

Evaluating the Indian Income Tax Performance: An Empirical Investigation

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Abstract

The issue of enhancing tax compliance is attaining a grander attention in the policy decisions worldwide. The lack of adequate financial resources has led economies especially developing countries to focus upon tax performance more vigorously. A lot of macroeconomic-structural changes have been introduced in the Indian economy following 1991 reforms. The present study attempts to analyse the Indian income tax revenue performance in the post liberalization (1991) era. The study investigates the association of income tax revenue with various structural, macro-economic and governance parameters. The sample period covers a time span of 25 years (1991-2015). The multiple regression analysis revealed that labour force participation rate, GDP per capita, Currency with public, FDI inflows, trade openness and share of agriculture sector in GDP have significant impact over income tax revenue performance in India. The findings have important implications to improve the responsiveness of income tax revenue performance in the dynamic and fluctuating environment of the Indian economy.

Keywords: Tax performance, Income-Tax, Tax reforms, Revenue Management.

JEL Classification: E64; H24; H26; O50.

Introduction

Taxation is a wider substance than just revenue mobilization. Tax policy constitutes a very important locus in Government's macro-economic and socio-political management of the economy. Compliance with tax laws implies that citizens comply with the tax regulations of the country. "The manner in which taxes are administered and collected, and the uses to which they are put, define the symbolic relationship between the state and its citizens" (Mitra, 2011). The Hon'ble Finance Minister of India held that "there is an urgent need to generate more resources to fuel the economy. For this, the tax to GDP ratio must be improved" (Ministry of Finance [MoF], 2014). However, the responsiveness of certain taxes may not be commensurate with the level of changes in economic growth and other fundamentals of the economy. Several issues like tax evasion, a skewed tax base, structure of an economy and responsiveness of various socio-economic parameters may affect tax collection efforts. The non-responsiveness of tax revenue limits the state's capacity to raise the required financial resources and pursue its developmental objectives. Venkatesh (2007) in his analysis of Indian taxation system

held that “taxes—especially Income Tax—have made Indians more corrupt than any other policy”. “The main problem with India's tax system lies in its narrow base and limited

flexibility in relation to the changing structure of the economy” (Rawkins, 2006).

Table I: Trends in Direct Tax Collections: Income Tax vis -à-vis Corporation Tax

(Crore)						
Year	Corporation Tax Collections	Income Tax Collections	G.D.P (CMP)	CorpTax/GDP Ratio	IncTax/GDP Ratio	DF CorpTax/ GDP &IncTax/GDP
1990-91	5,335.26	5,377.1	5,86,212	0.910	0.917	-0.007
2000-01	35,696.27	31,763.98	21,77,413	1.639	1.459	0.181
2005-06	1,01,277.15	60,756.90	36,93,369	2.742	1.645	1.097
2009-10	2,44,725.07	1,22,417.24	64,77,827	3.778	1.890	1.888
2013-14	4,19,520	2,40,922	1,13,55,073	3.695	2.122	1.573

Source: Singh & Sharma, 2017

Table I depicts that changes in income tax revenue vis-à-vis changes in economic growth in India has been strikingly slighter responsive. Hence, the present study is an attempt to estimate the responsiveness of income tax revenues in India towards various structural, macro-economic and governance variables in the post liberalization era. The various independent variables used in the present study are: FDI inflows, GDP per capita, fiscal deficit, trade openness, labour force participation rate, share of agriculture sector in GDP, on Proportion of population above 65 years of age, inflation, GDP growth rate, share of service sector in GDP, currency with the public, Political stability and income inequality.

Literature Review

Notable efforts have being made in the literature to identify the determinants and responsiveness of tax revenue performance. Dioda (2012) analysed the tax revenue determinants covering 32 latin American countries (1990-2009) and noted that political stability, female labour force participation rate, composition of population, level of education and size of shadow economy significantly influence tax revenue performance. Karagoz (2013) studied the dynamics affecting tax revenue for turkey and found share of agriculture and industrial sector in GDP, monetization rate of economy and foreign debt stock significantly affecting the revenue performance in turkey. Gupta (2007) studied tax revenue determinants covering 105 developing countries over 25 years' and found structural factors such as GDP per capita, share of agriculture sector in GDP, trade openness, corruption and political stability as important determinants of tax revenue performance. Rasheed (2006) considered the association of tax revenues with variables like GDP, money supply, inflation, volume of trade, tax evasion, gross investment and public debt over more than two decade period (1980-2004). The study found GDP, money supply and volume of trade significantly affecting the tax revenue performance in Pakistan. Velaj & Prendi (2014) investigated the elements affecting tax revenues and found GDP, inflation and unemployment rate as significantly affecting the tax revenues in Albania. Bayu (2015) identified the factors affecting tax revenue buoyancy

in Ethiopia and found share of service sector in GDP, imports and government budget deficit to GDP as significantly affecting tax buoyancy in Ethiopia. Sharma & Singh (2015) explored the various determinants of tax revenue in India over a period of 13 years (1999-2012) and found three factors - 'Core Developmental Indicators' (inflation, population density, total expenditure, GNI per capita and exports), 'Growth Boosters' (GDP growth rate, industrial growth rate and services growth rate), and 'Sustainable Development Indicators' (agricultural growth rate and unemployment rate) as significantly affecting the Indian tax revenues.

Objectives of the study

In the light of aforesaid discussion, the present study attempts to:

- Identify the determinants of income tax revenue in India
- Study the association between underlying determinants and income tax revenue in the post liberalisation era.
- Suggest the suitable measures to enhance the responsiveness of income tax revenue in India.

