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Effects of Fiscal Policy on Economic Growth in Nepal

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Abstract

Fiscal policy is the most important tool of government that influences economic activity through public spending, taxation, and public debt. The primary goal of Nepalese fiscal policy is to achieve high, sustainable, and inclusive economic growth by boosting private sector confidence, reducing transaction costs, and improving public spending effectiveness. The main objective of present paper is to examine the relationship between the different fiscal policy variables and how they impacts growth of the country. The study applied descriptive and causal relationship research design.To accomplish the objective, the secondary data from 1974–1975 to 2021–2022 were poised.The findings suggested a co-integration between the dependent and independent variables as well as a long-term relationship between the variables. The estimated coefficients of GTAX and RNETFL show the response to Nepal's RGDP. It showed that one percent increase in government tax revenue raises GDP by 0.2489 percent. Similarly, one percent increasing in the net outstanding foreign loan (NETFL) increases RGDP by.0613 percent. As a result, independent variables such as government tax and net outstanding foreign loans both contribute to Nepal's GDP. These findings should encourage those responsible for developing fiscal policy to create taxes, spending plans, and proper use of foreign loans to protect productive spending while avoiding tax structures targeted explicitly at the country's low-income households.

Keywords: *fiscal policy, tax revenue, capital expenditure , recurrent expenditye ARDL*

Introduction

Fiscal policy is a branch of macroeconomic policy that uses government spending, public borrowing, and taxation to influence the economy. It can be used to achieve various goals, such as promoting economic growth, reducing unemployment, and stabilizing prices. Fiscal policy is a government policy that uses government spending and revenue collection to influence the

economy. It can be used to achieve various macroeconomic goals, such as promoting economic growth, reducing unemployment, and stabilizing prices (Jingan, 2003). Likewise, Smithers (1949) describes a policy under which a movement uses its expenditure and revenue programs to produce desirable effects and avoid undesirable effects on national income, production, and employment. In developing countries, fiscal policy plays a vital role, as it can address various economic challenges, such as poverty, inequality, and infrastructure development. Fiscal policy is crucial in enhancing developing countries' socio-economic activities and economic growth (Mehrotra & Peltonen, 2005).

The literature on the effects of fiscal policy on economic growth can be understood in part by comparing the predictions of classical and Keynesian theory. According to classical theory, the economy self-corrects with little government intervention. The Keynesian theory, on the other hand, argues that government intervention can stabilize output and promote economic growth through taxation and spending. Endogenous growth models argue that fiscal policy can impact economic growth in the long term because fiscal policy can be used to invest in human capital and technology, leading to sustained economic growth (Romer, 1986; Rebelo,1991). However, the effectiveness of fiscal policy depends on several factors, such as the elasticity of labor supply and the technology to accumulate human capital and create new goods.

The impact of fiscal policy on a country's economic growth is a topic of ongoing discussion. Typically, policymakers in developing nations work to address socio-financial issues like poverty, unemployment, hunger, bad investments, and illiteracy while adjusting the levels of public spending and determining tax rates. Raising tax revenue and incurring expenditures are both goals of the fiscal policy. The government creates a fiscal or budgetary policy to generate revenue and incur expenditures. Therefore, government spending and revenue are both a concern of fiscal policy.

Fiscal policy can be discretionary or non-discretionary. The government actively implements discretionary fiscal policy to achieve specific economic goals, such as stimulating the economy during a recession or cooling an overheating economy. Built-in stabilizers are government programs that automatically increase or decrease spending or taxes in response to economic changes. According to the neoclassical growth model, fiscal policy can only influence output's level, not its long-term growth rate. In other words, the effect of fiscal policy on economic growth is only temporary as the economy transitions from one steady state to another. Contrarily, the endogenous growth model asserts that factors such as the accumulation of human and physical capital, advancements in technology, and governmental economic policies are examples of endogenous factors that influence economic growth.

A quality fiscal adjustment can also increase the effectiveness of resource allocation, mobilize domestic savings, and support development objectives. (IMF 2006). Therefore, fiscal policy is a tool for demand management of the economy .In the neoclassical growth model, fiscal policy can only affect the output level but not its long-term growth rate. On the other

hand, the endogenous growth model holds that economic growth depends on endogenous determinants, including human and physical capital development, technological advancements, and governmental economic policies (Esterly & Rebelo, 1993).

