

Determinants of Debt and its Status: A Case of Nepal

Bidur Dhungel¹, Amrita Neupane²

^{1,2} Freelance Researcher, Kathmandu, Nepal.

ABSTRACT: This study examines the impact of gross domestic product, fiscal deficit, debt servicing amount and fiscal budget on total public debt. Total public debt is selected dependent variable. The selected independent variables are gross domestic debt, fiscal deficit, debt servicing amount and fiscal budget. The study is based on secondary data with 95 observations for the study period from 2005/06 to 2023/24. The data were collected from annual report of Nepal Government and Ministry of Finance. The correlation coefficients and regression models are estimated to test the significance and importance of gross domestic product, fiscal deficit, debt servicing amount and fiscal budget on total public debt.

The study showed that gross domestic product has positive effect on public debt of Nepal. The size of GDP has positively contributed to the growth of public debt, indicating that as the economy expands, the government's borrowing capacity and financing needs also increase. Similarly, total budget has positive effect on public debt of Nepal. It indicates that the size of the total budget has a positive impact on the size of public debt, reflecting that higher government expenditure and budget expansion have led to increased borrowing requirements. Moreover, fiscal deficit has positive effect on public debt of Nepal. This suggests that an increase in the fiscal deficit has contributed to the rise in public debt, as budget shortfalls are generally financed through internal and external borrowing. Furthermore, debt servicing amount has positive effect on public debt of Nepal. It indicates that the debt servicing amount has a positive impact on the size of public debt, showing that higher repayment obligations and interest burdens have further increased the overall level of public debt in Nepal. Public debt in Nepal has increased due to the expansion of GDP size, expansion of total budget, rising fiscal deficit, and higher debt servicing obligations, which together have contributed to an increase in the overall size of public debt of Nepal. Nepal's public debt is rising due to infrastructure investment and post-pandemic spending and latest increase in fiscal deficit but remains manageable under the IMF threshold. To sustain debt levels, Nepal must enhance revenue mobilization, improve investment efficiency, and maintain fiscal discipline.

KEYWORDS: Gross Domestic Product, Fiscal Deficit, Total Budget, Debt Servicing Amount, Public Debt

1. INTRODUCTION

National debt is a tool to operate a fiscal deficit in any country. To meet national wants amidst limited resources, nations might resort to borrowing. Public debt has emerged as a crucial budgetary tool for the Nepali government, which often faces budget deficits. The Nepali government has three options for funding its deficit: external loans, internal loans, and changes in cash reserves (Bhattra, 2013). An effective long-term development strategy is to accumulate debt for profitable investments. The additional foreign cash and growing foreign debt indicated by positive basic transfers pose no issues for recipient countries as long as accumulated debt through any channel is utilized in prolific development projects with a rate of return higher than the average rate of interest. (Todaro & Smith, 2018).

The World Bank (2020) highlighted that countries, particularly those with limited resources, borrow money to increase capital development and investments, which are sometimes discouraged by a lack of domestic savings. According to the twin gap approach, debt is frequently unavoidable since foreign exchange revenues and savings

required to fund domestic projects are typically insufficient, particularly in developing nations. However, due to debt servicing, inadequate national debt management may result in financial hardship and an economic crisis in the debtor nation. (Were, 2001) found when the amount of debt exceeds the government's capacity to pay it back, a debt overhang occurs. This causes taxes to rise in order to raise enough money to pay off both domestic and foreign debts, which deters investment because of the abrupt tax increase. According to debt overhang theory, borrowed money should be wisely allocated to profitable industries that can produce enough income to cover debt repayment and fund domestic investments.

(Saungweme & Odhiambo, 2020) determined how Zimbabwe's national debt affected economic development between 1970 and 2017. Both domestic and external debt have a detrimental long-term and short-term impact on economic growth, according to data analysis using the Autoregressive Distributed Lag (ARDL). The results also demonstrated that domestic debt was more detrimental to economic growth than overseas debt.

Oti et al. (2016) examined the relationship between Nigeria's economic growth and debt load between 1980 and 2014. A long-term equilibrium link between economic development and debt stocks was confirmed by the Johansen test for cointegration, and the Granger causality finding demonstrated that the performance of the Nigerian economy was caused by the different debt stocks. Public debt is crucial for economic growth and development, especially for countries lacking savings and investments. However, public debt could harm the economy if not managed properly (Rahman et al., 2019). Debt sustainability refers to a country's ability to meet its current and future debt obligations without requiring major fiscal adjustments. Debt sustainability is widely interpreted as the capacity of a country to fulfill its financial responsibilities without being subject to external assistance (Ogbeifun and Shobande, 2020).

