

THE IMPACT OF PUBLIC INVESTMENT ON ECONOMIC GROWTH: A CASE STUDY OF SELECTED COUNTRIES OF SOUTH ASIA

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ABSTRACT: *Investment plays a vital role in the prosperity and progress of any economy, whether it is a public investment or private investment. Many countries rely on both the investment to solve macroeconomic problems. The main objective of this research paper is to analyze the impact of public investment on the economic growth and the regional variation across the countries. The panel study of selected countries (Pakistan, India, Sri Lanka, and Bangladesh) of South Asia over a period of 1981-2011. The data for the study is collected from World Development Indicators. Panel Data Regression and Estimation technique shows, Trade openness, and Government Consumption have a positive and significant effect on economic growth.*

Keywords: Economic Growth, Government Spending, Gross Domestic Product

1- INTRODUCTION

Investment plays a vibrant part for the affluence and development of any country and the economy. This can play its role in private investment and public investment as well. Some countries based on both kind of investments for solving their macro and microeconomic complications. The relation between the economic growth and public investment has proposed by the researchers [1] and suggested that rise in government expenditure can be an active instrument to arouse cumulative demand for a motionless economy. According to researcher long term is termed as the stuff of examination.

An expert on economy proposes the dissimilar view about expenditures of government in hinders growth of the economy. The experts also propose that government expenditures enhance the country's growth by inoculating acquisitions power in that country. Researchers also argued that "Government could reverse economic downturns by borrowing money from the private sector and then returning the money to the private sector through various spending programs." "The role depends on the changes in the share of public spending which can explain the observed disparity in long-run growth rates among the different economies."

In under developing countries, government expenditures are considered as a vital component for stepping up the economy of that country. Government is the main source of creating the economic and social substructures that is why this play an active role in increasing the private investment [2].

Current research has fixated on the expenditure of government, for development of underdeveloped countries for their economic progress rate.

Number of researchers indicates the vital consequences of government Investment in the economy

Researchers [3] view, "it is the government which can reverse economic downturns in such a manner it can borrow the money from the private sector, and that money may be returned to the private sector through various development programs." "Refer to the neoclassical growth model of

Solow in 1956; productive government expenditure has transitional growth effects".

The proposed research has analyzed whether there is a negative or positive role on economic growth in selected countries of South Asia (Pakistan, India, Sri Lanka, Bangladesh, and Nepal) through Govt spending. The selected countries are "developing countries and have some similarities in the economy; (D Tendulkar Binayak Sen, Market and long Term economic growth in South Asia, 1950-97: An interpretation as"

- i. "Per capita GDP regarding purchasing power parity."
- ii. "Agriculture sector is still dominant in the economy and 50 % or higher share of the workforce in agriculture sector".
- iii. "The countries demonstrate a high proportion of self-employed in the total workforce with a large concentration in the agriculture sector."
- iv. "The countries are populated densely, regarding population per sq.km of physical area."
- v. "The South Asian economies if compared to the rapidly growing East and South East Asian economies, they have been relatively insulated from international trade in goods, non-factor services, technology and capital flows."
- vi. "The South Asian economies have been the very low rate of human capital formation as Compare to East and South East Asian economies."

The current study measured numerous concerns about public spending applies a distinction consequence on long-term growth in the selected countries of South Asia.

RESEARCH OBJECTIVE

Following are the objectives of this research:-

- "To observe the impact of public investment in selected countries of South Asia on economic growth."
- "To analyze the cross and regional variation in South Asian selected countries."
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2- LITERATURE REVIEW

Following researchers have examined their researchers on the topic mentioned above.

“The public sector investment in developing countries accounts for nearly half of the total investment, whereas in industrial countries, public investment accounts for less than a fifth of the total investment.” Many types of research inspected the relation of economic growth and public investment.

Researcher [4] considered “cross-sectional data over 100 countries in the period 1961-76 and reported a negative relationship between public spending and the economic growth”. Researchers [5] proved the there was not a noteworthy relationship. “Their study was based on post-war sectional data from 47 countries”. Researchers [6] investigated the negative relations between these variables. Researchers [7] had also investigated the negative relations between these variables. Researcher [8] investigated the negative and positive effect but positive effect in most of the cases.

