The focus of indirect Taxes like excise and customs has still been on industry and manufacturing. Consequently, despite the fact that a falling share of agriculture should have contributed to increased Tax revenues, the low Taxation of services did not give the desired result.

Another explanatory variable, i.e. the share of developmental expenditure in total

expenditure of the government was found to be insignificant. The development expenditure of the government is composed of various social and economic services. The economic services, which form a large part of the expenditure, include rural development, irrigation, flood control, science and environment etc. Some of these activities are related to agriculture which, in any case, is not subject to widespread Taxation while others do not affect peoples' income directly and hence may not be having an impact on the scope for Taxation.

Thus, on the basis of the above analysis, it can be inferred that out of the conventional determinants of Tax-GDP ratio, only per capita GNP and trade openness significantly explain the changes in Tax-GDP ratio. However the low value of R^2 shows that there are a number of other factors, quantitative or qualitative, that may be having a significant impact on our country's GDP. The section below takes a look at few such factors.

CONCLUDING REMARKS

The Tax-GDP ratio is an important feature of any country's Tax system and thus governments make continuous efforts to improve them. In the case of India, the ongoing process of development and liberalization has made significant contribution to its Tax potential but still, a lot more needs to be done to make it comparable with other developing countries of the world. India has made significant progress in Tax reforms by reduction of rates (income Tax, excise Tax, customs duty) and improvements in Tax administration, which has helped raise the ratio of Tax revenues to GDP. These reforms, however, are only the beginning; the process has to be an ongoing exercise for improving revenue productivity, minimizing distortions, and improving equity.

Coordinated reforms should be undertaken at the central, state, and local levels. A major objective should be minimization of distortions and compliance costs. Broadening the base of both central and state Taxes and keeping the Tax structures simple—within the administrative capacity of the governments—is an important international lesson that should be incorporated in further reforms. Phasing out exemptions for small-scale industry, minimizing exemptions and concessions to industries in the services sector, and minimizing discretion and selectivity in Tax policy and administration are all important not only for the soundness of the Tax system but to enhance its acceptability and credibility.

Although the customs duties have been significantly reduced, India's economy is still highly protected. Further reduction in tariffs, as well as further unification and rationalization, is necessary. Because these reductions will certainly entail loss of revenue, a corresponding improvement must be made in the revenue productivity of all Taxes. Building a proper information system is crucial to improving both revenue productivity and the efficiency of the Tax system. The most important reform is in Tax administration. Making the transition to information-based Tax administration, online filing of Tax returns, and compiling and matching information are key to administrative reform. Tax administrators should also assist Taxpayers in a timely fashion and help them to reduce their compliance costs.

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