Ricardian Equivalence argues that the mode of financing government expenditure has no impact on economic outputs. The theory further argues that families will save in full anticipation of future increases in taxation when debt is used to finance economic growth (Gladys et al., 2023). According to the crowding-out effect's theory, government debt consumes a larger portion of the country's savings intended for investment since demand for savings rises while supply stays the same, raising the cost of money. Crowding-out effects happen when high interest rates make it impossible for anyone but the government to borrow money. Thus, the incapacity of economies to produce sufficient capital for investment has an impact on economic growth.

(Abdullahi et al., 2016). The paper investigated the impact of public debt on the fiscal balance of sub-Saharan countries. The results indicate that fiscal governance is required to constrict fiscal deficits whenever debt levels approach a certain threshold and growth (Gladys et al., 2023). Beqiraj et al. (2018) studied the government's reaction to the accumulation of debt and looked at whether the government should take corrective measures when the Debt- to-GDP ratio starts rising or let the debt grow, with important and well-known consequences for public debt sustainability. Tešić *et al.* (2014) indicated a crisis of public finances, which are accumulated for many years, with a growing budget deficit and the dominant external financing of the budget deficit.

The above discussion shows that empirical evidences vary greatly across the studies on the impact of gross domestic product, fiscal deficit, debt servicing amount, and total budget on total national debt. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze the impact of gross domestic product, fiscal deficit, debt servicing amount, and total budget on total national debt. Specifically, it examines the relationship of gross domestic

product, fiscal deficit, debt servicing amount, and total budget on total national debt.

This paper is systematically organized into five sections. The first section provides an introduction, followed by a comprehensive literature review in the second section. The third section outlines the research methodology, detailing the research design, the formulation of the econometric model, and the nature and sources of data. The fourth section presents the results and discussion, while the fifth section concludes with key findings and policy implications.

2. REVIEW OF LITERATURE

Beqiraj, Fedeli, & Forte (2018) investigated the response of governments from 21 diverse OECD countries to the accumulation of debt between 1991 and 2015. They explored whether governments proactively took corrective actions when the debt-to GDP ratio began to rise or allowed the debt to expand unchecked. They found that governments' discretionary responses to increases in the debt-to-GDP ratio tend to be negative, indicating a systematic long-term relationship between debt and structural primary balance. This implies that governments are not implementing long-term measures to address rising debt levels and meet the inter-temporal budget constraint. Ramzan and Ahmad (2022) conducted panel analysis across 25 emerging economies during 2010-2020, establishing a statistically significant interaction between governance effectiveness and debt thresholds. Their findings indicated that economies with robust institutional frameworks could sustain substantially higher debt-to-GDP ratios before experiencing adverse growth effects.

Gautam's (2021) longitudinal analysis, which documented both immediate and persistent relationships between debt accumulation and growth trajectories, with particular emphasis on how federalism's institutional architecture mediates these relationships. Cooray et al. (2017) conducted comprehensive cross-sectional analysis across 120 countries, establishing statistically significant correlations between governance indicators and debt accumulation patterns. Their findings demonstrated that corruption control and regulatory quality exhibited the strongest statistical relationship with sustainable debt trajectories. Paudel and Khanal (2023) conducted institutional analysis of Nepal's federalism implementation, documenting significant governance challenges in intergovernmental fiscal coordination that directly impact debt management capacity. Their assessment identified persistent deficiencies in fiscal transparency, revenue attribution mechanisms, and expenditure accountability that substantially influence borrowing patterns and debt sustainability.

Bittencourt (2015) emphasized the importance of economic activity in reducing the ratio of public debt in the region. It showed that a 1% increase in the GDP growth rate is associated with a 0.7% decrease in the public debt. It also showed that inflation had negative signs in estimates using

debt. This study also allowed to find that the coefficient on the lagged dependent variable was positive and significant, indicating that the debt-to-GDP ratio is a persistent variable. Eichengreen and Portes (1986) found a negative correlation between public debt and GDP growth. Sinha et al. (2011) showed that the GDP growth rate is negatively related to the public debt and that it is the most important determinant. Hall and Sargent (2010) indicated that growth reduces the debt-to-GDP ratio in the US. They also showed that over the period 1946-1974, 23% of the debt reduction was due to inflation. This result can be explained by the use of the Government of inflation as a tool to reduce the value of debt.

Thuan D. (2018) studied the determinants of public debt in lower middle-income countries, in which trade openness, interest rate has the significantly positive impact on public debt, whereas budget surplus, inflation, economic growth, foreign direct investment, infrastructure, the development of the financial system have negative correlation with public debt.

