DETERMINANTS OF TAX REVENUE: A COMPARATIVE STUDY OF DIRECT AND INDIRECT TAXES OF INDIA DURING THE PRE AND POST-LIBERALIZATION PERIODS

Mr. Om Parkash*

Assistant Professor, Department of Commerce, Ramjas College, University of Delhi, Delhi-110007

Abstract

There are two major types of taxes: direct taxes and indirect taxes. The present research paper has tried to find out determinants of tax revenue by comparing these two taxes in India during pre and post-liberalization periods. The data of tax revenue have been collected under the heads of direct and indirect taxes. The period of the study ranges from 1980-81 to 20011-2012. The results show that indirect taxes were significantly contributing to the revenue receipts in India during the pre-reforms period. However, though direct taxes have started contributing significantly to the total revenues during the post-reforms period, yet indirect taxes are still contributing more significantly to the total revenue of the country. By comparing the two regression equations and the standardized betas, the study has found that during the pre-reforms period, more revenue was generated by levying indirect taxes. However, the situation has improved during the post-reforms period, but marginally. The results of these two types of fiscal policies can be very different and the more the indirect taxes in country, the more will be increasing gap between rich and poor and thus the more will be the exploitation of labour class.

Key words: *Tax Revenue, Liberalisation, tax reforms, Direct Taxes, Indirect Taxes*

1. Introduction

Tax can be defined as the charge levied by the government of a country upon its habitants for the purpose of facilitating the public of that country. It is neither a voluntary payment by the tax payer nor like a donation. Rather it is an enforced payment to the government. On non-payment of it, the tax payer will be punishable by law. The purpose of taxes is to create welfare for the society by providing public services, protection to properties, defense expenses, economic infrastructure etc. There are four main purposes of taxation which are revenue generation, redistribution (transfer from rich to poor), reprising (levied on harmful things e-g; tobacco, carbon), representation (accountability to general public by the government) (Aamir et al., 2011). There are two major types of taxes, direct and indirect taxes. There are different views about the definition of these two types of taxes. In simple words, direct taxes are the taxes the burden of which are directly born by the tax payers and contrary to this, if the burden of taxes can be transferred to others or public, are called indirect taxes. In case of direct taxes, the taxpayers are generally more curious to know about their tax liability. That is why they stress the government for the representation of its use. Taxes are levied at different percentage rates. These percentage rates are determined by the government every year in the Union Budget. It has three basic types, i.e., progressive, regressive and proportional rates.

*Assistant Professor, Department of Commerce, Ramjas College, University of Delhi, Delhi-110007

E-mail ID: om.aquarius@yahoo.in, dr.om@ramjas.du.ac.in

During 1970s, the tax system in India was in a complete mess. Direct taxes were levied at very high rates ranging up to 97.75 per cent which encouraged rampant evasion. Indirect taxes on domestic and foreign trade were having innumerable commodity specific rates accompanied with many exemptions. This made the mockery public finance in terms of simplicity, efficiency and equity (Acharya, 2005). Therefore, the main objectives of taxation policy during 1970s and 1980s were to achieve greater equity & social justice. High marginal tax rates did not yield the necessary revenue to support the envisaged public expenditure. The growth in receipts thus lagged behind the surge in disbursements despite substantial amount of resources mobilized through additional taxation and hike in the administered prices (Bhagwati and Chakravarty 1969).

However, despite of tax policy changes during 1970s and 1980s, Indian public finance was in a state of disarray with the fiscal pattern destabilizing the relationship between the economy and the budgets during 1980s. This resulted in persistently large deficits which were seemingly intractable. Therefore, the decade of 1980s could be called the decade of fiscal deterioration which, in turn, raised the question of sustainability of fiscal stance of the government.

The fiscal imbalances of the 1980s spilled over to the external sector resulting in the macroeconomic crisis of 1991. Another disturbing feature of the tax system was the large size of monetized deficit which exerted inflationary pressures. The persistent and burgeoning revenue deficit which became endemic in the system pre-empted the borrowed resources, reducing the availability of resources for capital investment. The structural adjustment programme and the consequent economic reforms gave a fresh dimension to empirical analysis of taxation policy which focused not only on the various instruments of taxation policy and issues of revenue mobilization but also on the overall fiscal sustainability in the context of an open economy framework.

Since 1991, a number of tax reforms initiatives have been introduced by the respective governments to achieve the objectives of simplicity, equity, and efficiency. Though the wave of tax reforms was started during late 1980s, it was during 1991-92 when tax reforms were introduced in a big way. The budget for 1991-92 indicated a major effort towards correcting the fiscal imbalances and increasing the tax revenue through increase in the direct taxes. It aimed at controlling government expenditure and augmenting revenues, reversing the downward trend of the share of direct taxes in total tax revenues, and curbing conspicuous consumption.

