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Public Expenditure, Taxes and Economic Development: An Empirical Analysis for Pakistan

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Abstract: The relationship between public expenditure, taxes and economic development has been extensively analyzed in literature with no consensus. This study adds to the literature as it divides public expenditure and taxes into different components to see their individual impact on economic development in case of Pakistan.Two types of regression models were estimated; in the first regression total public expenditure and taxes were used as fiscal tools while in the second model public expenditure and taxes were divided into different categories. The results show that taxes have negative effect while public expenditures have insignificant effect on development when considered in totality. However, current expenditures stimulate growth while capital expenditure has insignificant effect on growth. Indirect taxes impede development while direct taxes have insignificant effect. This suggests that development expenditures are not sufficient to put a significant impact on economic growth. Hence, there is dire need to increase developmental expenditures in Pakistan. Furthermore direct taxes should be focused more to increase revenue instead of indirect taxes.

Key words: Public expenditure · Tax · Economic growth · Fiscal tools · Capital expenditures · Pakistan

INTRODUCTION

Economists have been deeply interested in analyzing the linkage between governmentexpenditure, taxes and economic growth since the advent of Macroeconomics; an unending discussion started on the role of government with the publication of the general theory by John Menard Keynes in 1936 yet the debate on this critical issue, both at theoretical and empirical level, is still controversial and inconclusive. In addition to these conflicting views, the existing empirical literature shows a disturbing trend [1-3, 4, 5, 6, 7, 8, 9, 10] as aptly concluded by [11, p. 33], "...the theoretical and empirical evidence … is found to admit no conclusion on whether the relation is positive, negative or non-existent". However, a weak consensus emerges. If government expenditure is used as a share of GDP in the model then usually negative correlation between public expenditure and economic growth is expected. This linkage becomes positive, on the other hand, when government expenditure is used as an annual percentage change in the analysis whereas the growth effects of different categories of taxes depend on the pattern of specialization [12].

Taxes and public expenditure are influential fiscal instruments that can be used to stabilize and enhance economic performance of the economy.The role of taxes is always of paramount importance to the economic development of a country as they can affect output through different channels; first high taxes can effect rate of investment, second it can hamper productivity growth by reducing research and development and thirdly taxes impede growth by discouraging work incentives [13]. Furthermore tax structure, direct and indirect, differs across countries and different tax components have different impact on economic activity. However, it is worth mentioning that though the role of tax structure has been a noted issue since the study of

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[14], yet there is a little work that discusses the impact of different tax structures, especially direct and indirect taxes.

In Pakistan public expenditure accounted for 20 percentage of GDP while tax revenue stood at meager 9% of GDP in fiscal year 2013-2014 (Pakistan economic survey, 2014-15) which makes the role of public expenditure and taxes interesting in determining economic development as they account bulk of the public actions though unable to capture totality of public actions. This knowledge is supposed to help understand how public actions can be better shaped in improving the economy [15].

A few studies in Pakistan has tested expenditure, taxes and growth nexus [16, 17, 18, 13, 19, 20] but theyconsider public expenditure and taxes at aggregate level which has less policy implications for the policy makers.The choice between direct and indirect taxes has contributed to long animated debate, in political and academic circles, regarding the virtues and defects of these two forms of taxation. Furthermore, in developing countries the relationship between fiscal variables and growth is more complicated than the text book Keynesian theory.Motivated with these considerations, the present study focuses on the relationship between public expenditure, taxes and economic development in Pakistan at aggregated as well as disaggregated level.

The paper proceeds as follows; Section 2 discussesthe stylized fact about fiscal policy in Pakistan and, section 3 is devoted to data and methodology. Section 4 comprises estimation and results. Section 5 concludes the papers with some policy implications.

Stylized Fact about Public Finances of Pakistan: This section analyzes the key fiscal indicators such as public expenditures andpublic revenues.

Public Revenue: An efficient tax system raises enough revenue to finance essential expenditures without resort to unwarranted public sector borrowing and increases revenue in a way that is equitable, minimizes its disincentive effects on economic activities and improves social welfare. From Figure 1 it is clearly evident that total revenue to GDP ratio had a rising trend in the early decade; however, they stagnated or declined in the last two decade or so. Total revenue collection, which was 13.1% of GDP in the 1960s, 16.8% in the 1970s, 17.3% in the 1980s, declined to 17.1% in the 1990s. In recent years total revenues have declined to 15% in 2003 and 12.5% in 2011.

