Tribhuvan University Journal Vol. 41, No. 1 | pp. 37–52
Tribhuvan University • Kirtipur, Kathmandu, Nepal • ISSN 2091-0916 • Estd. 1964 Year: 2026

Original Research Article
DOI:10.3126/tuj.v41i1.93553

Stock Market Performance and GDP Growth in Nepal: Evidence from ARDL Bounds Testing and Granger Causality Analysis

Khimananda Bhandari

Tribhuvan University, Resunga Multiple Campus, Tamghas, Gulmi, Nepal
*Correspondence: bhandarikhima@gmail.com

Article History

Received: 23 April, 2026 Revised: 27 May, 2026
Accepted: 15 June, 2026 Published: 30 June, 2026

How to Cite:

Bhandari, K. (2026). Stock market performance and GDP growth in Nepal: Evidence from ARDL bounds testing and Granger causality analysis. *Tribhuvan University Journal*, *41*(1), 37–52. https://doi.org/10.3126/tuj.v41i1.93553

Keywords

Error Correction Model (ECM), Inflation, Macroeconomic indicator, Nepal Stock Exchange (NEPSE), Stock prices

Scan to access

ABSTRACT

This study examines the relationship between stock market performance and economic growth in Nepal using annual time-series data from 1994 to 2024. It addresses the finance-growth nexus in the context of Nepals developing and relatively less mature capital market. The study analyzes both long and short-run dynamics between GDP growth and selected stock market and macroeconomic indicators, including market capitalization, the number of listed companies, interest rates, and inflation. The Autoregressive Distributed Lag (ARDL) bounds testing approach is employed to examine long-run cointegration, while the Error Correction Model (ECM) is used to assess short-run adjustment. Granger causality tests are also applied to identify the direction of causality among the variables. The empirical results confirm a statistically significant long-run equilibrium relationship among the variables. The interest rate and the number of listed companies have positive and statistically significant effects on long-run GDP growth. In the short run, inflation has a significantly negative effect. The negative sign of the error-correction term indicates adjustment toward the long-run equilibrium. The results also reveal bidirectional causality between stock market development and economic growth, while interest rate and inflation show mixed but significant conditional effects. The findings suggest that stock market development contributes to Nepals economic growth, but this relationship depends on macroeconomic stability. The study highlights the need to deepen capital markets, strengthen regulation, and maintain stable inflation and interest rate conditions.

Introduction

Many studies have examined the relationship between stock market performance and economic growth, but the dynamics of this relationship in developing countries like Nepal remain unclear. According to financial theory, efficient stock markets channel savings, allocate capital efficiently, and encourage investment, which in turn leads to economic growth (Fama, 1970; Levine & Zervos, 1998).

However, there is considerable variation across emerging markets in the empirical strength and direction of this relationship. Since the inception of the Nepal Stock Exchange (NEPSE) in 1993, the market has grown in size, with market capitalization, trading volume, and the number of listed companies increasing. Despite these advancements, the market remains quite small, illiquid, and volatile, with prices subject to macroeconomic factors such as inflation and interest rates (Dhungana, 2023). The findings of the empirical studies conducted in Nepal are inconsistent; Bhattarai et al. (2024) found positive correlation between each stock market indicator and the growth of GDP while Adhikari et al. (2024), Bist (2024) and Shrestha and Subedi (2014) reported negative or insignificant correlation between each stock market indicator and the growth of GDP, especially in the case of inflation and interest rates.

These inconsistencies suggest a lack of understanding of the short- and long-term relationship between economic growth and stock market performance in Nepal. Previous research often focuses on simple correlations or a single indicator, which fail to capture temporal causation and do not consider interactions among several macroeconomic variables. In this study, these gaps have been addressed using the Autoregressive Distributed Lag (ARDL) model and Granger causality analysis to examine the relationships among GDP growth, market capitalization, interest rates, the consumer price index (CPI), and the number of listed companies. This method allows sensitive measurement of short- and long-term relationships, demonstrates the direction of effects, and accounts for the influence of macroeconomic factors that prior studies have captured. This research presents novel findings by incorporating several macroeconomic parameters into a time-sensitive econometric model, which explains the role of the Nepalese stock market as a catalyst for sustainable economic growth. The findings will be useful for policymakers, regulators, and investors in developing plans to enhance NEPSEs effectiveness in supporting long-term development.

Despite much research on the nexus between finance and growth, the results are inconclusive, particularly in developing economies. Financial development theory posits that an effective stock market promotes growth by efficiently allocating savings to productive investments and enhancing risk-taking and capital allocation (Fama, 1970; Levine, 1997). The demand-following hypothesis, however, assumes that economic growth alone drives stock market growth (Robinson, 1952). Of particular interest to Nepal is the debate, given that the stock market is underdeveloped, volatile, and only partially efficient across the economy, even though the pace of change has been slow since the 1990s Dhungana (2023). Empirical studies on the issue in Nepal are divided: Bhattarai et al. (2024) and Bist (2024) reported a strong long-run relationship and causality between market development and GDP growth, whereas Adhikari et al. (2024) and Shrestha and Subedi (2014) reported the opposite.

By contrast, the majority of past research has focused on a direct bivariate correlation of stock market activity and GDP or has limited itself to a few macroeconomic variables. The existing studies do not include a complete set of macroeconomic variables in a single econometric model; hence, they can not capture both short-term fluctuations and long-term equilibrium relationships. The provided research article tries to fill this gap and to provide some crucial macroeconomic factors, including the interest rates, Consumer Price Index (CPI), market capitalization, and the number of listed companies, into the discussion of the causal and dynamic dependence between the performance of the Nepal stock market and the GDP growth trajectory. Thus, this approach is more comprehensive in its discussion of the stock market, which is crucial to the Nepalese economy.

This paper examines the relationship between the stock market and economic growth in Nepal, considering the effects of key macroeconomic variables. The following specific research objective guides this research:

- To determine the short-term and long- term correlation of the performance of the Nepal stock exchange with the economic growth trajectory.
- To determine the impact of the factors on the correlation between stock market activity and GDP growth, include the market capitalization, interest rates, the Consumer Price Index (CPI), and the number of listed companies.
- To verify the directionality and nature of the causal relationship between stock market performance and economic growth.

The objectives fill gaps in the current literature and provide an empirical basis for formulating policies and investment strategies, thereby enhancing the capital market and supporting economic development in Nepal.

The study has both theoretical and practical implications. Theoretically, it contributes to the finance-growth literature on developing countries by providing empirical evidence from countries with fairly emerging and developing stock markets (King & Levine, 1993; Levine, 1997). Both short and long-term analysis, coupled with a causality analysis, allow the research to conclude whether the Nepal stock market is a supply-driven entity that drives the economys growth or a demand-following institution that reacts to it. Moreover, the study is superior to prior studies because it used a large number of macroeconomic indicators (Bhattarai et al., 2024; Bist, 2024). In Practice,

the findings can be applied to policymakers who can then formulate reforms to transform the capital market and drive economic growth.

The association among market capitalization, liquidity, and macroeconomic stability, and their impact on market performance, can provide regulators, such as the Securities and Exchange Commission, with insights. The required information is sent to the Security Board of Nepal (SEBON) and Nepal Stock Exchange (NEPSE). Further, this research can provide investors with empirical information on portfolio performance. policies in tune with Nepals economic dynamics. Simply put, the research will attempt to fill an existing gap in the financial literature. Nepal by offering a set of feasible policy suggestions and by playing a role in the. Creation of a more robust, varied, and growth-oriented stock exchange.