Globan et al. (2016) investigated the public debt determinants in EU new members. The results of the panel data analysis showed that public debt growth decreases if the governments can achieve a more balanced government budget. and by stimulating economic growth, the debt crisis should be resolved. Sinha et al. (2011) used 30-year dataset of middle- and high-income group countries to find out the determinants of public debt. The research showed that the determinants of debt situation are GDP growth rate, central government, education expenditure and current account balance for both high- and middle-income group countries. However, foreign direct investment and inflation rate have no impact on debt to GDP ratios among high income group countries but are found to be of more relevance when determining debt situation of middle-income group countries. The paper also showed that population density and population above 65 years of age do not have any impact whatsoever on debt to GDP ratios of both high- and middle-income countries

Darmawan, A. (2023) studied in middle-income countries, the factors of the previous year's debt-to-GDP ratio, fiscal transparency, and corruption, simultaneously and partially influence the debt-to-GDP balance in 74 middle-income countries in 2021. The method used was OLS regression analysis of crosssection data. This study found that the previous year's debt accumulation and corruption significantly affected the debt ratio to GDP. Meanwhile, fiscal transparency hurt the insignificant debt-to-GDP ratio. Swamy (2015) looks into several variables and runs Granger-causality test against the accumulation of debt. He found that real GDP growth, foreign direct investment, government expenditure, inflation and population growth increase the level of debt while gross fixed capital formation, final consumption expenditure and trade openness have the opposite effect.

Favero and Mei (2019) discussed the impact of austerity policies on debt levels by testing separately tax rises and

spending cuts. They found that both tax rises and spending cuts negatively affect growth and inflation, while spending cuts have a medium and long-term positive impact on public finances exclusively. This implies different debt-reducing plans can have heterogeneous effects on debt ratios. Bittencourt (2015) found that GDP growth is an important determinant for debt reduction in South American countries, whereas other factors such as inflation and inequality do not have a clear-cut effect on debt. In fact, GDP growth rates of 1% account for around 0.3-0.5% reductions in debt-to-income ratios. An equal increase in inflation can cause a reduction in debt of 0.6-0.7%, but results are not significant when the specification is instrumented out.

Jacobs et al. (2020) suggest that fiscal discipline has a direct impact on real interest rate, with spillovers on long-term sovereign bond yields. They empirically showed that the direct negative impact of growth on public debt is enhanced by an increase in the long-term real interest rate and that higher interest rates lead to the worsening of public debt ratios. Ul Islam, D. T. (2022) analyzed debt sustainability also revealed the instability of public debt for the entire study period except for few years. The regression results corroborate with the findings from stability analysis, and the main driving forces for increasing the debt burden of the country are found to be the fiscal indiscipline along with the rising cost on account of ER depreciation and higher interest rates.

1. Ricardian Equivalence: The theory of Ricardian equivalency, first proposed by David Ricardo, holds that people anticipate future tax increases to pay for government borrowing and modify their behavior appropriately. According to this argument, consumers may increase their savings to offset the expected tax burden, which would have no effect on total demand or economic activity. Ricardian Equivalence argues that the mode of financing government expenditure has no impact on economic outputs. The theory further argues that families will save in full anticipation of future increases in taxation when debt is used to finance economic growth (Gladys et al., 2023).
2. Crowding Out: The possibility that government borrowing might "crowd out" private investment worried classical economists. They contended that the government may boost interest rates when borrowing money from the capital market to cover its deficits, which would decrease the amount of money available for private investment. This crowding-out effect may impede economic expansion and compromise the effectiveness of resource distribution. While new local government debt initially boosts economic growth, the continuous accumulation of debt stock exacerbates the crowding-out effect, impacting overall output. These findings provide insights into the micro-level

implications of local government fiscal policies and offer guidance for advancing debt system reforms. (Bai, *et. al.* 2024).

The above discussion shows that empirical evidences vary greatly across the studies on the impact of gross domestic product, fiscal deficit, debt servicing amount, and total budget on total national debt. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

3. METHODOLOGICAL ASPECTS

The study is based on the secondary data which were collected from ministry of finance, Nepal Rastra Bank, Public debt management office from 2005/06 to 2023/24, leading to a total of 95 observations. The study has employed convenience sampling method. The main sources of data include fiscal policy of government and Financial Statistics published by Nepal Rastra Bank; Ministry of Finance, Public debt management office. This study is based on descriptive as well as causal comparative research designs. Table 1 shows the list of variables selected for the study along with the study period and number of observations.

