Effects of Fiscal Policy on Economic Growth:
Empirical Evidence from South Asian Countries

Hari Phullel

Abstract

This study aims to find the effects of fiscal policy variables on economic growth in South Asian nations based on panel data of 21 years from 2001 to 2021. The study adopted descriptive and causal relationship research design. In this study, the correlation matrix is used to describe the relationship between variables, and the hausman test is applied to select the fixed and random effect models. The results revealed that gross capital formation and public debt had significant and positive effect on economic growth in South Asian countries. Tax revenue was found to have significant but negative effect on economic growth while government expenditure was found to have insignificant and positive effect on economic growth. The study therefore concludes that fiscal policy has significant relationship with economic growth in South Asian Countries. Additionally, efforts should be made while implementing fiscal reforms that focuses public expenditure to a manageable and specified economic sectors.

Key words: Fiscal Policy, Economic Growth, Government Tax Revenue, Government Expenditure

I. Introduction

The basic concept behind development in any nation is measured in terms of growth. Economic growth can be described as a pattern of constant economic growth throughout a specific time span. Increasing the standard of living for citizens of a nation through economic development can stimulate the economy as a whole. Applying effective macroeconomic policies is the best way to improve economic performance. The primary economic tool known as fiscal policy deals with the government's intentional activities in the production of revenues and public expenditures with the main goal of influencing high employment rates, moderate inflation rates, and sustainable economic growth. As a result, it is a method by which the government modifies the sources of its spending and level of income collection in order to track and affect the expansion of the national economy (Agu et al., 2015). Anyanwu (1994) defines fiscal policy as the portion of government strategy that deals with determining the volume and pattern of spending in order to have an impact on economic activity and raising income through taxation and other ways. This means that taxation and other revenue sources, public borrowing (internally and externally), and public spending with the intention of affecting economic activity or the accomplishment of specific desirable national objectives and/or macroeconomic goals are all covered by fiscal policy.

According to several researchers, fiscal policy objectives should include expanding employment opportunities, achieving full employment, stabilizing domestic prices, encouraging industrialization to boost economic growth and development, achieving equity

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in income redistribution, maintaining a stable exchange rate, and boosting investment in the nation (Anyanwu, 1994); (Olawunmi & Ayinla, 2008).

The use of government financial resources, such as taxation from a variety of angles and spending to promote economic expansion, is referred to as fiscal policy.

Fiscal policy is often used by governments to encourage robust, long-term economic growth and to lower poverty.

The function and goals of fiscal policy have expanded in importance in the current crisis because governments have intervened to protect financial systems, spur economic growth, and lessen the crisis’ effects on disadvantaged communities (Horton & El-Ganainy, 2009). Keynes (1936) claimed that by modifying spending and tax policies to make up for the shortcomings of the private sector, governments might stabilize the business cycle and regulate economic production. This theory, also referred to as Keynesian economics, essentially claims that adjusting tax rates and public investment can have an impact on macroeconomic productivity levels.

The results of this study will provide the budget office with information about the connection between fiscal policy and economic growth in South Asian nations over the time under consideration. The outcome of this study will help state and federal governments in understanding how fiscal policy affects economic growth. They will benefit from having a better understanding of the fiscal policy initiatives that will boost economic growth. The results of this study will be useful to academics and researchers because they will give them a theoretical and empirical basis for understanding how fiscal policy affects economic growth.

Fiscal policy can be a valuable tool for economic growth and development if accurately and timely implemented. The question of whether changes in government revenue, expenditure, borrowing and fiscal deficit can affect growth has been widely explored in the work. However, the majority of these studies focused more on developed economies, and some cross-country studies included developing nations (Aregbeyen, 2007).

A popular argument in the empirical literature holds that public spending has a negative relationship with economic growth because the public sector is inefficient, particularly in developing nations where a large portion of public spending is attributed to non-development expenditures like defense and interest payments on debt (Ul Husnain et al., 2011). Based on this, the research question for this study is: Does government expenditure, tax revenue, public debt and gross capital formation have any effect on economic growth in South Asian countries?