Total revenues are classified into two broad categories namely tax revenue and non-tax revenue.Taxation is an important tool to regulate the economy. It has a dual purpose, to raise funds for meeting the state spending and to achieve its social and economic objectives. The total tax-to-GDP ratio was 13.8% in 1980s, 13.4% in 1990s, 13.8% in 2005 and 9.5% in 2011. To overcome the gravity of the fiscal deficit, a wide range of reforms were launched by Federal Board of Revenue (FBR) in 2000. The reforms include fiscal transparency, reducing the tax rates, broadening the tax base to untaxed and under-taxed sectors and shifting the incidence of taxation from imports and investment to consumption and income. The reforms also include improving the tax compliance of the tax administration, implementing amnesty scheme, self-assessment scheme and extension of the general sales tax to the services sector. The quantum of government revenues has greatly improved in recent years, as a result of higher economic growth, tax administration reforms, the privatization of public utilities and telecommunications. The rewarding outcome of the reforms emerged in the form of an increase of 81% in the FBR collection from 2001 to 2007. The total tax revenue, which was 111 billion rupees in 1991, has risen eight-fold to 1025.6 billion rupees in 2010.

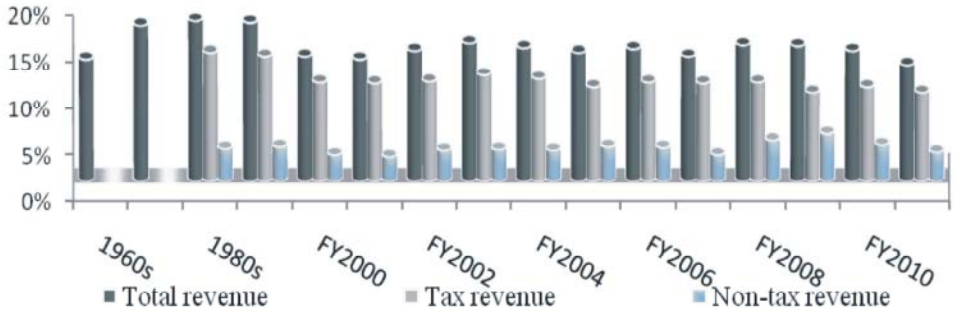

Fig. 1: Total Revenue, Tax Revenue and Non-Tax Revenue (Percentage of GDP)
Source: Different issues of Economic Survey, Ministry of finance, Pakistan

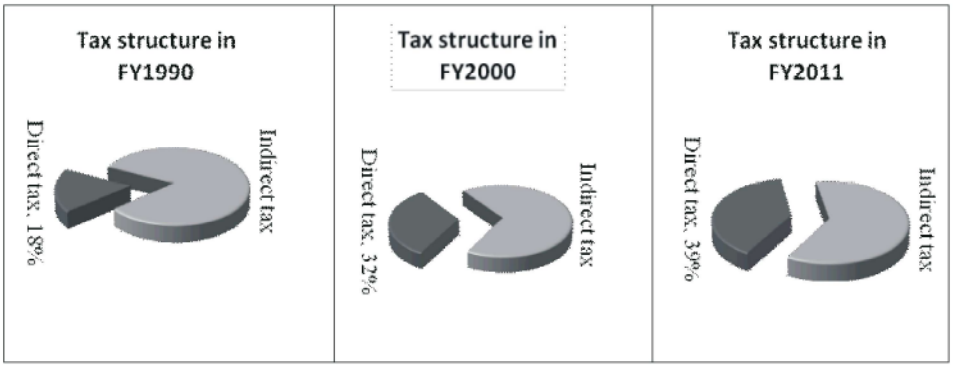

Fig. 2: Structural Change of Direct Taxes and Indirect Taxes (Percentage of tax revenue)
Source: Different issues of Economic Survey, Ministry of Finance, Pakistan.

