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Public Expenditure and Economic Growth Relationship in Developing Countries: The case of Bangladesh

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Abstract
This analysis empirically focuses on how government spending affects economic development in Bangladesh. The study uses time-series data from 1965 through 2016 from the World Development Indicators for independent variables household consumption expense, capital formation and public sector consumption spending. The Johansen co-integration test showed a long-run association among the variables. However, OLS results show that capital formation and household consumption expenditure positively and public sector consumption spending negatively affect Bangladesh's GDP. A more productive investment by the government sector may reduce government spending's adverse effects on Bangladesh's GDP.

1. Introduction

Expenditure of the public sector is one of the essential elements in Keynesian macroeconomic analysis. However, empirically, the role of public spending is different across the developed economies in the world. In history, Wagner (1883) was the first man who stated that public expenditure steadily goes up as economic growth continues to expand in his famous Wagner's law. However, the policies suggest making public expenditure in more productive sectors than unproductive or less productive areas to boost the economy.

Public expenditure throughout the world goes up for several reasons. For instance, the functions and activities of government have been increased in the modern states. Moreover, the coverage of the public domain in the economy is on the increase. Among the various functions of government provision of the legal framework, institutional infrastructure, purchasing for many public goods, increasing social safety net coverage, and spreading the services to the citizens are extending daily to smoothly function the government organs. Among the development interventions, to alleviate poverty and correct the market system's inequalities, the government plays a significant role by controlling the economy.

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Many variables represent public expenditure such as capital expenditure, household consumption expenditure, public sector consumption spending, investment expenditure etc. As a developing country, Bangladesh has been facing significant improvement in its public spending since its independence in 1971. Besides, the country has been maintaining a more than 6% growth rate in the last couple of decades. However, the source of this economic development and the contribution of government spending in a country's economic development requires scientific investigation.

While public spending has grown over time, its economic growth implications are a practical problem in any country. Public spending is witnessed to be increasing faster than the size of the economy. There is, therefore a straight link, both theoretically and empirically, between government spending and economic development. Research by a majority reveals conflicting findings about the correlation between public sector spending and development. Further investigations are needed into the nature of the link between these two factors.

The main purpose of this study is to assess the impact of public spending on Bangladesh's economic development. It also aims to assess the effect of government consumption expenditure, household consumption , capital formation on the economic growth in Bangladesh from 1965 to 2016 as well as to ascertain the long-run relationship between variables.

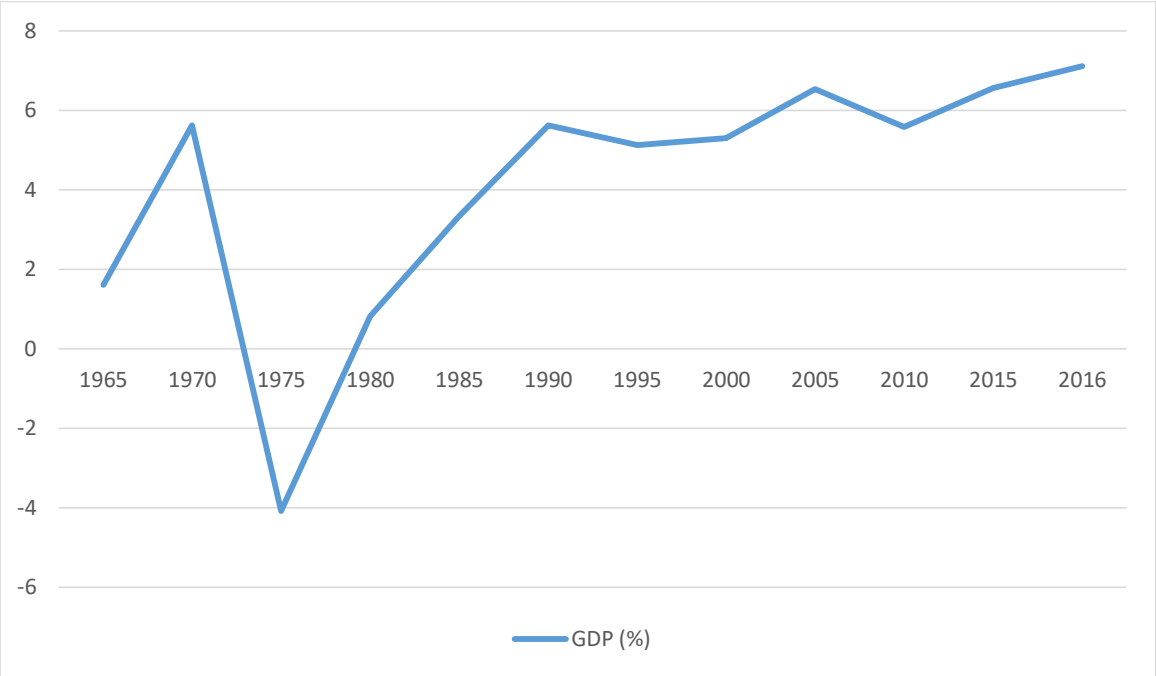
The result of this research will enrich the existing literature. It will be helpful for the reference for further study on this issue or related issues. Moreover, the findings will be useful to policymakers while determining the budget for the next fiscal year and taking necessary steps for proper allocation of revenue to the sector, which promotes economic growth.

