

# External Debt and Internal Debt Impact on the Growth of the Nepalese Economy

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## *Abstract*

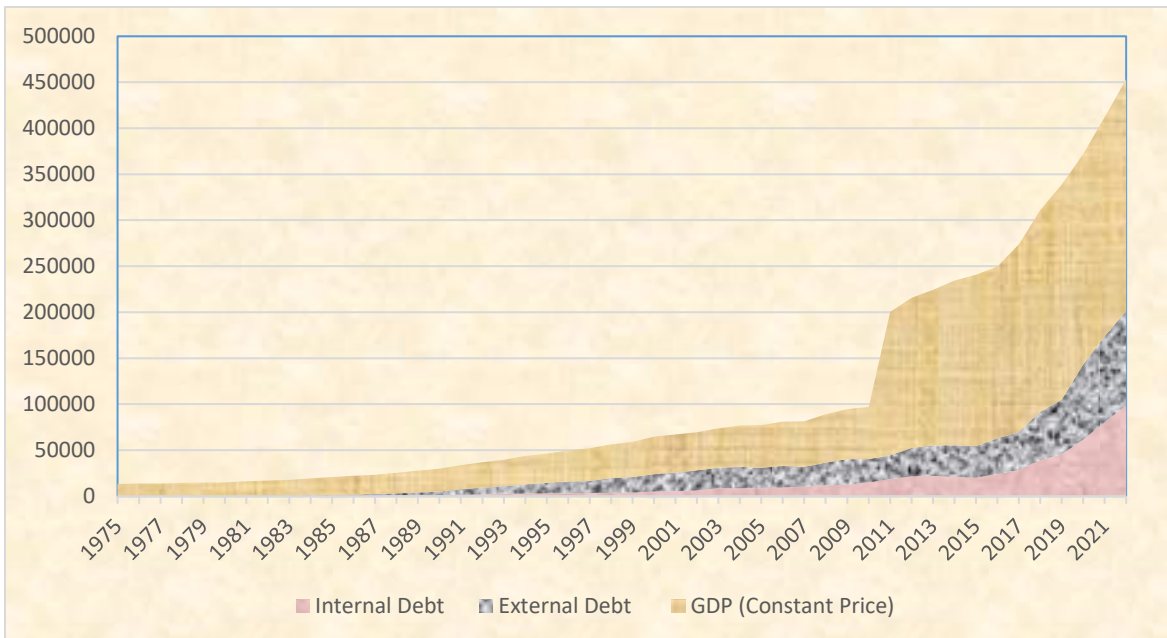
The study examines the relationship between internal debt, external debt, and economic growth in Nepal. Debt plays a crucial role in capital formation that contributes to economic growth. Therefore, this study aims to examine the influence of internal and external debt on Nepal's economic growth between mid-July 1975 and mid-July 2022, utilizing the Ordinary Least Square method to determine the relationship between the variables, Augmented Dickey-Fuller techniques to test for unit root, and Granger causality test to establish causation between GDP, external debt, and internal debt. The unit root test results indicate that the GDP variable is stationary, while the variables of external and internal debt are non-stationary in the model. The causality results show a bidirectional relationship between external debt and GDP, but no causation exists between internal debt and GDP. The Johansen Co-integration test shows that there is no long-term correlation between external debt, internal debt, and GDP (Constant Price). This results in the null hypothesis of no co-integration being rejected and indicates that there is insufficient evidence to support the idea that external debt, internal debt, and economic growth (GDP) are co-integrated. Additionally, external debt does not Granger-cause internal debt, indicating a unidirectional relationship. The OLS results indicate that external debt has a negative impact on economic growth, whereas internal debt has a positive impact on the growth of the Nepalese economy (GDP). The findings of the study also suggest that external debt has a greater adverse impact on economic growth compared to internal debt. The study suggests that the government should prioritize the use of internal debt over external debt to foster economic growth in Nepal.

*Keywords:* internal debt, external debt, economic growth (GDP).