The primary goal of fiscal policy is to promote economic and social development by enacting measures that ensure a balance between taxation, spending, and borrowing conducive to sustainable growth. However, theoretical and empirical disagreements exist about how fiscal policy fosters economic growth, particularly in developing nations.

Governments use fiscal policy, along with monetary policy, to promote stable and sustainable economic growth. Fiscal policy is the government's most important tool to influence economic activity through public spending and taxation.

Compared to the estimated target for FY2022/23 and the revised estimate for FY2022/23, the Government of Nepal's expenditure outlay for FY2023/24 is lower by 2.4 percent and higher by 16.4 percent, respectively. In addition to fiscal transfers, it includes 65.2 percent for recurrent spending, 17.3 percent for capital spending, and 17.5 percent for financial provision (MOF,2023/024). Despite policy efforts towards achieving high and sustainable economic growth, the Nepalese economy suffered from a low growth trap.

The allocations for recurrent and capital budgets in FY2023/24 are lower than 3.5 percent and 20.6 percent, respectively, compared to the estimated target of FY2022/23. It is 9.4 percent and 17.2 percent higher than the revised estimate of FY2022/23, respectively, enhancing the FY2023/24 fiscal policy growth and emphasizing higher spending on capital projects. (MOF, 2023).

Achieving a high economic growth rate with price stability, full employment, reduction of inequality, and allocation of resources are the primary goals of fiscal policy in both developed and developing countries. The main goal of Nepal's fiscal policy is to achieve high, sustainable, and inclusive economic growth.

This is done by boosting private sector confidence, reducing transaction costs, and improving public spending effectiveness (MOF, 2023). Creating employment opportunities and income generation for marginalized people is a top priority. The budget aims to bring prosperity, effective governance, and social justice to the country's citizens.

This study examines the relationship between the different fiscal policy parameters and how they affect economic expansions. So, this study's main objective is to examine fiscal policy's effects on economic growth in Nepal.

Review of Literature

Numerous studies investigating the connection between fiscal policy and economic growth have been carried out, some dating back to the 1980s, prior to the development of useful endogenous growth models. Numerous studies have examined the impact of fiscal policy on a variety of factors, focusing on how these factors affect economic growth.

Keynes (1949) pioneered the Keynesian economic development theory, which advocates for government intervention to influence economic growth through changes in public expenditure and taxes**.** The Keynesian law (1949) assumes that government expenditure is the primary driver of economic growth through its expansionary and contractionary effects on aggregate demand. Expansionary measures occur when the government increases expenditure or reduces taxes to stimulate aggregate demand, which increases output, job creation, and economic growth. On the other hand, contractionary measures occur when the government cuts expenditures or raises taxes to slow down the economy (Blanchard, 2010).

Ocran (2009) studied the impact of fiscal variables on economic growth in South Africa from 1990 to 2004. The study aimed to look into the relationship between various fiscal policy factors and economic growth. A vector auto-regression model assessed the effects of government investment and consumption expenditure, deficit, and tax collections on economic growth. The results confirmed that government consumption spending has a significant positive impact on output growth; although it has a minor effect than consumption spending, tax receipts also have a positive impact on output growth, and the size of the deficit appears to have no significant effects on growth outcomes.

Enache (2009) claims that the lack of a direct association between fiscal policy and economic growth isprimarily to blame for the uncertainty surrounding that connection. The fundamental forces behind economic growth include both economic factors, such as the accumulation of physical capital, human capital, and technological knowledge, as well as non-economic, social, cultural, and political geographic factors, such as the standard of institutions, the accessibility of natural resources, or the preeminent cultural paradigm in society. From this vantage point, fiscal policy is the only tool at the disposal of government decision-makers to influence these crucial stimulators of economic growth.

Ohlan (2012) used a vector auto-regressive (VAR) model to empirically investigate the fundamental relationship between government expenditure and economic growth in India between 1950 and 2008. The study found that the two main drivers of economic growth are investment spending and government consumption. The study's findings suggested that government spending could be used as a tool for policy to spur long-term economic growth in India.

Kharel (2012) has examined modeling and forecasting Nepal's fiscal policy and economic growth. The paper used annual data from 1992/93 - 2009/10. The empirical result finds that fiscal policy positively impacts economic growth and public investment crowds- in private institutions, fiscal policy promotes economic growth, but there is a trade-off between maintaining fiscal stability and accelerating economic growth in Nepal.

