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### Impact of External Debt on Economic Growth of Nepalese Economy

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#### Abstract

This paper aims to identify the impact of external debt on the GDP of Nepal using a qualitative and quantitative research design (mixed design). The test of the unit root of the series is the first step in determining whether the data are stationary or not. An augmented Dickey-Fuller unit root test and a cointegration test are employed to check the relationship of the variables under study. This study reveals that LNED, LNGFCF, LNTR, LNEXP, LNREM, and LNBRATE are insignificant. The coefficient of LNED (-0.82) implies that a 1 percent increase in external debt leads to a decrease of 0.82 percent in gross domestic production, just as a 1 percent increase in gross fixed capital formation contributes to an increase of 3.28 percent in GDP. other macroeconomic variables like the coefficient of LNTR (-3.78) imply that a 1 percent increase in total revenue decreases 3.78 percent in GDP; the coefficient of LNEXP (2.93) implies that a 1 percent increase in government expenditure increases 2.93 percent in GDP. In the same way, LNREM and LNBRATE contribute negatively to GDP. The speed of adjustment from the previous year's disequilibrium in GDP added to the current year's equilibrium is only 20.63 percent. Heteroscedasticity test: Breusch-Pagan-Godfrey and normality test are greater than 5 percent, which is desirable. So, this model is free from heteroscedasticity. The residual is normally distributed. The model is robust and stable, as both the lines' long-run and short-run coefficients are acceptable over the study period from 1974/1975 to 2019/20. The diagnostic tests confirm that the models have the desired econometric properties.

**Keywords:** External debt, gross fixed capital formation, unit root, autoregressive distributed lag, error correction model.

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## **Introduction**

The continual increase in public debt in emerging nations is an indication of a sluggish economy and bad debt management. This large public debt load is attributed to ineffective structural reforms, poor macroeconomic policies, a weak export base, inefficient borrowing practices, and an unfriendly political climate (Zaidi, 2015). Foreign and domestic investment decline as a result of the rising public debt, which further reduces the rate of capital formation and productivity. Additionally, the enormous public debt stock hinders the growth of human capital and crowds out physical capital (Serieux & Samy, 2001). According to economic theories, prudent borrowing boosts economic performance by increasing investment and output growth. Countries that are just starting to expand often have a lower capital base and fewer investment options. In contrast, the weight of mounting debt causes local and international investment to be disrupted as well as macrocosmic stability in developing economies. Even though both internal and external resource generation is crucial for accelerating economic growth, However, a sustained increase in public debt over a longer period posed major risks to economic performance. The type and use of public debt determine its impact on economic growth. If it is put to good use, public debt boosts the economy. while unproductive debt does not affect the rise of production and is not self-liquidating. As a result, the investment made through public borrowing must provide enough returns to cover the principle sum plus its service fees (Adebusola et al. 2007).

Every sovereign economy, whether in a developing nation or a developed nation, seeks sustainable economic growth. However, economic growth and development are of more significance to less developed countries (LDCs) than to developed nations. This is the case because LDCs are characterized by low levels of domestic saving and investment, resulting in low levels of capital formation. This necessitates that LDCs borrow from external sources to augment domestic savings when capital is scarce. According to Soludo (2003), countries borrow for two main reasons: to finance a greater level of consumption and investment, and/or to finance a temporary balance of payment deficit and escape budget constraints to stimulate economic growth and alleviate poverty. The ongoing necessity for governments to borrow to cover budget deficits generates external debt (Obademi, 2012).

As one of the least developed nations in the world, Nepal stands far behind other nations in terms of both social and human development. Nepal is ranked 142 out of the 173 nations that were covered in the Human Development Report, 2002. Foreign aid encourages domestic savings, which in turn encourages the mobilization of resources, the accumulation of capital, and industrialization (Bhatta, 2003).

## **Review of the Literature**

Bakar & Hassan (2008) investigated the impact of debt on growth. Data from the Malaysian economy from 1970 to 2005 were utilized for this 36-year study. The VAR technique had been utilized for data analysis. The findings suggested that foreign debt and economic growth were negatively correlated in Malaysia.

