Macroeconomic Effects of Debt Servicing, Foreign Reserves, and Investment on Nepal's Growth Trajectory

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Abstract

This study investigates the impact of macroeconomic variables such as debt servicing, foreign reserves, and gross fixed capital formation (GFCF) on Nepal's economic growth from the fiscal year 1993/94 to 2023/24. It is based on the Solow-Swan Growth Model, Debt Overhang Hypothesis, and Keynesian investment theory. The ARDL test and ECM as a theoretical background have been used to assess the long- and short-run dynamics. The empirical results show that there is no significant long-run effect of debt servicing on economic growth, which raises concerns about the efficiency of the use of borrowed funds. While foreign reserves help for the short-term stability of the economy, in the long run, they do not show any lasting effect, suggesting an unproductive allocation of funds. GFCF shows a negative long-run impact on GDP, which points to inefficiency, misallocation, or even reduced private investment. Moreover, a positive error correction term throws doubt into the capability of the economy to back at equilibrium without policies because of its instability. Overall, Nepal's economic issue is not the lack of resources, but their allocation, demanding better governance, strategic use of reserves, and quality investment. However, it has some limitations (such as relying on macroeconomic data, omitting other potential economic growth determinants, and considering political and governance variables are considers, etc.).Therefore, future research should consider institutional variables and capture the political economy dimension of growth in the South Asian economies context to provide valuable insights.

Keywords: Economic Growth, Autoregressive Distributed Lag (ARDL), Debt Servicing, Foreign Reserves, Investment -JEL Classification: E22, E62, F34, O47

Introduction

Economic growth is a primary indicator of a country's progress and living standards (World Bank, 2023). Both domestic savings and capital accumulation are very low in Nepal and have been contributing factors that hinder Nepal's development in the past and still do (Soludo, 2003; Obademi, 2012; World Bank, 2022). The Nepalese government is striving to use solutions to all these problems through borrowing and capital formation (Bhatta & Mishra, 2020; Easterly, 2001). However, high and larger debt capital will stimulate economic growth, especially infrastructure and educational school funding. At the same time, a large quantity of debt liabilities will come to a debt crash, in which the price of credit service exceeds the value of necessary state and privately financed investments (Sachs, 1989; IMF, 2022).

In Nepal, debt servicing as a share of the national budget is increasing substantially, accounting for approximately 18 percent of the annual budget in fiscal year 2022/23 (MoF, 2023; GoN, 2023). This has cast doubt on fiscal flexibility and its ability to prevent long-term development, in line with the debt overhang hypothesis (Bhatta & Mishra, 2020). Simultaneously, Nepal enjoys hefty Forex reserves, fed mainly by remittances and foreign aid. These reserves are a large macroeconomic buffer, but their passive accumulation incurs an enormous opportunity cost, as that money can be used for constructive projects (Ghosh & Ghosh, 2021; IMF, 2023; Chowdhury & Hossain, 2014). Finally, gross fixed capital formation (GFCF) has averaged 27.5 percent of GDP since 2010, which has not been a major contributor to productivity and output and casts the quality and efficiency of these investments into doubt (CBS, 2021).

Although previous empirical research has explored the individual interactions between debt, foreign reserves, investment, and economic growth in Nepal (Joshi & Adhikari, 2025; Sapkota, 2023), a significant research gap has been observed. Few studies have examined the joint and independent effects of these three macroeconomic variables on Nepal's short- and long-term economic growth in a single framework of analysis (UNCTAD, 2019; ADB, 2020). This study aims to fill this gap by undertaking a constructed analysis of the mutual relationship between debt servicing, foreign reserves, and gross fixed capital formation. The findings provide policymakers with empirical evidence to achieve sustainable economic and productive growth in accordance with fiscal borrowing, reserve management, and investment plans. Therefore, this study addresses the following research question:

Does debt servicing, foreign reserves, and investment have a combined impact on Nepal's economic growth in the short and long run?

The remainder of this paper is organised as follows. Section II provides a review of the literature. Section III discusses the methodology employed in this study. Section IV presents the empirical results of the study. Section V provides the discussion and conclusion of the study.