Elmi (2018) has assessed the effect of fiscal policy on economic growth in a developing economy using cointegration and regression analyses on annual data from 1985 to 2016. The cointegration model shows a long-term relationship between fiscal policy and economic growth.

Estimates from the regression model imply that tax revenue and public spending favorably and significantly impact economic growth. However, as the results also demonstrate, non-tax revenue has little impact on economic expansion.

Makhoba et al. (2019) thoroughly analyzed the association between fiscal policy and economic growth in South Africa. The Johansen VECM approach was used to analyze the short- and long-term relationships between variables related to fiscal policy and economic growth. Annual time series data covering the years 1960 through 2017 were used. According to their empirical findings, government income and gross fixed capital formation have a significant and favorable long-term impact on economic growth in South Africa. In contrast, government spending and public debt show a long-term opposite relationship with economic growth, with spending rising faster than revenues.

Kharel and Adhikari (2021) have studied the relationship economic impact of government expenditure on the economic growth of Nepal over the period 1990- 2019 using simple and multiple linear regression models. The study finds that there is a significant impact of government spending on the economic growth of Nepal. It suggests increasing the mobilization of capital expenditure for the expansion of development activities in a rational manner in the country.

The literature review examines the relationship between fiscal policy and economic growth across several countries and time periods, highlighting the significant but context-specific impacts of taxation and government expenditure on growth.

Economic growth is stimulated by government expenditure. There is a long-term association between fiscal policy and economic growth, according to several studies. Several countries' worth of research has shown that public spending boosts productivity. However, there is considerable variation in the research; some studies argue that public debt and deficits may not significantly affect growth, while others maintain that non-tax revenue has very little of an impact. Thus, using net outstanding foreign loans as a control variable, this study examines the relationship between economic growth and a few key fiscal variables in Nepal.

Method

Both descriptive and exploratory research designs are the foundation of this study. It is based on secondary data spanning 1974–1975 to 2021–2022. The effect of Fiscal variables on Nepal's GDP was examined using econometric tools, such as the Augmented Dickey-Fuller test and the ARDL method. Real GDP, government recurrent expenditure, government capital expenditure, government tax revenue, and net outstanding foreign loan data were the components of the dataset used in this analysis. These data were gathered from a variety of Nepalese economic surveys and publications by the Nepal Rastra Bank (NRB) and information from the Ministry of Finance (MOF). The nominally obtained data can be changed when converted to real form.

Model specification

The model construction of this paper is based on the ARDL model, which is beneficial for understanding the effect of multiple independent variables on the dependent variable. This paper aims to study the effect of fiscal policy variables such as government recurrent expenditure, government capital expenditure, government tax revenue, and net outstanding foreign loans on the GDP of Nepal. The following models illustrated below provide an overview of this study.

$LnRGDP = \beta_0 + \beta_1 \ln RGCE + \beta_2 RGREE + \beta_3 RGTAX + \beta_4 RNETFL + \mu t$

To obtain elasticity coefficients and remove the effect of outliers, the variables must be transformed to logarithm. In log linear form, the function becomes:

$LNRGDP = \beta_0 + \beta_1 LnRGCE + \beta_2 LnRGREE + \beta_3 LNRGTAX + \beta_4 LNNRETFL + \mu t$

Where: LNGDP = Log of real gross domestic product , LNGCE is log of government capital expenditure, LGREE is Log of government recurrent expenditure , LNGTAX is log of tax revenue , LNNETFL is Net out standing foreign loan and μt is error .

Results and Discussion

Stationarity test of variables The time series data should be stationarity. If the time series data are non-stationarity it may provide the spurious result. The percent study used the Augmented Dickey-Fuller (ADF) test to test the stationarity of the variables at the level and first difference. The result of the ADF test is presented in the Table 1.

Unit root test

Table 1 : ***Result of Augmented Dickey- Fuller Test***

At Level						
		LNRGDP	**LNRGCEE**	**LNRGREE**	**LNRGTAX**	**LNRNETFL**
With Constant	t-Statistic Prob	-0.5753 ***(0.8657)***	-2.7165 ***(0.0788)***	-0.7468 ***(0.8243)***	-0.701 ***(0.8365)***	-6.3823 ***(0.0000)*** ***
With Constant & Trend	t-Statistic ***Prob***.	-3.0651 ***(01264)***	-3.4572 ***(0.0561)***	-5.8099 ***(0.0001)*** ***	-2.5972 ***(0.2834)***	-3.3624 ***(0.0690)***
First Difference						
		d(LNRGDP)	**d(LNRGCEE)**	**d(LNRGREE)**	**d(LNRGTAX)**	**d(LNRNETFL)**
With Constant	t-Statistic Prob.	-7.531 ***0.0000***	-5.8369 ***0.0000***	-5.8355 ***0.0000***	-7.1362 ***0.0000***	-2.1961 ***0.2105***
		***	***	***	***	n0

