ECONOMIC IMPACT OF GOVERNMENT EXPENDITUREON ECONOMIC GROWTH OF NEPAL

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Abstract

This paper examines the relations of government expenditure and economic growth of Nepal over the period of 1990-2019.The government expenditure of Nepal has been significantly increasing during the study period. The pattern of government spending of Nepal seems to be focused on regular expenditure and widening the budget deficit of Nepal each and every years. The track of capacity of government expenditure utilization has mostly found less efficiency which has historical tendency of Nepalese government. As per size of economy expanding, the gap of fiscal deficit has been expanding in Nepal. The objective of this study is to analyze the impact of government expenditure on economic growth of Nepal by using simple and multiple linear regression models. Descriptive and analytical research design has been used by using secondary data. The finding of the study shows that there is significant/insignificant impact of government spending on economic growth of Nepal during the study periods and addresses to be focused on increase the mobilization of capital expenditure for the expansion of development activities with rational manner of the country.

Keywords: *Government expenditure-Impact -Economic growth- Descriptive statistics,-Nepal.*

JEL: *H5, H50, H59*

Introduction

Economic growth is the basic parameters for the improving living standards, employment as well prosperity of a nation. It signifies the symptoms of improving overall economic parameters.Government expenditure is the end and purpose of the collection of country's revenue. The modern government not only performs primary functions but also take interest in promoting the economic development of their respective countries.Government expenditure is the distribution and use of the funds to the government finance which has expanded so as to meet the requirements of economic structure and differentcauses.Theimportance and magnitude of government expenditures stimulates a great deal of polemic in macroeconomics.

There has been debate on the size and role of government influence in macroeconomic outlook throughout countries. Government attempts to encourage economic growth through

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variousmechanisms. Government spending has been anelement of fiscal policy which is an instrument of the country to stimulus the economic growth. The economic growth is adevice of economic performance of a nation which is presumed to be as an objective of the countries anticipating its impact in improving living standards, generating employment and overall reforms of the country (Lahirushan&Gunasekara, 2015).

The association between size of government and economic growth has been a typical concern. The fiscal policies that are purposefullyintended to regulate and stabilize the economy through different forms of taxes and expenditures. The economic policies that incorporate government policies for creating revenue basically through taxation and its successivepolicies for making decisions on how the conforming revenue that is generated would be distributed for reachingbesieged economic goals (Onifade,et al. 2020).

The over-all objective of the study is to analyze the general trends of government expenditure of Nepal. More specifically, this study aims to analyze the tendencies of government spending and examine the impact of government spending, expenditure on health and education on economic growth (GDP) of Nepal.

Review of Empirical Studies

Rosoiu(2015) has analyzed the effect of the government expenditures and government revenues on the economic growth in Romania over the period 1998-2014. He used Granger causality test with coin-integrated vector auto-regression (VAR) method. He found a bidirectional relation between government revenues and government expenditure.Aschauer (1989) examined the effect of aggregated and disaggregated public spending on economic growth in USA over the period of 1949-1985 using yearly data. The results exposed that in the US, the non-military public capital stock had significant and positive impact on economic growth than its military counterpart.

Folster and Henrekson (2001)'s experiential research of the association between size of government and economic growth had reached to extensively different conclusion. The results remarked to a robust negative association between public expenditure and economic growth in developed countries. As the size of the projected coefficients suggest that an increase of expenditure ratio to 10 percent points was related with a decrease in the growth rate on the order of 0.7-0.8 percent points.

Loizides and Vamvoukas (2005) by utilizing annual data drawn from UK, Greece and Ireland observed the association between income growth and government size growth in both bivariate and tri-variate systems based on co-integration and analysis, Granger causality tests and ECM strategy. Hasnul (2015) investigated the association between public spending and economic growth in Malaysia by using data over the period 1970-2014.The government expenditure was disaggregated into government operating and development expenditure by using an OLS technique and found that thre is negativeassociation between aggregate public spending and economic growth in the country.

Nyasha, S. and Odhiambo, N.M. (2019) had validated unidirectional Granger causality from government size to economic growth, followed by the bidirectional Granger causality category.