Among the various limitations, firstly, the study covers the aggregate expenditure of the economy, not the selected sector's spending. So the findings of this study will denote relationship or effect (negative or positive) on economic growth, not the specification of a particular industry. Secondly, it could be better to select a sample from 1960 to 2017, but data unavailability has led to choose observation from 1965 to 2016 for this study.

2. An Overview of Economic Growth and Public Expenditure in Bangladesh

In 1971, Bangladesh achieved independence. Eventually, the initial years of the 1970s were an era of political and economic instability and the growth rate was negative, as in Figure 1. During the late 1970s, the economy of Bangladesh started the various market-led reformation. Eventually, in the middle of 1980s, the economy begins to grow with a 4.5% rate per annum on average and it continued. The growth rate got accelerated during the earlier years of 1990s and it started to grow at 5.6 % per year from 1995 to 2000. In the mid-2000s, the economy shifted to 6% rate of growth. The country is still lagging in import substitution, capital formation, poverty, inequality and many other socio-economic fields. The total population of the country is now nearly 160.6 million. In 2016, the growth rate was 7.11% compared to the previous year. The economy moved towards a record 7.65% growth in 2018 (not in figure).

Figure 1. Trend in GDP growth rates in Bangladesh (1965-2016)

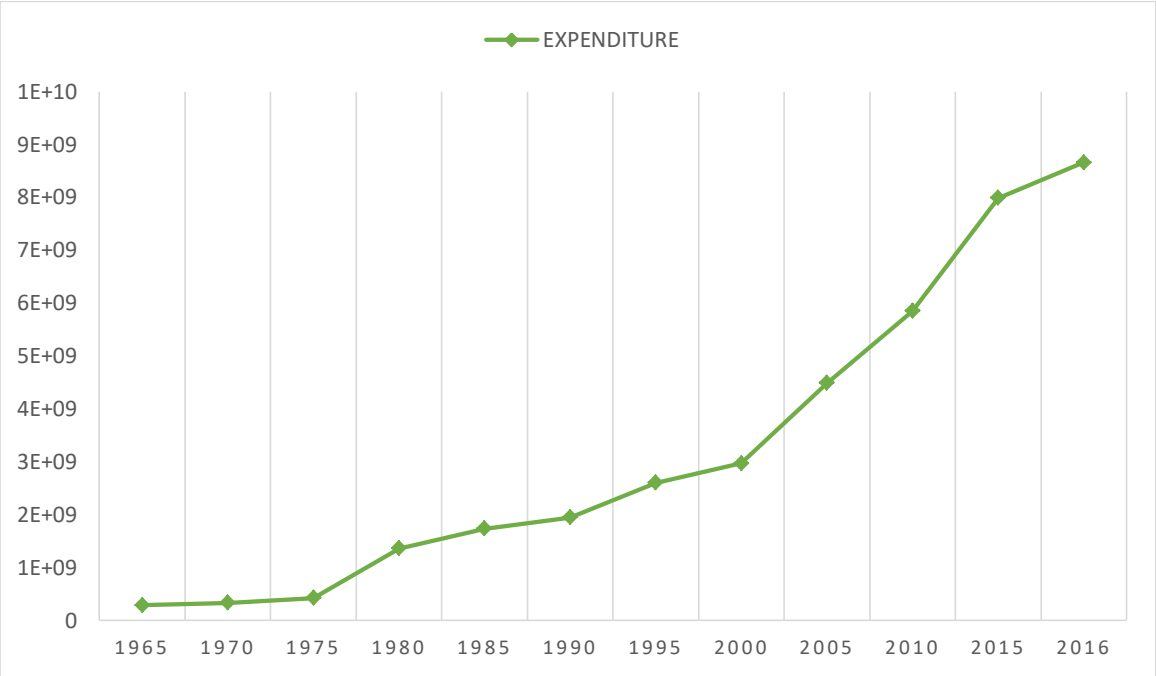


Source: World Bank national accounts data

Bangladesh vision 2041 is the development program covering the period 2021 to 2041. The objective of Vision 2041 was to help transform Bangladesh into a developed country, providing a high quality of life to all its citizens. It is expected by 2041, Bangladesh will become a prosperous, peaceful and developed country as the country will become a middle-income country.

In the time period of 1973 to 2016 public spending of Bangladesh went up gradually. Moreover, throughout the beginning of 1980 to 1989-90, government spending increased more or less at a constant rate with a relatively lesser variability in the expenditure. Later on, expenses rose more suddenly. The public expenditure growth in the period between 1991-92 and 2000-2001 was much larger than the earlier decade. This trend continues up to 2016.

Figure 2. Trend in public expenditure in Bangladesh 1965-2016



Source: World Bank national accounts data

3. Literature Review

A good number of studies have already been undertaken to examine the linkage between public expenditure and economic growth. The findings of the previous studies vary across the countries. Most of the researches conducted for developed countries found a negative relationship between public spending and economic development. However, in the case of developing countries, most of the studies reveal a different result. Regarding Bangladesh, as a developing country, not many studies are available that find the nexus between government spending and economic development. The following sections present a systematic analysis of the available researches on public expenditures and economic growth relationships.