Table 1. List of variables selected for the study along with study period and number of observations

S.N.	Particulars	Study period	Observations
1	GDP (Rs. Billion)	2005/06-2023/24	19
2	Fiscal Deficit	2005/06-2023/24	19
3	Debt Servicing Amount	2005/06-2023/24	19
4	Total Budget	2005/06-2023/24	19
5	Total Debt	2005/06-2023/24	19
Total number of observations			95

Thus, the study is based on the observations.

The model used in this study assumes that Total Debt is dependent on gross domestic product, fiscal deficit, debt servicing amount and fiscal budget. The dependent variable selected for the study is Total Debt. Similarly, the selected independent variables in this study are gross domestic product, fiscal deficit, debt servicing amount and fiscal budget. Therefore, the models take the following forms:

$$\text{Total Debt}_{it} = \beta_0 + \beta_1 \text{GDP}_{it} + \beta_2 \text{FD}_{it} + \beta_3 \text{DSA}_{it} + \beta_4 \text{TB}_{it} + \varepsilon_{it}$$

Where,

GDP = Gross Domestic Product (Rs. in Billion)
 FD = Fiscal Deficit (Rs. in Billion)
 DSA = Debt Servicing Amount (Rs. in Billion)
 TB = Total Budget (In Rs. Billion)

The following section describes the independent variables used in this study along with hypothesis formulation.

Gross Domestic Product

Bittencourt (2015) suggests that GDP growth is an important determinant for debt reduction in South American countries, whereas other factors such as inflation and inequality do not have a clear-cut effect on debt. Swamy (2015) found that real GDP growth, foreign direct investment, government expenditure, inflation and population growth increase the level of debt while gross fixed capital formation, final consumption expenditure and trade openness have the opposite effect. Eichengreen and Portes (1986) found a negative correlation between public debt and GDP growth. Sinha et al. (2011) showed that the GDP growth rate is negatively related to the public debt and that it is the most

important determinant. Based on it, this study develops the following hypothesis:

H₁: There is a positive relationship between GDP and Total Debt.

Fiscal Deficit

Ul Islam, D. T. (2022) The study finds a positive and significant impact of fiscal deficit, exchange rate depreciation and interest rate on public debt in Pakistan. (Abdullahi et al., 2016). The paper investigated the impact of public debt on the fiscal balance of sub-Saharan countries. The results indicate that fiscal governance is required to constrict fiscal deficits whenever debt levels approach a certain threshold and growth (Gladys et al., 2023). Tešić *et al.* (2014) indicated a crisis of public finances, which are accumulated for many years, with a growing budget deficit and the dominant external financing of the budget deficit.

Based on it, this study develops the following hypothesis:

H₂: There is a positive relationship between fiscal deficit and Total Debt.

Debt Servicing Amount

Begum *et.*

Based on it, this study develops the following hypothesis:

H₃: There is a positive relationship between debt servicing amount and Total Debt.

Total Budget

Favero and Mei (2019) also discusses the impact of austerity policies on debt levels by testing separately tax rises and spending cuts. They find that both tax rises and spending cuts negatively affect growth and inflation, while spending

cuts have a medium and long-term positive impact on public finances exclusively. This implies different debt-reducing plans can have heterogeneous effects on debt ratios. Swamy (2015) looks into several variables and runs Granger-causality test against the accumulation of debt. He finds that real GDP growth, foreign direct investment, government expenditure, inflation and population growth increase the level of debt while gross fixed capital formation, final consumption expenditure and trade openness have the opposite effect.

Based on it, this study develops the following hypothesis:

H₄: There is a positive relationship between fiscal budget and Total Debt.

Variable	Minimum	Maximum	Mean	Std. Deviation
Total Debt	320.40	2434.09	928.75	699.11
GDP	654.08	5704.84	2662.33	1651.72
Total Budget	126.89	1793.83	836.19	608.03
Fiscal Deficit	49.13	622.67	305.18	215.39
DSA	24.42	353.70	85.47	82.68

Source: SPSS output

Table 2 presents the descriptive statistics of the variables used in the study, including their minimum, maximum, mean, and standard deviation values. The table shows that the Total Debt of Nepal ranges from a minimum of Rs. 320.40 billion to a maximum of Rs. 2434.09 billion, with a mean value of Rs. 928.75 billion and a standard deviation of Rs. 699.11 billion, indicating a wide variation in debt levels over the study period. The Gross Domestic Product (GDP) ranges from Rs. 654.08 billion to Rs. 5704.84 billion, with an average of Rs. 2662.33 billion and a standard deviation of Rs. 1651.72 billion, reflecting substantial economic growth over the years.