Butts (2009) investigated the relationship between foreign debt and growth. The research covered 27 Latin American and Caribbean economies for this reason. Data from 1970 to 2003 were used for the analysis, which spanned 33 years. The findings revealed that there was a bidirectional connection between foreign indebtedness and growth. This long-run relationship suggested that short-term dynamics were notably linked to policies that followed their consequences and some macroeconomic shocks that were influenced by the level of foreign debt.

Reinhart & Rogoff (2010) discovered a link between rising public debt, poor growth performance, and inflation. They analyzed data from 44 developed countries. The findings suggested that after a certain level of debt-to-GDP ratio (90% and above), public indebtedness has a detrimental impact on growth in industrialized countries. Amassoma (2011) investigated the impact of foreign and domestic borrowings on Nigeria's economic performance. They used data from 39 years, from 1970 to 2009. They used VAR and VEC methodologies to analyze. The findings revealed a bidirectional relationship between internal borrowings and growth.

Ibi and Aganyi (2015) investigated the influence of external debt on Nigerian economic development. The econometric approach used to evaluate whether external debt, the ratio of external debt to exports, and other economic control variables drive economic development was variance decomposition and impulse response from Vector Auto Regression (VAR). The outcome of the two-stage data processing demonstrated a link between external debt and economic development in Nigeria. According to the authors, this means that foreign debt cannot be used to anticipate economic development in Nigeria, either up or down.

Akram (2017) studied the impact of public debt on economic growth and poverty reduction in a number of South Asian countries. Panel data was collected from four South Asian countries (Bangladesh, India, Pakistan, and Sri Lanka) from 1975 to 2010, and the panel data was analyzed using standard panel data estimation methodologies, with the results indicating that public debt hurt economic growth and poverty reduction.

Shah (2020) in his study "External Debt and Economic Growth in Nepal: An

Empirical Analysis.” Found that external debt has a positive impact on economic growth in Nepal, particularly when the borrowed funds are used to finance investment projects in infrastructure and other key sectors. The study suggests that the Nepalese government needs to ensure that the borrowed funds are used effectively to ensure sustainable economic growth.

Maharjan (2021) found that a positive relationship between external debt and economic growth in Nepal, suggesting that the borrowed funds were used effectively to finance investment projects in key sectors. The study also suggests that the government needs to focus on improving export earnings to service debt obligations and ensure sustainable economic growth.

Printing money, borrowing overseas and domestically, and depleting foreign exchange reserves are all methods used to finance budget deficits. Researchers and economists claim that Nepal is utilizing all four of the aforementioned approaches. Nepal’s government’s reliance on domestic and international loans is driving away private investment and stunting economic progress. In addition to impeding present economic growth, excessive reliance on public debt will also have a detrimental long-term impact on the economy since future generations will be responsible for paying off the debt.

Nations throughout the world, and developing countries in particular (including Nepal), turn to borrow to lessen the impact of a lack of resources needed to finance economic development initiatives in their countries. To this purpose, the quantity of capital investment and general economic development programs carried out with such borrowed money justifies the public debt of any nation. However, it is puzzling to note that Nepal’s debt history does not seem to align with this ideal principle of public borrowing. Reviewing Nepal’s loan inclination against the backdrop of the country’s infrastructure and human development as well as the general standard of living of the Nepalese people (as demonstrated by the country’s poverty rate, unemployment rate, crumbling roads, failing healthcare, epileptic power supply, poor educational system, and low human development index, among others) raises serious concerns about what the government has accomplished with the massive debt inclination over the years. The following are the research questions:

- How does external debt impact the economic growth of Nepal

The objective of the study

The study specifically sought to

- To examine the impact of external debt on economic growth in Nepal

## Research hypothesis

- $H_1$ : There is a significant impact of external debt on economic growth in Nepal.