Landau (1983), applying a sample of ninety-six countries, found that the contribution of public consumption expenses to GDP reduced economic growth. Landau (1985) conducted a more comprehensive analysis that included physical and human capital as well as three year lag in government expenses on GDP, where the finding was government investment and consumption expenditure cause slowdown in economic growth. However, Ram (1986) confirms a positive influence of government spending on economic development for a collection of one hundred fifty countries for the period 1960 to 1980 using both time-series and cross-section data. Similary, Kormendi and Meguire (1986) have run their investigation for 47 countries from 1952 through 1984, where they found a positive relationship between government expenditure size and economic development. According to Kormendi and Meguire (1986), expansion of government size ensures protection to personal assets and public spending stimulates private investment, which causes economic development. On the other hand, in a separate study, Engen and Skinner (1992) used a sample of one hundred

and seven economies for 1970-1985. They concluded that large government spending hurts economic uprising.

Hsieh and Lai (1994), Lin (1994) and Vedder and Gallaway (1998) all worked for finding out the nexus between the size of the public sector and economic development. They used different methodologies and have included developed countries, G-7 countries and developing countries, respectively. Nevertheless, they have found a mixed relationship between the size of government and economic progress. For example, Lin (1994) has found the size of the government has a positive effect on economic growth in the short-run, whereas it does not influence in the long run. Devaranjan and Swaroop (1996) investigated the linkage between the configuration of government spending and economic development for forty-three developing nations during the period 1970-1990. The regression findings illustrate capital expense has a substantial adverse effect on the growth of per capita real GDP.

Nonetheless, the results depict that persistent spending is related to real per capita GDP positively. In a later study, Dowrick (1996) worked for 115 countries from 1950 to1990 with an endogenous growth model including the variables- Growth of real GDP, population, workforce, GDP per capita, real government consumption, investment ratio, nominal government consumption. From this investigation, he found a negative association between public sector consumption and economic growth.