## 1. Introduction

The term “public debt” was first used in the 18th century (Taylor, 1961 as cited in Upadhyaya, 2021). The majority of classical economists opposed borrowing and thought that the government should only have a minimal role in promoting responsible lending. But because of the government’s swift economic development and resource utilization following the Great Depression of the 1930s, growing government expenditure resulted in a rise in the public debt. The US public debt had been rapidly increasing since the early 1980s, with the exception of a short period of budget surpluses in the late 1990s, and it had exploded since the start of the global

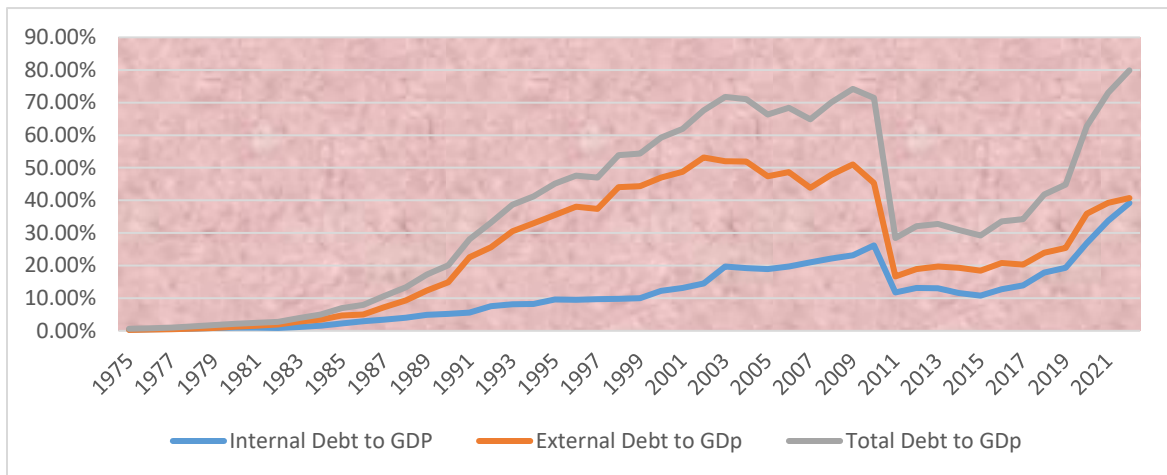
financial crisis of 2007-2008 (Hager, 2016). With the exception of World War II, the public debt first crossed the 100 percent threshold of GDP in 2013 and has remained over it ever since. The “spectacle of a highly centralized public debt” was demonstrated by Adams’ study. He found that in the late 19th century, the richest individuals and the largest businesses held a greater proportion of the public debt (Hager, 2016). These two organizations made up the “bondholding class,” which he described as having significant influence over the government and society due to their ownership of the public debt. While internal debt only transfers resources within the country, internal debt can boost a country's access to resources (Panizza, 2006). Therefore, only foreign debt causes a “transfer” concern. Foreign borrowing is usually accompanied with vulnerability that may result in debt crises since central banks in developing countries are unable to produce the hard currency required to repay external debt. Governmental responsibilities have significantly increased as the welfare state concept has developed (Sharma, 2014). Furthermore, international pressure is gradually expanding social welfare functions. A budget deficit should exist due to the government’s high spending and low revenue. The sources of government revenue include taxation, money printing, taking out domestic or foreign loans, or utilizing previous budget surpluses. However, compared to the national GDP, expenditure on various economic activities and security is increasing rapidly. Only through income collection is it possible to pay the government's increasing expenses. The question of whether or not foreign borrowing under the prevailing circumstances is beneficial for developing economies has been raised in consideration of the high level of debt and the poor rate of economic growth. Borrowing for consumption is perfectly acceptable for countries with significant assets or a reliable source of future revenue (Kröller, 1978). Poor countries, on the other hand, have very little prospect of raising living standards. They get caught in a vicious cycle if there isn’t enough grant aid to repay their debts. The fact that certain emerging nations with more dynamic economies borrowed more money than was necessary to fund their current account deficits had an impact on the trajectory of debt, particularly in 1976. Debt will play a crucial role in the capital formation that will contribute to economic growth (Sharma, 2014).



Sources: Authors’ calculation

Chart 1. Gross Domestic Product (Constant Price), Internal Debt and External Debt trend in Nepal (in Nepalese Rupees Ten Million)

The government is collecting internal debt from different sources, i.e., issuing Treasury Bonds, Treasury Bills, Development Bonds, National Savings Certificates, and Special Bonds. Similarly, the external debt is being received through bilateral and multilateral sources. Since much of the government's borrowing has been used to fund unproductive sectors, the public debt and its interest are rapidly rising. Therefore, it is essential to use debt effectively in productive areas rather than having it drag us into a negative situation. Cooke thought that any attempts to cancel the public debt would be highly harmful to all the widows, orphans, and inexperienced investors who had invested their little money into the market for federal government bonds (Hager, 2016).