This study's findings add to the body of information on Nepal's public debt system. The findings could be used to develop growth-oriented policies and to implement pro-economic development debt reforms. The research contains factual data about Nepal's public borrowing system, which might be utilized to assist the government in developing a more successful debt strategy. A study of the external debt factors that, if fully understood, documented, and reflected in appropriate public debt models, would allow for optimum resource usage for economic development. The research is pertinent given the ongoing efforts to modify debt policies, privatize state companies, simplify the budget, decrease poverty, reform the borrowing system, and continue the structural adjustment process. The study benefits students, academics, economists, planners, politicians, the business sector, and researchers by providing ideas and information on foreign debt in the form of illustrative facts and statistics. This study also analyzes the problem with the public debt system, and it generalizes the problem to politicians, policymakers, and concerned authorities.

## Limitations of the Study

There are some limitations to the study, as presented below:

- Time series data covering a period of 46 years from 1974/75 to 2019/20 was used to assess the impact of external debt on the Nepalese economy. The rationale for choosing this period is mainly for simplicity of analysis.
- This study only used secondary data from different sources, so validity and reliability may depend on the goodness of these data.

## Methods

In this study, analytical and descriptive research methodologies are used in combination. Depending on the type and source of data and information, quantitative approaches have been implemented. This research uses a variety of techniques, including econometric models, graphs, tables, and statistical tools, among others.

### *Nature and Sources of Data*

The study's primary objectives are to examine the impact of external debt on Nepal's economy. To get the information for this study, the relevant materials were reviewed and the necessary data was gathered from various secondary sources. The impact of external debt on the Nepalese economy was assessed using time series nominal data spanning 46 years, from 1974/75 to 2019/20. The Ministry of Finance (MOF) and Nepal Rastra Bank (NRB) have

taken secondary data

### *Data Collection Tools and Procedures*

The study has used certain data collection and analysis methodologies in a way that appears to be relevant to the topic. As a response, a specialized method was utilized to review existing data and gather information related to the study's aims. A document review strategy was used in the research.

### *Techniques of Data Analysis*

The study employed quantitative techniques and econometric methods to analyze the data. This study used time series data. The testing of the unit root of the series is the first step in determining whether the data are stationary or not. An augmented Dicky Fuller unit root test and a co-integration test are employed to check the relationship between the variables under study.

The model specification:

This study has been improved in comparison to other earlier studies based on using 46 years, from 1974/75 to 2019/20, or based on improved models, and it captures the link between external debt and gross domestic product.

The model has been specified as follows:

The general model is

$$\text{GDP} = f(\text{ED}, \text{GFCF}, \text{TR}, \text{EXP}, \text{REM}, \text{BRATE}) \dots\dots\dots (\text{Model 1})$$

Where,

- GDP stands for Gross Domestic Product. It is the total value of all final goods and services produced within a country's borders in a given period of time, usually a year.
- ED refers to external debt, which represents the amount of money borrowed by the country from foreign sources.
- GFCF refers to Gross Fixed Capital Formation, which represents the total investment made in fixed assets such as machinery, equipment, and buildings.
- TR refers to taxes and non-tax revenue on production and imports, which affect the level of government revenue and expenditure.
- EXP represents exports, which are goods and services produced domestically and sold to foreign countries.

- REM represents remittances, which are income earned by citizens of the country working abroad and sent back to their home country.
- BRATE refers to the bank rate charged by the central bank to the financial institution. Or the cost of borrowing, which affects the level of investment and consumption in the economy.

Model 1 can be rearranged in natural logarithm form

$$\text{LnGDP}_t = \beta_0 + \beta_1 \text{Ln}(\text{LnED}_t) + \beta_2 \text{Ln}(\text{LnGFCF}_t) + \beta_3 \text{Ln}(\text{LnTR}_t) + \beta_4 \text{Ln}(\text{LnEXP}_t) + \beta_5 \text{Ln}(\text{LnREM}_t) + \beta_6 \text{Ln}(\text{LnBRATE}_t) + \mu_t \dots\dots\dots (1.1)$$