With Constant & Trend	t-Statistic *Prob.*	-4.156 *(0.0107)*	-5.6913 *0.0001*	-5.7383 *0.0001*	-7.1187 *0.0000*	-2.4133 *0.3681*
a: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant						
b: Lag Length based on SIC						

Source : *Author's calculation form E- views 2010*

According to the result of unit root testing the p value of LNRNETFL is less than 0.05 level that is LNRNETFL is stationary at I(0) and other variables LNRGDP, LNRGCEE, LNRGRE, LNRGTAX are significant at 5% level on format different I(1). Variable are stationary at I(0) and I(I) . So, we can run the Auto-regressive Distributive lag (ARDL) model (Pesaranet al., 2001).

Lag length selection

Lag selection aids in determining the period during which one variable impacts another or itself. Sometimes, a variable's former value affects its present value. The equation uses the same number of lags for all variables to run the auto-regressive distributive lag (ARDL) model. The Schwarz Info Criteria (SIC) and Akaike Info Criteria (AIC) may differ depending on the lags chosen. We select the ideal lag length using the AIC and SIC criteria. Table 2 is a list of the AIC and SC values.

Table 2 : ***VAR Lag Order Selection criteria***

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-18.85462	NA	2.03e-06	1.084301	1.287050	1.159490
1	233.4204	435.7477*	6.69e-11*	-9.246381*	-8.029888*	-8.795247*
2	250.4055	25.47772	1.01e-10	-8.88207	-6.651833	-8.054991
3	277.2415	34.15481	1.05e-10	-8.965521	-5.72154	-7.762496
4	304.5854	28.58680	1.20e-10	-9.072062	-4.814336	-7.493092

Source : *Author's calculation form E- views 2010*

Table 2 reveals that the minimum value of AIC and SC and other criteria are found to be is in lag one than other lag orders. So, the optimum lag for this model is 1. Recall that lower the AIC and SC co-efficient better the model for analysis

Long run Bound test

The long- and short-term relationships between variables are established using the bound testing method. If the F-statistics value exceeds the I(1) upper bound, there are long-term associations between the variables. There is only a short-term correlation between the variables

when the value of the F-statistics is less than the bottom bound I(0). The results of the testing with ARDL-bound are shown in Table 3.

Table 3 : ***Result of F-Bound Test***

F-Bounds Test		**Null Hypothesis: No levels relationship**		
Test Statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
F-statistic	27.90736	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source : *Author's calculation form E- views 2010*

Table 3 shows the estimated result of ARDL bound test.It is found that the calculate F value is 27.90736 above the upper bond and lower bound . The critical value of the upper bound I(1) is 4.37 at 1 % significant level. This means that null hypothesis of no co-integration relationship can be rejected which implies that dependent variable RGDP is co-integration with selected independent variable in the model, that is there exist co- integration So,there exist a long run relation ship between the variables .

ARDL Long-run Model

Table 4 :*ARDL log run result*

Dependent Variable: D(LNRGDP)				
Selected Model: ARDL(1, 0, 0, 0, 0)				
Restricted Constant and No Trend				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
LNRGREE	0.016918	0.131326	0.128822	0.8981
LNRGCEE	0.004376	0.066407	0.065890	0.9478
LNRGTAX	0.248887	0.069570	3.577505	0.0009
LNRNETFL	0.061294	0.023564	2.601177	0.0129
C	5.645420	0.571866	9.871933	0.0000

Source : *Author's calculation form E- views 2010*

Table 4 shows the result of long- run ARDL model which established the relation between the dependent variable and independent variables. The estimated coefficient of LNRGTAX and LNRNETFL shows the respond to the RGDP of Nepal. It shows that one percent increase in government tax revenue increases GDP by 0.2489 percent . …….. tax and GDP . Likewise one percent change in net outstanding foreign loan (NETFL) increases RGDP by .0613 percent. So the independent variable like government tax and net outstanding foreign loan jointly promote the Nepal's GDP in the long-run

Short Run Error Correction Model (ECM)

Table 5 : ***ARDL Error Correction Regression***

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.220980	0.016122	-13.70636	0.0000

Source : *Author's calculation form E- views 2010*

The coefficient of CointEq(-1) is negative with a coefficient of - 0.220980 . This implies that the speed of adjustment toward long run equilibrium is 22.098 percent .

