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Nexus Between Capital Market Development and Economic Growth: Evidence from Nepal

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Abstract

Background: The global scenario reveals mixed impact of capital market development on economic growth. While advanced economies benefit from efficient capital markets through savings mobilization, resource allocation, and risk diversification, relationship remains unclear in developing economies. In many such economies, capital markets have shown limited impact on real sector despite their potential to bridge investment gaps. This ambiguity has drawn scholarly attention to ascertain the relationship between capital market development and economic growth.

Purpose: This study seeks to analyse the relationship between capital market development and economic growth in Nepal.

Methods: The Autoregressive Distributed Lag (ARDL) bounds test explains the long-run cointegration among the variables since variables under study have mixed order of integration. An error correction model is used to explain the short-run relationship while Granger-causality test with lag of 2 is applied to check causality among the variables under study.

Results: The empirical study finds a weak long-run cointegration between capital mobilisation through the primary market (CMP) and economic growth, while market capitalisation (MC) shows no significant long-run impact. CPI positively affects economic growth, but remittance inflow has a negative expected sign. In the short run, both CMP and one-year lag of MC significantly influence economic growth. Additionally, a unidirectional causal relationship exists from CMP to real GDP, whereas no causality is found between MC and real GDP.

Conclusion: The capital market has a mixed influence on Nepal's economy. While the primary market positively contributes to GDP in short and long run, the secondary market shows a negative effect. A one-year lag in market capitalisation positively affects GDP in short run. Resource mobilisation through diverse financial products and sectoral investment should be encouraged to boost economic growth.

Keywords: Capital Mobilisation, Primary Market, Market Capitalisation, CPI, Remittance Inflow, ARDL.

JEL Codes: B23, C22, F43

Introduction

Investment is an apparatus of economic growth; however, the majority of economies, especially underdeveloped and developing ones, are facing the problem of capital constraints and are continually looking to resolve the economic issue of capital inadequacy to enhance economic growth (Ibrahim & Mohammed, 2020). A capital market is a complex mechanism or institution that provides intermediate and long-term funds to the private sector and the government at various levels using various financial products (Saunders& Cornett,2011). The development of the capital market has become a necessary and pre-condition mechanism for long and sustained economic growth in today's liberalised world, as it provides the impetus for an efficient and effective combination of factors of production (Adekulne, 2024). Ologunwa and Sadibo (2016) argue that the capital market is a complement to the banking sector as it promotes long-term investment in those projects that are economically and financially viable. However, investors are reluctant to relinquish control of their savings for long. Capital markets, on the one hand, provide long-term funds to private and government, while on the other hand, they provide a mechanism to liquidate their investment without locking their saving for a longer time (Gründl & Gal, 2016).

The capital market is considered an important agent for economic growth as it provides the framework to mobilise savings into productive capital (Agu Bertram, 2018). It contributes to economic growth through saving mobilisation in productive sectors, liquidity creation, risk diversification, efficient resource allocation, and asset ownership expansion (Bhattarai et al., 2021a). Public offerings through the capital market pool large amounts of long-term funds to corporations; however, an inefficient market with high transaction costs and uncertainty in fair pricing ruins public offerings so that corporations lack financing for the expansion of their business thereby reducing the long-term productivity of the overall economy (Misra et al., 2011). The studies in the global scenario present the importance of efficient capital market development on the economic performance of countries. Intissar and Aymane (2023) confirm the importance of the capital market and financial policy for long-term economic growth. Countries with well-developed capital markets experienced an average economic growth rate of 4.5 per cent from 1990 to 2020, whereas countries with less developed markets have an average growth rate of only 2.5 per cent.

Several studies have explored the relationship between capital market development and economic growth in the context of Nepal, primarily focusing on market capitalisation and turnover controlled by CPI, investment, and remittance inflow (Pokharel,2020; Bhattarai, 2021). However, none of the studies have examined the role of the saving ratio and labour force growth as mediating variables in this context. Economists Roy F Harrod and Evsey Domar have presented the importance of the saving ratio in determining economic growth. Similarly, the role of labour supply in economic growth was presented by economist Robert Solow in his economic growth model. (Dwivedi, 2010). Moreover, the role of capital market development in economic performance remains inconclusive as studies show contradictory results (e.g, Pan & Mishra, 2017; Pokharel, 2020).