Literature Review

Finance-Led Growth

The finance-led growth hypothesis suggests that the development of the financial market, specifically the stock market, increases economic growth by improving the mobilization of savings, the allocation of capital, and the diversification of risk (Goldsmith, 1969; Schumpeter, 1934; Shaw, 1973). Empirical evidence from emerging economies supports this view, indicating that market capitalization and liquidity positively contribute to investment, technological implementation, and GDP growth (Bekaert et al., 2021; Drexler et al., 2014). The study shows that, in Nepal, higher market capitalization and trading volume have generally been correlated with GDP growth, though not always in the short term (Bhandari, 2023; Bhattarai et al., 2024; Chalise, 2020).

Demand-Following Growth

By contrast, the demand-following view holds that financial development is a response to already achieved economic development and doesn't trigger it (Patrick, 1966). This argument implies that the size of the stock market grows with the economy's demand for investment, suggesting that stock market performance responds to, rather than causes, GDP growth. This view is supported by evidence from Nepal, where research shows that stock market indices improve after macroeconomic expansion, suggesting that expansion can both precede and follow stock market improvements (Bhattarai et al., 2024).

Stock-Market-Based Transmission Mechanisms

There are several interrelated ways stock markets affect real economic activity. The wealth effects of rising stock prices can increase consumption spending, and the reduced cost of equity can spur investment. Prices also send forward-looking signals that inform resource allocation and investment decisions (Brough & Simmons, 2023). These mechanisms operate through structural factors in Nepal, including limited availability of conventional finance, regulatory policies, and investor behavior, which can either enhance or mitigate impacts (Bhandari, 2023; Bhattarai et al., 2024; Drexler et al., 2014).

Evidence from Emerging Economies

The findings from cross-country analyses suggest that there is a variety of stock marketgrowth relationships for emerging markets depending on institutional quality, policy frameworks, and market depth (Arestis et al., 2001; Levine & Zervos, 1998). The market cap is typically a positive predictor of long-term growth, but inflation, volatile interest rates, and liquidity can influence it or even turn it into a negative predictor. However, findings from methodological variations, such as cointegration tests, ARDL models, and Granger causality models, differ, highlighting the need to define short- and long-term dynamics.

Nepalese Evidence

The empirical results are mixed in Nepal. There are positive correlations between market size and GDP (Bhandari, 2025; Bist, 2024; Chalise, 2020), but negative or statistically insignificant relationships with inflation and interest rates (Adhikari et al., 2024; Thapa & Adhikari, 2025). These contradictions are partly due to methodological differences, such as the use of ARDL models (Subedi, 2025; Thapa, 2023) or regression or correlation analysis (Baral & Katuwal, 2024; Gyawali, 2025). Moreover, the number of listed companies is a measure of market maturity. However, this measure has not been sufficiently studied to understand the market's direct impact on GDP growth. The empirical interpretation is further complicated by structural features of the Nepalese market, intermittent credit injection, speculative bubbles, and regulatory fees.

Methodological Gaps

Existing studies in Nepal have mainly been descriptive or have analyzed variables along a single dimension, thereby limiting theorization. Short- and long-term effects are not synthesized, and mixed results are sometimes reported without critical analysis; methodological differences across studies are not compared. This gap indicates the need for a model that accounts for multiple macroeconomic parameters, incorporates strong econometric methods (such as ARDL and causality testing), and integrates the results into a broader theoretical framework.

Synthesis

In conclusion, the literature highlights a complex and context-specific link between stock markets and economic growth. In Nepal, both finance-led and demand-following dynamics are relevant, with market structure and macroeconomic variables serving as moderating influences. A review of the existing literature indicates that the field needs more rigorous, theoretically grounded, and contextually coherent empirical evidence on short- and long-term interactions and the problems they pose; this present study can contribute to this body of knowledge. An empirical study of the Nepalese stock market and economic growth is presented in Table 1.

Table 1

Review of Literature Framework

S.N.	Study	Key Variables	Main Findings	Comments
1	Chalise (2020)	Market capitalization, GDP, NEPSE Index	Positive effect of capital mobilization on GDP; market development promotes growth	Supports finance-led growth; lacks causality testing
2	Bist (2024)	NEPSE index, GDP	Short-term NEPSE causes GDP; long-term co-integration exists	Provides short and long-term insights; methodology aligns with ARDL
3	Thapa (2023)	NEPSE, GDP	GDP Granger-causes NEPSE in the short term; NEPSE does not Granger-cause GDP	Highlights demand-following dynamics; ARDL captures short and long-term effects.
4	Bhandari (2023)	Capital Market, GDP	Capital market expansion contributes to GDP growth; the moderate effect of	Offers insights into policy and market depth, based on co-integration analysis.
5	Subedi (2025)	NEPSE, Interest Rates	Negative correlation between interest rates and NEPSE; causality not established	Demonstrates sensitivity to macroeconomic factors; only partial causal evidence.
6	Gyawali (2025)	NEPSE, Interest Rates	Significant negative relationship between interest rates and stock returns	Confirms the negative interest rate effect; limited to a linear relationship
7	Baral and Katuwal (2024)	NEPSE, T-Bill/Interbank Rate	Interest rates Granger-cause NEPSE; NEPSE does not Granger-cause rates	Reinforces one-way causality; policy-relevant insight
8	Bhattarai et al. (2024)	NEPSE index, GDP, Market Capitalization	Evidence of bidirectional causality under certain conditions; structural market factors moderate the effect.	Integrates multiple variables; supports theoretical synthesis.
9	Kushwaha and Kafle (2024)	NEPSE, GDP, CPI	GDP and NEPSE are strongly positively correlated; CPI is weakly negatively correlated	Demonstrates limited inflation effect; descriptive correlation only
10	Adhikari et al. (2024)	NEPSE, CPI, GDP	NEPSE is negatively related to inflation (not significant); GDP is negatively significant	Highlights the weak influence of inflation; uses a robust ARDL framework
11	G.C. and Neupane (2007)	NEPSE, Real GDP	Long-run co-integration; bidirectional causality for real variables	Early evidence of a bidirectional link; nominal variables are not significant
12	Bhandari (2025)	Stock Market Performance, GDP	Stock market development positively influences economic growth; bidirectional causality is observed.	Provides long-term empirical evidence using ARDL and ECM; highlights macroeconomic interactions.

Identifying the Research Gap

The picture of the facts is complicated. Market capitalization and GDP have both short and long-term causal relationships (Bist, 2024). The rates seem detrimental to the stock market; in a few instances, they have been found to be Granger-causally related to NEPSE (Baral & Katuwal, 2024; Bhandari,

2023; Gyawali, 2025; Subedi, 2025). The impact of CPI is often inconsistent and relatively insignificant (Adhikari et al., 2024; Thapa & Adhikari, 2025). The observed mixed outcomes are in line with the theoretical results and assumptions of the evolving relations between finance and growth, and the different stages of development. They can illustrate distortion, speculative bubbles, and policy. volatility. Certain works indicate supply-leading causality, but others find no co-integration (Thapa, 2023) or only a minor inflationary impact. The significance of the main variables has not been adequately researched: interest rates and CPI have not been analyzed with the same level of impact, and the role of the number of listed companies is even less explored. This paper undertakes a specific analysis of the variables of interest using the ARDL model with the most recent and abundant time-series data, thereby addressing significant gaps in the literature.