They concluded that the causal association between government size and economic growth could be far from being clear cut.

Karim et al. (2006) examined the long-turmassociation between revenue,total government spending and economic growth in ASEAN-5 countries. Based on experientialindication, they established that the existence of long run association between government expenditure, revenue and economic growth for all countries. The result of discrepancy decomposition exhibitedrobusteffect on spending to revenue in Malaysia, Indonesia and Philippines which backing the spend-revenue hypotheses. Similarly, for Thailand and Singapore the budget decision driven by revenue side support the revenue spend hypotheses. But government spendingdoes not play role to encourage economic growth in Thailand, Singapore and Malaysia.The size of governments tend to matter for economic growth basically if huge public segments are joined with short-comings in different dimensions of quality of government finances (QPF) where QPF could be observed as incorporating all arrangements and operations of fiscal policy that support macroeconomic goals particularly long term economic growth (Barrios &Schaechter, 2008).

Ohlan (2012) had empirically investigated the fundamentalassociation between public spending and economic growth in India by using a vector autoregressive (VAR) model during the period of 1950-2008. The study indicated that investment expenditures and government consumption act as engines of economic growth. The finding of the study suggested that government spending could be used as a policy mechanism to inspire the long-run growth in Indian economy.

Cakerri,Petanaj and Muharremi (2014) had concluded that productive expenditure positively affect economic growth as predicted in theory as well remarked that the government should increase their public expenditure to encourage economic growth. Mehrara, Pahlavani and Elyasi (2011) investigated the association between government expenditure and government revenue of 40 Asian countries for the period of 1995-2008. They found a cointegrationassociation between government spendingand revenue by using Kao panel cointegration test.

Guandong and Muturi (2016) analyzed the association with dynamic relations between government spending and economic growth in South Sudan from 2006-2014 by using regression model for panel data which presented that government spending on productive sector,infrastructure and security were positive factors of economic growth.Iriqat and Anabtawi (2016) investigated the causality association between GDP and its components with tax revenues in developing countries as a case study in Palestine.The study showed that the impact of macro-economic variables on tax revenues and correlations between dependent and choice variables were varying from one phase to other.

Al-Fawwaz (2016) observed the impact of government spending and its disaggregated veriabls on economic growth in Jordan during the period 1980-2013 by using the OLS model, then confirmed the presence of a positive association between government spending and economic growth in the country.Ullah (2016) has found the theoretical relationship between expenditure and revenue in Malaysia by using the four hypotheses from literature study. As per the study, majority of the government revenue was from direct tax, the government spending only varied due to change in indirect tax revenue.

Yu,Fan and Magalhaes (2016) examined trends and composition of public spending for 147 countries from 1980-2010 whereas both developed and developing countries had observed

substantial growth of social protection spending with growth in developed countries much more pronounced.

Different theoretical and empirical studies suggested that the government expenditure has the most effective role for influencing economic growth as well as real GDP. Most of the studies showed the positive impact on economic growth. This study is to assess the effect of government expenditure on economic growth as well as real GDP of Nepal.

Research Method and Data

The recent study tries to examine the impact of government spending on economic growth of Nepal. More extensively, the impact has also been measured in terms of current expenditure, capital expenditure, education expenditure, health expenditure and agriculture expenditure. As per the objectives, the study has extensively observed the effect of expenditure on economic growth as well as real GDP of Nepal.The required data for this paper were based on secondary information collected from various sources such Economic Survey, Ministry Finance of Nepal and Quarterly Economic Bulletin, NepalRastraBank.Most of required data and information of the study are related with previous phenomena of the performance. After the collection of data and literatures, this study has been used analytical and descriptive research design. Standard statistical and econometrical tools have been applied to measure the impact of expenditure.