Based on our model, ARDL-bound testing will be as:

$$\Delta \text{Ln GDP}_t = \beta_0 + \sum_{i=0}^q \beta_1 i \Delta \text{LnGDP}_{t-i} + i=0q\beta 2i \Delta \text{Ln}\Delta \text{LnED}_{t-i} + i=0q\beta 3i \Delta \text{LnGFCF}_{t-i} + i=0q\beta 4i \Delta \text{LnTR}_{t-i} + i=0q\beta 5i \Delta \text{Ln EXP}_{t-i} + i=0q\beta 6i \Delta \text{LnREM}_{t-i} + i=0q\beta 7i \Delta \text{LnBRATE}_{t-i} + \beta_8 \text{Ln GDP}_{t-1} + \beta_9 \text{LnED}_{t-1} + \beta_{10} \text{LnGFCF}_{t-1} + \beta_{11} \text{Ln TR}_{t-1} + \beta_{12} \text{LnEXP}_{t-1} + \beta_{13} \text{LnREM}_{t-1} + \beta_{14} \text{LnBRATE}_{t-1} + \mu_t \dots\dots\dots (1.2)$$

Where  $\Delta$  is the first difference operator,  $q$  is the optimum lag length,  $\beta_1 \dots \beta_7$  are short run dynamics of the model and  $\beta_8 \dots \beta_{14}$  are long run elasticities.  $\mu_t$  is the error term. We conducted bound test based on the above equation. As per the result of the bound test, if the value of calculate F statistics, is greater than the upper bound I (1), the null hypothesis should be rejected. If the calculated value of F statistics is greater than the upper bound, there exists co-integration and the study further proceeds for the error correction version of the above equation. If F statistics is less than the lower bound or an inconclusive value comes between the lower bound I (0) and upper bound I (1) in this case we run the ARD short run which is based on OLS method.

$$\Delta \text{Ln GDP}_t = \beta_0 + i=0q\beta 1i \Delta \text{LnGDP}_{t-i} + i=0q\beta 2i \Delta \text{LnED}_{t-i} + i=0q\beta 3i \Delta \text{LnGFCF}_{t-i} + i=0q\beta 4i \Delta \text{LnTR}_{t-i} + i=0q\beta 5i \Delta \text{Ln EXP}_{t-i} + i=0q\beta 6i \Delta \text{LnREM}_{t-i} + i=0q\beta 7i \Delta \text{LnBRATE}_{t-i} + \lambda \text{ECT}_{t-i} + \mu_t \dots\dots\dots (1.3)$$

Where  $q_1 \dots q_7$  is the optimal lag length and  $\lambda$  is the speed of adjustment parameter. ECT represents the error correction term derived from the long-run relationship from the above equation.

**Results and Discussion**

**Unit Root Test**

In a research study, it is critical to use time series data. Non-stationary data is common in time series data, and non-stationary data is unexpected and cannot be predicted or

projected. The conclusion drawn from non-stationary time series data may be misleading and unreliable. As a consequence, the study's findings should be reliable and consistent. As a result, if the data is non-stationary, it should be converted to stationary data.

This study employs an Augmented Dickey-Fuller (ADF) unit root test to check the stationary. The result obtained from the formal unit root test is summarized as:

**Table 1.1**

*Augmented Dickey Fuller Test*

Variables	Level constant and trend	First difference constant and trend	Order of integration
LnGDP	-1.52(0.8063)	-6.08(0.0000)	$I(1)$
LnED	-1.95(0.6115)	-6.40(0.0000)	$I(1)$
LnGFCF	-2.16 (0.4952)	-3.23* (0.0909)	$I(1)$
LnTR	-4.78(0.0024)	-4.87 (0.0015)	$I(0), I(1)$
LnEXP	-2.31 (0.4178)	-4.67 (0.0027)	$I(1)$
LnREM	-2.35 (0.3980)	-7.50 (0.0000)	$I(1)$
LnBRATE	-1.72(0.7240)	-6.64(0.0000)	$I(1)$

Source: Researcher's calculation using EViews 10

Note: \* significant at 10%

Table 1.1 shows that the variable under study, Ln TR, is stationary at its level according to the ADF test. whereas others are not stationary. All variables become stationary when we convert all the data in the first difference. It denotes that the data are of mixed types:  $I(0)$  and  $I(1)$ . The Johansen co-integration test cannot be used when the data has a mixed order of integration. As a result, information is sent to the auto-regressive distributive lag (ARDL) model for further analysis.