Literature Review
Theoretical Foundations

The major theme in the economic literature is the existence of a relationship between macroeconomic variables and economic growth. Our analysis is mainly based on three fundamental theoretical bases, which assist in elucidating the functions of investment, debt servicing, and foreign reserves. According to the neoclassical Solow-Swan Growth Model, the accumulation of physical capital, increase in the labour force, and technological advancement are the factors that cause economic growth in terms of output per worker (Solow, 1956; Swan, 1956; Mankiw, Romer & Weil, 1992). Gross Fixed Capital Formation (GFCF) is our proxy for capital accumulation, which is defined as a net investment in physical assets, machines, infrastructure, and factories (CBS, 2021; Sapkota, 2023; Joshi & Adhikari, 2025). According to the model, an increase in the productive capacity of a country as a result of increased investment in physical capital stock should shift the production function upwards and hence, the long-run economic growth rate (Devarajan, Easterly & Pack, 2003).

One of the most important theories for studying the negative effects of a high debt load is the Debt Overhang Hypothesis. The theory posits that any debt accumulated by a country to the point that it may not be able to repay it in the future sends a signal that discourages investors both domestically and internationally (Krugman, 1988; Sachs, 1989). These investors expect that a large part of future tax collection in the country will go to paying off this debt instead of investing in new productive ventures. This debt overhang decreases the amount of return that is expected on private investment, a factor that discourages new capital formation and therefore slows growth (Claessens & Diwan, 1990; Pattillo, Poirson & Ricci, 2002). At some point, the marginal cost of more borrowing becomes negative, and the cost of debt service starts to consume activities designed to promote growth (Iyoha, 1999; Reinhart et al., 2012; Bhatta & Mishra, 2020).

A stable and adequate level of foreign reserves is not an explicit element of a conventional growth model but is generally believed to be a marker of macroeconomic stability. Foreign reserves are

potentially a very effective tool in the Keynesian theory (Keynes, 1936; Blanchard and Johnson, 2017) to enable the government to manage its exchange rate and stabilise its currency, as well as to stimulate confidence in its financial system, which, in turn, attracts investments. Furthermore, a country with sufficient reserves is in a better position to finance key imports and absorb balance of payments shocks and capital flight (Ghosh & Ghosh, 2021; IMF, 2023; Koirala, 2017). Foreign reserves are especially important in developing nations such as Nepal, where citizens depend on remittances, and foreign reserves offer a cushion against foreign shocks (Sapkota, 2023).

Empirical Review
Debt Servicing
The effects of public debt and debt servicing on growth have been widely researched, and many studies support the debt overhang hypothesis. According to Pattillo, Poirson, and Ricci (2002), high debt service exerts a negative but significant impact on developing country growth. Similarly, Iyoha (1999) demonstrated that external debt servicing had a negative long-run impact on the investment and GDP of the private sector in Sub-Saharan Africa. Bhatta (2007) and Shrestha (2012) studied the issue of public debt in Nepal, but did not study the cost of servicing the debt (Chhetri & Koirala, 2018; Sharma, 2019). This illustrates an important gap in the literature, which our research addresses by explicitly examining debt servicing.

Foreign Reserves
The association between economic growth and foreign reserves is not as direct. In a related study, Ghosh and Ghosh (2021) argued that the opportunity cost of excessively high reserves is that it delays capital available to be invested in productive activities. However, IMF (2019; 2023) and Koirala (2017) found that reserves reduce the vulnerabilities that the economy faces externally, stabilise it, and provide a platform for growth will be achieved. This dynamic is worth monitoring in Nepal, where remittances are of substantial significance (Oladipo, 2020).

Gross Fixed Capital Formation (GFCF)
It is a pillar of economic theory that investment has a positive relationship with economic growth and the findings of empirical research largely support this relationship. According to one seminal study of developing nations by Levine and Renelt (1992) a strong positive relationship was found between investment as a proportion of GDP and economic growth, a result that has been reproduced in many studies since

ARDL Model
The type of econometric methodology decided upon is very essential to sound analysis. A large number of the studies discussed above have used traditional models including Ordinary Least Squares (OLS) and Vector Autoregressive (VAR) models. They typically do not, however, allow the variables to be of mixed order, which is an unrealistic assumption that cannot necessarily be met by all macroeconomic time-series data (Gujarati & Porter, 2009). The more adaptable and strong model is the Autoregressive Distributed Lag (ARDL) model first presented by Pesaran, Shin, and Smith (2001). This methodology is applicable whether the variables are integrated of order I(0), I(1) or both (Nkoro & Uko, 2016). It also particularly suits time-series data (such as the one used in this study) as it allows estimating both short-run and long-run relationships between variables simultaneously (Pesaran & Pesaran, 1997; Harris & Sollis, 2003). In addition, the bound test in the ARDL model provides a good and accurate estimate of a long-run cointegrating relationship (Narayan, 2005). One benefit of a country such as Nepal is that the ARDL model can be applied with smaller sample sizes (Joshi & Adhikari, 2025), which is very important since only a small amount of long-term, stable macroeconomic data is available.