Model Specification

The research methodology and theoretical framework deduced to sufficientlydetention and empirically observe the effect of government expenditure on economic growth of Nepal. A multiple regression model for this study has stated. The multiple regression models clarify variation in the values of the dependent variable on the foundation of variations in choice variables. It is supposed that the dependent variable is a linear function of the choicevariables.The government expenditure has been divided regular expenditure (RE) and capital expenditure (CE).The impact of regular expenditure (RE), capital expenditure (CE) and miscellaneous expenditure (ME) on economic growth/real GDP is estimated by:

$$RGDP_t = \beta_0 + \beta_1 RE_t + \beta_2 CE_t + \beta_3 ME_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (i)$$

The impact of regular expenditure (RE), capital expenditure (CE), expenditure on health (EH), and expenditure on education (EED) on real GDP is estimated since they can have long-term impact on economic growth.

$$RGDP_t = \beta_0 + \beta_1 RE_t + \beta_2 CE_t + \beta_3 ME_t + \beta_4 EED_t + + \beta_3 EH_t + \beta_4 AE_t + \varepsilon_t \ldots\ldots\ldots (ii)$$

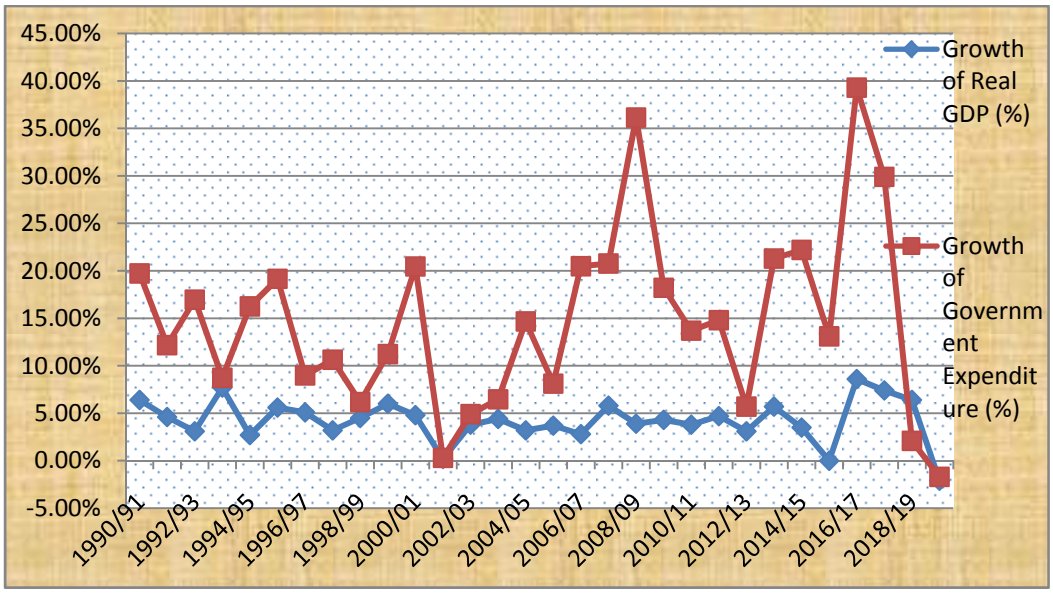
Where, RGDP is the real gross domestic product which is estimated to be effected due to the size of government expenditure. The ε is the error term or the stochastic term whereas Gujarati (2004) noted that the disturbance term ε is a proxy for all those variables that are omitted from the model but that jointly affect dependent variable. The β_0 is constant;β_1; β_2; β_3; β_4;$\beta_5$and $\beta_6$are coefficientparameters.The required econometrics and statistical tools and techniques have been applied. The data are analyzed using SPSS and STAT-13 statistical software.

Results and Discussion

Trends of Real GDP Growth Rate and Government Expenditure

The growth rate of GDP and government expenditure of Nepal has tremendously changes in the different years. Mostly the growth rate of real GDP is varied by the growth rate of government expenditure.

Figure-1: Growth Rate of GDP and Government Expenditure (1990-2019)



Source: *MOF. Economic Survey (2010/11 & 2020/21) and NRB,2021.*

Figure-1 depicts the growth rate of real GDP and government expenditure of Nepal over the period of 1990-2019. The growth rate of real GDP does not exceed above 7 percent but the growth rate of government expenditure has crossed 36 percent. In the most of the years, the trends of growth rate of real GDP and government spending has found similar nature. The real GDP growth rate was highest (8.6%) in 2016/17 whereas the growth rate of government expenditure was also highest (39.30%) in the same year. The growth of rate of real GDP was the lowest (-2.1%) in 2019/20 whereas the growth rate of government was also the lowest (-1.70%) in that year.