Thus, this study attempts to fill the gap in existing literature regarding the dubious debates on capital market development and economic growth in Nepal and seeks to analyse the relationship between capital market development and economic growth. Market capitalisation is used as an indicator of the secondary market, while capital mobilisation through the primary market is used as an indicator of the secondary market. The size of the real gross domestic product is considered a proxy of economic growth. The relationship between economic growth and capital market development indicators is controlled by macroeconomic variables like CPI, remittance inflow, gross national savings, and labour force growth.

The paper is divided into five segments. The second segment includes the 'Literature Review', which provides insight into the research conducted at the national and international levels over various periods about capital market development and economic growth. The third segment is 'research methodology,' which provides the basic knowledge regarding the variable and research design, including econometric modelling to determine the impact of capital market development on economic growth. Similarly, the fourth segment includes the 'Results and Discussion', which interprets the study results. The last segment

includes the 'conclusion, policy implications and future scope.

Literature Review

The relationship between capital market development and economic growth has attracted considerable attention, with findings varying by context and methodology. Studies by Olawale (2024) and Adekunle (2024) reflect contrasting outcomes in Nigeria. While Olawale, using a robust multiple regression model and OLS estimation over a long time series, finds that market capitalisation and the all-share index significantly influence real GDP, Adekunle's ARDL and Engle-Granger approach reveals that only new issues have a meaningful impact on growth. This discrepancy shows the complexity of capital markets in emerging economies—mere expansion in size or value does not guarantee growth unless it translates into real sector investment. Similarly, Nneka et al. (2022) highlight this nuance by showing that government bonds support growth while corporate bonds do not, emphasising that the structure and credibility of instruments play a crucial role.

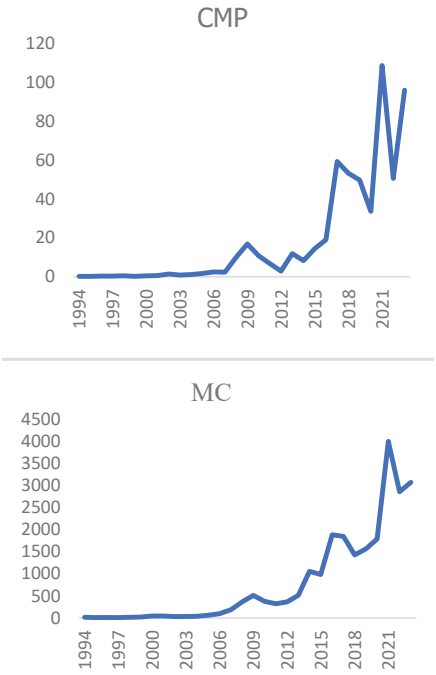
In South and Southeast Asia, the capital market-growth nexus presents a somewhat more consistent pattern, albeit with its own caveats. Hossin and Hamid (2024), analysing Bangladesh's capital market from 2001 to 2018, demonstrate a stable long-run relationship between market indicators and GDP, supported by multiple time-series tests, including ARDL, VECM, and causality analysis. Their findings suggest a unidirectional causality from capital market performance to economic growth, indicating that a well-functioning capital market can stimulate economic development. Similarly, Sharma and Kautish (2020), examining South Asian middle-income countries, reinforce this by showing that the stock market and the banking sector are vital for long-term GDP growth. These studies highlight that capital markets must be embedded within a broader financial ecosystem to realise their full economic impact.

Other studies indicate that the effectiveness of capital markets is not only an issue of financial depth but also of efficiency and institutional intensity. Borteye and Peprah (2022) in Ghana believe that the level of liquidity is more significant than the size or capitalisation of a market when it comes to growth, which is one of the considerations of active trading and investor confidence. The results are consistent with many cross-country statistics, including those by Loopoid and Papastamou (2016), who state that stock market development is inadequate without concomitant financial sector development. Leene and Oki (2017) also warn that not all indicators, such as the number of listed companies, necessarily have a positive association with GDP and that there are strong implications of such shallow growth, which lacks substance in an economy.

