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The Impact of Government Expenditure on Economic Growth in Afghanistan

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Abstract

This study evaluates the impact of expenditure compositions on economic growth in Afghanistan. The data was collected from the World Bank and Ministry of Finance using a period of 2004 to 2019. The gross domestic product was stated as dependent variable and public expenditure compositions were included as independent variables. The adjusted Keynesian function was applied to estimate the impact of government expenditure on economic growth. Unit root test, Johansen co-integration test and bound test were checked. All variables were stationary at level and first difference. Hence, Autoregressive Distribution Lag (ARDL) model was applied. Our findings expose that there is a long-run relationship between dependent and independent variables. Furthermore, the previews and current expenditures on education and infrastructure are positively correlated with economic growth in Afghanistan. But, security expenditure is negatively linked with growth rate. The adjusted R-squared revealed that 99% variation of dependent variable explained by independent variables. To increase the economic growth rate, the government should adopt precise and accurate control on its spending on defense, as to reduce corruption and mismanagement.

Keywords: Public Expenditure, Economic Growth, Keynesian Function, Afghanistan

Introduction

Since 1960, it has been crucial for the government to spend state expenditure into different sectors of the economy. As such, public expenditure denotes to the expenses incurred by the government for the provision and maintenance of distinct public goods and to accelerate economic growth rate (Muhammed & Asfaw, 2014). Economic growth defines as an increase in output of an economy's capacity to produce goods and services to promote the wellbeing of residents within a country (Adamu, Jibir, & Hajara, 2015). Several scholars examined the correlation between public expenditure and economic growth in different regions, but there is not a concrete result on which components of public expenditure has direct effect on economic growth (Muhammed & Asfaw, 2014).

Many scholars like Aschauer (1989) claims that increase in government expenditure on both social and physical capital speeds up economic growth. For instance, public expenditure in social service boosts the labor productivity and augments the growth of national output. At the same vein, government spending on infrastructure such as road, communication power and so on declines the cost of production, encourages private sector investment and promotes economic growth. Conversely, some academics like Babatunde (2007) argue that increasing government

expenditure reduces the economic growth. He believes that government may cover this enhancement through tax raise and/or borrowing. Higher tax rate discourages employees for longer working hours and/or searching new jobs, which declines income and aggregate demand.

Many scholars have explored the impact of government spending on economic growth rate. Landau (1985) studied the correlation between government expenditure and economic growth in the developed countries. He exposed that public consumption and investment expenditure declined economic growth rate. At the same vein, Grier and Tullock (1989) analyzed impact of government consumption on economic growth over a period of 1951-80 in 113 countries. They found that economic growth is negatively associated with public expenditure in the OECD countries. A similar finding was confirmed by Dar and AmirKhalkhali (2002) and Fölster and Henrekson (1999). Conversely, Patricia and Izuchukwu (2013) analyzed the impact of education expenditure on economic growth in Nigeria using a period of 1977 to 2012. Their findings revealed a positive and significant long-term correlation between education expenditure and economic growth. Furthermore, Lahirushan & Gunasekara (2015) investigated the relationship between public expenditure and economic growth in Asian countries using secondary data of 1970 to 2013. Their results showed a positive and significant association between targeted variables. Moreover, they confirmed a long-term relationship for government expenditure and gross domestic products in Asian countries. Kapunda & Topera (2013) studied the components of public expenditure and its effect on economic performance in Tanzania during the time of 1965 to 2010. They found a positive and significant effect of capital expenditure on economic performance. But expenditure on health, agriculture, infrastructure, defense and general public services are reported insignificant.

Afghanistan has suffered decades of war and conflict, which damaged economic, social and political infrastructures. Since 2002, the new government allocates millions of dollars to rebuild the communities and to improve the welfare of households in the country. Government budget is classified into two main categories; operational and development. In 2004, domestic revenues financed only 50.6% of operational budget. The remained part of operational budget and total development budget are financed by international assistance (MoF, 2004). Majority of these funds provided by the international partners, so the money should be utilized wisely and devote on sectors with more productivity. Unfortunately, there is not any noticeable investigation to address the impact of expenditure components on economic growth in Afghanistan. This study analysis this correlation and provides information to policymakers on usage of limited financial resources. For meaningful results the following research question is posed:

1. What is the correlation between expenditure compositions and economic growth?

Data and Function Specification

This study relied on secondary data. The data obtained from the Afghanistan Ministry of Finance and the World Bank. It contained over the period of 2004 to 2019. This research applied the adjusted Keynesian function, which was adopted by Muhammed & Asfaw (2014) and Nurudeen and Abdullahi (2010) in the context of Ethiopian and Nigerian economic growth. The empirical function is posed as follows:

$$GDP = F(Educ, sec, Inf, \dots) \dots \dots \dots (1)$$

The above equation is converted into ln model and it formed as below:

$$\ln GDP = \beta_0 + \beta_1 \ln Educ + \beta_2 \ln inf + \beta_3 \ln Inf + \varepsilon \dots \dots \dots (2)$$

Where:

GDP	=	gross domestic product
Edu	=	expenditure on education
Sec	=	expenditure on security
Inf	=	expenditure on infrastructure
ε	=	error term
β	=	unknown parameters

Results

This study analyzed the impact of expenditure compositions on economic growth in Afghanistan. Gross domestic product is stated as dependent variable and education, infrastructure, and security expenditures are included as independent variables. In time series analysis, it is a precondition to check whether the variables are stationary or not. The Augmented Dickey Fuller (ADF) test is employed to check the order of integration for all variables. The unit root test results presented in Table 1. This exposes that all variables are stationary at level or first difference. Gross domestic product, education and security are stationary at their first difference. Only infrastructure is stationary at its level.