Impact of Government Expenditure on Real GDP

Model I of Table 1 shows the coefficients of regular expenditure (RE) and miscellaneous expenditure (ME) are significant at one percent with positive sign. It shows that there is positive association between dependent and choice variable. The coefficient of RE is 3.413 which signify

that one unit change in RE cause about 3.4 units positive change in RGDP. Similarly, the coefficient of ME 10.43 represents that the one unit changes in ME brings about 10.4 units changes in GDP. However, the coefficient of capital expenditure (CE) is insignificant with negative sign. it indicates that there is negative relationship between CE and RGDP. The estimated model is capable to explaining nearly 98 percent variation in GDP as indicating the value of R^2.

Table-1: Impact of Government Expenditure on Real GDP

Dependent variable: Real Gross Domestic Product (RGDP)					
	Model I			**Model II**	
Variables	**Parameters**	**Coefficients**	**t - value**	**Coefficients**	**t - value**
Constant	β_0	26,175*** (5331.88)	4.91	9,926*** (2,504)	3.96
Regular Expenditure (RE)	β_1	3.413*** (0.775)	4.41	4.645*** (0.686)	6.77
Capital Expenditure (CE)	β_2	-0.785 (1.579)	-0.50	- 1.519** (0.636)	-2.39
Miscellaneous Expenditure (ME)	β_3	10.43*** 2.859	3.65	0.650 (2.217)	0.29
Education Expenditure (EED)	β_4			10.20*** (2.917	3.50
Health Expenditure (HE)	β_5			5.896 (11.87)	0.50
Agriculture Expenditure (AE)	β_6			-4.994* (2.486)	-2.01
R^2		0.976			0.997
No of Observation		30			30
Prob.> F		0.0000			0.0000

Note: Standard errors in parentheses. *** p< 0.01, ** p < 0.05, * p < 0.10.

Source: *Author's calculation based on Annex-I.*

Model 2 shows that the coefficients of regular expenditure (RE), education expenditure (EED) are significant one percent level with positive sign. It indicates that there is positive association between dependent and choice variables. The coefficient of RE 4.645 depicts that one unit changes in RE causes about 4.7 units positive changes in RGDP. Similarly, the coefficient of EED 10.20 shows that one unit changes in EED lead to change RGDP by about 10 units. But capital expenditure (CE) and agriculture expenditure (AE) are significant at 5 percent and 10 percent level respectively with negative sign, indicating that there is negative relationship between dependent and choice variables. The coefficient of CE (-1.519) and AE (-4.994) depict that one unit increase in CE decrease in RDGP causes nearly 1.5 units, one unit increase in AE cause to about 5 units decrease in RGDP. The model II reveals that about 99.7 percent of total variation in RGDP is clarified by the given independent variables. Similarly, the p-value (0.000) indicates that the model is statistically significant even one percent level of significance.

Conclusions

The size of government expenditure is the main components of enhancing economic activities of the economy. The rate of economic growth rate is based on size of government expenditure of the country. The volume of government expenditure of Nepal has been significantly increasing during the study period. The pattern of government expenditure of Nepal seems to be focused on regular expenditure and widening the budget deficit of Nepal each and every years. The result shows that there is positive association between dependent and choice variable. The coefficient of RE is 3.413 which signify that one unit change in RE cause about 3.4 units positive change in RGDP. Similarly, the coefficient of ME 10.43 represents that the one unit changes in ME brings about 10.4 units changes in GDP. However, the coefficient of capital expenditure (CE) is insignificant with negative sign. Similarly, the coefficients of regular expenditure (RE), education expenditure (EED) are significant one percent level with positive sign. But capital expenditure (CE) and agriculture expenditure (AE) are significant at 5 percent and 10 percent level respectively with negative sign, indicating that there is negative relationship between dependent and choice variables. The study finds that the government expenditure on economic growth of Nepal during the study periods and addresses to be focused on increase the mobilization of capital spending for the expansion of development activities with rational manner of the country.