Figure 1

Interconnection between the Dependent Variable and Explanatory Variables

Note. **Source:** (Adhikari et al., 2024; Thapa & Adhikari, 2025)

Figure 1 presents the study's conceptual framework, showing GDP growth as the central dependent variable influenced by stock market and macroeconomic indicators. Market capitalization and the number of listed companies reflect stock market performance, while the consumer price index and interest rates reflect macroeconomic conditions. The arrows indicate the expected relationships among these variables in examining the stock marketgrowth nexus in Nepal.

Materials and Methods

Research Design

The study employs a quantitative design and uses secondary time-series data to analyze the relationship between stock market performance and economic growth in Nepal. The quantitative research design will assist in identifying the causal relationship between the variables, both in the short term and the long run. The analysis will start with a test of stationarity of all variables to test the econometric models. The co-integration analysis is also used to examine the existence of long-run equilibrium relationships. The Granger causality test and the Error Correction Model (ECM) are also used to describe the association between two variables in the long and short term (Gujarati & Porter, 2009).

Variables and Measurement

The key variables in this study are operationalized and measured in real terms, with nominal variables adjusted to constant prices, to control inflation. Nominal variables are converted to real terms to remove the effects of inflation, ensuring that observed changes reflect actual economic activity rather than price level fluctuations. This transformation allows meaningful comparisons over time and accurate analysis of structural relationships in the economy (Westerlund, 2008). Stock market development is proxied by the natural logarithm of real market capitalization (L_RMC). Macroeconomic indicators include interest rates, the consumer price index (L_CPI), and the number of listed companies (L_NLC), all expressed in constant prices to ensure comparability over time. Economic growth in Nepal is measured by real gross domestic product (GDP) at constant prices.

Data Sources and Collection

This paper compares Nepals stock market performance and GDP growth between 1994 and 2024. This period was selected for several reasons. The Nepal Stock Market, specifically the Nepal Stock Exchange (NEPSE), experienced significant growth in 1994 due to economic liberalization and the introduction of market-based reforms. This period would cover long-term trends in the stock market and GDP, enabling a thorough analysis of the evolving relationship between these two data series over the past 30 years. It extends to 2024 to include the latest data, ensuring that the analysis reflects the latest dynamics of Nepal's economic environment and financial market performance, with reference to the effects of globalization and technological developments. The information is acquired in the following reputable institutions:

Nepal Stock Exchange (NEPSE) provides historical market indices and trading statistics. SEBON provides verifiable market statistics and regulatory reports, thereby increasing the credibility of market data. The Nepal Rastra Bank (NRB) provides all necessary macroeconomic indicators and monetary policy information, which are rigorously scrutinized. The Economic Survey provides the Ministry of Finance with a fine-grained economic discussion based on confirmed national data. The Center Bureau of Statistics (CBS) presents nationally representative economic and statistical data through a rigorous collection process.

Secondary data were transformed to a log scale when needed to stabilize variance and normalize distributions. Combining data from authoritative sources ensures the reliability, accuracy, and relevance to the study's aims.

Econometric Model

$$\begin{aligned} \text{Ln\_RGDP} = \alpha + \beta_1 \text{Ln\_MC} + \beta_2 \text{Ln\_IR} \\ + \beta_3 \text{Ln\_CPI} + \beta_4 \text{Ln\_LC} + \varepsilon \end{aligned} \quad (1)$$

In equation 1, Ln_RGDP denotes the natural logarithm of Real Gross Domestic Product (RGDP). In contrast, Ln_MC represents the natural logarithm of Market Capitalization, Ln_IR and

Ln_CP represent the natural logarithms of the Interest rate and the Consumer Price Index, respectively, and Ln_LC represents the Number of Listed Companies in NEPSE. The model coefficients $\beta 1$, $\beta 2$, $\beta 3$, and $\beta 4$ indicate the respective effects of these variables on RGDP. The constant term denoted by α, which is the intercept, and ε represents the error term in the model. The model coefficients $\beta 1$, $\beta 2$, $\beta 3$, and $\beta 4$ indicate the respective effects of these variables on RGDP.

Data Analysis

A multi-method micro econometric approach is used in the research study. The central tendency, variability, and other measures are presented using descriptive statistics. distributional properties of variables such as mean, median, standard deviation, and skewness (Gujarati & Porter, 2009). The direction is pointed out in the correlation analysis. And the nature of correlations between the stock market, macroeconomic variables, and GDP. growth (Wooldridge, 2016). The Granger Causality test determines the direction of causality between the stock market and economic growth by testing whether past values of one variable predict future values of the other. The future values of the other variable can be predicted by its own variable (Granger, 1969).

LMC explains the share of independent variables (market capitalization, interest rates, CPI) in GDP growth, hence contributing to the multivariate impacts (Stock & Watson, 2015). The Autoregressive Distributed Lag (ARDL) Model focuses on the short- and long-run relationships between stock market performance and economic growth and is a robust approach for variables with mixed integration orders and small sample sizes (Pesaran et al., 2001). The Error Correction Model (ECM) examines the speed at which short-run equilibrium errors adjust toward their long-run values (Engle & Granger, 1987).

Robustness Checks

Robustness tests are crucial for confirming the consistency and accuracy of empirical results, and for minimizing biases from model misspecification and omitted variables. In this paper, we conducted robustness checks to establish the validity of the results under different model specifications. First, alternative lag specifications were tested in the autoregressive distributed lag (ARDL) model to assess the model to changes in temporal specifications (Pesaran et al., 2001). Secondly, sensitivity tests were conducted by varying key macroeconomic variables, such as interest rates and inflation rates, to investigate their effects on the relationship between stock prices and economic growth. This helps to address concerns about model specification and enhances the plausibility of the causality findings (Narayan & Narayan, 2010). Secondly, sub-samples based on different economic cycles - for example, growth and recession - were used to check the consistency of the results over time, further confirming the robustness of the findings (Bekaert et al., 2021). Generally, the findings were consistent, and the quality of the empirical results was confirmed.

Stability Test Results

The study conducts stability tests using the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) of recursive residuals. Both Figure 2 and Figure 3 are provided below.

Figure 2

CUSUM and CUSUMQ Test Result

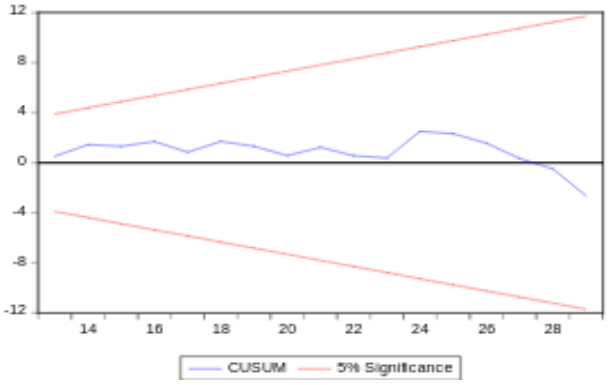
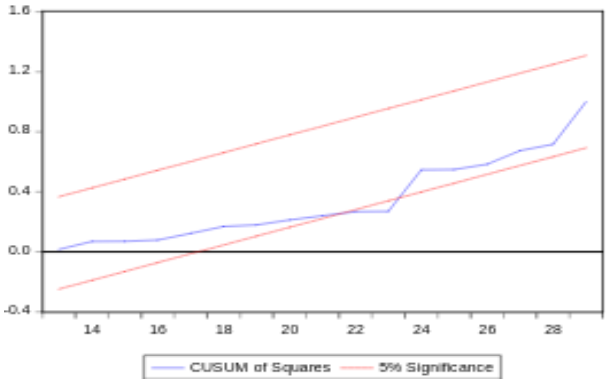


Figure 2 appears to be a Cumulative Sum stability (CUSUM) test plot. The solid blue line represents the cumulative sum of residuals, while the red dashed lines indicate the 5% significance bounds. Since the blue line remains within the red boundaries throughout the sample period, this suggests that the model parameters are stable over time and that no structural break has been detected.