Similarly, the Total Budget shows a minimum of Rs. 126.89 billion and a maximum of Rs. 1793.83 billion, with an average of Rs. 836.19 billion and a standard deviation of Rs. 608.03 billion, suggesting a consistent increase in government expenditure over time. The Fiscal Deficit ranges from Rs. 49.13 billion to Rs. 622.67 billion, with a mean of Rs. 305.18 billion and a standard deviation of Rs. 215.39 billion, indicating fluctuations in the government's budgetary gap across the study period. Finally, the Debt Servicing Amount (DSA) varies between Rs. 24.42 billion and Rs.

4. RESULTS AND DISCUSSION

Descriptive statistics

Table 2 presents the descriptive statistics of the selected dependent and independent variables during the period 2005/06 to 2023/24.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables for the study period from 2005/06 to 2023/24. The dependent variable is Total Debt. The independent variable are GDP (GDP in Rs. billion), total budget (In Rs. billion), Fiscal Deficit (In Rs. Billion), debt servicing amount (In Rs. Billion)

353.70 billion, with an average of Rs. 85.47 billion and a standard deviation of Rs. 82.68 billion, showing that debt repayment obligations have increased significantly over time. Overall, the descriptive statistics reveal that all variables have shown a rising trend during the study period (2005/06–2023/24), reflecting Nepal's expanding economy, increasing fiscal activities, and growing reliance on debt to finance development projects and meet fiscal deficits.

Correlation analysis

Having indicated the descriptive statistics, Pearson's correlation coefficients are computed and the results are presented in Table 3.

Table 3

Pearson's correlation coefficient matrix

This table shows the descriptive statistics of dependent and independent variables for the study period from 2005/06 to 2023/24. The dependent variable is Total Debt. The independent variable are GDP (GDP in Rs. billion), total budget (In Rs. billion), Fiscal Deficit (In Rs. Billion), debt servicing amount (In Rs. Billion)

Variables	Total Debt	GDP	Total Budget	Fiscal Deficit	DSA
Total Debt	1				
GDP	.947**	1			
Total Budget	.922**	.988**	1		
Fiscal Deficit	.832**	.936**	.972**	1	
DSA	.868**	.813**	.742**	.588**	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 3 presents the correlation analysis among the key macroeconomic variables—Total Debt, GDP, Total Budget, Fiscal Deficit, and Debt Servicing Amount (DSA)—used in the study. The results indicate that all the variables are positively and significantly correlated with Total Debt at the 1 percent level of significance. This implies that changes in these variables move in the same direction as changes in public debt, suggesting that as the economy expands and government financial activities intensify, the level of public debt also increases.

The strong positive correlation between GDP and Total Debt ($r = 0.947$) signifies that as the size of Nepal’s economy grows, public debt tends to increase correspondingly. This relationship can be explained by the fact that economic growth often encourages the government to expand public spending on infrastructure, social welfare, and development projects to sustain and accelerate growth momentum. A growing GDP also enhances the country’s borrowing capacity, allowing it to take on more debt for development purposes. While this can be beneficial if the borrowed funds are used productively, it also raises concerns about potential overreliance on debt as a financing tool for growth. Similarly, the Total Budget shows a high positive correlation with Total Debt ($r = 0.922$). This indicates that an increase in the government’s budget size, especially in capital and recurrent expenditures, leads to higher borrowing needs. Nepal’s expanding budget over the years reflects its growing development ambitions and social commitments, often financed through both domestic and external borrowing. However, the challenge lies in ensuring that the borrowed funds are efficiently utilized in projects that generate long-term economic benefits and revenue streams sufficient to service the debt.

The Fiscal Deficit is also positively correlated with Total Debt ($r = 0.832$), implying that higher fiscal imbalances contribute to rising debt levels. When government expenditure surpasses revenue, borrowing becomes the main

source of financing the deficit. Persistent fiscal deficits in Nepal stem from limited revenue mobilization, inefficient tax systems, and heavy dependence on imports, which restrict domestic income generation. Unless fiscal discipline and revenue reforms are strengthened, continuous deficits may push debt to unsustainable levels. Lastly, the Debt Servicing Amount (DSA) has a significant positive correlation with Total Debt ($r = 0.868$), suggesting that as debt servicing obligations increase, the government often resorts to additional borrowing to meet repayment requirements. This can create a vicious cycle of borrowing to pay debt, which may weaken fiscal stability over time.

Overall, the correlation analysis indicates that Nepal’s rising debt is closely tied to its economic expansion, budgetary growth, and persistent fiscal deficits. This underscores the need for prudent debt management, improved fiscal discipline, and effective utilization of borrowed resources to ensure long-term debt sustainability and macroeconomic stability.