**Research Objectives**

i. The main objective of this study is to examine the effect of fiscal policy on economic growth of South Asian Countries.

ii. The specific objectives is to evaluate the effect of government expenditure, tax revenue, public debt and gross capital formation on economic growth.

**II. Theoretical Framework**
Research Framework

Figure 1
Research Framework

Independent Variables

<table>
<thead>
<tr>
<th>Government Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax revenue</td>
</tr>
<tr>
<td>Public debt</td>
</tr>
<tr>
<td>Gross capital formation</td>
</tr>
</tbody>
</table>

| Economic growth (GDP) |

Note: Research Framework 2022

Hypotheses

Based on the reviews and above research framework, following hypotheses are formulated for the study:

H1: There is significant effect of Tax revenue on economic growth.
H2: There is significant effect of Governments expenditure on economic growth.
H3: There is significant effect of Public debt on economic growth.
H4: There is significant effect of Gross capital formation on economic growth.

Explanation of Variables

Economic Growth

In any economy, economic growth is considered to be a primary national policy objective. Economic growth is defined as "an increase in the overall output (goods or services) produced by a country" (Ayres & Warr, 2006). Economic growth can be measured in nominal terms including inflation, or in real terms, which are adjusted for inflation like by the percent rate of increase in the gross domestic product (GDP).

Tax Revenue

The key to promote sustainable growth and eradicating poverty is taxation. It offers emerging nations a steady and predictable fiscal climate to encourage growth and to fund their demands for social and physical infrastructure. When combined with economic growth, it lowers long-term reliance on aid and supports good governance by encouraging governments to be accountable to their people (C. D. Romer & Romer, 2014).

Government Expenditure
Government expenditures includes all government spending and investment but do not include state transfer payments. Government spending can involve transfers of funds such as social salaries and administrative costs, or it can involve the purchase of goods and services for immediate use to meet the basic needs of community members or the purchase of products intended to produce benefits in the future, such as infrastructure investment. (S. Ali & Ahmad, 2010).

**Gross Capital Formation**

The term “Gross capital formation” refers to the additions of capital stock, such as machinery, tools, transportation assets, and electricity. It is used to define the net capital accumulation throughout an accounting period for a specific country. Countries require capital goods to replace the current assets used to manufacture goods and services; if they are unable to do so, their production declines.

**Public Debt**

Public debt has been referred to as one of the indicators of the macroeconomic factors that shape how countries are perceived in the international markets. Through the mobilization of resources at low borrowing costs and with minimal financial risk exposure, prudent public debt management boosts economic growth and stability (Matiti, 2013).

**Theoretical Review**

**The Keynesian Theory**

When the economies of the world were mired in the deep and prolonged recession of the 1930s known as the great depression, British economist John Maynard Keynes; declared that the government should increase spending and cut taxes to boast their economies. The government would borrow money to spend on public works, and that deficit spending, in turn, would create jobs and increase purchasing power hence in the economy aggregate demand will be stimulated.

Similarly, a tax cut would put more disposable income in the wallets of consumer and that too would boost demand. Keynes (1936) contended that the appropriate fiscal policy during periods of high unemployment was to run a budget deficit. Keynesian fiscal policy, the management of government spending and taxation with the objective of maintaining full employment, became the center piece of macroeconomics.

**Empirical Review**

Here are the empirical reviews of research articles that analyze the effect of fiscal policy on economic growth. Government involvement through taxing and spending programs, according to Keynesian theory, is a beneficial force that helps to stabilize output and possibly increase economic growth.

Symoom (2018) used empirical data from Bangladesh, India, Pakistan, and Sri Lanka from 1980 to 2016 to examine the effect of fiscal policy on economic growth. Real gross domestic product growth was used as the dependent variable, whereas government spending, tax revenue, real investment, population, trade openness, and political stability were used as the independent factors. The data were analyzed using the Error Correction Model (ECM) and Autoregressive Distributed Lag (ARDL) model. According to empirical findings, neither government spending nor tax revenue significantly affect the actual GDP growth in such South Asian nations. Furthermore, in these nations, real investment and real GDP growth have a high positive correlation.