However, the tax reforms initiated during 1990s have could not solve many of the problems. The major problem with the tax reforms is that it could not reduce the fiscal deficit of the country (Sidhu, 2003). There are many causes of increasing fiscal deficit, such as, increase in the non-planned expenditure of the government, increasing tax limits, reducing tax rates, and increase in the arrears of taxes etc. Economic survey of 1990-91 pointed out that persistent and large deficits have serious implications not only for the finances of the government but also for price stability and economic growth. Such deficits have been met by borrowings by the central government with subsequent obligations for interest payments and debt repayments. In view of the above, fiscal correction and consolidation has remained one of the crucial issues for the respective governments during the post-reforms. The other problems developed during the post-reforms period are; low revenue productivity despite reforms, narrow base of direct taxes, exemption to agricultural incomes, tax evasion and avoidance, poor information system, low tax compliance, and widening gap among states in regard to tax revenue generation.

2. Literature Review

An appropriate fiscal policy is a vital ingredient for economic development. Despite being a short run policy measure, fiscal policy can have lasting macroeconomic consequences. In the debate of economic policy, fiscal policy is viewed as an instrument used to mitigate short run fluctuations in output and employment and bring the economy closer to potential output. Fiscal policies are in large part contingent on government's expenditure allocations and revenue collections. Persistent budget deficits could be avoided if policy makers understand the nature of the nexus between expenditure and revenue. On the policy side, the nature of the relationship between government expenditure and government revenue can be of three types. First, if government revenue causes government expenditure, budget deficits can be eliminated if the policies aim at producing more government revenue. Second, if government expenditure causes government revenue, it implies government behavior as one where it spends first, and later, to pay for this spending, it collects taxes. Such a situation creates capital outflow due to the fear of paying higher taxes in future. Third, the expenditure decisions are made in isolation from revenue decisions which can lead to serious budget deficits because government expenditure increases more rapidly than government revenues. For these reasons, it is crucial to study the government expenditures and government revenues (Gounder, Narayan, & Prasad, 2007). Restructuring the tax system at federal level was central to the entire process of economic reforms. Direct tax reforms at federal level formed key component of wider reforms in fiscal and economic sector. Like in other developing countries, in India also the tax reforms aimed at correcting fiscal imbalances (Pandey, 2006). For a tax policy that results in a net increase in tax revenue, it has to generate not only a positive income effect but also this effect must be large enough to compensate for the tax's excess burden and administrative costs. Whether such a condition can be satisfied by any tax policy is highly questionable, or at the very least remains opens empirical issue(H.Zee, 2006). Indirect taxes are often politically favorable because the burden can be hidden. These taxes give consumers a choice. An individual consumer can decide whether to buy a product or not, and assuming he is aware of the tax at all, whether to bear the burden of tax or not. Indirect taxes contain their own protection against abuse. They cannot be raised too high or revenue will decrease because consumption will decline. In contrast, direct taxes hit the taxpayers painfully, with few options to avoid paying it (M.Jensen, 1997).

The sector composition of output also matters because certain sectors of the economy are easier to tax than others.For example, the income from agriculture sector may be difficult to tax, especially if it is dominated by a few large number of subsistence farmers. On the other hand, a vibrant mining sector dominated by a few large firms can generate large taxable surpluses. Imports and exports are amenable to tax as they take place at specified locations. The degree of external indebtedness of a country may affect revenue performance as well. To generate the necessary foreign exchange to service the debt, a country may choose to reduce imports. In such a scenario, import tariffs or other taxes with a view to generate a primary budget surplus to service the debt (Gupta, 2007). Recent endogenous growth models have demonstrated that growth can be enhanced by reducing fiscal imbalances, which, in turn, can be achieved by either lowering expenditure or raising revenue. However, many countries in the region have reduced expenditure to minimum sustainable levels, especially in health, education, and infrastructure. Thus, raising tax revenue to achieve fiscal sustainability would be a feasible alternative. Also, in order to improve the environment for private sector development and sustained economic growth, governments need to play supportive role by investing in physical and human capital, and institutional infrastructure. Tax revenue is needed for such expenditure if inflationary financing and the crowding out of the private sector are to be avoided (Ghura, 1998).