#### Bound Testing

- The study's mixed-order data became stationary after the first difference. ARDL-bound testing is the only option for  $I(0)$  and  $I(1)$  data. Bound testing may verify co-integration among study variables. Pesaran et al. (2001) suggested these selection criteria:
- If the calculated value of F statistics is greater than the upper bound of the critical



values, co-integration can be confirmed.

- If the calculated value of F statistics is less than the lower bound of the critical values, the study found there is no co-integration among the variables.
- If the calculated value of the F statistics falls between the upper and lower limits of the critical values, there is inconclusive co-integration, or it is unclear whether there is co-integration.

**Table 1.2**

*Bound Test*

F-Bounds Test		Null Hypothesis: No levels of relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: =1000	
F-statistic	6.198866	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

*Source: Researcher's calculation*

Because the F-statistic 6.19886 in Table 1.2 is greater than the upper bound I (1), we can reject the null hypothesis and accept that there is a long-run relationship. So here we can run long runs, short runs, and ECM through ARDL.

**ARDL Estimation**

The study employed ARDL estimation to examine the short-run and long-run associations among the variables. First, the ARDL bound test is conducted, and the result obtained from the test is presented as:

**Table 1.3**

*Long-Run Coefficients of ARDL (4, 2, 4, 3, 3, 4, 2) Model Dependent Variable D(LNGDP) Case 2: Restricted Constant and No Trend*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNED	-0.820940	0.881919	-0.930856	0.3689
LNGFCF	3.287333	2.886097	1.139024	0.2752
LNTR	-3.780059	4.759189	-0.794265	0.4413
LNEXP	2.930704	3.730892	0.785524	0.4462

LNREM	-0.512390	0.524792	-0.976367	0.3467
LNBRATE	-0.539656	0.449279	-1.201160	0.2511
C	-2.679993	7.170532	-0.373751	0.7146

$$EC = \text{LNGDP} - (-0.8209 \cdot \text{LNED} + 3.2873 \cdot \text{LNGFCF} - 3.7801 \cdot \text{LNTR} + 2.9307 \cdot \text{LNEXP} - 0.5124 \cdot \text{LNREM} - 0.5397 \cdot \text{LNBRATE} - 2.6800)$$

Source: Researcher's calculation using EViews 10

Table 1.3 reveals that LNED, LNGFCF, LNTR, LNEXP, LNREM, and LNBRATE are insignificant. The coefficient of LNED (-0.82) implies that a 1 percent increase in external debt leads to a decrease of 0.82 percent in gross domestic production, just as a 1 percent increase in gross fixed capital formation contributes to an increase of 3.28 percent in GDP. Other macroeconomic variables like the coefficient of LNTR (-3.78) implies that a 1 percent increase in total revenue decreases 3.78 percent in GDP; the coefficient of LNEXP (2.93) implies that a 1 percent increase in government expenditure increases 2.93 percent in GDP. In the same way, LNREM and LNBRATE contribute negatively to GDP.