Sources: Authors' calculation

Chart 2. Internal Debt to GDP, External Debt to GDP and Total Debt to GDP percentage

The above findings in charts 1 and 2 indicate the trend of gross domestic product (constant price), internal debt, and external debt over the period of 1975 to 2022. The contribution of internal debt, external debt, and total debt to the GDP of the country has been steadily rising over the years. Thought there was a slight fall between 2010 and 2011. The findings show that there has been a rising and falling trend in the values of internal and external debt relative to gross domestic product over the past 47 years.

### 1.1 Objectives

1. To examine the impact of internal debt on economic growth of Nepal.
2. To measure the impact of external debt on economic growth of Nepal.
3. To identify whether the internal debt is impact on economic growth more or the external debt.

### 1.2 Research questions

1. Is there relationship between the internal debt and economic growth of Nepal?
2. Is there relationship between external debt and economic growth of Nepal?
3. How to identify whether the internal government debt is impact on economic growth more or the external government debt?

## 2. Literature review and theoretical foundation

In Amassoma (2011), the result revealed that the variables are reliable at the first differencing. A co-integration test was also performed, and the results indicated that while there was no co-integration between domestic debt and economic growth, there was co-integration between external debt and growth. The co-integration finding showed the validity of the causality test methodology. In Nigeria, the outcomes of the VEC model showed a unidirectional relationship from economic growth to external debt, but the results of the VAR model showed a reversible correlation between internal debt and economic growth. According to the analysis, the government should depend very little on external debt to promote economic development and more on internal debt.

The study of Rabia and Kamran (2012) demonstrated an inverse relationship between domestic debt and economic growth, and it was also found that there was an adverse relationship between external debt and economic growth. These relationships were also found to be significant. The findings also showed that the amount of external debt reduces economic growth more than the amount of domestic debt. In comparison to domestic debt, the negative effect of external debt on economic growth is higher. There are also some policy implications for avoiding the current external debt situation.

The research of Umaru et al. (2013) found that domestic debts, if managed well, can result in significant levels of economic development. A significant policy implication of these findings is that policymakers should make a concentrated effort to manage the debt properly by allocating funds to productive activities (the real sector) in order to increase Nigeria's productivity levels and therefore achieve the desired level of growth. The study's other policy conclusion is that most nations incur debt for selfish reasons as opposed to promoting economic growth by investing in capital formation and other forms of social overhead capital. Fiscal discipline and a strong sense of responsibility in managing public finances should be the keys to the success of these countries' leaders if debt is to support prosperity in Nigeria and other highly indebted countries. The only way to drastically reduce external debt is to boost output (GDP).

In Njimanted et al. (2014), results from a system estimation approach using the estimation method Two Stage Least Squares in the case of Cameroon over a 34-year period (1980-2013) demonstrate that while domestic investment boosts economic growth, external debt slows economic growth in Cameroon, demonstrating the impact of public debt. The authorities are expected to improve the performance of the external debt through proper debt management, a complete debt relief, and using the debt in productive sectors for the production of goods and services. It was thus concluded that external debts negatively affect economic growth in Cameroon.

The report of Panizza (2006) indicates that there are conceptual and practical problems with the conventional external/domestic debt divide and identifies potential challenges and opportunities emerging from the new debt management strategy implemented by some emerging and developing countries. For doing so, the research examines possible trade between domestic and external borrowing and emphasizes that, while moving toward greater domestic borrowing might assist lower the risks associated with sovereign financing, policymakers shouldn't become comfortable in the process.

According to the findings of Ayokunle (2020), domestic debt had a statistically significant positive impact on economic growth, but external debt with a negative sign was not statistically significant.

According to the findings of the error correction approach (Sulaiman & Azeez, 2012), Nigeria's economy has benefited from external debt. According to the study, the government

should maintain political and economic stability and acquire external debt mainly for business-related purposes rather than social or political reasons.