Diagnostic test and stability test

The reliability of the estimated ARDL approach in the study was evaluated using a variety of diagnostic tests. LM tests for Breusch-Godfrey serial correlation, Breusch-Pagan-Godfrey heteroscedasticity, and Jarque-Bera normality were used in the study to test for normality, heteroscedasticity, and serial correlation. Table 6 displays the test's outcomes.

Form the result of diagnostic checking of the model the F- statistics is 0.5348 of Brreushch - pagan - Godfry test is more than 0.05 level, so model is free form the problem of hetroscedasticity . The estimation co-efficiency of chi-square is 0.0652, which is also more then 0.05 implies that there is no serial correlation problem in the model. Similarly, the estimate coefficient for normality test figure 1, is also more then 0.05 level indicate the the data are normally distributed.

The CUSUM and the CUSUM of square test for recursive residual indicates the stability in the model Which is shown in figure 2. The reslut indicates that plots of the CUSUM AND CUSEUM square match with the criticale boudnry line at the significant level of 5 percent . So the study period has confirmded the stability of the model

Table 6 : ***Heteroskedasticity Test: Breusch-Pagan-Godfrey***

F-statistic	0.831641	Prob. F(5,41)	0.5348
Obs*R-squared	4.327797	Prob. Chi-Square(5)	0.5032
Scaled explained SS	4.133238	Prob. Chi-Square(5)	0.5304
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	4.773250	Prob. F(1,40)	0.0568
Obs*R-squared	5.010643	Prob. Chi-Square(1)	0.0652

Source : *Author's calculation form E- views 201*

Figure 1 : ***Normality test***

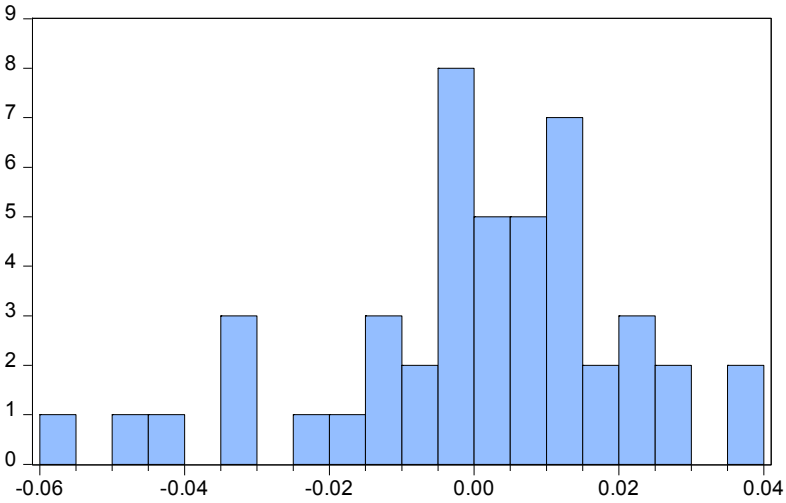
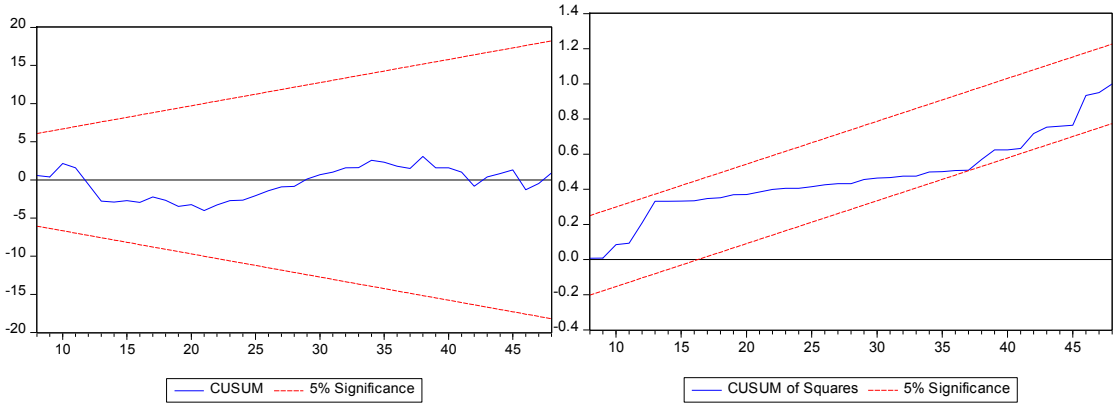