**Table 1.4**

*Error Correction Representation of the Selected Model: ARDL (4, 2, 4, 3, 3, 4, 2) Model*  
 Dependent Variable D(LNGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGDP(-1))	0.014616	0.098041	0.149077	0.8838
D(LNGDP(-2))	-0.138129	0.099847	-1.383403	0.1898
D(LNGDP(-3))	0.428200	0.092436	4.632414	0.0005
D(LNED)	-0.016181	0.021032	-0.769357	0.4554
D(LNED(-1))	0.189242	0.030022	6.303508	0.0000
D(LNGFCF)	0.100491	0.067965	1.478585	0.1631
D(LNGFCF(-1))	-0.380277	0.093844	-4.052240	0.0014
D(LNGFCF(-2))	-0.769932	0.085946	-8.958367	0.0000
D(LNGFCF(-3))	-0.456668	0.072657	-6.285229	0.0000
D(LNTR)	0.069494	0.093432	0.743788	0.4702
D(LNTR(-1))	0.332420	0.097900	3.395487	0.0048
D(LNTR(-2))	0.740959	0.109092	6.792028	0.0000
D(LNEXP)	0.219924	0.081387	2.702207	0.0181
D(LNEXP(-1))	-0.163176	0.083119	-1.963153	0.0714
D(LNEXP(-2))	0.219201	0.071986	3.045057	0.0094
D(LNREM)	0.013080	0.020473	0.638906	0.5340
D(LNREM(-1))	0.110583	0.027653	3.998944	0.0015
D(LNREM(-2))	0.132621	0.026883	4.933180	0.0003
D(LNREM(-3))	0.096430	0.023419	4.117624	0.0012
D(LNBRATE)	0.302265	0.058524	5.164828	0.0002

D(LNBRATE(-1))	0.132991	0.050919	2.611807	0.0215
CointEq(-1)*	-0.206322	0.023621	-8.734629	0.0000
R-squared	0.935527	Mean dependent var		0.125964
Adjusted R-squared	0.867830	S.D. dependent var		0.065550
S.E. of regression	0.023831	Akaike info criterion		-4.329991
Sum squared resid	0.011358	Schwarz criterion		-3.419783
Log-likelihood	112.9298	Hannan-Quinn criter.		-3.996364
Durbin-Watson stat	2.796460			

Source: Researcher's calculation using EViews 10

The results of the error correction representation for the specified ARDL model are shown in Table 1.4. Short-run elasticity is represented by the coefficients of the variables with the first difference. At a significance level of 5 percent, the result indicates that the variable LNED has a negative and insignificant association with the dependent variable LNGDP. A 1 percent rise in ED results in a 0.01 percent decline in GDP, which is insignificant. At the 1 percent significance level, the coefficient of the error correction term (-0.206322) is significant. The highly significant negative sign of the error correction term confirms the existence of long-term correlations between the variables. However, the rate of adjustment from the disequilibrium in GDP of the previous year to the equilibrium of the current year is just 20.63 percent.

### Diagnostic Tests

In time series modeling, it is important to do a lot of diagnostic tests. Diagnostic testing on data series informs us how these data could be used to make a model. Diagnostic tests can be used to analyze model residuals, which can also be used as tests of model competence.

**Table 1.5**

#### Diagnostic Tests

Test	F-Statistics / Jarque-bera	Obs*R-squared	P- Value
Breusch-Godfrey Serial Correlation LM Test:	4.241988	18.28821	0.0001
Heteroscedasticity Test: Breusch-Pagan-Godfrey	1.125343	29.73299	0.3761
Normality	0.272934	-----	0.872435

The P-value for the Breusch-Godfrey serial correlation LM test is less than 5 percent, which is not desired; on the other hand, the P-value for the heteroscedasticity test (Breusch-Pagan-Godfrey and normality test) is greater than 5 percent, which is satisfactory. Therefore, there is no evidence of heteroscedasticity in this model. The value of

the residual follows a normal distribution.