Research Design

The present study employs the secondary data sources for data collection. The dataset employed covers a span of 25 years from 1991-2015 covering the post liberalization era in India. The income tax revenue was used in real terms in order to better reflect the actual changes in the dependent variable over the period of time. The study employs exploratory factor analysis with multiple regression analysis as data analysis instrument for examining the association between the dependent variable (income tax revenue) and various independent variables.

Factor Analytic Results

The present study uses a host of variables casting an impact on tax revenue resources in an economy. A total of thirteen variables encompassing structural, macro-economic and governance dimensions of the economy have been factor analysed to identify the underlying determinants for income

tax revenue in the post liberalization era. The various independent variables used are: FDI inflows, GDP per capita, fiscal deficit, trade openness, labour force participation rate, share of agriculture sector in GDP, population above 65 years of age, inflation, GDP growth rate, share of service sector in GDP, currency with the

public, Political stability and income inequality. The principal component analysis resulted in three factors explaining 83.90% of the total variance. The three factors were labelled on the basis of constituent variables representing them as – factor 1 (structural dimension), factor 2 (growth effectors) and factor 3(fiscal inclusivity).

Table II: Rotated Component Matrix

	Component		
	1	2	3
LABOUR	-.984		
GDPPERCAP	.971		
CURRENCY	-.963		
FDIFLOW	.933		
TradeOpen	.929		
POP65	.920		
Agrishare	-.747		
GROWTHRATE		.867	
SERVICE		-.847	
INFLATION		.813	
PolityIV		-.525	
FISCALDEF			-.768
INEQUALITY			.745

Source: SPSS 22.0

Hypothesis Testing

To analyse the relationship between income tax revenue and three factors obtained through EFA, the following hypothesis have been postulated:

H1: There is no relationship between income tax revenue and structural dimension (H1:β1=0).

H2: There is no relationship between income tax revenue and growth effectors (H2:β2=0).

H3: There is no relationship between income tax revenue and fiscal inclusivity (H3:β3=0).

The formulation of hypothesis is followed by the specification of the regression model:

$$Y = \beta_0 + \beta_1 F1 + \beta_2 F2 + \beta_3 F3 + \mu$$

Where, Y denotes the dependent variable, income tax revenue. B0 denotes intercept, β1F1 denotes the linear effect of F1, β2F2 denotes the linear effect of F2 and β3F3 denotes the linear effect of F3. μ denotes the residuals or the error term. The multiple regression analysis has been applied using E-Views 6.0. The dependent variable was tested for the presence of unit root. Based on the unit root test, dependent variable was used at first order difference level to remove the effect of unit root in the time series data.

Table III: Regression Model

Dependent Variable: D(REVENUE)

Method: Least Squares

Sample (adjusted): 1992 2015

Included observations: 24 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	84.51958	20.87541	4.048762	0.0006
SCORE1	53.38093	21.22808	2.514638	0.0206
SCORE2	-9.169839	21.54243	-0.425664	0.6749
SCORE3	42.24545	21.89715	1.929267	0.0680
R-squared	0.321629	Mean dependent var		89.51333
Adjusted R-squared	0.219873	S.D. dependent var		115.2610
S.E. of regression	101.8040	Akaike info criterion		12.23499
Sum squared resid	207281.0	Schwarz criterion		12.43133
Log likelihood	-142.8198	Hannan-Quinn criter.		12.28708
F-statistic	3.160798	Durbin-Watson stat		2.189025
Prob(F-statistic)	0.047161			

The regression results revealed that the data set was found normal, no-autocorrelation (durbin watson statistic: 2) and homoscedastic(Prob. F: 0.6918). The regression model

explained 32.16% variation in the dependent variable, income tax revenue.

Conclusion & Implications

The analysis of income tax revenue responsiveness vis-à-vis various economic parameters has presented interested findings. The structural dimension (factor 1) is found to be significantly while growth effectors (factor2) and fiscal inclusivity (factor 3) were found insignificantly impacting the income tax revenue in the post liberalization era. The labour force participation rate, currency with the public, fiscal deficit, political stability, share of agriculture and service sector in GDP is negatively significant in affecting income tax revenue. However, per capita income, economic growth, foreign direct investment inflows, proportion of population above 65 years of age and trade openness are positively associated with the income tax revenue in the post liberalization era. The regression results thus suggest some implications for affirming augmented income tax revenue in India:

- Focused efforts upon improving the structural determinants of the economy.
- Increasing per capita income and encouraging foreign direct investment in India
- Reducing the share of agriculture value added and focusing upon inclusivity in service sector incomes.
- Efforts to streamline formal sector employment in the economy through suitable labour laws and other investment friendly measures.
- Enhancing the digital economy initiative and reducing the circulation of cash component in the economy.
- Focused efforts in curtailing fiscal deficit and following fiscal discipline.

Limitations & Scope for Future Research

The study has attempted to cover a wide range of variables having a possible bearing upon income tax revenue in India. The impact of various structural, macro-economic and governance variables on income tax revenue has been examined. However, a significant coefficient of constant term in regression model indicates the presence of certain other important variables having potential impact over the dependent variable. In addition, future studies may incorporate certain social-capital and demographic variables to effectively express the dependent variable. Lastly, the present study attempts to cover the post liberalization era (1991-2015) only. Future studies may build upon a larger time span for validating the association between the variables and income tax revenue.

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