Figure 2 : ***CUSUM and CUSUM square Test***



Conclusion

This study aimedat examining the impact of specific fiscal policy variables on the GDP growth of Nepal. Several econometrics tools are used, including the unit root test, the Augmented Dickey-Fuller test, the ARDL bound testing approach, the heteroscedasticity test, the serial correlation test, and the CUSUM and CUSUM squares tests of stability analysis. The estimated result from the Bound test, F- statistic, is more than the upper bound, showing that the null hypothesis of no co-integration relationship can be rejected, that there is co-integration, and that there is a long-run relationship between the variables.

The result of the long-run ARDL model established the relation between the dependent and independent variables. The estimated coefficient of government tax revenue reveals that there is a long-term positive relationship between taxes and economic growth. This study's

results align with those of Maganya (2020), Maharjan (2018), Onakoya (2016), and Afintinni (2016). Similarly, net foreign outstanding loans show the response to Neapl's RGDP. It shows that a one percent increase in government tax revenue raises GDP by 0.2489 percent. Similarly, a one percent change in the net outstanding foreign loan (NETFL) increases RGDP by.0613 percent. This result is comparable to that of Ugwuegbe (1016). So, the independent variables like government tax and net outstanding foreign loans jointly promote Nepal's GDP in the long run. The coefficient of CointEq(-1) is negative, with a coefficient of - 0.220980, which implies that the seed of adjustment toward long-run equilibrium is 22.098 percent. With evidence of a normal distribution, homoscedasticity, and the absence of serial correlation, Additionally, the CUSUM and CUSUM square tests demonstrated the model's stability. These findings should encourage those responsible for developing fiscal policy to create tax, spending plans, government expenditure and proper use of foreign loans to protect productive spending while averting tax structures targeted explicitly at the country's low-income households.

References

Blanchard, O. J. (2010). *Macroeconomics (5th ed.).* Pearson Education.

Blanchard, O. J. (2010). *Macroeconomics*. Prentice Hall.

Brooks, C. (2014). *Introductory econometrics for finance (2nd Ed)*. Cambridge University Press.

Easterly, W. & Rebelo, S. (1993). Fiscal policy and economic growth. *Journal of monetary economics*, *32*(3), 417-458.

Elmi, M. A. (2018). Impact of fiscal policy on economic growth in a developing economy. *Revista Tinerilor Economişti*, (31), 66-74.

IMF (2006). Fiscal adjustment for stability and growth. *Fiscal Affairs Department.* Author.

Keynes, J. M. (1949). *The general theory of employment, interest, and money*. Macmillan.

Kharel, K. R., & Adhikari, D. B. (2021). Economic impact of government expenditure on economic growth of Nepal. *Interdisciplinary Journal of Management and Social Sciences*, *2*(2), 50-58.

Maganya, M. H. (2020). Tax revenue and economic growth in developing country: An auto-regressive distribution lags approach. *Central European Economic Journal*, *7*(54), 205-217.

Maharjan, G. (2018). The relationship between tax revenue and economic growth in Nepal: A co-integration approach. *PYC Nepal Journal of Management*, *11*(1), 28-36.

Makhoba, A., Kaseeram, A., & Greyling, T. (2019). The impact of fiscal policy on economic growth in South Africa: A time-series analysis. *African Journal of Business and Economic Research, 14(1),* 7-29.

Ministry of Finance (2023) . *Economic survey 2021/22*. Government of Nepal.

Onakoya, A. B., & Afintinni, O. I. (2016). Taxation and economic growth in Nigeria. *Asian Journal of Economic Modelling*, *4*(4), 199-210.

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

Ocran ,K. M. (2011). Fiscal policy and economic growth in South Africa. *Journal of Economic Studies*, *38*(5), 604-618.

Ugwuegbe, S. U., Okafor, I. G., & Akarogbe, C. A. (2016). Effect of external borrowing and foreign aid on economic growth in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, *6*(4), 155-175.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, *16*(3), 289-326.