Table 1: Unit root test results

Variables	Level		First Difference	
	ADF Test	P-value	ADF Test	P-value
Ln_gdp	-0.3088	0.9799	-3.5045	0.0947
Ln_edu	0.3998	0.9963	-4.2514	0.0291
Ln_inf	-4.2074	0.0258	-	-
Ln_sec	-1.0504	0.9008	-6.4407	0.0011

Source: EViews output

The Johansen co-integration test was employed to check the integration and co-movement between dependent variable and independent variables. This method considered both unrestricted Trace and Eigen value tests. The Johansen co-integration test outputs depicted in Table 2. The estimated findings confirm an integrated relationship between GDP and government spending. This result is in line with Gangal and Gupta (2013), Olabisi and Funlayo (2012), Muhammed and Asfaw (2014).

Table 2: Co-integration test results

Unrestricted co-integration rank test (Trace)				
Hypothesized No. of CE(s)	Engen value	Trace Statistics	0.05 Critical Value	Prob.**
None *	0.9928	110.04	47.8561	0.0000
At most 1 *	0.8643	40.854	29.7970	0.0018
At most 2	0.4746	12.881	15.4947	0.1192
At most 3 *	0.2414	3.8691	3.84146	0.0492
Unrestricted co-integration rank test (Maximum Eigen value)				
Hypothesized No. of CE(s)	Engen value	Max-Eigen Statistics	0.05 Critical Value	Prob.**
None *	0.9928	69.194	27.5843	0.0000
At most 1 *	0.8643	27.972	21.1316	0.0047
At most 2	0.4746	9.0123	14.2646	0.2851
At most 3 *	0.2414	3.8691	3.84146	0.0492

Source: EViews output

The unit root test revealed that all variable are stationary at their level and first difference. Hence, the Autoregressive Distribution Lag (ARDL) model was employed to estimate the impact of expenditure components on economic growth. Table 3 demonstrates details of ARDL test:

Table 3: ARDL model results

Variable	Coefficient	Std. Error	t-Statistics	Probability
C	-13.1739	3.4764	-3.7894	0.0631
ln_gdp (-1)	0.6245	0.1813	3.4430	0.0750
ln_gdp (-2)	0.9917	0.2160	4.5871	0.0444

ln_edu	0.7499	0.1335	5.6132	0.0303
ln_edu (-1)	0.6203	0.1808	3.4301	0.0755
ln_edu (-2)	0.9149	0.2069	4.4215	0.0475
ln_inf	0.3401	0.1067	3.1873	0.0859
ln_inf (-1)	0.5174	0.1306	3.9602	0.0582
ln_inf (-2)	0.0618	0.0891	0.6935	0.5597
ln_sec	-0.6010	0.1221	-4.9193	0.0389
ln_sec (-1)	-0.5549	0.1573	-3.5265	0.0718
ln_sec (-2)	-0.7385	0.1452	-5.0846	0.0366
Adjusted R ²	0.9913			

Source: EViews output

The predicted coefficients uncover that volume of GDP in the last two years also accelerates current growth rate in Afghanistan. Both coefficients are statistically significant. This finding is in line with Olabisi and Funlayo (2012). Furthermore, previews and current education expenditures are positively correlated with economic growth. Each percent increase in current education spending augments economic growth by less than one percent (0.75%). This means that education expenditure enhances human capital in Afghanistan and leads to boost economic development. This finding was supported by Singh and Weber (1997) in Swiss, Patricia and Izuchukwu (2013) in Nigeria and Mathui et al, (2013) in Kenya.

Similarly, infrasturture spending is also positively associated with economic development in Afghanistan. The estimated coffeicients show that both previews year and current expenditures on infrasturture enhance economic growth. A 10% increase in infrasturture investment accelarates economic growth rate by 3.4%. This implies that spending to roads, telecommunication, electricity and other infrastructures declined production cost and encouraged private sector investments in Afghansitan. This result was found by Palei(2015).

Expenditure on security and defense is a major part of budget in Afghanistan. The coefficients reveal that past and present security expenditures are negatively linked with economic development in Afghanistan. For current spending, 1% increase in defense expenditure results to decline growth rate by 0.6%. This is in line with findings of Lim (1983) and Lebovic and Ishaq (1987).

Table 4: ARDL Bound test results

Test Statistic	Value	k
F-statistic	13.1706	3
Critical value bounds		
Significance	I0 Bound	I1 Bound
10%	2.37	3.2
5%	2.79	3.67
2.5%	3.15	4.08
1%	3.65	4.66

Source: EViews Output

Table 4 reports the results of bound test. This test checks long-run relationship between dependent variable and independent variables. The calculated F-statistic (13.1706) is higher than the upper bound critical value (4.66) at 1 percent level. Thus, the null hypothesis is rejected, meaning long-run relationship among variables.

Conclusion and policy recommendation

This study analyzed the impact of expenditure compositions on economic growth in Afghanistan using ARDL model. The unit root test and Johansen co-integration test were check. The results show that dependent and independent variables are stationary at their level and first difference. Furthermore, these variables are integrated. The estimated coefficients of education and infrastructure affect economic growth rate directly. However, expenditure on security is negatively linked with economic development.

Based on the above findings, this study proposes the following recommendations. First, the government should prioritize its expenditures. Second, to increase economic development the government should adopt precise and accurate control on its spending on defense to reduce fraud and mismanagement. Finally, the government should increase expenditure on education and infrastructure to accelerate economic growth.

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