### 3. Methodology of analysis

The research is based on secondary time series data collected from the years 1975 to 2022 A.D., and Nepal's GDP base year is 2000 A.D., so there were data sources from the ministry of finance, such as economic survey reports for various years. The internal debt, external debt, and real gross domestic product were all ten million Nepalese rupees.

In Hansen (2014), the focus of econometric theory revolves around the creation and refinement of tools and techniques, as well as the examination of the characteristics of these methods. Econometrics relies on the creation of statistical techniques for estimating economic relationships, testing economic theories, and evaluating and implementing government and business policies (Wooldridge, 2009). While econometrics is commonly used for forecasting macroeconomic variables like interest rates, inflation rates, and gross domestic product, it can also be applied in various other economic domains beyond macroeconomic forecasting.

#### 3.1 Econometric model specification

The objective of this study is basically to examine whether or not internal debt and external debt causes economic growth in Nepal. To achieve the above objective, the multiple regression, correlation, Johansen co-integration and granger causality test is utilized. The SPSS and EViews statistical software have been used for the outcomes of the study. Causality said to be essential in econometrics analysis in the sense that it makes us to know whether a past change in one variable X has a corresponding impact on current variables Y or whether the relation works in the opposite direction. The model is specified as follows:

$$\text{LOGGDP} = \sum \phi_i \text{LOGEXTDEBT}_{t-1} + \sum \phi_j \text{LOGDOMDEBT}_{t-1} + \sum \phi_k \text{LOGGDPT}_{t-1} + \mu_{t1} \text{-----}1$$

$$\text{LOGEXTDEBT} = \sum \alpha_i \text{LOGEXTDEBT}_{t-1} + \sum \alpha_j \text{LOGDOMDEBT}_{t-1} + \sum \alpha_k \text{LOGGDPT}_{t-1} + \mu_{t2} \text{-----} 2$$

$$\text{LOGDOMDEBT} = \sum \beta_i \text{LOGEXTDEBT}_{t-1} + \sum \beta_j \text{LOGDOMDEBT}_{t-1} + \sum \beta_k \text{LOGGDPT}_{t-1} + \mu_{t3} \text{-----}3$$

### 4. Results and discussion

Table 1. Multiple regression results table without log

Dependent Variable: GDP\_\_CONSTANT\_PRICE\_  
 Method: Least Squares  
 Date: 02/18/23 Time: 12:16  
 Sample: 1975 2022  
 Included observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTERNAL_DEBT	0.281772	1.040419	0.270826	0.7878
EXTERNAL_DEBT	2.653843	0.902368	2.940978	0.0052
C	14249.87	8358.678	1.704799	0.0951
R-squared	0.803336	Mean dependent var		73057.73
Adjusted R-squared	0.794596	S.D. dependent var		77354.05
S.E. of regression	35058.05	Akaike info criterion		23.82786
Sum squared resid	5.53E+10	Schwarz criterion		23.94481
Log likelihood	-568.8686	Hannan-Quinn criter.		23.87206
F-statistic	91.90855	Durbin-Watson stat		0.295141
Prob(F-statistic)	0.000000			

Source: Authors' computation

Table 2. Multiple regression after taking the natural log

Dependent Variable: LOG\_GDP\_\_CONSTANT\_PRICE\_  
 Method: Least Squares  
 Date: 02/18/23 Time: 22:16  
 Sample: 1975 2022  
 Included observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_INTERNAL_DEBT	1.021212	0.078130	13.07070	0.0000
LOG_EXTERNAL_DEBT	-0.583279	0.073941	-7.888401	0.0000
C	7.630204	0.146315	52.14902	0.0000
R-squared	0.936029	Mean dependent var		10.71258
Adjusted R-squared	0.933186	S.D. dependent var		0.960648
S.E. of regression	0.248313	Akaike info criterion		0.112204
Sum squared resid	2.774660	Schwarz criterion		0.229154
Log likelihood	0.307098	Hannan-Quinn criter.		0.156400
F-statistic	329.2217	Durbin-Watson stat		0.445415
Prob(F-statistic)	0.000000			

Table 3. Correlation results

	GDP__CON...	INTERNAL_...	EXTERNAL...
GDP__...	1.000000	0.874949	0.896112
INTER...	0.874949	1.000000	0.971662
EXTE...	0.896112	0.971662	1.000000