Sharma and Kautish (2020) present the greater importance of capital market and banking sector development in promoting economic growth, especially in South Asian countries. However, there is still debate, especially in developing economies, regarding the impact of capital market development and economic growth, as there is no consensus among the empirical literature regarding the existence and nature of the relationship between the capital market and real economy (Pan & Mishra, 2017). A similar situation exists in the Nepalese context as well. Bhatta and Misra (2021) argue that the Nepalese stock market isn't aligned with the economy to predict output growth with current market performance, whereas Pokharel (2020) examined that the capital market in Nepal is supporting economic growth through efficient fundraising, efficient allocation of resources, fair price determination, and liquidity. Capital is not properly harnessed in developing economies because of weak capital markets and inefficient and inadequate infrastructure. Thus, developed economies experienced a positive change in terms of productivity and growth as compared to developing economies (Ibrahim & Mohammed, 2020).

In Nepal, the capital market started in full-fledged mode in January 1994 (Bhattarai et al., 2024). Because of its emerging phase, the number of investors, members, and listing companies is growing significantly. Digitalisation and new technology, such as Mero Share, trade management system (TMS), online clearing, and settlement procedures, motivate new investors to align with the capital market.

Figure 1: Trend of Capital mobilisation through primary market (CMP) and Market capitalisation (in Rs. Billion).



When applied to the Nepal context, previous studies by Regmi (2012) and Pokharel (2020) demonstrate a positive relationship between capital market development and economic growth from a long-term perspective, albeit the effects are remarkably small compared to other larger economies. Their observations suggest that the capital market can be helpful in the process of resource distribution as well as efficient fundraising, although in the parameters of a small and less diversified market. Compared with the research in Nigeria, Bangladesh, and Indonesia, it has become obvious that, more than advancing the capital market in Nepal, a better institutional infrastructure, the enhancement of liquidity, and the unification of financial sub-sectors must be aimed at. Thus, to make the capital market a significant growth engine in Nepal, there should be a concentration on the depth, variety, and operational effectiveness of reforms, learnt not only by their peers in the region, but also using the example of other structurally close economies.

Research Methods and Materials

Data Sources

This study examines the effect of capital market development and economic growth, controlled by some macroeconomic variables that affect economic growth. Real GDP per capita is used as a dependent variable and a proxy of economic growth, while capital mobilisation through primary market and market capitalisation are prime independent variables and are treated as a proxy of capital market development indicators.

Estimating the relationship between capital market development and economic growth is controlled by the major macroeconomic variables, i.e., remittance inflow, CPI, growth rate of Gross National Saving, and growth of labour force.

The variables included in the model are empirically and theoretically significant drivers of economic growth. Empirical studies of Pokharel (2020), Bhattarai et al. (2021), Mishra et al. (2011), and Dhungana (2023) show the long-run association between market capitalisation and economic growth. Similarly, Pokharel (2020) shows a positive association between the total amount of public securities issued and

economic growth. Both market capitalisation and public securities issues are treated as prime independent variables and capital market development indicators. Market capitalisation is treated as an indicator of secondary market development, and the public issue of securities is taken as the primary market development indicator (Pokharel, 2020).

Within the framework of economic growth theories, the classical theory developed by Harrod-Domar presents saving as the prime mover of economic growth with a given capital-output ratio. In contrast, the Endogenous growth model developed by Paul Romer suggests that saving and human capital are the prime determinants of economic growth (Dwivedi, 2010). Empirical studies of Pokharel (2020), Masuduzzaman (2014), and Rehman and Hysa (2021) show a positive association between remittance inflow and economic growth. Studies that are used to investigate the relationship between inflation and economic growth in Nepal found that inflation is positively related to economic growth up to a threshold limit of 6.38±1.38 per cent, and it is counterproductive beyond the threshold limit (e.g., Paudel & Raut, 2022).

The study applied annual time series data from fiscal year 1994 to 2023. Data are collected from the Nepal Rastra Bank under the heading Database on Nepalese economy. Similarly, the data on the labour force are extracted from the World Bank. Table 1 shows the variables used in the study with their respective notation and sources.