Regression analysis

Having indicated the Pearson’s correlation coefficients, the regression analysis has been carried out and the results are presented in Table 4. More specifically, Table 4 shows the regression results GDP (GDP in Rs. billion), total budget (In Rs. billion), Fiscal Deficit (In Rs. Billion), debt servicing amount (In Rs. Billion) on Total Debt (In Rs billion.)

Table 4

Estimated regression results GDP, total budget size, fiscal deficit and debt servicing amount on Total Debt.

This table shows the descriptive statistics of dependent and independent variables for the study period from 2005/06 to 2023/24. The dependent variable is Total Debt. The independent variable are GDP (GDP in Rs. billion), total budget (In Rs. billion), Fiscal Deficit (In Rs. Billion), debt servicing amount (In Rs. Billion).

Model	Intercept	Regression coefficients of				Adj R _{bar} ²	SEE	F-value
		GDP	TB	FD	DSA			
1	-138.47 (1.35)	.947 (12.16)**				.891	230.92	147.97
2	42.24 (.382)		.922 (9.82)**			.841	278.45	96.46
3	104.71 (.647)			.832 (6.18)**		.674	399.17	38.21
4	301.25 (2.52)				.868 (7.21)**	.739	356.83	52.09
5	223.2 (1.3)	.636 (3.01)**	.645 (2.1)**			.893	229.08	75.87
7	27.67 (2.3)	.670 (2.16)**	1.09 (2.28)**	.857 (2.83)**		.915	203.82	65.89
8	5.316 (0.35)	.379 (1.99)**	.963 (2.13)**	.562 (2.04)**	.176 (1.7)**	.913	206.2	48.3

Source: SPSS output

Notes:

- i. Figures in parenthesis are t-values.
- ii. The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.
- iii. NEPSE Index is the dependent variable.

Table 4 shows beta coefficients for GDP with public debt are positive. It means that if size of the GDP increases it leads to increase in size of the public debt. Similarly, beta coefficients for total budget are positive with public debt. It means that if the size of the budget increases then it leads to increase in size of the public debt. Moreover, the beta coefficients of fiscal deficit are positive with the public debt. It means that if the fiscal debt increases it leads to increase in the size of the public debt. Furthermore, the beta coefficients of debt servicing amount are positive with public debt. It means that if debt servicing amount increases it leads to increase the size of the public debt.

The findings of the study highlight that Nepal's public debt has been increasing due to several macroeconomic and fiscal factors, including post-pandemic spending, growing infrastructure investment, and persistent fiscal deficits. Although the country's debt-to-GDP ratio, ranging between 42 and 45 percent, remains below the International Monetary Fund (IMF) threshold for low-income countries, the upward trend indicates a potential challenge for future fiscal sustainability. The positive relationship found between gross domestic product (GDP), total budget, fiscal deficit, and debt servicing amount with public debt suggests that as the economy expands and government expenditure rises, borrowing requirements also increase. This pattern reflects the government's reliance on debt financing to support development projects and bridge fiscal gaps, which, while promoting growth, can also pose sustainability concerns if not managed prudently.

The positive impact of GDP on public debt indicates that economic growth in Nepal is often accompanied by increased borrowing. This can be attributed to the government's effort to fund infrastructure and social sector development as the economy grows. While this borrowing can stimulate growth in the short run, continuous reliance on debt financing without matching revenue growth may lead to long-term fiscal vulnerabilities. Similarly, the positive association between total budget size and public debt suggests that higher government spending, particularly in non-productive sectors, exerts upward pressure on debt levels. This implies that Nepal's budget expansion has not been sufficiently backed by revenue mobilization, highlighting the need for better fiscal management.

The fiscal deficit's positive effect on public debt is unsurprising, as persistent budget deficits directly lead to increased borrowing. Nepal's recurrent deficits stem from sluggish revenue growth, limited export performance, and high public expenditure. If not addressed, these deficits can push debt levels beyond sustainable limits. Moreover, the

positive relationship between debt servicing and total public debt indicates a potential debt spiral, where increasing repayment obligations necessitate further borrowing, thereby worsening fiscal pressure. This calls for effective debt management strategies to ensure that debt servicing remains within manageable limits and does not crowd out essential development expenditure. Despite these concerns, Nepal's debt remains largely concessional, which reduces the immediate risk of repayment difficulties. However, over-reliance on external concessional loans poses risks of currency exposure and external shocks. Therefore, enhancing domestic revenue mobilization is essential. Broader tax reforms, stronger compliance mechanisms, and improved efficiency in tax administration can reduce the dependency on external borrowing. Additionally, prioritizing high-return public investments is crucial to ensure that borrowed funds contribute effectively to long-term growth and revenue generation.