Table 4. Unit root test for GDP

Null Hypothesis: D(GDP\_\_CONSTANT\_PRICE\_) has a unit root  
 Exogenous: Constant  
 Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.273701	0.0000
Test critical values:		
1% level	-3.581152	
5% level	-2.926622	
10% level	-2.601424	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(GDP\_\_CONSTANT\_PRICE\_,2)  
 Method: Least Squares  
 Date: 02/19/23 Time: 14:13  
 Sample (adjusted): 1977 2022  
 Included observations: 46 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP__CONSTANT_PRICE_(-1))	-0.947237	0.150985	-6.273701	0.0000
C	4924.996	2339.356	2.105279	0.0410
R-squared	0.472165	Mean dependent var		291.2546
Adjusted R-squared	0.460168	S.D. dependent var		20490.08
S.E. of regression	15054.73	Akaike info criterion		22.11928
Sum squared resid	9.97E+09	Schwarz criterion		22.19878
Log likelihood	-506.7434	Hannan-Quinn criter.		22.14906
F-statistic	39.35932	Durbin-Watson stat		1.996693
Prob(F-statistic)	0.000000			

Table 5. Unit root test for external debt

Null Hypothesis: D(EXTERNAL\_DEBT) has a unit root  
 Exogenous: Constant  
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.253535	0.6428
Test critical values:		
1% level	-3.584743	
5% level	-2.928142	
10% level	-2.602225	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(EXTERNAL\_DEBT,2)  
 Method: Least Squares  
 Date: 02/19/23 Time: 14:13  
 Sample (adjusted): 1978 2022  
 Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXTERNAL_DEBT(-1))	-0.168591	0.134493	-1.253535	0.2169
D(EXTERNAL_DEBT(-1),2)	-0.467214	0.147707	-3.163120	0.0029
C	671.5164	534.8060	1.255626	0.2162
R-squared	0.338807	Mean dependent var		202.2216
Adjusted R-squared	0.307321	S.D. dependent var		3759.739
S.E. of regression	3129.130	Akaike info criterion		18.99924
Sum squared resid	4.11E+08	Schwarz criterion		19.11968
Log likelihood	-424.4829	Hannan-Quinn criter.		19.04414
F-statistic	10.76075	Durbin-Watson stat		1.869276
Prob(F-statistic)	0.000169			

Table 6. Unit root test for internal debt

Null Hypothesis: D(INTERNAL\_DEBT) has a unit root  
 Exogenous: Constant  
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	2.122682	0.9999
Test critical values:		
1% level	-3.584743	
5% level	-2.928142	
10% level	-2.602225	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(INTERNAL\_DEBT,2)  
 Method: Least Squares  
 Date: 02/19/23 Time: 14:14  
 Sample (adjusted): 1978 2022  
 Included observations: 45 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INTERNAL_DEBT(-1))	0.218130	0.102762	2.122682	0.0397
D(INTERNAL_DEBT(-1),2)	-0.482757	0.192074	-2.513385	0.0159
C	223.6319	335.4538	0.666655	0.5086
R-squared	0.137291	Mean dependent var		409.7107
Adjusted R-squared	0.096210	S.D. dependent var		2141.389
S.E. of regression	2035.773	Akaike info criterion		18.13948
Sum squared resid	1.74E+08	Schwarz criterion		18.25992
Log likelihood	-405.1383	Hannan-Quinn criter.		18.18438
F-statistic	3.341940	Durbin-Watson stat		1.990532
Prob(F-statistic)	0.044993			

Table 7. Causality test

Pairwise Granger Causality Tests

Date: 02/18/23 Time: 12:49

Sample: 1975 2022

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INTERNAL_DEBT does not Granger Cause GDP__CONSTANT_PRICE_ GDP__CONSTANT_PRICE_ does not Granger Cause INTERNAL_DEBT	46	0.39696 0.26473	0.6749 0.7687
EXTERNAL_DEBT does not Granger Cause GDP__CONSTANT_PRICE_ GDP__CONSTANT_PRICE_ does not Granger Cause EXTERNAL_DEBT	46	2.38812 3.00053	0.1045 0.0608
EXTERNAL_DEBT does not Granger Cause INTERNAL_DEBT INTERNAL_DEBT does not Granger Cause EXTERNAL_DEBT	46	0.20948 2.67007	0.8119 0.0813