Tax revenue can be divided into direct and indirect taxes. The two categories are different in nature, tax base and method of collection and have different implications for economic activity.Direct taxes are normally imposed on income and levied in the form of income tax, wealth tax, capital value tax, corporate tax and worker's welfare fund etc. With structural reforms in the tax system, there have been considerable shift from indirect taxes to direct taxes. Figure 2 show that the share of direct taxes in total taxes in 1990-91 was merely 18% which has risen to 38% in 2009-10. Direct taxes have moved thirteen-fold from Rs 20 billion in 1990-91 to Rs 389.5 billion in 2009-10. In developed countries the shares of direct taxes are higher than the indirect taxes but the case of developing countries like Pakistan is just the opposite.

Indirect taxes are a leading contributor to the tax revenue. These normally include outlays and levies like custom duties, excise duties, sales tax etc. The share of indirect taxes in Pakistan's total taxes in 1991 was 82% which has decreased to 61% in 2011. Although there is a considerable shift from indirect taxes to direct taxes but still the share of direct taxes cannot be said satisfactory, since more share of direct taxes is considered superior for economic development and social welfare. The non-tax revenue is collected by public undertakings such as user charges, dividends and profits of state-owned enterprises and other miscellaneous receipts. The government also raises revenue by issuing short-term and long-term bonds or papers. The non-tax revenue was 3.5% of GDP in 1980s, 3.7% in 1990s, 3.3% in 2004, 3.6% in 2006 and 3.1% in 2011. The decreasing share of non-tax revenue is mainly because of privatization of public sector enterprises.

Public Expenditures: Keynes argues for government's active role in a market economy, in the shape of public expenditures as a tool of public policy. The government uses public expenditures to reveal its preferences for public goods. The government accumulates revenues to finance different expenditure like spending on its defense, law and order, infrastructure development, disposes off administrative activities and incurs expenditure to accomplish social and economic activities. In the modern age the public expenditure has grown with leaps and bounds, possibly due to an increase in population, growth of state activities, increase in national wealth, modernization of defense services, provision of public utility services, expansion in social services, technological advancement, expansion of the domain of public services, political and social factors, inclusion of new activities in the domain of welfare responsibilities, growth of employment and economic development [21].

Figure 3 shows that the total expenditure incurred by the state in the 1960s averaged 11.6% of GDP; since then it has increased to 21.5% in the 1970s and 24.9% in the 1980s. However, on the eve of structural adjustment program (SAP) of the World Bank and the IMF, the expenditure slightly shrank to 24.1% in the 1990s. Pakistan's total expenditure hovered around 16.5% to 18.9% of GDP during the period 1999-00 to 2006.

Current expenditure, also called revenue expenditures, is incurred to cater to routine administrative needs of the government. Figure 3 shows that, like total expenditures, the current expenditure generally rose in the 1980s and the 1990s. However, it is on decline since FY2000.

The development expenditures are normally incurred on the incremental addition to the existing capital stock by building roads, highways, schools, hospitals etc. Development expenditure has been the main victim of all sorts of fiscal adjustments and expenditure rationalizations in the decades of the 1980s and the 1990s.

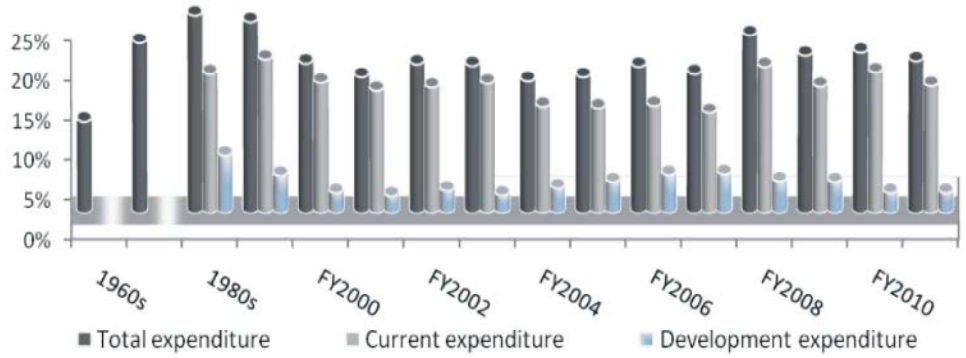

Fig. 3: Total Expenditure, Current Expenditure and Development Expenditure (% of GDP)
Source: Different issues of Economic Survey, Ministry of Finance, Pakistan.