Kim et al. (2021) looked into the connection between fiscal policy and economic growth using empirical data from China. This study's goal was to gain a better understanding of the fundamental components of the Chinese fiscal system and how it affects the country's
economic development. The data were analyzed using the unit root test, Granger causality Wald testing, and structural vector autoregressive (SVAR). According to its data, local expenditure increase affects output growth more than federal expenditure growth. The findings also show that liquidity restrictions prevented output growth from responding to anticipated changes in taxation. Public funding of research and development (R&D) has been a significant factor recently. Evidence also suggests that long-term debt significantly affects China's fiscal system, particularly government income.

Ghali and Shamsi (1997) investigated the relationships between fiscal policy (government spending) and economic growth (GDP) from 1973 to 1995 in the United Arab Emirates using a co-integration and error-correction methodology. The findings offered proof that there is co-integration between government investment and GDP while the effect of government consumption is negative and insignificant.

Maune and Matanda (2022) examined the link between Zimbabwe's economic growth and gross capital formation. In order to conduct an empirical analysis of the relationship between the two variables from 1960 to 2020, secondary data was gathered from the World Development Indicators database of the World Bank. The approach of auto regressive distributed lag was employed. The findings show both unidirectional and bidirectional causality links between gross capital formation and economic growth during the three periods under study. Gross capital formation was positive, but not significant to influence economic growth in Zimbabwe.

Asteriou and Pilbeam (2021) examined the impact of public debt on both short- and long-run economic growth in a panel of chosen Asian nations between 1980 and 2012. The study used a variety of econometric techniques, including pooled mean group, mean group, dynamic fixed effects, and common correlated effects. Using the asymmetric panel ARDL approach, the effects of changing the public debt are also examined. The findings shows that an increase in public debt has a negative impact on economic growth in both the long and short-run.

Nuru and Gereziher (2021) used time series data from the second quarter of 2014 to the first quarter of 2018 to conduct a nonlinear ARDL model analysis of the impact of fiscal policy on economic growth in South Africa. The findings show that the negative change effect of government spending on economic growth is bigger than the positive change effect. Economic growth is observed to be positively and significantly impacted by real effective exchange rate, both in the short and long term. In contrast, both in the short and long terms, inflation rate has a negative and considerable impact on economic growth.

Benimanana (2020) evaluated the impact of fiscal policies on economic development from 1999 to 2017 in Rwanda. Government spending, the public debt, and taxes were used as the independent variables in the estimation while the growth domestic product was used as the dependent variable. The data were analyzed using the least squares method (OLS) and multiple linear regression. According to the study, government spending, public debt, and revenue all have a positive and significant influence on Rwanda's GDP growth.

Sriyalatha and Torii (2019) investigated time series data from 1972 to 2017 for the long-term effects of fiscal factors on economic growth in Singapore and Sri Lanka. The effect of fiscal variables on economic growth on time series data was examined using the Autoregressive Distributed Lag (ARDL)-ECM technique and several diagnostic and specification tests. The findings support the long-term positive and significant effects of government spending, tax income, and investment spending on economic growth in Singapore and Sri Lanka. This outcome is consistent with the Keynesian perspectives theory.
Abdullah et al. (2019) for the years 1970–2016, research was done to investigate the connection between fiscal policy and economic growth in the ASEAN-5 countries. The Autoregressive Distributed Lag (ARDL) approach has been utilized based on the data’s nature. The findings show that, with the exception of Indonesia, the ASEAN-5 nations’ government expenditure is a statistically significant component of fiscal policy. The long-term effects of non-tax implementation in the ASEAN-5, with the exception of Indonesia, are expenditure-significant; tax- and non-tax-significant in the Philippines, Thailand, and Singapore; and debt is significant in Indonesia and Thailand.

