



Tax Revenue, Development Spending and Economic Growth: A Case Study of Pakistan

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The main objective of our study is to investigate the impact of tax revenue and development spending on economic growth of Pakistan for estimation, annual time series data from 1972 to 2015 is used. Auto Regressive Distributed Lag (ARDL) bounds testing approach for co-integration is applied. The results show that development expenditures and tax revenue have significant and positive impact on economic growth. Based on the findings, the study recommends that government development expenditure and tax revenues should be increase, in order to stimulate activities in the economic sectors of Pakistan. Government should pay attention to enhance development expenditures for better growth as well as formulate the specific policies that attracts the investors. Pakistan should restructure its tax system like consistency in implementation, elimination of corruption in tax management, control on tax evasion and proper distribution of tax revenues for economic growth in the country.

1. Introduction

Tax revenues and development spending's are important tax mechanisms that can be managed to alleviate and enhance the economic functioning of the economy. In Pakistan, government spending and taxes have a invigorating role in shaping economic growth because they account for more of the public endeavors but are not in a position to portray all the public endeavors. It is presumed that this understanding supports the way in which public activities can be properly structured to improve the economy.

Some other countries, including Islamic Republic of Pakistan, the government provides several public goods and services to pay enormous amounts of money every year. Right now, demand for public goods and public services is increasing as a result of population growth and improved living standards in the country. Government needs resources to meet the requirements of the society and the development needs of the people. Thus, the government generates income through multiple taxes and other sources of income. These additional taxes and income streams result in constant revenues over time. So revenue stability becomes a very important part of development planning. The tax system plays an essential role in the financing of public expenditure and in the realization of the public and monetary development of every country. A well-ordered and effective tax structure is the foundation of economic development.

"Taxes determine the level and speed of economic growth in countries of the globe", (Omojemite and Godwin 2012). Nations with a standardized and balanced tax structure are growing rapidly,

associated with countries that do not have such trustworthy individualities. An efficient tax system is important for providing development-related and non-development-related spending. The impact of taxation on production and growth is significant. As Odusola (2006) has examined, government revenues over a period of time are based on variations in the tax basis, tax strategies and tax rates.

Pakistan is highly dependent on external sources for instance the IMF, Asian Development Bank World Bank etc. and national sources such as State Bank of Pakistan (SBP), Commercial Banks etc. to accomplishing its necessity of monetary assets to run the financial system.

As several emerging countries, Islamic Republic of Pakistan faces low capital spending rates, inadequate efficiency gains, lack of incentives to innovate, unpredictable returns on investment and low wage, less secure jobs. In 2014-15, Pakistan's real GDP was the lowest at 4.24% relative to South Asian nations. Total revenues were 8.3 per cent in the previous year, with total tax revenues growing by 15.5 per cent. On the spending side, existing spending increases to 10.1% and growth spending to 6.9 % in 2014-15 (Economic Survey of Pakistan, 2014-15).

Current research investigates tax revenues and development spending and reveals their particular influence on economic growth in the case of Pakistan. Based on a reassessment of the existing literature, it is noted that the majority of the research continued to focus on two elements and examined their causation. Nevertheless, the study separates tax revenues and development spending into separate components to recognize their particular influence on economic growth of Pakistan.

The study is broken down into sections. Section I contains the introduction and purpose for the study. Section II involves a conceptual and theoretical examination as well as a documentary analysis of tax revenues, development spending and economic growth. Section III methodological issues are presented for the current study. In Section IV, empirical analysis and findings are considered. In the final section V, findings and policy are discussed with implications for stimulating economic growth in Pakistan.

2. Literature Review

An immense work on the connection among economic growth and tax rate is presented in literature. Researchers like Lee and Gordon (2005), Azeem et al. (2013), Ihenyen and Mieseigha (2014), Birhanu (2016), Ahmad et al. (2016) analyzed in what manner the growth rate was influenced by the tax strategies. On average economic growth rates were significantly negative relationship with tax revenue. Per capita actual Gross Domestic Products and Tax rate are negatively associated in long-run and short-run. Impact of overall taxes on economic development is flimsy in the short run. Even Though rise in total tax incomes, economic development stays modest due to the consumption of taxes in non-development spending's rather than of development spending. Indirect taxes were the main cause for adverse impact of total taxes on economic growth. The direct taxes will rise intended for developing certain effect of total tax income.