Table 8. Johansen co-integration test

Date: 02/18/23 Time: 13:02

Sample (adjusted): 1980 2022

Included observations: 43 after adjustments

Trend assumption: Linear deterministic trend

Series: GDP\_\_CONSTANT\_PRICE\_ INTERNAL\_DEBT EXTERNAL\_DEBT

Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.688020	73.86672	29.79707	0.0000
At most 1 *	0.416194	23.77956	15.49471	0.0023
At most 2	0.014716	0.637512	3.841465	0.4246

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

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.688020	50.08716	21.13162	0.0000
At most 1 *	0.416194	23.14205	14.26460	0.0016
At most 2	0.014716	0.637512	3.841465	0.4246

Max-eigenvalue 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

Unrestricted Cointegrating Coefficients (normalized by b\*S11\*b=I):

GDP__CONS...	INTERNAL_...	EXTERNAL_DEBT
5.07E-06	0.000368	-8.50E-05
0.000114	-0.000995	7.98E-05
-6.20E-05	0.000935	-0.000329

Unrestricted Adjustment Coefficients (alpha):

D(GDP__CO...	3917.520	-4409.549	-241.7901
D(INTERNAL...	1422.286	33.57103	53.18716
D(EXTERNAL...	1608.281	825.9329	-44.13342

1 Cointegrating Equation(s): Log likelihood -1170.900

Normalized cointegrating coefficients (standard error in parentheses)

GDP__CONS...	INTERNAL_...	EXTERNAL_DEBT
1.000000	72.65247 (13.3929)	-16.77080 (6.61402)

Adjustment coefficients (standard error in parentheses)

D(GDP__CO...	0.019847 (0.00714)
D(INTERNAL...	0.007205 (0.00099)
D(EXTERNAL...	0.008148 (0.00161)

2 Cointegrating Equation(s): Log likelihood -1159.329

Normalized cointegrating coefficients (standard error in parentheses)

GDP__CONS...	INTERNAL_...	EXTERNAL_DEBT
1.000000	0.000000	-1.177805 (0.42636)
0.000000	1.000000	-0.214624 (0.04092)

Adjustment coefficients (standard error in parentheses)

D(GDP__CO...	-0.480935 (0.13048)	5.829418 (1.21770)
D(INTERNAL...	0.011018 (0.02225)	0.490090 (0.20766)
D(EXTERNAL...	0.101947 (0.03175)	-0.229855 (0.29630)



Table 1 displays the multiple regression results of the growth model, which reveal that the constant and the coefficient of internal debt are both statistically insignificant, while the coefficient of external debt is statistically significant. Specifically, the coefficient of internal debt is statistically insignificant at 78.78 percent with a probability value of 0.7878 and is positively signed. On the other hand, the coefficient of external debt is statistically significant at a 1 percent level with a probability value of 0.0052. This low probability value suggests that the likelihood of an effect that could invalidate the parameter is low (1 percent). Consequently, a unit change in external debt would increase economic growth (GDP) by 2.65 units, while a unit change in internal debt would increase the economy's performance by 0.28 units. The coefficient of internal debt is statistically insignificant and inconsistent with the theoretical expectation, as it is positive ( $B > 0$ ), while the coefficient of external debt is statistically significant and consistent with the theoretical expectation. The F-statistics, which measures the joint significance of the explanatory variables, is 91.90855 and found to be statistically significant at a 1 percent level with a corresponding probability value of 0.000000.

The  $R^2$  value of 0.8033 (80.33%) indicates that 80.33 percent of the total variation in economic growth (GDP) is explained by the regression equation. Interestingly, even after adjusting for the degree of freedom, the goodness of fit of the regression remains high, as indicated by the adjusted  $R^2$  value of 0.7946 (79.46%). However, the Durbin-Watson statistic of 0.2951 in the table is lower than the  $R^2$  value of 0.8033, indicating that the model is spurious (meaningless) and implying the presence of serial correlation. Thus, this justifies the need for a unit root test.

Table 2 presents the results of the regression analysis after taking the natural logarithm of the model. The study reveals that the constant, internal debt, and the coefficient of foreign debt are all statistically significant at the 1% level. Although the coefficient of internal debt is positively signed and consistent with the theoretical assumption, the coefficient of external debt is not in line with this expectation. The findings indicate that a 1% increase in domestic debt would result in a 1.02% rise in GDP, while a 1% increase in foreign debt would lead to a 0.58% reduction in GDP. The F-statistic of 329.22, which is statistically significant at the 1% level, represents the combined significance of the explanatory variables.