Export diversification and promotion are also critical to improving foreign exchange reserves and strengthening debt repayment capacity. Institutional strengthening is equally important; transparency, accountability, and effective coordination among fiscal and debt management agencies can minimize inefficiencies and corruption in public spending. Regular debt sustainability assessments and timely policy interventions can prevent debt accumulation from reaching unsustainable levels.

5. CONCLUSION AND RECOMMENDATION

Nepal's state debt is growing as a result of infrastructure investment and post-pandemic spending, and latest year high fiscal deficit although it is still manageable. The debt-to-GDP ratio is between 42 and 45 percent, which is below the low-income country danger threshold set by the IMF. Despite slower revenue growth, the majority of external debt is concessional, reducing repayment risks. However, medium-term issues include insufficient domestic revenue mobilization and budget imbalances. Nepal has to increase exports, strengthen public investment efficiency, and strengthen fiscal restraint in order to maintain debt levels. The study attempts to examine the impact of gross domestic product, fiscal deficit, total budget and debt servicing amount on public debt of Nepal. The study is based on secondary data of with 95 observations for the period 2005/06 to 2023/24.

The study showed that for gross domestic product has positive effect on public debt of Nepal. It means that if size of the GDP increases it leads to increase in size of the public debt. Similarly, total budget has positive effect on public debt of Nepal. It means that if the size of the budget increases then

it leads to increase in size of the public debt. Moreover, fiscal deficit has positive effect on public debt of Nepal. It means that if the fiscal debt increases it leads to increase in the size of the public debt. Furthermore, debt servicing amount has positive effect on public debt of Nepal. It means that if debt servicing amount increases it leads to increase the size of public debt.

Based on the findings of the study, it is recommended that Nepal adopt a comprehensive and prudent approach to public debt management to ensure long-term fiscal and economic sustainability. The study revealed that gross domestic product, fiscal deficit, total budget, and debt servicing all have a positive effect on public debt, indicating that economic expansion, budgetary growth, and fiscal imbalances are key drivers of rising debt levels. Therefore, the government should focus on enhancing fiscal discipline by rationalizing public expenditure, prioritizing productive capital investment, and minimizing recurrent spending that does not contribute to long-term economic returns. Strengthening domestic revenue mobilization is equally crucial; this can be achieved by broadening the tax base, improving tax compliance, modernizing revenue collection systems, and reducing dependency on external borrowing. Moreover, it is essential that borrowed funds are allocated efficiently to projects with high economic and social returns, particularly in infrastructure, energy, and manufacturing sectors, to stimulate growth and generate future income for debt repayment.

At the same time, Nepal should strengthen its debt management capacity by maintaining a sustainable balance between concessional and non-concessional borrowing and by ensuring timely and efficient debt servicing to preserve fiscal credibility. Export promotion and economic diversification must also be prioritized to enhance foreign exchange reserves, reduce external vulnerability, and improve the country's repayment capacity. Furthermore, institutional reforms are necessary to strengthen transparency, accountability, and coordination among agencies responsible for debt management and fiscal policy. Regular monitoring and evaluation of debt sustainability should be institutionalized to assess risks and guide policy adjustments. In conclusion, maintaining sound fiscal management, increasing revenue generation, and ensuring the productive utilization of debt will enable Nepal to sustain manageable debt levels while supporting economic growth and development objectives in the long run.