Some Other Authors like Landau (1983), Saunders (1985) Goel and Ram (1994) Hutchinson and Schumacher (1997), Al-Fawwaz (2015), Abu-Eideh (2015), Ojonugwa and Agbede (2015) investigated the link among the spending of government share utilization in Gross Domestic Products and the rate of development of real per capita GDP. The growth rate of GDP per capita is adversely affected by the share of general government consumer spending in GDP. Previously, it was anticipated that there would be adverse convergence for the high-income countries and a constructive expanding of the disparity for the low-income countries. Economic performance is determined by the government size and development, despite the fact government size is inversely related to economic development. In

addition, countries with optimistic economic development are spending on economic relocations and commodities in ways which contribute additional to their increase performance. Countries with the lowest development in the cost of budgetary spending are experiencing elevated overall amounts of expansion and have a improved chance of aiding from tax disbursements on distributed and economic assets. Current and government spending contributes positively and significantly to economic growth. Public spending and economic development have positive and significant linear links in the long-term survey.

3. Methodological Issues

A proper resource of information and an accumulation of variables are key to achieving pragmatic results and legitimizing research. This section presents the overall data collection, as well as the methodology used to examine the association between tax revenues, development spending and economic growth in Pakistan.

i. Data Source

Secondary source of data for the year 1972-2015 is used in this research. Data of the nominated variables is taken from various resources comprising Pakistan Economic survey, State Bank of Pakistan and World Bank Data Indicators (WDI). All variables are taken as the local currency unit (LCU) and in natural logarithms. Computer based statistical program EViews is employed for the evaluations.

ii. Model Specification

We assess the subsequent operational model to examining the effects of tax revenue and development spending with other variables on economic development. Description of model is transcribed as

$$GDP = f(TR, DSP, TEM, GCF, MVA, TOP, GDPD)$$

Representation of Multiple regression model

$$\alpha_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \mu_i$$

$$GDP = \beta_0 + \beta_1 TR + \beta_2 DSP + \beta_3 TEM + \beta_4 GCF + \beta_5 MVA + \beta_6 TOP + \beta_7 GDPD + \mu_i$$

Table 1

Description of the variables

Var.	Abbre.	Description
Gross Domestic Production,	GDP	GDP measures a country's economic production over a one-year period, using current year prices. In this study it represents the economic growth.
Total Employment	TEMP	Employment is expressed in terms of the number of people who are corrected by the multifunctionality of certain workers. Total employment comprises both salaried employment and self-employment.
Gross Capital Formation	GCF	Gross capital formation corresponds to the increase in the real capital stock in an economy during a financial period. Capital formation includes the formation of more capital goods such as buildings, equipment, tools, machinery, vehicles, etc. that are used in the production of goods and the provision of services.
tax revenue	TR	Tax revenues are taken as direct and indirect tax.

development spending	DSP	Spending made on those activities that directly influence or associated with economic development is called developmental spending.
manufacturing value added	MVA	The value added of manufacturing industry (MVA) of an economy is the overall estimate of the net output of all units of local manufacturing activity obtained by adding up products and subtracting intermediate inputs. Measurement of MVA involves proper differentiation of the type of economic activity and the place where the activity takes place.
Trade openness	TOP	The ratio of exports plus imports to GDP. It is taken as trade openness.
Gross Domestic Product deflator	GDPD	The comparison of price level in the current year with the price level in the base year is stated by the GDP deflator. GDP deflator as the price index which examines that how the changes in prices influence the overall economy.