References

Al-Fawwaz,T.M. (2016).The impact of government expenditures on economic growth in Jordan.*International Business Research, 9 (1)* :99-105. DOI:10.5539/ibr.v9n1p99

Aschauer,D.A.(1989). Is public expenditure productive? *Journal of Monetary Economics*, 23(2):177-200. DOI: 10.1016/0304-3932(89)90047-0.

Barrios,S. and Schaechter,A.(2008).The quality of public finances and economic growth.*Economic Papers 337*/September 2008, European Commission, Directorate-General for Economic and Financial Affairs Publications, Belgium.

Cakerri,L.,Petanaj,M. and Muharremi,O.(2014). The effect of government expenditures on economic growth : The case of Albania. *European Journal of Social Sciences Education and Research*, 1(2): 242-254.

Folster,S. and Henrekson,M.(2001). Growth effects of government expenditure and taxation in rich countries. *European Economic Review, 45(8):* 1-18.

Guandong,B.Y.D. and Muturi, W.M.(2016). The relationship between public expenditure and economic growth in South Sudan.*International Journal of Economics, Commerce and Management, 4(6):* 235-259.

Gujarati,D.N.(2004). *Basic Econometrics*. New York: McGraw-Hill/Irwin.

Hasnul,A.G.(2015). The effects of government expenditures on economic growth : The case of Malaysia. *MPRA Paper.*Retrieved from :*https://mpra.ub.uni-munchen.de/71254* (7-5-2021).

Iriqat,R. and Anabtawai,A.(2016). GDP and tax revenues causality relationship in developing countries : Evidence from Palestine. *International Journal of Economics and Finance,*8(4): 54-62. *DOI: 10.5539/ijef.v8n4p54*.

Lahirushan,K.P.K.S. &Gunasekara,W.G.V.(2015).The impact of government expenditure on economic growth: A study of Asian countries.*International Journal of Humanities and Social Sciences,*9(9): 3152-3160.

Loizides, J. and Vamvoukas,G.(2005). Government expenditure and economic growth: Evidence from Trivariate Causality Testing. *Journal of Applied Economics, 8(1):* 125-152.

Karim,Z.A. et al.(2006). The relationship between federal government revenue and spending : Empirical evidence from ASEAN-5 countries. *Journal Ekonomi Pembangunan*, 11(2): 91-113.

Mehrara,M., Pahlavani,M. and Elyasi, Y.(2011). Government revenue and government expenditure nexus in Asian countries: Panel Co-integration and Causality. *International Journal of Business and Social Science,2 (7)*:199-207.

MOF. (2010). *Economic Survey 2010/11.*Ministry of Ministry, Kathmandu: Government of Nepal.

MOF.(2020). *Economic Survey 2020/21.*Ministry of Finance, Kathmandu: Government of Nepal.

Nyasha,S. and Odhiambo,N.M.(2019). Government size and economic growth: A review of international literature. *SAGE Open*, July-September 2019, pp.1-12.*DOI: https://doi.org/10.1177/2158244019877200*

Onifade,S.T. et al.(2020).An empirical retrospect of the impacts of government expenditures on economic growth : New evidence from the Nigerian economy. *Journal of Economic Structures*,*9(6):*1-23. *https://doi.org/10.1186/s40008-020-0186-7.*

Ohlan, R.(2012). Causality between government expenditure and economic growth in India: An empirical investigation. *Finance India*, Indian Institute of Finance, *26 (4)*:1275-1290.

Rosoiu,I.(2015). The impact of the government revenues and expenditures on the economic growth.*Procedia Economics and Finance,32:*526-533.

Ullah,N.(2016). The relationship of government revenue and government expenditure: A case study of Malaysia. *MPRA Paper No.69123*, pp.1-20.*https://mpra.ub.uni-muenchen.de/69123/*

Yu,B.,Fan,S. and Magalhaes, E.(2016). Trends and composition of public expenditures: A global and regional perspective. *European Journal of Development Research,23(3)* :353-370.