Researchers [9, 10] investigated the positive effect only.

Researchers found that expenditure on health, education, and infrastructure had a positive effect [11].

Researchers [12, 13] investigated the positive effect in developed countries.

Researchers [14] public spending in developing countries has a positive impact, but it has less impact when the budget is a deficit.

Researchers [12] finds no strong relationship between growth and the government investment.

3- DATA COLLECTION AND RESEARCH METHODOLOGY

Research methodology presents an overview of the methods which is used in the study. Secondary data is used from various resources like World Development Indicators, IFS CD-ROM, PWT 7.0, OECD, and from various issues of the economic survey RESEARCH DESIGN

The study involved considering the impact of public investment on GDP in selected South Asian countries. The research is designed to achieve the objectives which set out by the researcher.

DATA COLLECTION AND ANALYSIS

The sample covers selected countries (Pakistan, India, Sri Lanka, and Bangladesh) of South Asia over the period 1981-2011. Data for this study is compiled by collecting information from World Development Indicators, IFS CD-ROM, PWT 7.0, OECD, and from various issues of the economic survey. The study includes the selected countries of South Asia. For each of the country, seven-variable model will be specified that includes public investment (GI), public consumption (GC), private investment (PI), private consumption (PC), Foreign Direct Investment (FDI), sum of export (X) and import (M) to GDP (TOP) and growth rate of gross domestic product (GDPG).

GDP growth rate is taken as a measure of economic growth, but express public investment, public consumption, private investment and Foreign Direct Investment, sum of export and imports as ratios of GDP (GI/GDP, GC/GDP, PI/GDP, PC/GDP, GH/GDP and $X + M/GDP$). The choice of

variables allows us to focus on the effects of public spending on economic growth.

The regression equation is specified as:

$$GDPG = f(GC, GI, PI, PC, FDI, TOP)$$

Where:

GDPG=growth rate of gross domestic product

PI = private Investment

PC = private consumption

GC = Government Consumption Expenditure

GI = Government Investment

FDI = Foreign Direct Investment

TOP= the sum of exports and imports to GDP

The explanatory variables in the above function are in fact components of GDP. This can be addressed by measuring the explanatory variables as the ratio of GDP. The model to be estimated is specified as:

$$GDPG = \beta_1 + \beta_2 PI + \beta_3 PC + \beta_4 GC + \beta_5 GI + \beta_6 FDI + \beta_7 TOP + e$$

Where:

GDPG=growth rate of gross domestic product

PI = private Investment

PC = private consumption

GC = Government Consumption Expenditure

GI = Government Investment

FDI = Foreign Direct Investment

TOP= the sum of exports and imports to GDP

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6,$ and β_7 are coefficients of semi-elasticity and E is stochastic disturbance term with standard properties. The sign of each coefficient is dependent upon the relative contributions of the corresponding explanatory variables which in turn depend on the functioning of the economic system under consideration.

ESTIMATION TECHNIQUES

To examine the stationarity properties of the individual time series, the unit root-tests of researchers [11], the augmented Dickey Fuller Test of the researcher, is applied. To meet the first objective Two-stage Least Square (2SLS) Estimation is applied. For the second objective, Co-integration approach is used to test the long-term effects of changes in different types of public spending, which is particularly suitable for examining the role of public investment policies in an economy.

DESCRIPTION OF VARIABLES

Refer to World Bank national accounts data, and OECD National Accounts data,

GDP Growth rate is annual percentage growth rate at the market price on constant local currency. GDP (gross domestic product) is the sum of gross value added by all local producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.

GOVT INVESTMENT (GI) & PRIVATE INVESTMENT (PI)

Government investment (GI) and private investment (PI) are the most important determinants of economic growth and capture physical capital formation. Data on the gross capital formation at current prices to GDP for developing countries disaggregated by institutional sectors is provided by the

IMF’s World Economic Outlook (WEO). The expected signs will be positive.

GOVT CONSUMPTION EXPENDITURE (GC) & PRIVATE CONSUMPTION (PC)

“Gross national expenditure is the sum of household final consumption expenditure by private sector, general government final consumption expenditure by government sector and gross capital formation by gross domestic investment. Government spending or government expenditure includes all government consumption, investment but excludes transfer payments [15]. This variable GC and PC expect a positive impact on economic growth.