Shijaku and Gjokuta (2013) employed an endogenous growth model using a GMM approach to examine the effects of fiscal policy on economic growth in the case of Albania, a small open developing nation. The findings demonstrate that government revenue strategies have a greater impact on economic growth than government expenditure measures. Additionally, the parameter values demonstrate that productive expenditure has a positive impact on growth whereas non-productive expenditure has a negative impact. The level of the public debt has a negative relationship with growth rate, according to this paper’s research of the effect of public debt on growth.

Putunoi and Mutuku (2013) examined the link between Kenya’s domestic debt and economic growth. Using a sophisticated econometric approach and quarterly time series data spanning the years 2000 to 2010, the problem is empirically examined. Using co-integration tests based on Johannes VAR and Engel-Granger residuals, the long-term connection between the variables was examined. An error correction model has been employed to represent short term dynamics because there is evidence of co-integration. The analysis demonstrates that, during the study period, Kenya’s domestic debt expansion had a favorable and significant impact on economic growth.

III. Research Methodology

Research Design

Investigating the effect of fiscal policy on South Asian countries’ economic growth is the main objective of this study. This study will use both descriptive and analytical research design. The population for the study is total 8 SAARC countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. This study takes 8 observations with time period from 2001 to 2021 i.e. 21 years’ data. This makes total of 168 observations. The required data are retrieved from the official World Bank database and IMF database.

Methods of Data Analysis

For regression analysis of panel data, pooled OLS or GLS (generalized least square) technique: Fixed effect and random effect model are used. In order to test which method to use between pooled OLS and fixed/random effect, Breusch-Pagan test should be conducted. P-value of BP test less than 0.05 means, fixed/random effect model is appropriate. Further, to select random or fixed effect model, Hausman test is conducted, where p-value>0.05 states random effect model to be appropriate and if p-value<0.05 fixed effect model is appropriate. The model for this study:

\[ GDP_g = \alpha + b_1 \times GE_{n1} + b_2 \times TV_{n1} + b_3 \times P_{n1} + b_4 \times GDP_{n1} + \ldots \ldots \ldots (I) \]

Where,

- \( I \) : no of countries
- \( \alpha \) : coefficient of parameters
- \( GDP_g \) : GDP per capita growth
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T time
GE Government Expenditure
TR Tax Revenue
PD Public Debt &
GCF Gross Capital Formation

Analysis includes descriptive statistics: mean, standard deviation, minimum and maximum values. Similarly, correlation matrix was prepared to identify the existence of multi-collinearity between the variables. Excel and E-view 8 software are used for the analysis of the data.

IV. Results and Conclusion

Table 1
Descriptive statistics

<table>
<thead>
<tr>
<th>Particulars</th>
<th>GDP</th>
<th>GCF</th>
<th>PD</th>
<th>GE</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>5.5307</td>
<td>24.4792</td>
<td>62.11914</td>
<td>14.2305</td>
<td>15.42044</td>
</tr>
<tr>
<td>Median</td>
<td>5.7190</td>
<td>27.8963</td>
<td>58.19082</td>
<td>10.8232</td>
<td>12.6400</td>
</tr>
<tr>
<td>Maximum</td>
<td>65.00</td>
<td>69.4845</td>
<td>345.9770</td>
<td>33.0300</td>
<td>49.9460</td>
</tr>
<tr>
<td>Std. dev</td>
<td>7.8208</td>
<td>11.83569</td>
<td>43.1483</td>
<td>7.5575</td>
<td>8.4971</td>
</tr>
</tbody>
</table>

Note: Output from collected data analysis from E-view 8, LBC library

Table 1 reveals the average growth rate of South Asian countries is 5.53%, with maximum growth rate of 65% and minimum being -33.50%. Similarly Gross capital formation (GCF) has a mean value of 24.4792% with maximum value of 69.4845% and minimum value of 14.1206%. Public debt (PD) has a mean value of 62.11914% with maximum value of 345.9770% and minimum value of 6.13%. Government expenditure (GE) has an average value of 14.2305% with maximum value of 33.0300% and minimum value of 4.8456%. Finally tax revenue (TR) has a mean value of 15.42044% with maximum value of 49.9460% and minimum value of 6.6111%. Greater variation in minimum and maximum values is due to long time period included with Asian crisis of 1997 and global financial crisis of 2007, however; these crisis don't significantly affect data form (Ekanayake & Thaver, 2021).