Table 1: Details of Variables

Notation	Variable	Proxy	Description	Source
LRGDP	Real GDP	Economic growth	Real GDP per capita, expressed in log form	Nepal Rastra Bank, Database on Nepalese Economy
LCMP	Capital mobilisation through the primary market	Capital Market Development	The total amount of public issuance of securities expressed in log form	Nepal Rastra Bank, Database on Nepalese Economy
LMC	Market Capitalisation	Capital Market Development	Total market share of all listed securities in the Nepal Stock Exchange, expressed in log form	Nepal Rastra Bank, Database on Nepalese Economy
LRMT	Remittance Inflow	Remittance	Yearly remittance inflow is expressed in log form	Nepal Rastra Bank, Database on Nepalese Economy
LCPI	Consumer Price Index	Inflation	Yearly Price Index expressed in log form	Nepal Rastra Bank, Database on Nepalese Economy
LFG	Growth of the labour force	Human capital	The labour force comprises people aged 15 and older who supply labour to produce goods and services during a specified period, and these are expressed in growth form.	World bank
GNS	Growth of gross national saving	Saving	Gross national product minus total consumption, expressed in growth form.	Nepal Rastra Bank, Database on Nepalese Economy

Model Specification

With the time series data from 1994 to 2023, the autoregressive distributed lag model is used to explain the long-run cointegration between the capital market development indicator and the economic growth of Nepal. The ARDL model is considered most appropriate in examining the short-run and long-run relationship between the variables when they have mixed order integration without stationarity in the second order. Similarly, this approach is more useful in analysing the relationship among the variables with a small sample size.

RGDP is taken as the dependent variable, and CMP, MC, CPI, RMT, GNS, and LFG are considered explanatory variables.

The simple model for the study is

LRGDP= f(LCMP, LMC, LRMT, LCPI GNS LFG)…….(i)

The log-linear form of the above equation is

$LRGDP= \beta_0 + \beta_1 LCMP+ \beta_2 LMC+ \beta_3 LRMT+ \beta_4 LCPI + \beta_5 GNS + \beta_6 LFG+ \varepsilon$…….(ii)

Here,

β_0 is the constant term, β_1, β_2, β_3, β_4, β_5, and β_6 are the coefficients of variables, and ε is the error term. Similarly, 't' represents time. The expected sign of all coefficients is positive.

For the ARDL approach to cointegration, which was developed by Pesaran et al.(2000), the following expression is used to explain the short-run and long-run parameters,

$$\delta \mathbf{LRGDP}= \alpha+\lambda_1\mathbf{LRGDP}_{t-1}+\lambda_2\mathbf{LCMP}_{t-1}+\lambda_3\mathbf{LMC}_{t-1}+\lambda_4\mathbf{LCPI}_{t-1}+\lambda_5\mathbf{LRMT}_{t-1}+\lambda_6\mathbf{GNS}_{t-1}+\lambda_7\mathbf{LFG}_{t-1}+\ldots$$
$$\sum_{i=1}^{p} \phi i\delta LRGDP_{t-i} + \sum_{i=1}^{q} \beta i\delta LCMP_{t-i} + \sum_{i=1}^{r} \alpha i\delta LMC_{t-i} + \sum_{i=1}^{s} \theta i\delta LCPI_{t-i} +$$

$$\sum_{i=1}^{t} \mu i\delta LRMT_{t-i} + \ldots \sum_{i=1}^{u} \rho i\ \delta GNS_{t-i} + \sum_{i=1}^{v} \gamma i\ \delta LFG_{t-i} + \mathbf{U_t}$$

Here, δ represents the first difference operator; ϕ_i, β_i, α_i, θ_i, μ_i, ρ_i, and γ_i are short-run parameters, and λ_1, λ_2, λ_3, λ_4, λ_5, λ_6, and λ_7 are long-run parameters. U_t represents the error term, whereas p, q, r, s, t, u, and v represent lagged dependent and explanatory variables criteria. The following hypothesis test is done to explain the long-run cointegration of explanatory variables with dependent variables:

Null Hypothesis (H0): $\lambda 1=\lambda_2=\lambda_3=\lambda_4=\lambda_5=\lambda_6=\lambda_7=0$ (No co-integration)

Alternate Hypothesis (H_1): $\lambda_1\neq\lambda_2\neq\lambda_3\neq\lambda_4\neq\lambda_5\neq\lambda_6\neq\lambda_7\neq0$ (Cointegration)

To confirm the validity of the long-run bound test, the following error correction model is used,

$$\delta LRGDP= \alpha+ \sum_{i=1}^{p} \phi i\delta LRGDP_{t-i} + \sum_{i=1}^{q} \beta i\delta LCMP_{t-i}+ \sum_{i=1}^{r} \alpha i\delta LMC_{t-i} + \sum_{i=1}^{s} \theta i\delta LCP_{t-i}+$$
$$\sum_{i=1}^{t} \mu i\delta LRMT_{t-i}+ \sum_{i=1}^{u} \rho i\ \delta GNS_{t-i}+ \sum_{i=1}^{v} \gamma i\ \delta LFG_{t-i}+ \eta ECT_{t-i} + U_t$$

The expected sign of the coefficient of ECT_{t-i}, i.e., η, is negative and significant, indicating that the variables are correlated to the stable long-run relationship. The negative value of the coefficient indicates the speed of adjustment, i.e., at what time the short-run disturbances will fully converge towards long-run equilibrium.