3. Database and Research Methodology

To measure the relative significance of direct and indirect taxesin India during the pre and post-liberalization periods,the data has been collected from secondary sources. The main source of data for the present study is‘A Handbook on India Economy’ published by Reserve Bank of India. The data has been taken from 1980-81 to 2011-12 and has been divided into two parts: pre-reforms period and post-reforms period. The study is focused to see the effects of direct and indirect taxes on the total revenue during both the periods. It is done by generating two simple regression lines for two periods. Total revenue of both the periods was taken as a dependent variable and direct and indirect taxes were taken as independent variables. The purpose for generating regression line was to see the individual effect of direct and indirect taxes on total revenue and then compare the results of both periods.

Hypothesis

For the purpose of testing whether the indirect taxes have more effect on total revenue, following two hypotheses we developed forpre and post-liberalization periods which are given below:

1: **Ho**: Revenue from indirect taxes does not have greater effect on total revenue during the pre-reforms period.

H1: Revenue from indirect taxes has greater effect on total revenue during the pre-reforms period.

2: **Ho**: Revenue from direct taxes does not have greater effect on total revenue during the post-reforms period.

H1: Revenue from direct taxes has greater effect on total revenue during the post-reforms period.

These two types of hypotheses were tested by using SPSS (statistical package for social sciences).

4. Results and Findings

The results of SPSS output are presented below:

Regression Equation for pre-reforms period:

$Y= \beta o + \beta 1\ X1 + \beta 2X2 + €$

Where

Y= Total Revenue

βo = Y intercept

$\beta 1$= Slope of direct taxes

X1 = Direct Taxes

β2 = Slope of indirect taxes

X2 = Indirect Taxes

€ = Error variable

The results of regression model are shown in Table-1 and Table-2:

Table 1
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999[a]	.998	.998	12.87888

a. Predictors: (Constant), INDIRECT TAXES, DIRECT TAXES

Table-1 shows that the value of R-square is 0.998, which indicates that the 99.8 per cent change in total revenue was due to the direct and indirect taxes during the pre-reforms period. And the remaining change in total revenue was due to non-tax revenue items such as fee charges from college or universities etc. It shows approximately perfect positive correlation between taxes and total revenue.

Table 2
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.973	10.218		1.759	.117
	DIRECT TAXES	1.231	1.073	.161	1.147	.284
	INDIRECT TAXES	1.210	.203	.839	5.966	.000

a. Dependent Variable: TOTAL REVENUE

Regression line as per Table-2 can be expressed as:

Y= 17.973 + 1.231 X1 + 1.210 X2 + €

The above equation shows that if the direct taxes increased by ` 1, the total revenue will be increased by ` 1.231, and if the indirect tax increases by ` 1, the increase in the total revenue would be ` 1.210. By looking at the standardized betas and t-ratios, it can be said that indirect taxes were having statistically more significant impact on the total revenue during the pre-reforms period.

Regression Equation for post-reforms period

Y= βo + β1 X1 +β2X2 + €

Where

Y= Total Revenue

βo = Y intercept

β1= Slope of direct taxes

X1 = Direct Taxes

β2 = Slope of Indirect taxes

X2 = Indirect Taxes

€ = Error variable

Table 3
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999[a]	.998	.998	237.11487

a. Predictors: (Constant), INDIRECT TAXES, DIRECT TAXES

Table-3 shows that the value of R-square is 0.998, which indicates that the 99.8 per cent change in total revenue is due to the direct and indirect taxes. And the remaining change in total revenue is due to non-tax revenue items such as fee charges from college or universities etc. It shows high positive correlation between taxes and total revenue. It also reflects an interesting thing that the government was not able to find other avenues for increasing their revenues even during the post-liberalization period and they are still dependent on tax revenue only.

Table 4
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-38.560	189.361		-.204	.841
	DIRECT TAXES	1.092	.223	.396	4.907	.000
	INDIRECT TAXES	1.324	.177	.605	7.486	.000

a. Dependent Variable: TOTAL REVENUE

Table-4 shows that the regression line can be expressed as:

Y= -38.560 + 1.092 X1 + 1.324 X2 + €

The above equation shows that if the direct taxes increase by ` 1, the total revenue will increase by ` 1.092. It shows the multiple effects on revenue by looking at the standardized betas and t-ratios. The results show that indirect taxes have more statistically significant impact on the total revenue even during the post-reforms period. If the indirect taxes increase by ` 1, the increase in the total revenue would be ` 1.324.