The regression equation reveals that the  $R^2$  value of 0.9360 or 93.60% indicates that it explains a significant portion of the variance in GDP. However, it is noteworthy that even after accounting for the degree of freedom, the corrected  $R^2$  value ( $R^2 = 0.9332$  or 93.32%) remains excessively high, indicating that the goodness of fit of the regression is still too high. Additionally, the Durbin-Watson value in the table is lower than the  $R^2$  value, indicating the presence of serial correlation and rendering the model meaningless. This underscores the need for conducting a unit root test to further assess the validity of the results.

Table 3 presents the correlation coefficients, revealing that internal debt has a correlation value of 0.874949 or 87.49% with GDP, while external debt has a correlation value of 0.896112 or 89.61% with GDP. This suggests that GDP is more strongly correlated with external debt compared to internal debt. Furthermore, the high correlation value of 0.971662 between external debt and internal debt indicates a strong correlation between these two variables at 97.16%.

Table 4, 5, and 6 present the results of the unit root test, indicating that all variables in the model are stationary at 1%, 5%, and 10% levels with a first difference ( $d(1)$ ), as shown by the ADF results. The ADF value for GDP is -6.2737, and the critical values are -3.511, -2.9266, and -2.6014 at 1%, 5%, and 10%, respectively. The ADF value for internal debt is 2.1227, and the critical values for internal debt are -3.5847, -2.9281, and -2.6022 at 1%, 5%, and 10%, respectively. The ADF value for external debt is -1.2535, and the critical values for external debt are -3.5847, -2.9281, and -2.6022 at 1%, 5%, and 10%, respectively. The null hypothesis of the presence of the unit root in GDP is rejected at the 1% level, as indicated by the probability value of 0.0000.

Similarly, the null hypothesis of the presence of the unit root in internal debt and external debt is accepted at the 1% level, as indicated by their probability values of 0.9999 and 0.6428, respectively.

Table 7 displays the results of causality tests, revealing that there is bidirectional causation between external debt and GDP, with the null hypothesis rejected at the 10% level, as indicated by the probability value of 0.1045. This is supported by the F-statistics values of 2.3881 and 3.0005, respectively. The results also indicate that there is no causation between internal debt and GDP, with the null hypothesis accepted at 67.49% and 76.87%, as indicated by the high probability values of 0.6749 and 0.7687, respectively. This is confirmed by the F-statistics values of 0.3970 and 0.2647, respectively. Furthermore, the results show that external debt does not Granger cause internal debt, indicating a unidirectional relationship, as confirmed by the F-statistics values of 0.2095 and 2.670, respectively.

Based on the information presented in Table 8, the co-integration test using both the trace and max-eigen test statistics indicates that there is no long-term relationship among the three variables at a 5% level of significance. This leads to the rejection of the null hypothesis of no co-integration, suggesting that there is no evidence to support the co-integration of external debt, internal debt, and economic growth (GDP).

## 5. Conclusion

The main objectives of this study is to specifically examine the impact of internal debt and external debt on economic growth in Nepal from mid July 1975 to mid-July 2022. The co-integration test, which utilized both the trace and max-eigen test statistics, revealed that there is no long-term association between the three variables at a 5% level of significance. Therefore, the null hypothesis of no co-integration is rejected, indicating that there is evidence to suggest that external debt, internal debt, and economic growth (GDP) are not co-integrated. The study utilizes the Ordinary Least Squares (OLS) method to establish a simple relationship between the variables under study. The results reveal that external debt possesses a negative impact on the economic performance of Nepal, while internal debt has a positive impact on economic growth through encouraging productivity and output levels, as well as the evolution of total factor productivity. On the other hand the external debt is slowing down the economy more as compared to internal debt.

## 6. Recommendation

Based on the findings of the study, recommendations are made. Firstly, the government should ensure economic and political stability in order to enjoy the benefits of external and internal debt and make the debt burden minimal. Secondly, the government should acquire internal debt largely for economic reasons rather than social or political ones. This would increase the productivity of the nation. Further, the government should focus on internal debt rather than external debt to boost the economic growth of Nepal.

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