Figure 3

CUSUMNQ Test Result



Note. **Source:** Authors calculation by using E-views 10 software

Figure 3 shows the CUSUM squares stability test. The solid blue line represents the cumulative sum of squared residuals, while the red dashed lines denote the 5% significance bounds. Since the blue line remains within the red bounds throughout the period, it indicates that the models variance is stable and that there is no evidence of structural instability or heteroskedasticity in the residuals.

Ethical Considerations

The research was based on secondary data freely available in the public domain, and sources were acknowledged and cited (Kaiser & Menkhoff, 2018). No primary data collection or human subjects were involved, and no formal ethical clearance was required. Data were analyzed and reported transparently

and objectively, ensuring accuracy and avoiding misrepresentation.

Limitations

This study relies on secondary data and aggregate market indicators, which may not capture sector-specific dynamics such as remittance inflows, exchange rates, foreign investment, the money supply, or investor behavior. The ARDL and Granger causality methods assume linearity and exclude non-linear effects or structural breaks. Findings are context-specific to Nepals shallow and illiquid stock market and may not generalize to other economies.

Results

Descriptive Statistics

The descriptive statistics in Table 2 show that the skewness of LN_RGDP and CPI is positive, indicating a right-skewed distribution; in contrast, the skewness of listed businesses, market capitalization, and interest rate is negative. The Jarque-Bera test (Jarque & Bera, 1980) indicates that the skewness of LN_RGDP, LN_LC, LCPI, and MC is not significant (p-value = 0.05), implying that these are normally distributed. The kurtosis values indicate that LN_RGDP, LN_LC.

Table 2

Descriptive Statistics of the Dependent and Independent Variables

	L_RGDP	L_RMC	L_CPI	L_LC	L_IN
Mean	14.31	12.66	4.076	4.99	0.63
Median	14.24	13.01	3.97	4.95	1.13
Maximum	14.97	14.86	5.021	5.46	2.36
Minimum	13.66	10.68	3.14	4.18	-3.91
Std. Dev.	0.442	1.36	0.58	0.38	1.55
Skewness	0.043	-0.084	0.106	-0.27	-1.62
Kurtosis	1.563	1.532	1.7	1.77	5.08
Jarque-Bera	2.501	2.638	2.094	2.18	14.95
Probability	0.286	0.267	0.35	0.33	0.00056
Sum	415.134	367.37	118.22	144.84	15.19
Sum Sq. Dev.	5.472	52.06	9.42	4.24	55.81
Observations	29	29	29	29	24

Cross-Correlation

Table 3 shows the cross-correlation among the variables under consideration. The interest rate (IR) shows a significant positive correlation with L_CPI and L_RGDP, and a moderate positive correlation with Ln_LC. Likewise, all variables are positively correlated; Ln_RMC, Ln_CPI, and Ln_LC show strong correlations with Ln_RGDP, with correlation coefficients exceeding 0.95. Similarly, the correlation between Ln_CPI and Ln_RMC is 0.93, and the correlation between Ln_LC and Ln_CPI is 0.92. Asteriou and Hall (2007) state that a correlation value exceeding 0.9 may indicate multicollinearity.

Table 3

Cross-Correlation of Variables

	LN_RGDP	LN_RMC	LN_CPI	IR	LN_LC
LN_RGDP	**1**				
LN_RMC	**0.924**	**1**			
LN_CPI	**0.988**	**0.938**	**1**		
IR	**0.086**	**0.105**	**0.058**	**1**	
LN_LC	**0.938**	**0.901**	**0.924**	**0.013**	**1**

Source: Author's calculation.

After taking the first differences (d) of Ln_RGDP, Ln_MC, Ln_CPI, Ln_IR, and Ln_LC, the correlation coefficients decline substantially, as shown in Table 4. We now find significant positive correlations between the first difference of Ln_RGDP (dL_RGDP), the number of listed companies (Ln_LC), and the Consumer Price Index (CPI). However, a negative correlation exists between Ln_RGDP, market capitalization (Ln_MC), and the interest rate (IR). Additionally, there are significant negative correlations between CPI and Ln_RMC, IR and Ln_LC, and IR and CPI. The correlations between the dependent and independent variables are lower in their differenced form than in their level form, suggesting that their inclusion in the model is less likely to violate multicollinearity concerns.

Table 4

Cross-Correlation after First Differences

	DLN_RGDP	DLN_RMC	DLN_CPI	IR	DLN_LC
DLN_RGDP	1				
DLN_RMC	-0.356	1			
DLN_CPI	0.314	0.086	1		
IR	0.022	-0.145	0.115	1	
DLN_LC	-0.138	0.217	-0.11	-0.156	1

Source: Authors calculation by using E-views 10 software.

Unit Root Test Results

All variables need to be checked to ensure they are not constant at the I(2) level. When the variables are fixed to I(2), the ARDL model is not suitable for implementation. This study employed the Augmented Dickey-Fuller (ADF) unit root test. This elaborates the following sections. Table 5 presents summarized data from a unit root test.

Table 5

Augmented Dickey-Fuller Test / Unit Root Test Results

Null Hypothesis: The Variable has a Unit Root						
		At Level				
		L_RGDP	**L_RMC**	**L_CPI**	**L_IR**	**L_LC**
With Constant	t-Statistic	-0.1851	-0.5585	0.065	-1.7457	-2.1155
	Prob.	*0.9295*	*0.8646*	*0.9567*	*0.3963*	*0.2404*
With Constant & Trend	t-Statistic	-2.3186	-2.6786	-2.827	-1.6347	1.7738
	Prob.	*0.411*	*0.252*	*0.2019*	*0.7468*	*0.6902*
Without Constant & Trend	t-Statistic	5.3182	1.8477	2.5419	0.5198	2.9367
	Prob.	*1*	*0.9818*	*0.9961*	*0.4803*	*0.9986*

Source: Author's calculation.

Table 6

Augmented Dickey-Fuller Test / Unit Root Test Results at First Difference

At First Difference						
		d(L_RGDP)	**d(L_RMC)**	**d(L_CPI)**	**d(L_IR)**	**d(L_LC)**
With Constant	t-Statistic	-4.4871	-1.5083	-2.9058	-3.9627	-4.4978
	Prob.	*0.0015*	*0.5099*	*0.0578*	*0.0065*	*0.0014*
With Constant & Trend	t-Statistic	-4.3947	-4.0314	-2.851	-3.9418	-4.4732
	Prob.	*0.0088*	*0.0197*	*0.1928*	*0.0274*	*0.0074*
Without Constant & Trend	t-Statistic	-2.636	-3.7793	-0.8667	-3.9897	-3.8144
	Prob.	*0.0104*	*0.0005*	*0.3313*	*0.0004*	*0.0005*

Source: Author's calculation.