REFERENCES

1. Abdullahi, M.M., Bakar, A.A. and Hassan, S.B. (2016) ‘Debt overhang versus crowding out effects: Understanding the impact of external debts on capital formation in theory’, *International Journal of Economics and Financial Issues*, 6(1), pp. 271-278.
2. Bai, Y., Xu, J., & Jin, C. (2024). The crowding-out effect of government debt: A loan financing-based perspective. *Borsa Istanbul Review*, 24(5), 1059-1066.
3. Beqiraj, E., Fedeli, S. and Forte, F. (2018) ‘Public debt sustainability: An empirical study on OECD countries’, *Journal of Macroeconomics*, 58, pp. 238-248.
4. Beqiraj, E., Fedeli, S., & Forte, F. (2018). Public debt sustainability: An empirical study on OECD countries. *Journal of Macroeconomics*, 58, 238-248.
5. Bhattarai, K. (2013). Public debt in Nepal: An assessment. *Economic Journal of Development Issues*, 15 &16
6. Bittencourt, M. (2015), “Determinants of Government and External Debt: Evidence from the Young Democracies of South America”, *Emerging Markets Finance and Trade*, Vol. 51, No. 3, pp. 463-472.
7. Bittencourt, M. (2015). Determinants of government and external debt: Evidence from the young democracies of south america. *Emerging Markets Finance and Trade*, 51(3):463–472.
8. Cooray, A., Dzhumashev, R., & Schneider, F. (2017). How does corruption affect public debt? An empirical analysis. *World Development*, 90, 115-127.
9. Darmawan, A. (2023) Determinants of Public Debt Ratio in Middle-Income Countries. *Optimum: Jurnal Ekonomi Dan Pembangunan*. <https://doi.org/10.12928/OPTIMUM.V12I2.6352>
10. Eichengreen, B., Portes, R. (1986), “Debt and Default in the 1930 : Causes and consequences”, *European Economic Review*, pp. 559-640.
11. Favero, C. A. and Mei, P. (2019). Austerity and public debt dynamics.
12. Gautam, B. P. (2021). Public debt and economic growth in Nepal. *NRB Economic Review*, 33(1), 1-18
13. Gladys, A., Abindaw, N., Minlah, M. and Mensah, D. (2023) ‘Public debt, fiscal balance, and sustainability: What can African governments learn from debt sustainability models?’, *Cogent Economics & Finance*, 11(2).
14. Globan, T. & Matosec, M., (2016). Public Debt-to-GDP Ratio in New EU Member States: Cut the Numerator or Increase the Denominator?. *Journal for Economic Forecasting*, Institute for Economic Forecasting, 0(3), 57-72.
15. Hall, G., Sargent, T. (2010), “Interest Rate Risk and Other Determinants of Post-WWII U.S. Government Debt/GDP Dynamics,” NBER working paper n°15702.

16. Jacobs, J., Ogawa, K., Sterken, E., and Tokutsu, I. (2020). Public debt, economic growth and the real interest rate: A panel var approach to eu and oecd countries. *Applied Economics*, 52(12):1377–1394.
17. Ogbeifun, L. and Shobande, O. (2020) ‘Debt sustainability and fiscal reaction function: Evidence from MIST countries’, *Future Business Journal*, 6(1), p. 33.
18. Oti, P. A., Odigbo, B. E., & Odey, F. I. (2016). Nigeria’s Debt Burden and Development Tangle: The Socio-Economic and Political Implications. *Journal of Economics and Sustainable Development*, 7(20), 92–101.
19. Paudel, D., & Khanal, P. (2023). Institutional analysis of Nepal's federalism implementation. *Journal of Governance Studies*.
20. Rahman, N., Ismail, S. and Ridzuan, A.R. (2019) ‘How does public debt affect economic growth? A systematic review’, *Cogent Business & Management*, 6(1), p. 1701339
21. Ramzan, M., & Ahmad, E. (2022). Governance effectiveness and debt thresholds in emerging economies. *Emerging Markets Finance and Trade*, 58(13), 3782-3799.
22. Saungweme, T., & Odhiambo, N. M. (2020). The Impact of Domestic and Foreign Public Debt on Economic Growth: Empirical Evidence from Zimbabwe. *International Journal of Economics*, 73(1), 77–106.
23. Sinha, P., Arora, V. & Bansal, V. (2011). Determinants of Public Debt for Middle Income and High Income Countries using Panel Data Regression, MPRA Paper No. 3207
24. Sinha, P., Varun A., Vishakha, B. (2011). “Determinants of Public Debt for middle income and high income group countries using Panel Data regression,” MPRA Paper 32079, University Library of Munich, Germany.
25. Swamy, V. (2015). Government debt and its macroeconomic determinants—an empirical investigation. Available at SSRN 2601875.
26. Tešić, A., Ilić, D., & Đelić, A. T. (2014). Consequences of fiscal deficit and public debt in financing the public sector. *Економика пољопривреде*, 61(1), 177-194.
27. Thuan D. (2018). Economics, External Debt, Debt, Openness to experience, Inflation Cosmology VNU Journal of Science: Policy and Management Studies
28. Todaro, M. P., & Smith, S. C. (2018). Balance of payments, debt, financial crisis, and stabilization policies. In *Economic Development* (p. 692). Pearson India Education Services Pvt Ltd.
29. Ul Islam, D. T. (2022) An empirical investigation of determinants & sustainability of public debt in Pakistan. PLOS ONE. <https://doi.org/10.1371/JOURNAL.PONE.0275266>
30. Were, M. (2001). The Impact of External Debt on Economic Growth in Kenya: An Empirical Assessment. UNU-WIDER Research Paper, No. 116.
31. World Bank. (2020). International Debt Statistics. World Bank Debtor Reporting System; International Monetary Fund; and Bank for International Settlements.