Empirical Results

Stationarity Test

The stationary data has a constant mean and variance over some time. However, the nature of time series data generally trends upward, giving spurious results during the analysis. Thus, before conducting the empirical analysis, the stationarity of the variables must be checked. Among the various methods such as Dicky Fuller (DF), Augmented Dicky Fuller (ADF), Phillips Perron (PP), Kwiatkowski-Phillips-Schmidt-

Shin (KPSS) test, etc., ADF and PP test is used here to check the stationarity of variables. The table below shows the stationarity test using the ADF and PP tests.

Table 2: Stationarity Test Using Augmented Dicky Fuller (ADF) Test

	ADF Statistics				PP Statistics			
	I(0)		I(1)			I(0)	I(1)	
Variables	C	C&T	C	C&T	C	C&T	C	C&T
LRGDP	0.8807	-2.0842	-5.5975*	-4.0111**	3.4011	-1.9026	-5.7257*	-11.2775*
LCMP	-0.7194	-4.1403*	-7.6836*	-7.5406*	-0.081	-4.1804*	19.2658*	-19.5071*
LMC	-0.444	-3.3050***	-4.4235*	-1.3288	-0.294	-2.3956	-5.7602*	-5.9666*
LCPI	-0.1213	-6.3035*	-4.2718*	-3.633***	-0.2983	1.6912	-2.9528**	-2.8824
LRMT	-1.8187	-3.6156**	-4.3836*	-4.6525*	-1.7893	-2.5739	-4.4091*	-4.6667*
GNS	-6.3129*	-6.3148*	-4.9474*	-5.1060*	-6.528*	-7.047*	23.8279*	-22.735*
LFG	-1.1562	-4.9771*	-2.8258***	-2.6113	-1.8765	-2.2280	2.696***	-2.7518

Source: Author's Calculation

*Note: * represents significance at a 1 per cent level of significance, ** represents significance at a 5 per cent level of significance, and *** represents significance at a 10 per cent level of significance. C represents Constant, and C&T represents constant and trend. Similarly, I(0) and I(1) represent the test at the level and first difference, respectively.*

The result shows that the variables have a mixed order of integration without being stationarity at the second difference, which allows us to use the ARDL cointegration approach. Variable LRGDP has an I(1) order of integration per the ADF test, whereas all other variables are stationarity at I(0). Similarly, using the PP test, LCMP, and GNS are stationarity at the level, and all other variables are stationarity at the first difference, showing a mixed order of integration.

Cointegration Result

The ARDL bounds test is applied to check the long-run cointegration among the variables. The study used 2 as optimal lag, and the selected model for the analysis is ARDL (2,1,2,1,1,2,1). The result of the bound test is presented as follows:

Table 4: ARDL Bound Test

Test Statistics	Value	Significance	I (0)	I (1)
		Asymptotic n=1000		
F-statistics	7.2024	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.50%	2.55	3.61
		1%	2.88	3.99

Source: Author's Calculation

The null hypothesis for the long-run cointegration relationship is that no long-run cointegration exists among the variables. The table shows that the F-statistic is 7.2024, greater than the critical value of the upper bound, i.e., 3.99, indicating the rejection of the null hypothesis. The rejection of the null hypothesis shows that long-run cointegration exists among the variables of interest.

ARDL Long-run and short-run estimation Coefficient

After confirming the long-run cointegration between the dependent and explanatory variables, the long-run and short-run coefficients are explained using the ARDL model.