Annex-I:

Real GDP, Government Expenditure, Regular Expenditure, Capital Expenditure, Expenditure on Education, Health & Agriculture (1990-2019) *(Rs. in Billion)*

Year	*Real GDP*	*Government Expenditure*	*Capital Expenditure*	*Regular Expenditure*	*Expenditure on Health*	*Expenditure on Education*	*Expenditure on Agriculture*
1990/91	*639.30*	*23.55*	*15.98*	*7.11*	*0.67*	*2.08*	*1.22*
1991/92	*668.50*	*26.42*	*16.52*	*9.90*	*0.92*	*2.87*	*1.57*
1992/93	*689.50*	*30.90*	*19.41*	*11.46*	*1.06*	*4.15*	*1.28*
1993/94	*742.70*	*33.58*	*21.19*	*12.39*	*1.07*	*4.56*	*1.32*
1994/95	*762.40*	*39.04*	*19.79*	*19.25*	*1.50*	*5.07*	*2.34*
1995/96	*804.80*	*46.51*	*24.98*	*21.53*	*1.71*	*6.15*	*2.70*
1996/97	*845.80*	*50.90*	*26.54*	*24.36*	*2.51*	*7.20*	*2.29*
1997/98	*872.90*	*56.33*	*28.94*	*27.38*	*3.13*	*7.80*	*1.96*
1998/99	*912.00*	*64.42*	*28.53*	*31.25*	*2.81*	*7.68*	*2.23*
1999/00	*966.80*	*67.80*	*31.75*	*30.84*	*3.45*	*9.33*	*2.01*
2000/01	*1013.00*	*81.43*	*37.08*	*38.67*	*3.51*	*11.04*	*2.19*
2001/02	*1014.60*	*90.03*	*31.48*	*52.11*	*4.83*	*14.70*	*2.44*
2002/03	*1052.80*	*84.40*	*22.36*	*52.49*	*3.65*	*13.17*	*4.75*
2003/04	*1099.30*	*92.21*	*23.10*	*58.32*	*3.96*	*14.38*	*1.97*
2004/05	*1134.80*	*105.15*	*27.34*	*64.27*	*4.68*	*17.22*	*2.02*
2005/06	*1177.10*	*113.88*	*29.61*	*70.00*	*5.80*	*19.34*	*2.33*
2006/07	*1209.50*	*133.60*	*39.73*	*77.12*	*7.40*	*21..58*	*2.70*
2007/08	*1279.60*	*161.35*	*53.52*	*91.45*	*9.87*	*27.06*	*4.14*
2008/09	*1329.60*	*219.66*	*73.09*	*127.74*	*13.17*	*35.66*	*6.27*
2009/10	*1386.20*	*259.69*	*90.24*	*151.02*	*16.75*	*46.39*	*4.96*
2010/11	*1439.50*	*295.36*	*107.85*	*170.30*	*18.95*	*55.20*	*6.59*
2011/12	*1507.20*	*315.01*	*51.40*	*243.46*	*22.87*	*62.05*	*26.61*
2012/13	*1553.50*	*337.18*	*54.60*	*247.46*	*21.87*	*62.43*	*28.85*
2013/14	*1642.70*	*412.10*	*66.69*	*303.53*	*26.52*	*77.83*	*39.96*
2014/15	*1700.40*	*492.72*	*88.84*	*339.41*	*29.47*	*79.84*	*46.16*
2015/16	*1700.40*	*562.68*	*123.25*	*371.30*	*34.01*	*90.69*	*55.45*
2016/17	*1846.50*	*788.36*	*208.48*	*518.62*	*45.36*	*108.59*	*76.25*
2017/18	*1982.70*	*1023.31*	*270.71*	*696.92*	*35.92*	*45.02*	*70.69*
2018/19	*2109.30*	*1110.46*	*241.56*	*829.63*	*36.00*	*79.07*	*47.93*
2019/20	*2064.60*	*1091.13*	*189.08*	*793.75*	*40.20*	*39.40*	*45.54*

Source: *MOF, Economic Surveys: 2010/11 & 2020/21.*