From the developed countries' context, later on, Gwartney, Lawson, and Holcombe (1998) worked for twenty-three OECD nations during the period 1960 to 1996 and found that all public sector size-related variables affect the economy negatively. Regarding developed countries, Del Monte and Papagni (2001) applied the OLS method for time series analysis in Italy from 1963 to 1991. They came up with a positive connection between public expenditure and economic growth but indicated that corruption has a negative consequence of economic growth. Conversely, Folster and Henrekeson (2001) examine the relationship for some prosperous nations between 1970 to 1995. The authors have observed a negative correlation between government spending and economic development. Dar and Khalkhali (2002) investigated how the size of the government affects economic growth by looking at 19 OECD nations from 1970 to 1999. Based on the endogenous growth model, the study used panel data and found that size of government had a negative impact on economic growth which was also statistically significant. Their findings go with Gwartney et al. (1998). Similary, Chen and Lee (2005) applied the threshold regression model for Taiwan between 1980 and 2003. He has found a threshold effect, a Non- linear association of ARMEY curve that concludes expansion of public expenditure does not influence economic growth. However, Jiranyakul and Brahmasrene (2007) have found unidirectional causality between government spending and economic growth for Thailand for the years 1993-2006 by using time series data in the OLS approach.

Regarding developing countries, Umar and Padda (2016) found WAGNER law invalid in Pakistan for the period of 1973-2011 by using time series data, OLS and Granger causality approach. In the case of Bangladesh, Sakib-Bin-Amin (2011) has tried to find out the causality between government consumption spending and

economic development for the period of 1976 to 2009. By using OLS, co-integration, ARDL and granger causality, he has discovered a unidirectional causal relationship, in the long run, running from economic development to public consumption spending that matches with the Keynesian consumption model. Likewise, Ruturagara (2013) mentioned a positive correlation of government spending with economic growth in Tanzania during the period of 1970-2010, where the estimation process was OLS, ECM and Granger causality. On the contrary, Bagdigen and Cetintas (2004) found no causality between public sector spending and economic growth in Turkey from 1965 through 2000 with a similar estimation process. He also mentioned in his paper that Wagnger law and Keynes hypothesis are invalid for Turkey. Again Hassan and Mishra (2017), using VCM and VECM approach, reveals that relationship is positive but no significant influence on economic development for Jammu and Kashmir during the period of 1984-2014. NWADIUBU (2015) has used a sample of 1980-2012 for Nigeria and found total recurrent expenditures, capital expenditure and public spending on education hurt economic growth. However, rising public spending on communication, transportation and health leads to raising in economic progress. In the case of Nigeria, Nurudeen and Usman (2010) also got similar results from 1970 through 2008.

The analysis of empirical results on previous studies reveals that there is robust connectivity between public spending and economic growth. It can be a unidirectional or bidirectional causal relationship, positive or negative correlation. The above analysis shows that most of the researches conducted for developed countries found a negative relationship between public expenditure and economic growth. However, in the case of developing countries, most of the studies reveal a different result. Moreover, there is only one previous study conducted in the case of Bangladesh is Sakib-Bin-Amin (2011). He used secondary time series data to analyze the causal relationship between consumption expenditure and economic growth for the time of 1976-2009 by using the variables- economic growth, household consumption expenditure, government consumption expenditure, final consumption expenditure.

Moreover, the author used the co-integration and Granger causality test to investigate the relationship until 2009. But the present analysis uses a co-integration test and OLS approach to investigate the long-run association among variables. Among them, capital formation, household consumption expenditure and general government final consumption expenditure are the independent variables and economic growth of Bangladesh as a dependent variable from 1965 through 2016. So, methodologically the present study is unique in the case of Bangladesh from a developing country perspective.

4. Methodology

This study employed econometric methods to analyze the impact of household consumption expenditure, capital formation and general public sector final consumption expenditure on economic progress in Bangladesh in the last five decades. This study, therefore, adopted a longitudinal design that entailed analyzing data collected from 1965 to 2016. Here time series data are used and the source of data is the World Development Indicators (WDI) provided by the World

Bank. Here dependent variable is GDP per capita (constant 2010) and independent variables are gross capital formation (constant 2010), general government final consumption expenditure (constant 2010) and household final consumption expenditure (constant 2010).