**FOREIGN DIRECT INVESTMENT (FDI)
THE SUM OF EXPORTS AND IMPORTS TO GDP (TOP)**

TOP is the sum of Export(X) and imports (M) of goods and services (%GDP). The World Bank national accounts data and OECD National Accounts data files show as the exports of goods and services represent the value of all goods and other market services provided to the rest of the world. Exports include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, services of communication, construction, financial, information, business, personal, and government. They exclude compensation of employees and transfer payments. Whereas Imports of goods and services represent the value of all goods and other market services received from the rest of the world. Imports include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, services of communication, construction, financial, information, business, personal, and government services. TOP will be expected Positive sign.

4- RESULTS AND DISCUSSION

To see the impact of investment of the government spending on economic growth in South Asian selected countries Pakistan, Sri Lanka, India, and Bangladesh over the period 1981-2011. To check the stationarity of the series run unit root test at the level and the 1st difference in E-view6. Firstly viewed the graph to check the intercept and trend; the following are the graphs which show the intercept and trends.

Table: Panel Data Regression and Estimation (Least Square Dummy Variables)

Variab les	Coefficient	Std.Error	t-statics	Prob
PI	0.080410	0.102502	0.784473	0.4344
PC	0.036739	0.061098	0.601323	0.5488
GI	0.023431	0.165198	0.141835	0.8875
GC	0.250146	0.094656	2.642698	0.0094
FDI	-0.339377	0.319023	-1.063800	0.2897
TOP	-0.042754	0.019809	-2.158332	0.0330
D2	-1.041741	0.820553	-1.269559	0.2068
D3	0.285050	0.823739	0.346045	0.7299
D4	-2.027297	0.795204	-2.549406	0.0121

R-Square: 0.359000

Durbin-Watson stat: 1.847760

F-Statistic: 7.094110

The fixed effect model or Least Square Dummy variable model has been estimated and fitted the model as:-

$$GDPG = -6.321175 + 0.080410PI + 0.36739PC + 0.023431GI + 0.250146GC - 0.339377FDI - 0.042754TOP + e$$

The R-Square value is 0.35 which shows about 35% variations on the dependent variable is due to the independent variables. Durban Watson Stats is quite reasonable, i.e., 1.847760 which shows that there is no problem of autocorrelation.

Two variables Government Consumption (GC) and Trade openness (TOP) are significant as the probabilities are 0.0094 and 0.0330 respectively.

So to show the varying effect of coefficient of explanatory variables across countries or time we can apply viable dummy technique, particularly, the differential intercept dummies (Gujrati, 2004). Therefore, the equation (2) has been modified as follows:

$$FDI_{it} = \alpha_1 + \alpha_2D_2 + \alpha_3D_3 + \alpha_4D_4 + \beta_1PI_{it} + \beta_2PC_{it} + \beta_3GI_{it} + \beta_4GC_{it} + \beta_5FDI_{it} + \beta_6TOP_{it} + \epsilon_{it}$$

This is known as the Fixed Effects or Least-Squares Dummy Variable (LSDV) Regression Model. The D_2, D_3 and D_4 Are the dummy variables for India, Bangladesh and Sri Lanka respectively and there is no dummy for Pakistan to escape from ‘dummy variable trap’. α_1 is a constant term or intercept and α_2, α_3 and α_4 are the coefficients of dummy variables D_2, D_3 and D_4 . The above table shows the improved value of R-square i.e. 0.0356 and much-improved value of Durbin Watson Stat i.e. 1.847760 close to 2.00 which confirms that the problem of Autocorrelation has been resolved and the test stats are now reliable.

5- CONCLUSION

The study analyzes trends and impact of the various form of Govt spending. The major implications of the study; Firstly, various type of government spending has different impacts on economic growth through reallocation among sectors. Secondly, governments should reduce unproductive spending in various sectors for instance defense, and curtail excessive subsidies in agriculture and power. Thirdly, all regions should increase productive spending in agriculture and industry on production-enhancing investments.

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