It was 7.2% of the GDP in the 1980s but declined to 4.7% of GDP in the 1990s and reached lowest ever level of 2.1% of GDP in 2001. The reduction in development expenditure has had serious implications for socio-economic downturn of the 1990s. However, the recent upsurge in the development spending is a positive sign for infrastructure development and augmenting growth momentum in the economy.

Data and Empirical Design: The data used here come from three sources- World Development Indicators (WDI), International Finance Statistics (IFS) and The Pakistan Economic Survey.Variables are categorized into two groups *i.e.*, fiscal and non fiscal (control) variables. Fiscal variables include public expenditure, current expenditure, capital expenditure, taxes, direct and indirect taxes. Control variables consists of population growth, inflation rate and trade orientation. Per capita GDP growth is the dependent variable. Fiscal as well as non fiscal variables, with exception of population growth and inflation, are taken as percent of GDP and all variables areused in logarithmic form. The time period of the study spans from 1973 to 2011.

In empirical design two types of regressions are estimated. In the first regression total public expenditure and taxes are used as fiscal tools. While in the second regression public expenditure and taxes are categorized into different categories. Non fiscal variables appear in both types of regressions. The regression specification is as:

$$g=\alpha+\Sigma\beta_i X_i+\Sigma\gamma_j \Upsilon_j+\varepsilon$$

where,

g is per capita GDP, X_i is set of fiscal variables and consists of X_1 = Public expenditure to GDP ratio, X_2 = Tax to GDP ratio, X_3 = Current expenditure to GDP ratio, X_4= Capital expenditure to GDP ratio, X_5 = Direct tax to GDP ratio and X_6 = Indirect tax to GDP ratio. Y_j = Set of non-fiscal variables. It includes: Y_1 = Population growth rate, Y_2 = Inflation rate and Y_3 = Trade orientation measured as export + import share of GDP.

RESULTS AND DISCUSSION

It is a common practice that time series analysis starts from checking the stationarity of the data. But researchers forget that for the reliable stationarity analysis, unit root and co-integration tests require more than 100 observations as suggested by [22], otherwise they can yield biased results. Similar viewpoint comprehensively discussed by [23]. In view of that unit root tests are not reliable for the present study with a limited sample of: 1973-20011 (39 years). Keeping in view ofthese considerationsthis study carries out the analysis with Ordinary Least Square (OLS).

The analysis is divided into two parts. In table 1, model 1and model 2 gives the OLS estimates and model 1 show how total expenditure and total taxes and some other control variables have affected the per capita gross domestic product. It is found that total public expenditure has negative impact on economic growth but it is not statistically significant. This finding is contrary to [17] who conclude that in Pakistan public expenditure has negative and significant effect on growth irrespective of the source of finance. Total taxeshave negative and significant impact on per capita GDP. This can be explained in terms of ineffective arrangements to administer existing system of taxes in Pakistan. It supported by [20] who find transitory and negative effect of taxes on the growth only for short-term but no effect in the long-term. The population growth rate has negative and significant impact on per capita GDP.

Table 1:

	Dependent Variable: (g)					
	Model 1			Model 2		
Variable	*Coefficient*	*Std. Error*	*t-Stat*	*Coefficient*	*Std. Error*	*t-Stat*
X_1	-0.151399	0.726373	-0.2081	-------	-------	-------
X_2	-2.006537	0.740071	-2.7112	-------	-------	-------
X_3	-------	-------	-------	0.2365	0.0628	3.7613
X_4	-------	-------	-------	0.0708	0.1054	0.6717
X_5	-------	-------	-------	0.1436	0.2268	0.6332
X_6	-------	-------	-------	-2.0168	0.3095	-6.5147
Y_1	-9.282369	0.951544	-9.7550	-7.2438	0.7834	-9.246
Y_2	-0.045019	0.096035	-0.4687	-0.0725	0.0653	-1.109
Y_3	0.022603	0.960567	0.0235	0.7601	0.4402	1.7267
α	23.3035	2.12643	10.958	16.914	1.4658	11.538
MA(1)	0.383725	0.18271	2.1001	0.6185	0.174852	3.5378
R^2			0.964	R^2		0.982
Adj. R^2			0.956	*Adj.* R^2		0.976
F-stat			127.90	*F-stat*		186.55
DW stat			1.949	*DW stat*		1.997
White Heteroscedasticity Test:			2.367	*White Heteroscedasticity Test*		1.946

Thisfinding supports the Malthusian theorem and it is also supported by [16, 19]. While total expenditure is found to be insignificant, it is supported by[24, 25], they also reach the conclusion that there exists no significant relationship between public expenditure and economic growth.