In Table 6, the ADF test indicates that the variables are not I(0). Hence, the researcher tested for first-order stationarity of the variables (in Table 5). In addition, the researcher performed a Phillips-Perron (PP) test to determine the stationarity of all variables, and the results, as shown in Table 6, indicate that all variables are stationary at first differences with the constant term. Hence, the Phillips-Perron (PP) test with a constant found that all variables, including the log of market capitalization (Ln MC), are stationary in the first differences. The finding suggests that a constant term has strong explanatory power for the trends; hence, the use of first differences is justified for modeling long-term relationships.

Even if the variables are I(1) in first differences, the ARDL

model remains appropriate because it does not require all regressors to have the same integration order. It allows modeling both short and long-run relationships within a single framework, providing flexibility when some variables are I(0) while others are I(1) (Pesaran et al., 2001). Moreover, ARDLs error-correction representation captures the speed of adjustment toward long-run equilibrium, ensuring robust inference even with relatively small sample sizes (Kripfganz & Schneider, 2023). Thus, applying the ARDL in this study is justified despite the presence of first-difference stationarity.

Table 7

Philips Perron Test at First Difference

At First Difference						
		d(L_RGDP)	**d(L_RMC)**	**d(L_CPI)**	**d(L_IR)**	**d(L_LC)**
With Constant	t-Statistic	4.4554	-4.1785	2.9058	-3.869	-4.4886
	Prob.	*0.001*	*0.003*	*0.05*	*0.008*	*0.001*
With Constant & Trend	t-Statistic	4.3396	-4.0259	2.851	-3.8443	-4.4594
	Prob.	*0.01*	*0.02*	*0.19*	*0.03*	*0.007*
Without Constant & Trend	t-Statistic	2.5246	3.7793	0.6314	-3.896	-3.79
	Prob.	*0.01*	*0.0005*	*0.43*	*0.0005*	*0.0005*

Source: Author's calculation by using E-views 10 software.

Lag Selection

Choosing an optimal lag time is important in time series analysis because it is essential for providing a fair representation of the dynamic relationship without overfitting or omitting pertinent temporal effects. The Schwarz Information Criterion (SIC) was used to select the most suitable lag length in this study because it imposes a higher penalty for additional parameters than other criteria (Schwarz, 1978). SIC-based approach guarantees a parsimonious model that balances explanatory power and simplicity, helping to avoid over-parameterization and multicollinearity. The careful selection of lags enhances the validity of subsequent ARDL and Granger causality analyses, and the time dynamics of the Nepalese stock market and macroeconomic variables can be modeled accordingly (Pesaran et al., 2001). The Schwarz Information Criterion (SIC) was used to select the best value for this model.

Table 8

VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria						
Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-20.478	NA	6.98E-06	2.316254	2.564218	2.374667
1	108.9782	188.3010*	5.63e-10*	-7.179833*	-5.692048*	-6.829356*
2	131.5044	22.52626	1.07E-09	-6.9549	-4.2273	-6.3124

Source: Author's calculation by using E-views 10 software.

Bound Test Results

The result of the calculated F-statistic exceeds the critical value at the I(1) level of significance, thus accepting the existence of an equilibrium relationship between the performance of the stock market and growth of the GDP in the long run, as it would be acceptable according to the co-integration methodology developed by Johansen (1991) and Johansen and Juselius (1990). The null hypothesis of co-integration is rejected, supporting the use of both short and long-term dynamics in the model. In turn, this finding suggests a long-term, mutually dependent relationship between the stock market and GDP, as well as a stable relationship.

Table 9

Bound Testing Results

F-Bounds Test	Null Hypothesis: No levels of relationship			
Test Statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
F-statistic	**10.2872**	10%	2.20	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Author's calculation by using E-views 10 software.

Breusch-Godfrey Serial Correlation Test

The Breusch-Godfrey test for serial correlation in a regression model (autocorrelation) assesses whether the regression pattern reflects temporal correlation. This test assesses the soundness of regression findings by identifying any potential violation of the assumption of independent errors in the model.

Table 10

Breusch-Godfrey Serial Correlation Test Result

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.04E-05	Prob. F(1,16)	0.9975
Obs*R-squared	1.55E-05	Prob. Chi-Square(1)	0.9969

The diagnostic tests suggest that there is no autocorrelation in the model. The F-statistic and the Q-statistic indicate that there is no serial correlation in the residuals, thus the estimated coefficients are stable. Therefore, the models results are reliable, and multicollinearity arising from serial dependence is unlikely to affect them.

Heteroscedastic Test Result

When performing regression or other parametric analyses, testing for heteroskedasticity is helpful, as it focuses on the relationship between the error terms rather than between the two independent variables. It has been put to the Breusch-Pagan-Godfrey test.

Table 11

Heteroskedasticity Test Result

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	3.056116	Prob. F(6,17)	0.0324
Obs*R-squared	12.45393	Prob. Chi-Square(6)	0.0526
Scaled explained SS	4.972413	Prob. Chi-Square(6)	0.5474

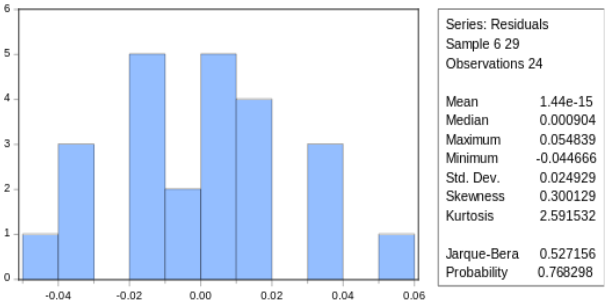
The heteroskedasticity test indicates that the models residuals are relatively stable across observations. Specifically, the Breusch-Pagan-Godfrey test yields a p-value of 0.0526, which is slightly above the conventional 5% threshold, implying that the null hypothesis of homoscedasticity cannot be rejected. It suggests that the disturbance term does not exhibit systematic variation with changes in the explanatory variables, supporting the reliability of the coefficient estimates and ensuring that standard errors are not biased due to unequal variance. Consequently, the model satisfies a key assumption of classical regression, reinforcing confidence in the validity of the results.

Normality Test Result

This metric assesses how residual skewness and kurtosis deviate from the expected norms of a normal distribution. The Jarque-Bera test assumes that the data follow a Chi-square distribution and accounts for both skewness and kurtosis. Skewness, which quantifies a distribution's asymmetry, equals zero for a normal distribution. Kurtosis quantifies the extent of a distribution's peakedness or flatness. A score of 3 indicates the expected behavior in normal distributions.

Figure 4

Normality Test Result



As shown in Figure 4, the Jarque-Bera test yields a p-value greater than 0.05, indicating that the residuals do not deviate significantly from normality. This means the errors are normally distributed with no significant skewness or kurtosis, which is one of the assumptions of classical regression analysis. Hence, the normality of residuals is an argument for the validity of the estimated coefficients, and for the reliability of inference from the standard errors and test statistics.

Stock Market Performance, Macroeconomics in Nepal

Table 11 shows that the interest rate has a positive effect on GDP growth and is significant at the 5% level in the long term. Table 11 also shows that market capitalization and the consumer price index are insignificant in the long run, corroborating research on the value of using stock market indicators to forecast long-term economic performance. Bekaert et al. (2021) argue that the size and growth of stock markets may

not have a direct and significant impact on long-term real GDP growth. Other factors, such as efficiency and integrity, may be more important in generating economic conditions.