In addition to its ability to manage mixed order of integration, the ARDL model is more suitable in this study because it can separate short-run dynamic relationships and long-run equilibrium relationships (Yusuf & Mohd, 2021). Within the macroeconomic policy framework, it is important to know whether a policy variable such as government debt servicing affects growth in the short-run, or in the long-run. A combination of these two effects, which are not

always easily estimated with traditional models, can be estimated at once with ARDL and offer a more complete picture (Pesaran et al., 2001). The fact that this methodology can be used effectively with small samples is also an important strength, as it helps overcome a general weakness when dealing with time-series data in developing countries such as Nepal, where long and continuous data series are often not available (Shrestha & Chowdhury, 2005). The fact that the model helps to reduce the risk of spurious regression that is the main issue with non-stationary time-series data is yet another proof of the usefulness of the model in this study (Harris & Sollis, 2003; Nkoro & Uko, 2016).

Research Methodology

The research design applied in this study is quantitative research design, explanatory design, and time-series research design with the aim of analyzing the short-run and long-run relationship between the debt servicing, foreign reserves, gross fixed capital formation (GFCF) and the economic growth in Nepal. The number of years considered in calculating the population was the sum of the macroeconomic indicators in both fiscal years 1993/94 and 2023/24

in terms of real GDP, debt servicing, foreign reserves and investment. As the analysis was based on the census of the available time-series data covering this 31-year period, there was no need to use sampling methodologies. This has been done in such a manner that the long-term economic modeling assumed that the annual observation of all the variables mentioned was to mean that it had been done in full and correctly. The secondary quantitative information, based on time, forms the basis of the research article, and it represents the information within the period between 1993/94 and 2023/24 financial years. Selection of data sources was through sampling of credible sources including financial stability reports, economic bulletins, macroeconomic updates by Nepal Rastra Bank (NRB) and economic surveys and annual budget statements by the Ministry of Finance (MoF).

Variables and Proxies

Based on the literature reviewed above, the most significant variables employed in the current study to examine the determinants of economic growth in Nepal and the proxies employed to measure those variables are as follows:

Table 1 Variables and Proxies Used

Variables	Proxy Used	Measurement Description	Expected Relationship
Real GDP (Economic Growth)	RGDP	Measured as real gross domestic product in current USD (dependent variable)	Dependent variable
Debt Servicing	DSP	Total interest and principal payments on borrowing (current USD)	Negative
Foreign Reserves	FRP	Official reserves held by central bank (foreign currency and gold, in USD)	Positive
Gross Fixed Capital Formation	GFCF	Productive capital accumulation proxy (current USD)	Positive

Conceptual Framework

The conceptual framework for this study is grounded in the Solow-Swan Growth Model, the Debt Overhang Hypothesis, and Keynesian Investment Theory, integrating both theoretical and empirical perspectives to explain the determinants of Nepal's economic growth. Figure 1 shows directional arrows between each of the independent variables

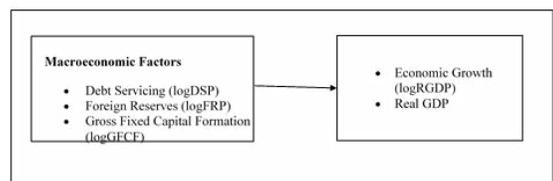and economic growth representing the hypothetical relationships between the variables.

Figure 1 Conceptual Framework of the Study

Econometric Model

As the variables included the presence of I(1), and the sample size was relatively small, ARDL model (Pesaran et al., 2001) was concluded as a suitable method to be applied in this study. The model explores the influence of the lagged values of real GDP in Nepal and the explanatory factors, which are debt servicing, foreign reserves and GFCF.