4. Data Analysis, Empirical Results and Interpretation

In this section we examine estimation of various tests performed by the authors using statistical software EViews.

i. Descriptive Analysis

Table 2 represents the descriptive statistics of our model. Gross domestic product, total employed rate, Gross capital formation, tax revenue, development spending, manufacturing value added, GDP deflator in case of Pakistan having mean values of 59990.00, 0.04, 978.00, 593.55, 128.97, 818.00 and 72.39 respectively with median values, 2430, 0.04, 435, 309.43, 19.08, 354.0 and 44.38. All the variables are positively skewed as the data is leptokurtic. Conversely, the mean value of trade openness is 0.34 and median value is 0.34, standard deviation is 0.03. The distribution is negatively skewed.

Table 2
Descriptive Statistics

	GDP	TR	DSP	TEMP	GCF	MVA	TOP	GDPD
Mean	5990.00	593.55	128.97	0.04	978.00	818.00	0.34	72.39
Median	2430.00	309.43	19.08	0.04	435.00	354.00	0.34	44.38
Maximum	27400.00	2811.77	874.30	0.06	4140.00	3330.00	0.39	243.85
Minimum	195.00	23.48	4.62	0.02	34.90	27.50	0.28	9.60
Std. Dev.	7710.00	730.35	226.64	0.01	1170.00	1000.00	0.03	70.97
Skewness	1.49	1.58	2.21	0.52	1.32	1.36	-0.28	1.21
Kurtosis	4.04	4.54	6.97	1.98	3.54	3.58	2.87	3.21
Jarque-Bera	15.44	19.13	54.42	3.27	11.13	12.01	0.49	9.05
Probability	0.00	0.00	0.00	0.19	0.00	0.00	0.78	0.01

Source: Authors owns calculation using E-Views a statistical software

ii. Unit root test

Table 3
Stationarity of The Unit Root Test

Variables	Level		1 st Difference		Remarks
	Intercept	Trend Intercept	& intercept	Trend & intercept	
LGDP	-----	-4.32*	-----	-----	I(O)
LTR	-----	-----	-5.67*	-----	I(1)
LDSP	-----	-----	-4.77*	-----	I(1)
LTEMP	-----	-----	-8.55*	-----	I(1)
LGCF	-----	-3.31*	-----	-----	I(O)
LMVA	-----	-4.82*	-----	-----	I(O)
LTOP	-3.01*	-----	-----	-----	I(O)
LGDPD	-----	-----	-4.67*	-----	I(1)

Note: i) *significant at 1% level, ii) ** significant at 5% level, iii) *** significant at 10% level

The above table represents the fallouts for the unit root test. ADF test for unit root used to find the significant method for empirical analysis. Variables are reviewed according to the level and 1st difference of all variables. Findings of the unit root shows mixed trend which indicates that we can use Autoregressive Distributed Lag Model (ARDL) for the empirical analysis as used by Pesaran, et al. (2001), Kausar R. Bhatti M. and Gull S. (2020)

iii. ARDL Bound test

Table 4
Autoregressive Distributed Lag Bound Test

Lag	F-statistics value	
ARDL(1,2,4,2,0)	7.230	
Significant	Critical Values	
Level	Lower Bound	Upper Bound
1%	2.96	4.26
5%	2.32	3.5
10%	2.03	3.13

Source: Authors owns calculation using E-Views a statistical software

Table 4 represents the outcomes of ARDL Bound test. The findings states that long run relationship exists among variables as f-statistics of bound test is greater than the upper bound values.

iv. Long-Run Results of Autoregressive Distributed Lagged Model

Table 5
Long Run Estimates of ARDL

Long Run Coefficients			
Variables	Coefficient Value	Standard Error	t-Statistics
LTR	0.12*	0.04	2.98
LDSP	0.02*	0.01	1.87
LTEM	0.22*	0.12	1.88
LGCF	0.19*	0.05	3.57
LNMA	0.43*	0.07	6.19
LNTOP	-0.2*	0.07	-2.71
LGDPD	0.31*	0.06	5.56
C	8.15*	0.64	12.82

Note: i) *significant at 1% level, ii) ** significant at 5% level, iii) *** significant at 10% level

Tax revenues have a positive effect on Pakistan's GDP. The figures in table 5 indicates that tax revenues have a positive value of coefficient which is 0.12 and are statistically significant. The results indicates that 1 per cent increase in tax revenues will increase the level of GDP by 0.12 per cent in the long term. This finding is supported by studies by (Stoilova and Patonov 2012) but opposed to the findings of (Ahmad et al. 2016), (Iftikharul Husnain et al. 2015) and (Azeem et al. 2013).