Inflation remains insignificant and, according to the theory, if inflation remains moderate then it finances economic activity but the same is not the case for high rates of inflation which create distortions in the economy *i.e.* among other things it increases investment uncertainty [26, 27]. There is a common perception that single digit inflation is good for economic growth whereas double digit inflation results in depressing growth performance. Very surprisingly, openness also remains insignificant; the possible reason seems to be that Pakistan's economy is not as such open that it may significantly affect the economic growth.The R-squared and other residual test results show that the model is correctly specified and there is no problem of Heteroskedasticityand Auto-correlation.

In Table 1, model 2 shows a disaggregated analysis for taxes and expenditure. The effects of control variables are similar to that of model 1.The total taxes are divided into direct taxes and indirect taxes while total expenditures are categorized into development and current expenditures.It is found that current expenditure has growth enhancing effects in Pakistan suggesting the complementary role of government to boost private investment. This finding is in line with the findings of [28] who report that consumption expenditure is positively associated with economic growth. [29] alsoreport that consumption expenditure is positively correlated with economic growth in developing countries. As well as development expendituresare concerned, it has insignificant effect on per capita GDP. Two possible explanations for this can be provided. Firstly, as the capital expendituresare relatively low in Pakistan it is expected that it has no significant effect on growth. Secondly, development expenditures need long gestation period to translate into high level of economic growth. This result is supported by [15] who reports that development expenditure has no discernible effect on growth in developing countries. Similar views are also presented by [30] in case of health expenditure.

Direct taxes are positively associated with growth which reveals that to boost economic activity it is beneficial to increase share of direct taxes in total tax revenues. The reason behind this finding may be the low share of direct taxes in total tax revenue. This finding is in line with the finding of [13] who report that direct taxes boost the economy in Pakistan but contrary to the previous findings, in case of developed countries, which show that directs taxes like income tax suppress economic growth [31]. It is due to the fact that in developed countries the share of direct taxes is already high and further increase discourages the entrepreneurial activity and consequently hurts growth. Indirect taxes

have significant negative effect on growth which reveals that Pakistan has yet to put modern systems of taxes on domestic goods and services. This suggests that share of indirect taxes in total revenues needs to be reduced on one hand and modern tax system like VAT, RGST in case of Pakistan, be introduced to have positive effect on economic growth on the other hand.

CONCLUSION AND RECOMMENDATION

The aim of the present study was to analyze the relationship between public expenditure, taxes and economic development in Pakistan at aggregated as well as disaggregated level and to see how various components of revenues and expenditures affect the economic growth. The study finds that at aggregate level taxes have negative effect while public expenditures have insignificant effect on development. However, current expenditure has positive while capital expenditure has insignificant effect on growth. Indirect taxes impede development while direct taxes have insignificant effect. It suggests that indirect taxes result in reduction in the economic growth. This does not mean that government should not impose indirect taxes like the reformed general sales tax (RGST) but it will be a better option for the government to replace the present inefficient and growth distortionary indirect tax system. Reforms in the indirect system are the need of the time and as present analysis suggests, government should rely more on direct taxes instead of indirect taxes. These can be imposed on income and wealth irrespective of the source of income whether it is agriculture, services, manufacturing or else other. The direct taxes have the characteristics of automatic stabilizer while the indirect have not.

Expenditure side shows that current expenditures affect growth positively but development expenditures have no impact on economic growth. The results are surprising, not due to the effectsof current expenditure but due to development expenditure. Currently in Pakistan development expenditures are very low which are not sufficient to achieve the required results. So there is a dire need to increase the development expenditure.

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