As the simplification of the ARDL, the basic ARDL model is given as:

$\Delta\log(RGDP) = \alpha_0 + \sum_{=1}^{p} \beta \Delta\log(RGDP_{\ulcorner\ulcorner}) + \sum_{r=0}^{q} \gamma_{\ulcorner\ulcorner} \Delta\log(DSP_{\ulcorner\ulcorner}) + \sum_{r=0}^{r} \delta r \Delta\log(FRP_{\ulcorner\ulcorner\ulcorner}) + \sum_{=0}^{s} \theta r \Delta\log(GFCF_{\ulcorner\ulcorner\ulcorner}) + \varphi_1 \log(RGDP_{-1}) + \varphi_2 \log(DSP_{\ulcorner-1}) + \varphi_3 \log(FRP_{\ulcorner-1}) + \varphi_4 \log(GFCF_{\ulcorner-1}) + \varepsilon_{\ulcorner}$

Where,

$\Delta\backslash Delta\Delta$ = first difference operator used to calculate short run dynamics

$\log(RGDP_t)$ = natural log of real GDP (dependent variable)

$\log(DSP_t)$ = natural log of debt servicing (independent variable)

$\log(FRP_t)$ = natural log of foreign reserves (independent variable)

$\log(GFCF_t)$ = natural log of gross fixed capital formation (independent variable) α_0 = constant term

$\beta_i, \gamma_j, \delta_k, \theta_l$ = coefficients of short run dynamics

$\phi_1, \phi_2, \phi_3, \phi_4$ = coefficient for long run

ε_t = error term

The existence of the long-run relationship between the variables was determined on the basis of the actions of the long-run adjustment and short run adjustments, as well as rate of convergence towards the equilibrium can be estimated by means of the Error Correction Model (ECM). With this kind of specification, not only could the research capture short-lived changes, but also structural associations between the selected macroeconomic indicators in the Nepalese environment.

Empirical Results
Descriptive Statistics

The descriptive statistics are the findings of the variables in the log form, which are distributed and varying over the period of study (1993/94-2023/24). These statistics include Real GDP (LOGRGDP), Debt Servicing (LOGDSP), Foreign Reserves (LOGFRP) and Gross Fixed Capital Formation (LOGGFCF). Table 2 shows descriptive analysis of the variables used in the study during the period of 1993/94 to 2023/24. The total number of observations of each of the variables is 31.

These two independent variables are the average value of the logarithm of debt servicing (LOGDSP) was 22.84 and the standard deviation of the same is 0.61 with a minimum of 21.67 and maximum of 24.13. LOGFRP indicated the mean as 24.12 and standard deviation as 0.46 where the lowest and the maximum value found were 23.07 and 24.92 respectively during the period of study. The mean of our measure of productive investment, the logarithm of gross fixed capital formation (LOGGFCF), was 21.87 with a standard deviation of 0.96 and the highest and lowest were 20.57 and 23.20 respectively. The average of 23.31 and standard deviation of 0.82 was adopted in the dependent variable, which is logarithm of real gross domestic product (LOGRGDP). The minimum was 22.13 and the maximum was 24.48 at the time of study.

Table 2 Descriptive Statistics of Variables

Variables	Mean	Std. Dev.	Min	Max	N
Independent Variables					
LOGDSP	22.84	0.61	21.67	24.13	31
LOGFRP	24.12	0.46	23.07	24.92	31
LOGGFCF	21.87	0.96	20.57	23.20	31
Dependent Variable					
LOGRGDP	23.31	0.82	22.13	24.48	31

Correlation Matrix

The correlation between the variables used in the study over the period of 1993/94 and 2023/24 is given in Table 3. Logarithmic of the real gross domestic product (LOGRGDP), the dependent variable is highly correlated with all the three independent variables. Specifically, gross fixed capital formation (LOGGFCF) is mostly associated with LOGRGDP at the second position followed by foreign reserves (LOGFRP) and debt servicing (LOGDSP) at 0.89 and 0.75 respectively. LOGGFCF is positively correlated with both LOGFRP (0.82) and LOGDSP (0.68) on

the list of independent variables. Similarly, there is a moderately positive correlation of 0.55 between LOGFRP and LOGDSP. The table also includes the 95-percent level of the confidence interval of each correlation, which implies that all the correlations are statistically significant at traditional levels.

Table 3 Correlation Matrix of Study Variables

Variables	LOGRGDP	LOGDSP	LOGFRP	LOGGFCF
LOGRGDP	1.000	0.62**	0.75***	0.89***
LOGDSP	0.62**	1.000	0.55*	0.68**
LOGFRP	0.75**	0.55*	1.000	0.82***
LOGGFCF	0.89***	0.68**	0.82***	1.000
*** p < 0.001, ** p < 0.01, * p < 0.05				

Preliminary Test and Cointegration Analysis

A set of pre-tests was carried out to identify the characteristics of the time-series data prior to the estimation of the main model.