Table 5: Long-run and short-run Coefficient of ARDL (2,1,2,1,1,2,1) Model

	Panel(A)			**Panel(B)**	
	Long Run Estimation			Short Run Estimation	
Variable	Coefficient	t-stat	Variable	Coefficient	t-stat
LNCMP	0.033749	3.242021*	D(LNGDP(-1))	0.661242	7.85227*
LNMC	-0.037175	-2.15120***	D(LNCMP)	0.010574	3.472026*
LNCPI	0.551221	10.14235*	D(LNMC)	-0.013736	-2.3748**
LNRMT	-0.042761	-3.34058*	D(LNMC(-1))	0.027635	5.330574*
LFG	0.032263	4.120745*	D(LNCPI)	0.149999	3.089348*
GNS	-0.000538	-0.957785	D(LNRMT)	-0.014979	-2.7424*
C	9.00825	65.61586*	D(LFG)	0.020425	7.504995*
			D(LFG(-1))	-0.028481	-7.38779*
			D(GNS)	0.000134	1.657784
			CointEq(-1)	-0.781975	-9.71015*
			Adjusted R-square	0.874	
			DW stat	1.88	

Source: Author's Calculation

*Note: * represents significance at a 1 per cent level of significance, ** represents significance at a 5 per cent level of significance, and *** represents significance at a 10 per cent level of significance.*

The result of the long-run coefficient shows a mixed effect on economic growth. The primary market development indicator has a positive relationship with economic growth. Similarly, the secondary market development indicator proxied by market capitalisation has a negative relationship with economic growth; however, the coefficients are marginally insignificant. The result reveals that the relationship between CMP and RGDP is significant at a 1 per cent level of significance. The coefficient of 0.033740 indicates that a 1 per cent increase in CMP leads to a 0.033740 per cent increase in RGDP. Similarly, the coefficient of MC is -0.037175, which indicates that a 1 per cent increase in market capitalisation leads to a 0.037175 decrease in RGDP.

The sign coefficient of the primary market development indicator is consistent with the findings of Adekunle (2024) and Pokharel (2020). Similarly, the result of the secondary market development indicator, i.e., market capitalisation, is consistent with the findings of Adekunle (2024) but inconsistent with the findings of Pokharel (2020) and Mishra (2010).

Similarly, CPI is significant at a 1 per cent level of significance, where a 1 per cent increase in CPI leads to a 0.5354 per cent increase in real GDP and is consistent with the findings of Paudel & Raut (2022). Interestingly, the long-run coefficient of remittance inflow is significant at a 1 per cent level of significance, and the coefficient sign is negative. The coefficient of -0.042761 indicates that a 1 per cent increase in remittance inflow leads to a 0.042761 per cent decrease in real GDP.

Labour force growth has a positive impact on economic growth; however, gross national savings growth

doesn't significantly impact economic growth, but the expected sign is negative. The coefficient of labour force growth is 0.032263, indicating that a 1 percentage point increase in the growth of the labour force leads to a 0.032263 per cent increase in economic growth. The coefficient of labour force growth is consistent with the endogenous growth model; however, the coefficient of the growth rate of saving is inconsistent with the endogenous growth model.

Panel B of the table presents the short-run dynamics of the variables of interest. In the short run, all the variables are significant except the growth of gross national savings. Although the coefficient is significant, the expected sign of the year lag value of GDP, MC, and LFG has a negative sign of the coefficient, indicating a negative association with real GDP.

The value of the error correction term is negative and significant at the 1 per cent level of significance. It further signifies that the variables are integrated, and the model converges toward the equilibrium. The coefficient of -0.781975 represents that short-term deviation will be corrected by 78.1975 per cent each year, which takes 1.28 years to fully converge towards the equilibrium.

The adjusted R-squared value is 0.8740, indicating that 87.40 per cent of RGDP, in the short run, is explained by the variables in the model, and the rest is due to other factors. Similarly, the D-W stat is 1.88, which is greater than the adjusted R-square, indicating the non-spuriousness of the model.

Granger Causality Test

The Granger causality is carried out to determine whether the past values of the variables explain the other variables used in the study. A lag length of 2 assesses the relationship between the variables. The result for Granger causality is presented below:

Table 6: Granger Causality Test

Null Hypothesis	Observation	F-Statistic	Prob.
LCMP does not Granger-cause LRGDP	30	8.19440	0.0035
LRGDP does not Granger-cause LCMP		0.37634	0.6923
LMC does not Granger-cause LRGDP	30	1.29290	0.3017
LRGDP does not Granger-cause LMC		0.21618	0.8079

Source: Author's Calculation

Table 6 shows the Granger causality of the main variables used in the study. The null hypothesis for the test is that there is no Granger causality for each of the variables that were used. The table shows that a unidirectional causal relationship exists between LCMP and LRGDP. The null hypothesis is that no causal relationship from LCMP to LRGDP has been rejected at the 1 per cent level of significance. However, there is no causal relationship between LMC and LRGDP.