This study used a linear model (econometric) to address the objectives of the research. Therefore equation was adopted as an estimation model. The variables of the model can be presented as follows:

$$GDP_t = \beta_0 + \beta_1 CAF_t + \beta_2 HEX_t + \beta_3 GEX_t + \varepsilon_t$$

Where,

GDP_t=GDP per capita

CAF_t= Gross formation of capital

HEX_t= Household consumption spending

GEX_t= Public sector final consumption spending

ε_t= Error term

β_0= constant term

β_i= coefficient of independent variables

The regression equation for this study is a linear, first-degree polynomial function. It was measured by applying the Ordinary Least Squares (OLS) technique. To estimate the related hypothesis, the estimates were tested to find statistical significance based on the related statistics of regression. Major tests that are included in the study- co-integration (Johansen co-integration) test, heteroskedasticity test (ARCH), Ramsey RESET (Regression Equation Specification Erro) test Breusch-Godfrey serial correlation test, Jarque-Bera test and finally OLS (Ordinary Least Square) test done.

5. Analysis and discussion

5.1. Unit Root Test

In most cases , the data from the time series is non-stationary at the level. If the data is non-stationary, the result will be a spurious one. Spurious outcome means strong R^2. The Augmented Dickey-Fuller test is used to test whether or not there is unit root in the variables. ADF was used in this study to determine whether the variables were stationary or non stationary. There are different types of criteria which are used in ADF. This study used trend and intercept. Here –

H_0: variable is non- stationary

H_A: variable is stationary

The null hypothesis will be rejected, if the p-value is less than 5%. It means that the variable is stationary.

Table 1. Results of the ADF Unit Root Test

Variable	ADF t-statistic	p-value	5% critical value	Decision
GDP	1.805195	1.0000	-3.500495	Non-stationary
ΔGDP	-6.687953	0.0000	-3.502373	Stationary
CAF	3.645577	1.0000	-3.500495	Non-stationary
ΔCAF	-5.076015	0.0007	-3.502373	Stationary
GEX	-0.119659	0.9932	-3.500495	Non-stationary
ΔGEX	-5.875614	0.0001	-3.502373	Stationary
HEX	-0.288984	0.9889	-3.502373	Non-stationary
ΔHEX	-5.481619	0.0002	-3.502373	Stationary

Note: Δ denotes 1st difference of variables

Here table: 1 shows that all the variables are non-stationary at 5% significant level but stationary at 1st difference.

5.2. Co-integration Test

The test of Co-integration is used to investigate if the variables used in a regression model are cointegrated or not. This test refers to the long-run association among the variables or not. To investigate the long-run association among GDP, gross capital formation, household final consumption expenditure, gross public sector final consumption expenditure, and this study used the Johansen co-integration test both trace and maximum Eigenvalue test. Where-

H_0: variables are cointegrated

H_A: variables are not cointegrated

The null hypothesis gets rejected if the p-value is less than 5%.

Table 2. Johansen Co-integration Test (Trace test)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.666767	94.45422	47.85613	0.0000
At most 1 *	0.427872	39.50853	29.79707	0.0028
At most 2	0.168127	11.58894	15.49471	0.1777
At most 3	0.046583	2.385159	3.841466	0.1225

[Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values]

Here the Table-2 shows, the null hypothesis is rejected. Because the p-value of None * is less than 5%, it means that variables are cointegrated. Here second-

H_0: at most one cointegrated

H_A: no at most one cointegrated

Here, the p-value is less than 5%. So null is rejected. It means there is no at most one co-integration. But the third null hypothesis can't be rejected because the p-value of at most 2 is more than 5%. It's mean that there are at most 2 cointegrated equations. The variables used in this analysis were cointegrated or there was a long-run association among GDP, capital formation, household final consumption

expenditure, and general government final consumption expenditure. In the long run, they move together.

5.3. Auto Correlation

Autocorrelation is also known as serial correlation. In time series, it is a common problem. If there is the relation among residuals of the same variable over time or when error term of a period is associated with another period, then it is called serial correlation. If the autocorrelation exists, OLS estimators cannot be BLUE. To test the autocorrelation problem, there is a well- known method in the research world as the "Breusch-Godfrey Serial Correlation LM Test." According to the test, if the probability value of the observed R-squared is less than 5%, then there is a serial correlation problem in the model.

Here,

H_0: residuals are not autocorrelated

H_A: residuals are autocorrelated

If the p-value is more than 5% we can not rejected the null hypothesis. It means that there is no autocorrelation in residuals.