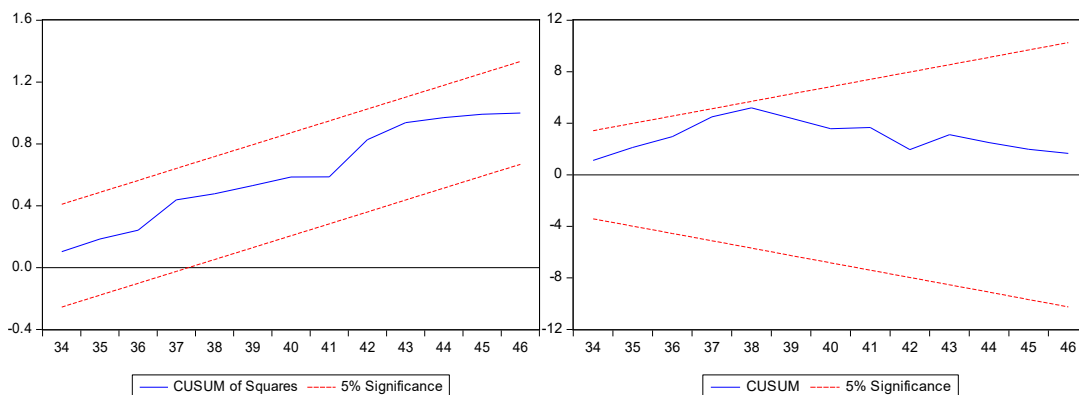
### The Stability Test

A common way to find change points is to use the cusum test. It started with quality control and moved on to time series analysis because changes in public policies and serious social measures cause time series data to change. It is easy to learn and use in the real world and can be used to test and estimate where changes will happen.

The stability of the model is checked by the cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMQ) tests. The results of CUSUM and CUSUMQ are shown in the next two figures, one for each.

### Figure: 1

*CUSUM Test and CUSUM of Square Test*



The CUSUM and CUSUM OF SQUARE tests were used to assess the stability of the model. If the plot of CUSUM falls within the critical limit of 5 percent, then we cannot reject the null hypothesis of the parameters' stability. As shown in Figure 1.1, the lines fall within a range of 5 percent that is statistically significant. The long-run and short-run coefficients of the lines are acceptable for the research period of 1974/75 to 2019/20, which indicates that this model is strong and stable. The diagnostic tests demonstrate that the models have the necessary econometric characteristics. So, the models are structurally sound.

### Conclusions

The findings of this research indicate that LNED, LNGFCF, LNTR, LNEXP, LNREM, and LNBRATE are insignificant. The coefficient of LNED (-0.82) indicates that a 1 percent rise in external debt results in a 0.82 percent decrease in the gross domestic product, whereas a 1 percent increase in gross fixed capital formation results in a 3.28 percent increase in GDP. Other macroeconomic indicators, such as the coefficient of LNTR

(-3.78), imply that a 1 percent rise in total revenue reduces the GDP by 3.78 percent; the coefficient of LNEXP (2.93), however, demonstrates that a 1 percent increase in government expenditures increases the GDP by 2.93 percent. LNREM and LNBRATE contribute negatively to GDP in the same way. The rate of adjustment from the disequilibrium in GDP of the previous year to the equilibrium of the current year is only 20.63 percent. Breusch-Pagan-Godfrey and normalcy tests for heteroscedasticity are larger than 5 percent, which is acceptable. Therefore, this method lacks heteroscedasticity. The residual follows a normal distribution. Over the study period of 1974/1975 to 2019/20, both the long-run and short-run coefficients of the lines are acceptable. This indicates that the model is robust and stable. The diagnostic tests demonstrate that the models possess the necessary econometric characteristics. We conclude that the models are structurally sound. Based on the findings presented, the study provides important insights into the relationship between external debt, gross fixed capital formation, total revenue, government expenditure, remittances, and interest rate on economic growth in the context of Nepal. The study employs robust statistical methods and conducts thorough diagnostic tests to ensure the validity and reliability of the results.

The significant negative relationship between external debt and GDP, as well as the positive relationship between gross fixed capital formation and GDP, can provide important policy implications for the Nepalese government. The study suggests that the government needs to manage external debt carefully to ensure sustainable economic growth. The positive impact of gross fixed capital formation on GDP indicates that investment in key sectors is essential for economic growth. Furthermore, the study highlights the significance of total revenue, government expenditure, remittances, and interest rates on GDP, which can be useful for policymakers to design effective macroeconomic policies. The study also demonstrates that the model is structurally sound, indicating that the results are robust and reliable. Therefore, the study provides valuable insights into the Nepalese economy and contributes to the existing literature on the impact of external debt on economic growth. The findings can help policymakers and economists to make informed decisions that can support sustainable economic growth in Nepal.

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