Residual and Stability Diagnostic

The time series data hold serious problems such as heteroskedasticity, autocorrelation, normality, etc., which create spurious results. Thus, heteroskedasticity, autocorrelation, and normality tests have been done to ensure a non-spurious result. The following residual and stability tests have been performed to check the fitness of the model:

Table 7: Serial Correlation and Heteroskedasticity Result Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.398038	Prob. F(2,9)	0.6829
Obs*R-squared	2.275414	Prob. Chi-Square(2)	0.3206

Breusch-Pagan- Godfrey Test			
F-statistic	0.990624	Prob. F(16,11)	0.5204
Obs*R-squared	16.52886	Prob. Chi-quare(16)	0.4167
Scaled explained SS	1.772201	Prob. Chi-quare(16)	1.0000
Ramsey RESET Test Result			
t statistics			
0.2187	1.3125	Prob.	
F-statistics	1.7228	Prob.	
0.2187			

Source: Author's Calculation

The Breusch-Godfrey (BG) Serial Correlation Lagrange Multiplier (LM) Test is used to test the autocorrelation of the model. The null hypothesis for the BG serial correlation LM test is that there is no serial autocorrelation. Table 7 shows that the null hypothesis of no serial autocorrelation has been accepted since its associated probability value is greater than 0.05 and indicates significance at a 5 per cent level of significance.

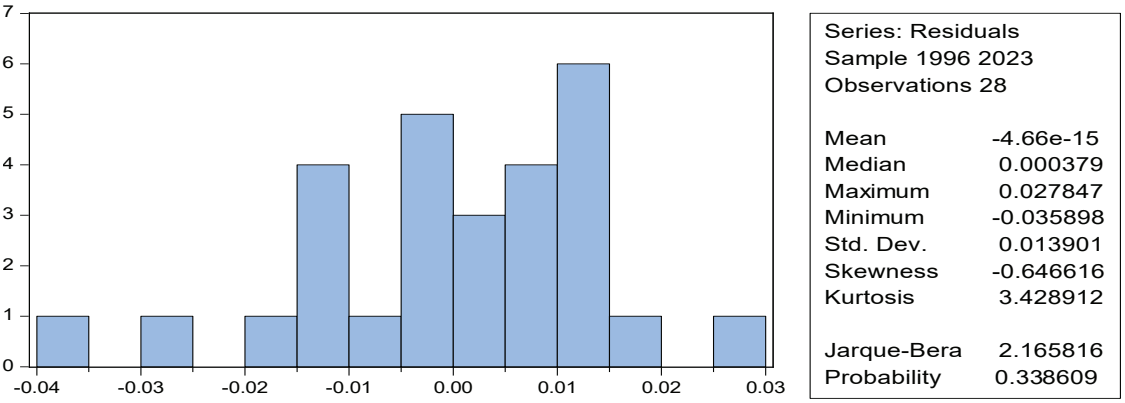
Similarly, the Breusch-Pagan-Godfrey test is performed to test the heteroskedasticity of the model. The null hypothesis for the BPG test is that there is no heteroskedasticity. Table 7 shows that the null hypothesis of no heteroskedasticity has been accepted since its associated probability value is greater than 0.05 and indicates significance at a 5 per cent level of significance.

The Ramsey RESET Test is performed to test the correctness of the model. The probability value of the F-statistic and t-statistic is 0.2187, greater than 0.05, indicating the rejection of the null hypothesis that the model is not in its correct functional form. It means the model is correctly specified.