The research evidence sheds light on the relationships among inflation, the number of listed companies, and long-term GDP growth, highlighting their economic significance. Fischer (1993) suggests that inflation negatively affects economic growth by distorting prices and reducing investor certainty. Moreover, the positive relationship between the number of listed firms and GDP growth is consistent with economic theory and illustrates the importance of market structure and competition in economic growth. Acemoglu and Robinson (2012) and Demirgüç-Kunt and Levine, 1996 recognized the need for a healthy business environment with a wide range of firms competing. So, the statistical findings in Table 11, where market capitalization is found to play a less important role in Nepal's long-term GDP growth than the other two variables (inflation and number of listed firms), are consistent with a large body of economic literature.

Table 12

Long-run Co-integration between stock market performance and GDP growth

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
L_RMC	0.005461	0.042014	0.129973	0.8981
L_CPI	0.251278	0.192114	1.307964	0.2083
L_IR	0.026388	0.010251	2.574283	0.0197
L_LC	0.860567	0.258635	3.327337	0.004
C	9.115223	0.665034	13.7064	0

Source: Authors calculation by using E-views 10 software

The statistical data in Table 12 indicate significant relationships between stock market performance and GDP growth in Nepal. First, the negative cointegration and the statistically significant error-correction coefficient of cointEq (-1) suggest that the economic variables have been in long-term equilibrium. Huston (2010) argued that the finding that economic variables are stable in the long term is consistent with previous literature on co-integration and financial models. Engle and Granger (1987) pioneered the use of co-integration, showing that it is an effective method for identifying long-term relationships among economic variables.

The results suggest a negative short-term correlation between inflation and stock market returns, reflecting the relationship between these macroeconomic variables. It also demonstrates the impact of inflation uncertainty. Mishkin and White (2002) examine the impact of inflation on stock market performance, which is often negatively correlated in the short term due to uncertainty and increases in interest rates. Moreover, other evidence also supports the argument that market capitalization has no significant impact on short-term GDP growth. Furthermore, Bekaert et al. (2021) explore the complex relationship between stock market size and economic growth, suggesting that stock market efficiency and liquidity may also be significant. Table 12 confirms that stock market performance has a remarkable impact on Nepals GDP, on predicting economic movements and government policies, and on understanding the link between financial markets and the economy.

Table 13

Short Run Analysis of the Model

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(L_CPI)	-1.303702	0.229955	-5.669366	0
CointEq(-1)*	-0.403149	0.045108	-8.937382	0
R-squared	0.73596	Adjusted R-squared		0.72396

Source: Authors calculation by using E-views 10 software

Causality Between the Stock Market and GDP in Nepal

The study shows that inflation and the number of listed firms have a long-term influence on GDP growth. The growth in the number of listed companies is positively related to GDP growth. It supports the hypothesis that a diversified competitive market structure increases economic growth, as argued by Fischer (1993) and Demirgüç-Kunt and Levine (1996), who suggested that such a structure promotes growth. In addition, GDP growth is positively influenced by inflation rates that distort price signals and hence slow economic growth, as was the case with Fischer (1993), who argued that a diversified and competitive market.

Table 14

Granger Causality between the Stock Market and GDP Growth

Null Hypothesis	Obs	F-Statistic	Prob.
L_RMC does not Granger- Cause L_RGDP	28	10.7553	**0.0031**
L_RGDP does not Granger- Cause L_RMC		2.43417	0.1313
L_CPI does not Granger- Cause L_RGDP	28	4.4472	**0.0451**
L_RGDP does not Granger -Cause L_CPI		3.20467	0.0855
Interest Rate does not Granger -Cause L_RGDP	28	0.88354	0.3584
L_RGDP does not Granger -Cause Interest Rate		0.11037	0.7432
L_LC does not Granger -Cause L_RGDP	28	1.51429	0.2299
L_RGDP does not Granger -Cause L_LC		1.585	0.2197
L_CPI does not Granger -Cause L_RMC	28	4.14606	**0.0525**
L_RMC does not Granger- Cause L_CPI		2.53339	0.124
Interest Rate does not Granger -Cause L_RMC	28	3.29319	0.0846
L_RMC does not Granger -Cause Interest Rate		1.82032	0.1924
L_LC does not Granger -Cause L_RMC	28	5.10366	**0.0328**
L_RMC does not Granger -Cause L_LC		1.28157	0.2683
Interest Rate does not Granger -Cause L_CPI	28	3.54374	0.0744
L_CPI does not Granger -Cause Interest Rate		0.40249	0.533
L_LC does not Granger -Cause L_CPI	28	3.9304	**0.0585**
L_CPI does not Granger- Cause L_LC		0.37712	0.5447
L_LC does not Granger -Cause Interest Rate	28	0.05627	0.8149
Interest Rate does not Granger -Cause L_LC		3.94442	0.0609

Source: Authors calculation by using E-views 10 software

The Granger causality results at the 5% significance level indicate only a few statistically significant predictive relationships. If the p-value is < 0.05, the null hypothesis is rejected. Based on this table, market capitalization Granger-causes real GDP (unidirectional causality), CPI Granger-causes real GDP, and the number of listed companies Granger-causes real market capitalization. The other relationships are not statistically significant at the 5% level but are weakly significant at the 10% level.

Robustness Checks

Some robustness checks were conducted to ensure that the estimated relationship between stock prices and economic growth was reliable. Rather, first, alternative lag structures in the ARDL model were tested, and the estimated coefficients did not change significantly across models, suggesting that the results were robust to the choice of time lags (Pesaran et al., 2001). Second, the inclusion of key macroeconomic variables, such as interest and inflation rates, did not alter the main relationship, indicating that omitted variables do not materially affect the results (Narayan & Narayan, 2010). Third, the direction of the relationship was stable across economic cycles (growth vs. recession periods), as suggested by sub-sample analyses (Bekaert et al., 2021). The overall results of these checks indicate that the results are not strongly affected by any specific model specification or sample period.

Discussion

The results suggest that Nepal's stock market development has a measurable influence on economic growth, but its scope is limited. According to the finance-led growth hypothesis, market capitalization is a significant predictor of GDP growth, whereas GDP is not a significant predictor of market capitalization, suggesting that market behavior is reactive (Bhattarai et al., 2024; Chalise, 2020). It is due to structural features of the Nepalese market, such as shallow depth, low liquidity, and high investor concentration (Bist, 2024; Subedi, 2025).

The one-way causal relationship between inflation and GDP implies that inflation does not affect GDP. The one-way causal relationship between inflation and GDP suggests that inflation does not impact GDP. This behavior can be understood in terms of inflations dual nature: moderate inflation can signal economic activity. In contrast, high or even volatile inflation can lead to a decline in real returns and reduce confidence. There is also a low correlation between interest rates and market capitalization, indicating that other factors have a greater impact on domestic interest rates than local economic factors do (Baral & Katuwal, 2024; Gyawali, 2025).