Table 3. BREUSCH-GODFREY Serial Correlation (the LM Test)

F-statistic	7.424118	Prob. F(2,46)	0.0016
Obs*R-squared	12.68908	Prob. Chi-Square(2)	0.0018

In Table-3, the result is given that represents the p-value of experimental R2 is lower than 0.05 (observed R2=0.0018). So the null hypothesis got rejected. Eventually, there is auto-correlation in the residuals. As the test policy is saying, serial correlation problem also exists in the model. Griffiths, Hill, and Lim (2008) Proposed a solution as HAC by which serial correlation can avoid. The technique is used in this model, while the result is estimating under the Least Square method. Thus the model is out of serial correlation problem.

5.4. Heteroskedasticity Test

If the variance of the residuals is not the same then it is called the heteroskedasticity problem. In other words, heteroskedasticity means a wide variation in error term in a regression model. In the presence of heteroskedasticity, OLS estimators cannot be BLUE. For examining the heteroskedasticity problem, this study used the Breusch-Pagan-Godfrey test.

Here –

H_0: variance of the residuals is homoskedastic

H_A: variance of residuals is heteroskedastic

If the p-value becomes larger than 5% we can not reject the null hypothesis. It means the variance of the residuals is homoscedastic.

Table 4. Heteroskedasticity test: ARCH

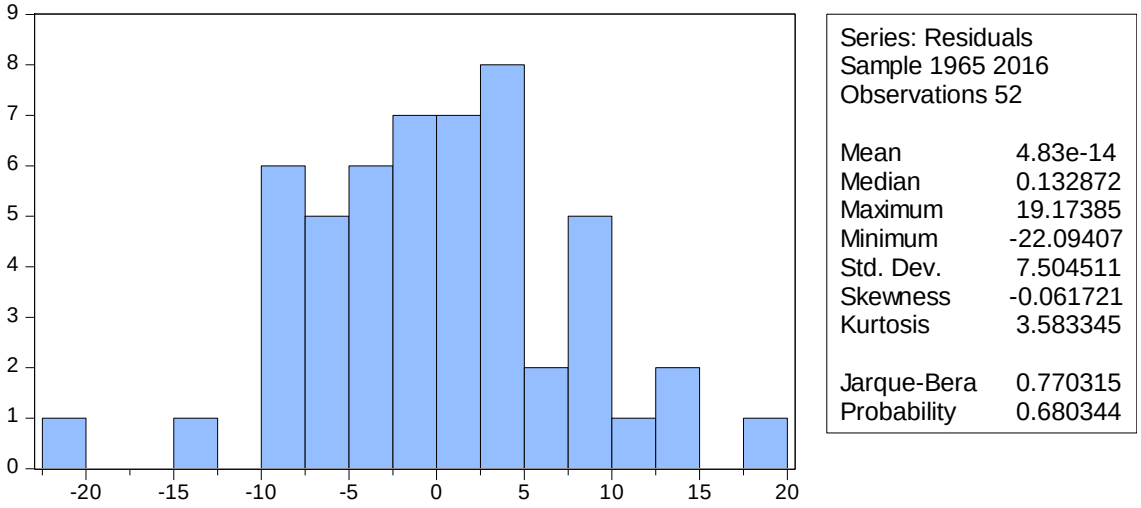
F-statistic	0.427864	Prob. F(1,49)	0.5161
Obs*R-squared	0.441473	Prob. Chi-Square(1)	0.5064

The result shows in Table-4 that the p-value of observed R^2 is 0.5064 or 50.64%, which is more than 5%. So the null hypothesis cannot be rejected. It refers variance of the residuals is homoscedastic.

5.5. Normality Test

To observe the distribution of the residuals, Jarque Bera statistics is used. Where the null hypothesis refers to residuals, maintain a normal distribution and the alternative hypothesis refers to residuals are not normally distributed. If the p-value is more than 5% significant level, then the null hypothesis cannot be rejected. It means residuals follow the normal distribution.

Figure 3. Jarque Bera statistics diagram



The result shows in Figure-3 that the value of probability is greater than 5% significant level, which is 0.680344 or 68.03%. So we can not reject the null hypothesis. It means that residuals follow the normal distribution.