According to the results shown by table 2 the fiscal policy variables, GCF and PD are positively correlated with GDP. In contrast, GE and TR have a negative correlation with GDP. Since there is no matrix value greater than 0.8, the correlation matrix table above demonstrates that the model does not exhibit multi-co-linearity.
Table 2

Pearson correlation matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>GDP</th>
<th>GCF</th>
<th>PD</th>
<th>GE</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDP</td>
<td>1.0000</td>
<td>0.1594</td>
<td>0.2595</td>
<td>-0.0436</td>
<td>-0.1040</td>
</tr>
<tr>
<td>GCF</td>
<td>0.1594</td>
<td>1.0000</td>
<td>0.1616</td>
<td>0.0516</td>
<td>-0.2842</td>
</tr>
<tr>
<td>PD</td>
<td>0.2595</td>
<td>0.1616</td>
<td>1.0000</td>
<td>-0.0081</td>
<td>-0.0798</td>
</tr>
<tr>
<td>GE</td>
<td>-0.0436</td>
<td>0.0516</td>
<td>-0.0081</td>
<td>1.0000</td>
<td>0.7675</td>
</tr>
<tr>
<td>TR</td>
<td>-0.1040</td>
<td>-0.2842</td>
<td>-0.0798</td>
<td>0.7676</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Note: Output from collected data analysis from E-views 8, LBC library

Table 3

Breusch-Pagan Lagrange Multiplier Test

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Cross-section</th>
<th>Time</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Pagan</td>
<td>0.018808</td>
<td>4.493372</td>
<td>4.512180</td>
</tr>
<tr>
<td>P-value</td>
<td>0.8909</td>
<td>0.0340</td>
<td>0.0337</td>
</tr>
</tbody>
</table>

Note: Output from collected data analysis from E-views 8, LBC library

The results of Breusch-Pagan, which is displayed in table 4.3, indicate that the pooled OLS method is inappropriate since the p-values for time and both ways are less than 0.05 level of significance, which rejects the null hypothesis. Therefore, a model with fixed effects or random effects is appropriate.

Table 4

Hausman Test

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>26.398</td>
<td>4</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Note: Output from collected data analysis from E-views 8, LBC library

The Hausman test is then used to determine which method should be employed when selecting between a fixed effect model and a random effect model. The null hypothesis is
rejected since the p-value for this test, as shown in table 4 is 0.0000, which is less than 0.05. This means that the fixed effect model is appropriate for this study.

Table 5

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta Coefficients</th>
<th>Std. Error</th>
<th>T-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCF</td>
<td>0.306628</td>
<td>0.087342</td>
<td>3.510652</td>
<td>0.0006</td>
</tr>
<tr>
<td>GE</td>
<td>0.040074</td>
<td>0.214099</td>
<td>0.187175</td>
<td>0.8518</td>
</tr>
<tr>
<td>PD</td>
<td>0.040344</td>
<td>0.015199</td>
<td>2.654431</td>
<td>0.0088</td>
</tr>
<tr>
<td>TR</td>
<td>-0.537718</td>
<td>0.170506</td>
<td>-3.153658</td>
<td>0.0019</td>
</tr>
<tr>
<td>C</td>
<td>1.810970</td>
<td>4.152301</td>
<td>0.436137</td>
<td>0.6633</td>
</tr>
</tbody>
</table>

Model Summary

R-squared 0.222928
Adjusted R-squared 0.168134
S.E. of regression 7.133176
F-statistic 4.068498
Prob. (F-statistic) 0.00003
Durbin-Watson stat 2.3164

Note: Output from collected data analysis from E-views 8, LBC library

The result of the panel regression analysis based on the fixed model as presented in table 5 shows that gross capital formation, public debt, and tax revenue are found among the fiscal policy variables to have statistically significant effects on GDP, whereas government expenditure is found to have a statistically insignificant effect on GDP at the 5% level of significance.