As more companies are listed, market capitalization also increases, further confirming the relevance of market breadth to liquidity and growth potential. The effect of the stock market, however, is limited, as it does not fully pass through to GDP due to institutional and regulatory constraints, speculative trading, and market fragmentation, which reduce the channels for finance-growth transmission (Bhandari, 2025; Bhattarai et al., 2024; Thapa, 2023). These insights can help explain why some variables are not statistically significant and behave differently from others. To support the role of the stock market in sustainable economic growth in Nepal, policy measures to increase market participation, improve regulatory trans-

parency, and future-proof macroeconomic conditions will be crucial (Bhandari, 2023; Bhattarai et al., 2024; Chalise, 2020).

This paper analyzes the relationship between stock market performance and economic growth in Nepal and provides important insights. The study used the ARDL Bounds test and the Granger causality test to test the dynamics between the key stock market indicators and macroeconomic variables. The results could be as follows.

Stock Market and Economic Growth

The researchers have determined that stock market indicators, including market capitalization (MC), the number of listed companies (LC), and Nepals GDP, are used. The number of listed companies and market capitalization were discovered to affect GDP. growth positively. Nevertheless, faces difficulties such as market fluctuations, liquidity constraints, and so on. Regulatory inefficiencies stymied the maximum potential of stock market growth.

Macroeconomic Factors and Market Performance

Interest rates (IR) had a substantial impact on long-run stock market performance, while the consumer price index (CPI) had a negative effect. It suggests that good monetary policy can spur market growth, but while inflation restrains it.

Causal Relationships

The study found a unidirectional causal relationship between GDP and market capitalization: the stock market's performance can affect economic growth, but economic growth does not influence market capitalization. This interrelatedness was also becoming noticeable in the interplay between market capitalization and other factors. macroeconomic variables, such as interest rates and the consumer price index (CPI). The error correction term (ECT) reflected a short-term equilibrium relationship, underscoring the mutual impact of economic stability on stock market changes and vice versa.

Conclusion

The study supports the relationship between stock market development and economic growth in Nepal, showing a measurable association between stock market capitalization and economic growth, especially in the long term. The magnitude and consistency of this effect, however, are constrained by structural and institutional factors such as low liquidity, shallow market depth, and concentrated investors. The context specificity of these dynamics is supported by the fact that other macroeconomic variables, such as interest rates and inflation, exhibit weak or inconsistent effects on stock market performance. The cross-dependence of economic growth and market performance creates a two-way link, indicating that the positive effects of the stock market are not necessarily transmitted to the economy, and the reciprocal relationship is not always particularly strong. Hence, the results indicate that, although the stock market may be of developmental relevance, caution should be exercised when interpreting it. Financial markets may be more effective if policies are adopted to encourage market participation and to create a more transparent regulatory environment and faster macroeconomic stability; however, financial markets' contribution to sustained GDP growth may be imperfect. Overall, the evidence suggests a complex picture: while Nepal's stock market can play a limited, context-specific role in promoting economic growth, its impact should not be exaggerated.

Implications

For Policymakers

The empirical results indicate that market capitalization can influence the GDP growth in Nepal. Policy intervention should therefore focus on strengthening market depth, increasing investor participation, and enhancing market transparency by institutional reform. More stable and efficient capital markets will be bolstered by strengthening regulatory structures and investor protection mechanisms, thereby enhancing the potential for economic growth. Macroeconomic variables (such as interest rates and inflation) affect market dynamics, but their impact on GDP cannot be inferred directly; it must be accounted for within a broader policy framework. For example, calibrated adjustments to interest rates or selective expenditure restraints are monetary and fiscal policies that can help keep markets stable without overstimulating growth.

For Investors

Market capitalization trends can serve as an early indicator of economic activity and growth potential, giving investors a forward-looking perspective when making investment decisions. Market depth and liquidity, along with regulatory stability, are key institutional factors that affect the stock market's responsiveness to macroeconomic conditions. Interest rates and inflation remain significant, but they are indirect and situational factors, and should not be the only ones considered when developing a portfolio.

For Future Research

These could include further studies on sector-specific contributions to GDP and the role of stock market growth in industry expansion. A study of the influence of external shocks (such as global financial crises) on Nepal's market-growth relationship would provide insight into market resiliency. Moreover, a more disaggregated analysis of the short-term responses of the CPI and other macroeconomic indicators (such as remittances, exchange rate, FDI, money supply, and external shocks) can provide policymakers with guidance on factoring in inflation control in the context of the growth target and recognizing the predictability constraints of the stock market.

Acknowledgement

I would like to express my heartfelt gratitude to Prof. Dr. Sanjaya Acharya and Prof. Dr. Tara Prasad Bhusal for their invaluable guidance and unwavering support throughout this research. I also extend my sincere thanks to the Faculty of Economics, Resunga Multiple Campus, for encouraging me to conduct my

research professionally and for motivating me to build the best possible career in the future. A special acknowledgment goes to Nepal Rastra Bank and the Ministry of Finance for their assistance in providing data. Lastly, I am deeply appreciative of my family and friends for their constant encouragement and support.

Artificial Intelligence (AI) Use and Disclosure

In the preparation of this manuscript, AI tools were used for some sections, with minimal or no editing.

Similarity and Originality Confirmation

The manuscript is original and complies with TUJ publication ethics.

Conflict of Interest

The authors declare no conflict of interest.

Funding

The authors declare no funding received.

Data Availability

Data available from the corresponding author on request.

References

Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. Crown Business. https://www.penguinrandomhouse.com/books/205014/why-nations-fail-by-daron-acemoglu-and-james-a-robinson

Adhikari, C. P., Jha, A. K., & Maheshwari, D. N. (2024). The impact of inflation and GDP growth rate on Nepal's stock market: An analytical study. *Medha: A Multidisciplinary Journal*, *7*(1), 61–78. https://doi.org/10.3126/medha.v7i1.73895

Arestis, P., Demetriades, P. O., & Luintel, K. B. (2001). Financial development and economic growth: The role of stock markets. *Journal of Money, Credit and Banking*, *33*(1), 16–41. https://doi.org/10.2307/2673870

Asteriou, D., & Hall, S. G. (2007). *Applied econometrics: A modern approach* (Rev.). Palgrave Macmillan. https://books.google.com/books/about/Applied_Econometrics.html?id=e4x9QgAACAAJ

Baral, T., & Katuwal, K. (2024). Stock market performance and monetary policy response: Empirical evidence from Nepal. *Economic Journal of Nepal*, *47*(1–2), 29–42. https://doi.org/10.3126/ejon.v47i1-2.80810

Bekaert, G., Harvey, C. R., & Lundblad, C. (2021). Financial openness and productivity. *World Development*, *39*(1), 1–19. https://doi.org/10.1016/j.worlddev.2010.06.016

Bhandari, K. (2023). Impact of capital market on GDP growth in Nepal. *The Lumbini Journal of Business and Economics*, *11*(1). https://doi.org/10.3126/ljbe.v11i1.54337

Bhandari, K. (2025). Effect of the stock market on economic growth in Nepal. *NPRC Journal of Multidisciplinary Research*, *2*(13). https://doi.org/10.3126/nprcjmr.v2i13.87134

Bhattarai, J. K., Gautam, R., & Chettri, K. K. (2024). Stock market development and economic growth: Empirical evidence from Nepal. *Global Business Review*, *25*(6), 1510–1524. https://doi.org/10.1177/09721509211016818

Bist, L. B. (2024). *Stock market development and economic growth of Nepal* [Master's thesis, Shanker Dev Campus, Tribhuvan University] [Tribhuvan University Repository]. https://hdl.handle.net/20.500.14540/24637