5.6. Ramsey RESET Test

'Ramsey Regression Equation Specification Error Test (RESET)' is a test that generally examines a linear regression model whether the model is specified or not. In other words, if the non-linear combination of explanatory variables explains the dependent variable, then it is called a specification problem. To test the model whether it was specified or not, this analysis used

H_0: Correctly specified model

H_A: Not correctly specified model

Table 5. Ramsey RESET Test

	Value	Df	Probability
t-statistic	0.976849	47	0.3336
F-statistic	0.954234	(1, 47)	0.3336
Likelihood ratio	1.045173	1	0.3066

The probability value of F-statistic denotes the result. If value is more than 10% then it means the model is correctly specified. The calculated probability value of F-statistic is 33.36% which is higher than the required probability value. So the null hypothesis cannot be rejected. It means model is correctly specified.

5.7. OLS Estimation

'Ordinary Least Squares (OLS)' was used here to estimate the model that included illustrates the relationships among public sector consumption expenditure, capital and economic development in Bangladesh. For measuring OLS estimation reliable, this analysis used the auto-correlation test, Ramsey RESET test, and heteroskedasticity test. In the auto-correlation test, there found that residuals were auto-correlated. So, according to Griffith, the HAC technique was used to avoid serial correlation. There was no heteroskedasticity problem in the model. On the other hand, the Ramsey RESET test analyzed that there was no misspecification problem in the model. It proved that this model was correctly specified. Here-

H_0: $\beta=0$

H_0: $\beta\neq0$

The null hypothesis gets rejected, when the p-value is less than or equal to 5%, then the independent variable is significant to influence the dependent variable.

Table 6. OLS Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAF	2.558932	0.153705	16.64837	0.0000
GEX	-1.774746	0.642944	-2.760342	0.0082
HEX	0.295407	0.021866	13.50975	0.0000
C	205.0984	12.92926	15.86312	0.0000
R-squared	0.995943	Mean dependent var		444.7497
Adjusted R-squared	0.995690	S.D. dependent var		117.8219
S.E. of regression	7.735473	Akaike info criterion		7.003314
Sum squared resid	2872.202	Schwarz criterion		7.153409
Log likelihood	-178.0862	Hannan-Quinn criter.		7.060857
F-statistic	3927.915	Durbin-Watson stat		1.027574
Prob(F-statistic)	0.000000	Wald F-statistic		3721.358
Prob(Wald F-statistic)	0.000000			

Table 6 is the illustration of the Least Square method. Here p-value of capital formation is less than 5%, which expresses capital is the significant variable to influence the GDP and it positively influences over GDP. Again p-value of government expenditure is less than 5%, which denotes government expenditure is a significant variable to affect the GDP, but it negatively affects over GDP. Also, the estimation reveals the p-value of household consumption expenditure is less than 5%, which indicates household expenditure is the significant variable to influence over GDP and certainly positive influence. Here the value of R^2 is more than 60%. A higher value in R^2 refers to better the data or model fitted. Here the value of R^2 is 99.59%. It indicates that 99.59% variation in GDP can be explained by capital, household expenditure and government expenditure. Here the p-value of F-statistic is less than 5%, which refers to independent variables that can jointly significant to influence GDP.

Since the main objective of this study was to determine the impact of capital formation, household expenditure and government expenditure on economic growth in Bangladesh and the findings are outlined in the discussion below for each variable. The estimated coefficient for the country's government expenditure

(GEX) variable was significant at 5% level along with the negative sign. The absolute value of the coefficient is -1.774746, implying that holding rest of the variables fixed, one unit rise in the index of government expenditure (GEX) will decrease GDP by 1.774746 units. Therefore government expenditure variable hurts economic growth in Bangladesh. In the previous study, Engen and Skinner (1992) used a bunch of 107 nations and found a strong and negative effect of government spending on growth. Landau (1983) also recommended a negative connectivity that prevails between the contribution of public sector consumption spending in GDP and the rate of growth of GDP per capita. However, Sakib-Bin-Amin (2011) commented in his paper that public sector consumption spending becomes less productive in the short run, which points toward general public sector consumption spending does not speed up the economy in Bangladesh. In a study, Ahmed and Kader (2015) concluded that the public expenditure in Bangladesh serves the political interest of the party in power rather than the public interest. Eventually, it is less likely to find positive connectivity between government spending and economic growth in the case of Bangladesh. However, in the current study, capital affects the GDP positively. It is rational that capital can cause an increase in GDP or economic growth because capital formation expenditure increases GDP by investment, import technology or machinery, etc.