Unit Root Tests

All variables (RGDP, DS, FRP, and GFCF) were checked by the Augmented Dickey-Fuller (ADF) test to determine whether they were stationary. The outcomes showed that there were variables which were not moving at level or, and then there were those variables which were moving at level one, or I(1). As an example, RGDP and GFCF were determined to be I(1), whilst DS and FRP were detected to be I(0). The test of structural breaks, the Zivot-Andrews test, demonstrated that all the variables were not integrated of order I(2), a necessary condition to use the ARDL model. The fact that a combination of I(0) and I(1) variables was present justified the selection of the ARDL model to analyze our data.

Table 4 Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	Test Statistic (τ)	5% Critical Value	p-value	Stationary at 1st Diff?	Integration Order
LOGRGDP	–4.082	–2.93	0.0004	Yes	I(1)
LOGDSP	–3.481	–2.93	0.0019	Yes	I(1)
LOGFRP	–3.360	–2.93	0.0025	Yes	I(1)
LOGGFCF	–3.389	–2.93	0.0023	Yes	I(1)

ARDL Bounds Test

The ARDL bounds test results verify that there is a long-run cointegrating relationship between real GDP, debt servicing, foreign reserves and gross fixed capital formation in the study period (1993/94-2023/24). The calculated F-test (7.623) is larger than the upper critical values when we test the null hypothesis of no cointegration at the 10 percent, 5 percent, and 1 percent significance levels. This result suggests that these important macroeconomic variables adjust together in the long term and are in a steady-state equilibrium relationship. This means that the ARDL model is justified as a proper method to use in this study and we can analyze the short-run form and the long-run coefficients of the relationships in the next sections.

Short and Long Run Relationships

The long-run analysis shows that Gross Fixed Capital Formation (GFCF) is the only explanatory variable that is statistically significant in the long-run Adjacency of Real GDP at 5% level. But the coefficient itself is negative and that is a surprise. The negative sign indicates that an increase in investment has a negative relationship in terms of output in the long run. This may either reflect inefficiency in the distribution of capital, or a productivity lag effect. The debt servicing and foreign reserves variables have been found to be statistically unimportant in the long run. In the short-run analysis, the lagged change in foreign reserves was the only statistically significant change. This means that short-run effects of changes in foreign reserves are positive and direct and short-run effects of other variables such as debt servicing and investment were not significant.

Table 5 Estimated Long-Run and Short-Run Coefficients from ARDL (1,1,1,1) Model

Variable	Coefficient	p-value	Significance	Interpretation
Long-Run Relationship (Lagged Level Terms)				
L_LOGRGDP	0.5917	0.0217	Yes	GDP has persistence; current GDP depends on past GDP.
L_LOGDSP	0.0336	0.3369	No	Debt servicing shows no significant long-run effect on GDP.
L_LOGFRP	0.0339	0.5013	No	Foreign reserves have no significant long-run effect on GDP.
L_LOGGFCF	−0.5129	0.0195	Yes	GFCF negatively affects GDP, possibly due to crowding out or inefficiencies.
Short-Run Dynamics (First Differences)				
ΔLOGFRP (lag)	0.1886	0.0082	Yes	Positive short-run impact of foreign reserves on GDP growth.
Other Δ terms	—	—	No	No significant short-run effects observed from other variables.

Error Correction Model

The findings reveal that though the Error Correction Term (ECT) is statistically significant, the positive value of the coefficient (0.6033) implies departure instead of convergence indicating instability and/or misspecification in the model. Only foreign reserves changes had a significant impact in the short term with a positive value (0.2049) indicating their immediate contribution to the growth of the economy. In comparison, debt servicing, investment and lagged GDP did not have a significant short-run impact, however the significant intercept indicates the presence of exogenous variables contributing to the real GDP growth within the period of study.

Discussion and Conclusion

The study has examined the relationship between Debt Servicing (DS), Foreign Reserves (FRP), and Gross Fixed Capital Formation (GGCF) and economic growth in Nepal by Autoregressive Distributed Lag (ARDL) model. The analysis has established that there is a long-run co- integrating relationship between Real GDP and the chosen variables, which approves the theoretical assumption that the chosen factors are interdependent in the long run. But the empirical results were subtle. GFCF is the only variable that had a statistically significant relationship to Real GDP in the long-run analysis, but its coefficient was a negative one. That

counterintuitive finding is a sign that there might potentially be severe inefficiencies in the allocation of capital or there is a crowding-out effect in which government investment may be crowding out more productive activity in the private sector.