Brough, T. J., & Simmons, R. T. (2023). Economics as moral exchange: James buchanan meets martin buber. *Public Choice*, *194*, 395–420. https://doi.org/10.1007/s11127-023-01047-y

Chalise, D. R. (2020). Growth of the capital market in Nepal: Impact on capitalization, GDP and the NEPSE index. *Saptagandaki Journal*, *11*, 66–83. https://doi.org/10.3126/sj.v11i0.36898

Demirgüç-Kunt, A., & Levine, R. (1996). Stock markets, corporate finance, and economic growth: An overview. *The World Bank Economic Review*, *10*(2), 223–239. https://doi.org/10.1093/wber/10.2.223

Dhungana, B. R. (2023). Stock market development and Nepal's economic growth. *Journal of Business and Social Sciences Research*, *8*(2), 31–50. https://doi.org/10.3126/jbssr.v8i2.62132

Drexler, A., Fischer, G., & Schoar, A. (2014). Keeping it simple: Financial literacy and rules of thumb. *American Economic Journal: Applied Economics*, *6*(2), 1–31. https://doi.org/10.1257/app.6.2.1

Engle, R. F., & Granger, C. W. J. (1987). Co-integration and error correction: Representation, estimation, and testing. *Econometrica*, *55*(2), 251–276. https://doi.org/10.2307/1913236

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, *25*(2), 383–417. https://doi.org/10.2307/2325486

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, *32*(3), 485–512. https://doi.org/10.1016/0304-3932(93)90027-D

G.C., S. B., & Neupane, S. (2007). Stock market and economic development: A causality test. *Journal of Nepalese Business Studies*, *3*(1), 36–44. https://doi.org/10.3126/jnbs.v3i1.481

Goldsmith, R. W. (1969). *Financial structure and development*. Yale University Press. https://books.google.com/books/about/Financial_Structure_and_Development.html?id=U0wXMgEACAAJ

Granger, C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, *37*(3), 424–438. https://doi.org/10.2307/1912791

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th). McGraw-Hill. https://books.google.com/books/about/Basic_Econometrics.html?id=6l1CPgAACAAJ

Gyawali, B. (2025). Empirical relationship between macroeconomic volatility and stock market return in Nepal. *International Journal of Business and Sustainable Development*, *2*(1). https://www.musindia.org/ijbsd/papers/empirical-relationship-between-macroeconomic-volatility-and-stock-market-return-in-nepal/

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, *44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Jarque, C. M., & Bera, A. K. (1980). Efficient tests for normality, homoscedasticity and serial independence of regression residuals. *Economics Letters*, *6*(3), 255–259. https://doi.org/10.1016/0165-1765(80)90024-5

Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. *Econometrica*, *59*(6), 1551–1580. https://doi.org/10.2307/2938278

Johansen, S., & Juselius, K. (1990). Maximum likelihood estimation and inference on cointegration, with applications to the demand for money. *Oxford Bulletin of Economics and Statistics*, *52*(2), 169–210. https://doi.org/10.1111/j.1468-0084.1990.mp52002003.x

Kaiser, T., & Menkhoff, L. (2018). *Active learning fosters financial behavior: Experimental evidence* (DIW Discussion Paper No. 1743). DIW Berlin, German Institute for Economic Research. https://doi.org/10.2139/ssrn.3208637

King, R. G., & Levine, R. (1993). Finance, entrepreneurship and growth: Theory and evidence. *Journal of Monetary Economics*, *32*(3), 513–542. https://doi.org/10.1016/0304-3932(93)90028-E

Kripfganz, S., & Schneider, D. C. (2023). ARDL: Estimating autoregressive distributed lag and equilibrium correction models. *The Stata Journal*, *23*(4), 983–1019. https://doi.org/10.1177/1536867X231212434

Kushwaha, S., & Kafle, S. C. (2024). Impact of GDP and inflation on stock market performance in Nepal and Sri Lanka: A comparative study of NEPSE and CSE index. *The OCEM Journal of Management, Technology, and Social Sciences*, *3*(1), 85–93. https://doi.org/10.3126/ocemjmtss.v3i1.62228

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, *35*(2), 688–726. https://www.jstor.org/stable/2729790

Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review*, *88*(3), 537–558. https://www.jstor.org/stable/116848

Mishkin, F. S., & White, E. N. (2002). *U.s. stock market crashes and their aftermath: Implications for monetary policy* (NBER Working Paper No. 8992). National Bureau of Economic Research. https://doi.org/10.3386/w8992

Narayan, P. K., & Narayan, S. (2010). Carbon dioxide emissions and economic growth: Panel data evidence from developing countries. *Energy Policy*, *38*(1), 661–666. https://doi.org/10.1016/j.enpol.2009.09.005

Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. *Economic Development and Cultural Change*, *14*(2), 174–189. https://doi.org/10.1086/450153

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289–326. https://doi.org/10.1002/jae.616

Robinson, J. (1952). *The rate of interest and other essays*. Macmillan. https://books.google.com/books/about/The_Rate_of_Interest.html?id=NFAPAQAAIAAJ

Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (R. Opie, Trans.) [Original work published 1911]. Harvard University Press. https://books.google.com/books/about/The_Theory_of_Economic_Development.html?id=rf2ZAAAAIAAJ

Schwarz, G. (1978). Estimating the dimension of a model. *The Annals of Statistics*, *6*(2), 461–464. https://doi.org/10.1214/aos/1176344136

Shaw, E. S. (1973). *Financial deepening in economic development*. Oxford University Press. https://books.google.com/books/about/Financial_Deepening_in_Economic_Developm.html?id=Km9EAAAAIAAJ

Shrestha, P. K., & Subedi, B. R. (2014). Determinants of stock market performance in Nepal. *NRB Economic Review*, *26*(2), 25–40. https://doi.org/10.3126/nrber.v26i2.52578

Stock, J. H., & Watson, M. W. (2015). *Introduction to econometrics* (3rd). Pearson. https://books.google.com/books/about/Introduction_to_Econometrics.html?id=CZW0ngEACAAJ

Subedi, K. R. (2025). Impact of money supply and interest rate on stock market performance: Evidence from the Nepalese capital market. *INTELLIGENCE Journal of Multidisciplinary Research*, *4*(1), 1–18. https://doi.org/10.3126/ijmr.v4i1.76926

Thapa, K. B. (2023). Examining the impact of GDP on the Nepalese stock market: Insights from co-integration and Granger causality tests. *Pravaha*, *29*(1), 192–199. https://doi.org/10.3126/pravaha.v29i1.71419

Thapa, K. B., & Adhikari, R. R. (2025). Impact of macroeconomic indicators on stock market performance: Evidence from Nepal. *NPRC Journal of Multidisciplinary Research*, *2*(3), 219–227. https://doi.org/10.3126/nprcjmr.v2i3.77059

Westerlund, J. (2008). Panel cointegration tests of the Fisher effect. *Journal of Applied Econometrics*, *23*(2), 193–233. https://doi.org/10.1002/jae.967

Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach* (6th). Cengage Learning. https://www.cengage.com/c/introductory-econometrics-a-modern-approach-6e-wooldridge/9781305270107/

Tribhuvan University Journal (TUJ) ISSN 2091-0916 • Estd. 1964

Tribhuvan University, Kirtipur, Kathmandu, Nepal nepjol.info/index.php/TUJ