6. Conclusion and Recommendations

This research examined the relationship between public investment and economic growth. More precisely, with the use of time series evidence, the research attempted to empirically examine the relationships between government final consumption expense, capital development, household consumption and economic development in Bangladesh mostly during period 1965–2016. This study uses the techniques of Johansen's co-integration and OLS to examine the long-run relationship between variables and intertemporal effect on Bangladesh's economic growth among government final demand spending, capital development, and household consumption. The analytical results show a long-run co-integrating relationship between GDP, government expenditures on investment, capital development and household spending. The OLS conclusion in this inquiry shows that capital accumulation and household consumption spending have a significant positive impact on GDP and government consumption expenditure negatively influences Bangladesh 's GDP because government expenditure negatively influences GDP. Finally, it doesn't stimulate economic prosperity because government spending is unproductive or serving the corporate interest. This can be low per capita income country, since Bangladesh generates comparably high and middle-income countries with low economic growth. In a developing world such as Bangladesh, the government with political power adopts monetary and fiscal policies, which is why budget spending is not adequately allocated to the related market. To improve Bangladesh's economic development, the government should implement successful policies without political interference, allocate the expenditure in the appropriate industry, eradicate corruption, select productive projects, and keep them under close supervision until accomplishment.

References

Ahmed, Z., & Kader, A. (2015). Political Benefits Outweigh Socio-economic Losses: A Study from Bangladesh. *Public Policy and Administration Research, 5*(5), 81-87.

Bagdigen, M., & Cetintas, H. (2004). Causality between public expenditure and economic growth: The Turkish case.

Chen, S.-T., & Lee, C.-C. (2005). Government size and economic growth in Taiwan: A threshold regression approach. *Journal of Policy Modeling, 27*(9), 1051-1066.

Del Monte, A., & Papagni, E. (2001). Public expenditure, corruption, and economic growth: the case of Italy. *European journal of political economy, 17*(1), 1-16.

Dowrick, S. (1996). Estimating the impact of government consumption on growth: Growth accounting and endogenous growth models. In *Long-Run economic growth* (pp. 163-186): Springer.

Engen, E. M., & Skinner, J. (1992). *Fiscal policy and economic growth*. Retrieved from

Griffiths, W. E., Hill, R. C., & Lim, G. C. (2008). Using EViews for principles of econometrics.

Gwartney, J. D., Lawson, R., & Holcombe, R. G. (1998). *The size and functions of government and economic growth*: Joint Economic Committee Washington, DC.

Hassan, S. U., & Mishra, B. (2017). Government expenditure and Economic Growth in the State of Jammu and Kashmir: A Unit Root and Co-integration Approach with Error Correction Model. *International Journal of Statistics & Economics™, 18*(2), 58-86.

Hsieh, E., & Lai, K. S. (1994). Government spending and economic growth: the G-7 experience. *Applied Economics, 26*(5), 535-542.

Jiranyakul, K., & Brahmasrene, T. (2007). The relationship between government expenditures and economic growth in Thailand. *Journal of Economics and Economic Education Research, 8*(1), 93.

Kormendi, R. C., & Meguire, P. (1986). Government debt, government spending, and private sector behavior: Reply. *The American Economic Review, 76*(5), 1180-1187.

Landau, D. (1983). Government expenditure and economic growth: a cross-country study. *Southern Economic Journal*, 783-792.

Lin, S. A. (1994). Government spending and economic growth. *Applied Economics, 26*(1), 83-94.

Nurudeen, A., & Usman, A. (2010). Government expenditure and economic growth in Nigeria, 1970-2008: A disaggregated analysis. *Business and economics journal, 2010*(4), 1-11.

Nwadiubu, A., Onwuka Ifeanyi Onuka. (2015). Public Expenditure and Economic Development in Nigeria – a Time Serial Study (1980 – 2012). *Journal of Advances in Social Science and Humanities, 1*(5). doi:10.15520/152

Ruturagara, N. J. (2013). *Government Spending And Economic Growth In Tanzania 1970-2010.* The Open University of Tanzania,

Sakib-Bin-Amin. (2011). Causal relationship between consumption expenditure and economic growth in Bangladesh. *World, 1*(2), 158-169.

Umar, M., & Padda, I. (2016). Linkage between Economic and Government Activities: Evidence for Wagner's Law from Pakistan.

Vedder, R. K., & Gallaway, L. E. (1998). *Government size and economic growth*: The Committee.

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