The absence of long-term impact of foreign reserves on GDP supports the observation that a big opportunity was lost. Although reserves can insulate against external shocks and increase investor confidence (Ghosh & Ghosh, 2021), the passive accumulation of reserves in Nepal in the form of mainly remittances and foreign aid has not seen any structural change in the long run. This means according to Chowdhury and Hossain (2014) and IMF (2023) that more strategic use of reserves must be sought out like investment funds that ought to be specifically targeted to give out productive returns rather than idling. Most importantly, the study shows a severe negative long run impact of gross fixed capital formation (GFCF) on GDP. This finding is contrary to the expectations of the classic growth theories like the Solow-Swan Model and the common belief that growth becomes a result of capital formation. This is suggestive of underlying structural problems in the case of Nepal's low-quality projects, misallocation, lags, cost escalations and even crowding-out more productive private investment. This is in line with the issues in the larger developing nation story and the amount of investment involved is less important

than the level of efficiency and productivity in the investment.

The positive and economically significant error correction term (ECT) indicates the structural instability of the macroeconomy of Nepal. Instead of refuting a model defect, this result is useful as it reveals that the economy of Nepal might not necessarily return to its equilibrium state in short-term shocks without any initiatives on the part of policymakers. This underscores the importance of governance reforms, strategic allocation of public resources, and proactive macroeconomic management to ensure that the economy moves toward sustainable growth. In the short-run analysis, it was found that the only variable that significantly and positively affects economic growth is the change in Foreign Reserves (FRP), and therefore the immediate importance of foreign reserves as an economic variable. One interesting finding of the Error Correction Model (ECM) is the positive and significant coefficient of the error correction term (ECT). This indicates that there exists a long-run relationship, but its positive value is uncharacteristic and may suggest that the analysis is out of equilibrium and can be suggestive of data anomalies, misspecification of the model, or other unobserved structural variables.

This study has some limitations that need to be addressed. First, the relationship analysis completely relied on secondary macroeconomic data, which are subject to many inconsistencies due to gaps in statistical reporting for a country like Nepal. Second, because the econometric model of the research relied on three indicators, other potential economic growth determinants were omitted, hence restricting the ability of the research to understand the complete growth dynamics. Third, the non-systematic analysis of political and governance variables implies that the analysis does not cover aspects that may significantly affect fiscal efficiency and investment productivity. Finally, the resultant findings might be susceptible to specification choice, sample size, and the relative quality of the dataset, despite the ARDL-ECM framework being effective in the analysis of small datasets with mixed integration orders.

These limitations provide a basis for further investigation. Future research could look into expanding the model to include institutional variables, dynamics that cover the financial indicator's relation with economic growth, and capturing the political economy dimension of Nepal's growth. A comparative study can be conducted focusing on other South Asian economies to understand the direct differences with the regional growth pattern observed in the country. Furthermore, a sector-specific analysis to understand the economic growth dynamics would provide fruitful results for policymakers so that capital can be efficiently allocated in productive sectors such as infrastructure, manufacturing, and services. Finally, with more sophisticated econometric tools in use, in particular structural vector autoregression (VAR) models or panel data methods, a deeper understanding of these dynamic interactions and their changes can be obtained.

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Appendix

Appendix I: Study Period and Number of Observations

Variable	Measurement Unit / Transformation	Study Period	Number of Observations (N)
LOGRGDP	Natural log of real GDP (constant USD)	1993/94–2023/24	31
LOGDSP	Natural log of total debt servicing (current USD)	1993/94–2023/24	31
LOGFRP	Natural log of foreign exchange reserves (current USD)	1993/94–2023/24	31
LOGGFCF	Natural log of gross fixed capital formation (current USD)	1993/94–2023/24	31

Appendix II: ECM Model Test

Variable	Coefficient	Std. Error	t-Stat	p-value	Significance
Intercept	0.0855	0.0192	4.464	0.0002	***
ECT (lag)	0.6033	0.2381	2.534	0.0189	**
ΔLOGRGDP (lag)	–0.1359	0.4050	–0.335	0.7405	
ΔLOGDSP (lag)	–0.0345	0.0321	–1.074	0.2944	
ΔLOGFRP (lag)	0.2049	0.0537	3.815	0.0009	***
ΔLOGGFCF (lag)	0.0244	0.2665	0.091	0.9280	

The findings of the Error Correction Model (ECM) estimation of the relationship are shown in Table. between real GDP (LOGRGDP), debt servicing (LOGDSP), foreign reserves (LOGFRP) and gross fixed capital formation (LOGGFCF) 1993/94-2023/24. Significance levels: *** $p < .01$; ** $p < .05$; = not significant.

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