Growth in GCF positively and significantly affects the growth in real GDP. The coefficient value of 0.3066 indicated that a percentage growth in GCF would result to 30.66% growth in real GDP; growth in public debt positively and significantly affects the growth in real GDP. The coefficient value of 0.0403 indicated that a percentage growth in PD would result to 4.03% growth in real GDP. Growth in tax revenue negatively and significantly affects the growth in real GDP. The coefficient value of 0.537718 implies that as the tax revenue grows by a percentage, the real GDP would decline by 53.7718%; growth in government expenditure positively and insignificantly affects the growth in real GDP. The value for R-squared is 0.22292, which means that 22.292% of the variation in real GDP is explained by the explanatory variables in the model while the remaining 77.708% changes in real GDP growth is caused by other factors outside the scope of this study.
Discussion

The research found a strong correlation between GCF and economic growth in South Asian nations. This suggests that, over the analyzed time, investments in various assets positively impacted the economic growth. The finding, however, supports those of Sriyalatha and Torii (2019), Kim et al. (2021), Symoom (2018), Ghali and Shamsi (1997) which found that the GCF had a positive and significant impact on economic growth. The results contradict with Maune and Matanda (2022) who found that GCF has an insignificant relationship with real GDP growth. According to the study, there was insignificant and positive effect of government expenditure on economic growth in South Asian nations. This finding conflicts with that of Kim et al. (2021), Benimana (2020), and Sriyalatha and Torii (2019) who found that government spending significantly affects GDP growth. Similarly, the findings support those of Ghali and Shamsi (1997), Nuru and Gereziher (2021) and Symoom (2018) who found that government spending insignificantly affects the GDP growth.

Public debt was found to have significant positive effect with economic growth in South Asian nations. This implies that South Asian countries public debt actually made a significant contribution to the economic growth. This empirical study supports the conclusions of Kim et al. (2021), Benimana (2020), Putunoi and Mutuku (2013) and Abdullah et al. (2019) that public debt considerably and positively influenced economic growth. However, the results contradict those of Shijaku and Gjokuta (2013) and Asteriou and Pilbeam (2021), who found that there is negative effect of public debt on economic growth. The study also found a significant but negative effect between tax revenue and economic growth in South Asian nations. This suggests that tax revenue did not make a desirable contribution to economic growth in South Asian countries. This result is consistent with Symoom (2018) and Shijaku and Gjokuta (2013) findings that tax revenue has a negative correlation with economic growth. However, the findings do not support the claim made by Benimana (2020) and Sriyalatha and Torii (2019) that there is a positive effect of overall tax revenue on economic growth.

Conclusion and Implications

The study used panel data from 2001 to 2021 to examine the effect of fiscal policy on economic growth in South Asian countries. Based on the above results, the study came to the conclusion that fiscal policy significantly influences economic growth in South Asian countries. Based on the analysis carried out it was concluded that growth in public debt and gross capital formation positively and significantly impacted on the growth in GDP at 5% level of significance. Tax revenue has a negative but significant effect on economic growth, while government expenditure has insignificant and positive effect on economic growth in South Asian countries. The findings of this study revealed that increase in public debt and gross capital formation increases the growth of the economy in South Asian Countries.

In order to accelerate the economic growth of South Asian nations, the federal government should step up efforts to ensure that the country’s economy is diversified out from tax collection towards productive sectors. A suitable policy mix should be introduced and put into action by the government in South Asian Countries with the goal of establishing attainable fiscal policy goals that will raise economic productivity. It would be highly advisable to separate between public and private investments for future research because they may have different effects on growth.

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