5. Conclusion

By comparing the two regression equations and the standardized betas, It is found that during the pre-reforms period, more revenue was generatedby levying indirect taxes. However, though thecontribution of direct taxes to total revenue has increased during the post-reforms period, yet indirect taxes still contribute more significantly in the total tax revenue in India. It clearly shows that the basic objective of tax reforms initiated during 1990s to mobilize more revenue through direct taxes could not be achieved fully. Literature supports that the proportion of the indirect taxes must be less than that of direct taxes. The more the indirect taxes in country, the more will be increasing gap between rich and poor and thus the more will be the exploitation of labor class. Taxes are the greatest source of revenue for any government for the running of its operations. Fiscal policy plays a crucial role in the growth of an economy by employing direct and indirect taxes and in what proportion. By comparing the two regression lines it become obvious that Pre-reforms period had a favorable policy for employing indirect taxes whereas during the post-reforms period, though the revenue generation from direct taxes has increased, yet indirect taxes contributes more significantly to the total revenue.Tax policy during the pre-reforms period had completely failed to reduce its fiscal deficit despite large parts of the country's economy, including rich landlords, not being taxed. The average tax-to-GDP ratio during the pre-reforms period was only 13.37 per cent and has marginally increased during the post-reforms period, when it stood at 14.95 per cent. Tax-GDP ratio of India is one of the world's lowest. More than 97 per cent of the people arestill outside the tax net. In such situation, India's fiscal policy makers need to be very much careful while making of long term planning. The more emphasis should be given on increasing the revenues through direct taxes otherwise the rich and poor increasing gap will be widen further and would be harmful for the country. The corrective action must also be taken to reduce the tax evasion, tax base should be increased to generate more revenue, and the major problem of corruption should be given high attention.

6. *References*

Aamir et al. (2011). Determinants of Tax Revenue: A Comparative Study of Direct and Indirect Taxes of India and Pakistan. *International Journal of Business and Social Science*, Vol. 2, No.19.

Aizenman, J., &Jinjarak, Y. (2008). The Collection Efficiency of the Value-added Tax: Theory and International Evidence. *Vol. 17* (Issue 3), pp. 391-410.

Alesina, A., & Rodrik, D. (1994).Distributive Politics and Economic Growth.*Quarterly Journal of Economics, Vol. 109* (No. 2), pp. 465-90.

Alesina, A., &Weder, B. (2002). Do Corrupt Governments Receive Less Foreign Aid? *American Economic Review, Vol. 92* (No. 4), pp. 1126-37.

Asher, M., &Rajan, R. (1999). Globalization and Tax Systems: Implications for Developing Countries with Particular Reference to Southeast Asia. *CIES Discussion Paper, Vol. 99* (No.23).

Das, S. P. (2011). The Political Economy of Revenue Pressure and Tax Collection Efficiencey.*Indian Growth and Development Review, Vol. 4* (Issue 1), pp. 38-52.

Ghura, D. (1998). Tax Revenue in Sub-Saharan Africa: Effects of Economic Policies and Corruption. *IMF Working paper*.

Gounder, N., Narayan, P. K., & Prasad, A. (2007). An Empirical Investigation of the Relationship between Government Revenue and Expenditure: The Case of the Fiji Islands. *International Journal of Social Economics*, 34.

Gupta, A. S. (2007). Determinants of Tax Revenue Efforts in Developing Countries.*IMF Working Paper*.

H.Zee, H. (2006).A Note on Global Taxes and Aid for Development.*Journal of Economic Studies*.

M.Jensen, E. (1997).The Appotionment of Direct Taxes.*Columbia Law Review*.

Panday, M. (2006).Direct Tax Reforms in India.

Refaqat, S. (2003).Social Incidence of the General Sales Tax in Pakistan.*IMF Working Paper*.

Reserve Bank of India (2012).A Handbook on Indian Economy 2012.Publication Division.

Sancak, C., Vellos, R., & Xing, J. (2010).Tax Response Revenue to the Business Cycle.*IMF Working Paper*.

Sidhu, A.S. (2003). Direct Tax Reforms in India: Post-Liberalization Scenario, *The Indian Journal of Commerce*, Vol. 56, No. 2 & 3, April-September, pp.105-117.

Tyc, V. (2008).Harmonization of Indirect Taxes in the European Union.*International Journal of Law and Management, Vol. 50* (Issue. 2), pp. 87-92.

Viboonthanakul, S. (2009). Smuggling via E-Commerce: Effect on Tax Revenue. *Journal of International Trade Law and Policy, Vol. 8* (Issue. 3), pp. 272-290.

Yitzhaki, S. (1979).A Note on Optimal Taxation and Administrative Costs.*American Economic Review, Vol. 69* (No. 3), pp. 475-80.