Second variable is development spending's that show a positive impact on Pakistan's GDP. Development spending's have a positive factor of 0.02 and are statistically significant. This indicates that an increase of 1% in development spending can increase the level of GDP by 0.02%. This was established in research by (Muthui et al., 2013) and (Goel and Ram, 1994).

Total employment rate has a positive influence on Pakistan's GDP. Table 5 reveals that total employment rate has a coefficient of 0.22 and is statistically significant with one expected sign, namely positive. This means that the 1% increase in the total employment rate increases the level of GDP by 0.22% over the long term. Increasing demand is creating better future scenarios for investors, so an increase in investment will increase the level of output.

Another variable is GCF, which has a positive influence on Pakistan's GDP. GCF has a coefficient value of 0.19 and is statistically significant as can be seen from the results table. This means that the 1 per cent increase in gross capital formation would lead to an increase of 0.19 per cent in the level of GDP. This outcome is supported by studies conducted by (Azeem et al., 2013). This finding suggests that capital investment have being corresponding to economic growth and mobilized.

Manufacturing value added has a positive coefficient of 0.43, indicating that a 1% rise in manufacturing value added may increase the level of GDP by 0.43%. In addition, the value of manufacturing industry has a positive impact on gross domestic output in Pakistan. The improvement in the level of employment ultimately leads to a rise in consumption and overall demand. Subsequently, increased demand will lead to higher levels of investment and production.

The current research indicates that trade openness has a negative coefficient of -0.20 and is statistically significant. The results indicate that a 1 % rise in trade openness would result in a 0.20 percent

reduction in the level of Pakistan's GDP. This result contrasts with the results of (Umer, 2014). Pakistan's imports are generally higher than its exports, indicating negative impacts on domestic industry. These negative effects will reduce investment, production and eventually growth in the country.

The seventh and final variable is the GDP deflators. The GDP deflator has a positive coefficient of 0.31, which means that the 1 per cent rise in the GDP deflator can increase the GDP level by 0.31 per cent. Given that the GDP deflator indicates the price level, if prices go up, investors will be better off. As a result, the level of investment, employment, aggregate demand, and production in the country will increase.

I. Concussion and Policy Recommendation

Taxation is intended to raise essential funds for public expenditure, redirect revenues, to alleviate the economy, overwhelm externalities, and carry out the distribution of resources, which should be useful for economic growth. The objective of effectively proposed taxation. The tax structure is important to achieving economic growth. Positive externalities arise through public financing in human capital, public law and order, research and development, social and economic infrastructure which will enhance the efficiency of private investment on a sequential basis. Private and public investments are essential to the growth of the economy. As increased development spending will increase the standard of living for those who ultimately increase consumption and aggregate demand. As a result, development spending will rise the output of factors of production, production capability, financing, and the level of employment in the country. Public revenues, especially in infrastructure, increases the effectiveness of manufacture and encourages investors. Public investment in fixed capital plays a major role in economic growth associated with public spending. Infrastructure put in place by the government increases output in an economy and increases the capital stock in the economy and promotes more effective use of existing stock.

The policy implications of the present study are as follows.

- The government should focus on improving development spending for better growth and develop specific policies that attract investment. Because development spending will raise input productivity, production capacity, investment, and the level of employment in the country.
- Government should reorganize its tax system as coherence in execution, eradicating corruption in tax management, monitoring tax evasion and appropriately distributing tax revenues for the country's economic growth.
- People should be made aware of the advantages of paying taxes for the long-term impacts of policies.
- The government should ensure that a reasonable proportion of capital spending is allocated to the budget to drive economic growth. Which will rise the volume of economic activity due to multiplying effects.
- The activity of the public sector must be studied according to the size and growth of the general government in order to generate the maximum social, political and economic benefits.
- Government should improve the manufacturing sector, employment and production will rise. The improvement in the level of employment ultimately leads to a rise in consumption and overall demand.

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