Test for Normality

The Jarque-Bera test was performed to check whether the data came from a normally distributed sample by employing graphical and statistical methods. The summary of the normality test using the Jarque-Bera test is presented below:

Figure 1: Jarque-Bera for Normality

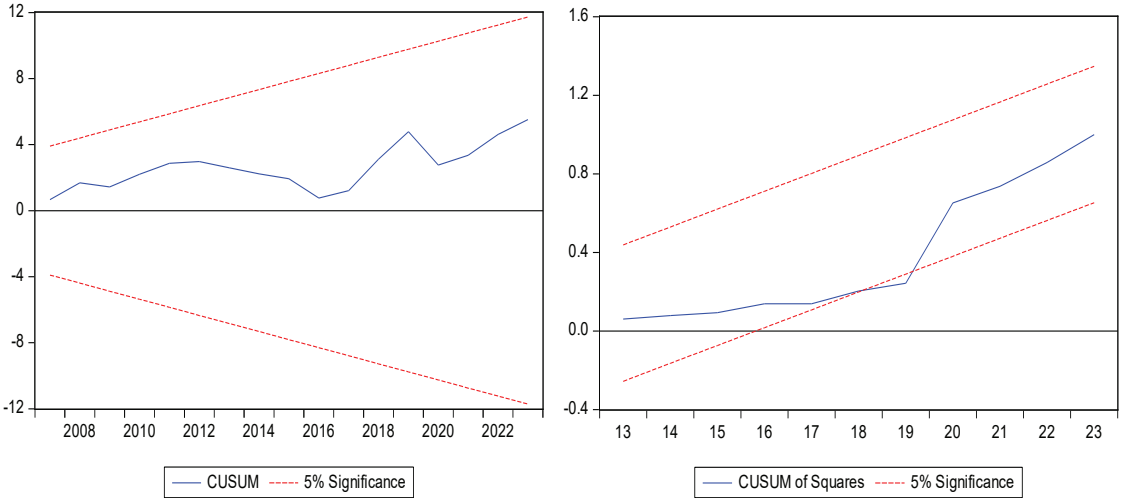


The null hypothesis for the Jarque-Bera test is that the data are normally distributed. The p-value for the Jarque-Bera test is 0.3386, which is greater than 0.05, indicating that the null hypothesis is accepted, i.e., data comes from a normally distributed population.

Test for Stability Diagnostic

The stability of the model has been assessed using the cumulative sum of squares (CUSUM) test. It helps to determine whether the coefficient in the model remains stable or if there are any significant shifts. The test is presented graphically as below:

Figure 2: Cumulative Sum (CUSOM) and CUSOM of Squares Test



The figure shows that the cumulative sum of residuals and CUSOM of square lies within a 5 per cent level of significance, indicating that the long-run model is stable. Here, the null hypothesis of the model's lack of stability has been rejected at a 5 per cent level of significance.

Conclusion

The study uses capital mobilisation through the primary market (CMP) and market capitalisation (MC) as indicators of capital market development along with remittance inflow (RMT), consumer price index (CPI), growth of gross national saving and labour force growth as a controlled variable to determine the effect on economic growth in Nepal. The ARDL error correction model has been used to estimate the relationship among the variables.

The result demonstrated a positive and significant relationship between CMP, an indicator of primary market development, and economic growth in both the short-run and long-run; however, the degree of the relationship is very weak. Similarly, MC has a negative expected sign in the long and short run. It indicates that the fund mobilisation through the primary market helps promote economic growth, though the coefficient is marginally insignificant. Moreover, secondary market development does not affect economic growth in both the short and long run; however, the one-period lag value of MC has positive and significant results in the short run, and the coefficient is also marginally insignificant.

Policymakers need to pay serious attention to the issue that although the size of the capital market has been increasing continuously, it has not been affecting the real economy significantly. The policymaker should think about how the productive sectors of the economy could be motivated to enter into the capital market and how the capital collected through the market is mobilised into the productive areas. Moreover, the market should be enlarged not only in the form of several companies but also in the form of alternative financial instruments and assets, providing adequate investment alternatives for investors. For that, the listed companies should be encouraged to issue other securities such as corporate debentures, bonds, etc. Moreover, government-issued securities should be listed in the capital market so that investors can easily liquidate their assets whenever required. This motivates investors to invest and also helps to increase the market size.

Thus, it requires reforms in terms of institutional capabilities, financial instruments, a market with

advanced technology, infrastructure, and investors through promoting financial literacy so that more real sector companies are encouraged to be listed in the capital market, as well as to develop an efficient capital market which promotes the credibility of investors.

Fluctuations in environmental factors, such as political changes, economic fluctuations, demographic factors, etc., in international economies can directly impact countries' economic performance in terms of growth. Thus, there is still a gap for researchers at the national and international levels to better assess the phenomenon.

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