

Stock Market-Growth Nexus in Nepal: *An Empirical ARDL Bounds Testing Analysis of Long-Run and Short-Run Dynamics (1994-2025)*

Khimananda Bhandari¹

Abstract

This study examines the long-run and short-run relationships between stock market development and economic growth in Nepal over 1994–2025 using annual time-series data and the autoregressive distributed lag (ARDL) bounds testing approach. The bounds test establishes cointegration among the variables ($F = 6.8769$). In the long run, inflation is significantly and negatively associated with real gross domestic product (RGDP), whereas the number of listed companies is significantly and positively associated with RGDP; the NEPSE Index, real market capitalization, and real paid-up capital are not statistically significant. In the short-run error correction model, changes in the NEPSE Index and inflation are negatively associated with RGDP growth, while changes in the number of listed companies and real paid-up capital are positively associated with RGDP growth. The error-correction coefficient is -0.2788 ($p < 0.001$), indicating that approximately 27.9% of disequilibrium is corrected within one year. Overall, the findings indicate that market breadth and macroeconomic stability are more closely associated with Nepal's economic growth than stock-price performance or market capitalization alone. Policies that broaden productive listings, strengthen the use of equity capital for productive investment, and maintain price stability may therefore improve the contribution of Nepal's capital market to economic growth.

Keywords: ARDL bounds testing, cointegration, economic growth, NEPSE, stock market development

Cite as: Bhandari, K. (2026). Stock market-growth nexus in Nepal: An empirical ARDL bounds testing analysis of long-run and short-run dynamics (1994-2025). *Journal of Business and Social Sciences Research*, 11(1), 67-89. <https://doi.org/10.3126/jbssr.v11i1.99002>

INTRODUCTION AND STUDY OBJECTIVES

The connection between the development of financial markets and economic development is a key issue in development and financial economics. Stock markets may aid economic development by raising long-term capital, price discovery, liquidity provision and providing

alternative financing arrangements than bank borrowing. All the above functions are especially crucial for developing countries, where the need for investments is high, financial intermediation is mainly dominated by banks and capital markets are not fully developed (Bagehot, 1873; Levine, 1997; Levine & Zervos, 1998). Nepal represents a country suitable for analysis of such a connection as Nepalese stock market,

¹Mr. Bhandari (<https://orcid.org/0009-0001-6459-1714>) is an Assistant Professor at Resunga Multiple Campus, Tamghas, Gulmi, Nepal. Email: bhandarikhima@gmail.com.

namely NEPSE, has been established as the only organized securities market amid the attempts to increase participation in and broaden access to financial instruments. The contribution of the Nepalese stock market to economic development is an empirical issue as the stock market is rather small and institutionally underdeveloped. Theoretical analysis of the stock market growth nexus is controversial as there exist several approaches such as the supply leading approach stating that finance leads and causes growth (Patrick, 1966), the demand following one stating that the expansion of finance occurs after real economic growth and a feedback approach.

The central policy question is whether the development of Nepal's stock market-captured through the NEPSE Index, market capitalization, paid-up capital, and the number of listed companies-is associated with real economic growth or mainly responds to developments in the real economy. Finance-growth theory suggests that well-functioning markets can support growth through capital mobilization, liquidity, and more efficient allocation of savings (Levine, 1997; Levine & Zervos, 1998). However, increases in stock prices or market capitalization do not automatically represent productive capital formation, because valuations can also be influenced by liquidity conditions, speculative trading, and investor sentiment (Bekaert et al., 2005; Singh, 1997). This distinction is particularly important in a developing market such as Nepal, where aggregate market indicators may move more quickly than productive capacity.

Thus, the empirical question to be answered is which particular characteristics of the Nepalese stock market can be statistically correlated with Real Gross Domestic

Product (RGDP), whether there are any long-term correlations or only short-term, and the direction of prediction between market variables and real output.

Previous studies suggest that the relationship between financial market development and economic growth is not uniform across economies and depends on the depth, efficiency, and institutional quality of financial markets. The finance-growth literature argues that well-developed capital markets can contribute to economic growth through savings mobilization, efficient allocation of capital, liquidity creation, and improved access to external financing (Levine, 1997; Levine & Zervos, 1998). However, market expansion measured through stock prices or market capitalization does not always represent productive investment because increases in market valuation may also arise from liquidity cycles, speculative behavior, and investor sentiment rather than real-sector capital formation (Bekaert et al., 2005; Singh, 1997). Therefore, distinguishing between stock-price performance, market size, equity mobilization, and market breadth is essential when examining the contribution of capital markets to economic development.

In the Nepalese context, empirical findings remain mixed. Regmi (2012) reported evidence that stock market development contributes to economic growth, while Bist (2017) found a long-run relationship using an ARDL framework. Rana (2021) subsequently documented long-run cointegration between selected macroeconomic variables and stock-market returns, and Shahu (2023) found that GDP and the exchange rate significantly influence NEPSE performance. These differing specifications and directions of analysis reinforce the need to distinguish

stock-price performance, market size, equity mobilization, and market breadth rather than treating stock market development as a single aggregate construct.

To address these gaps, this study examines five research questions related to: (i) the existence of a long-run equilibrium relationship among stock market variables, inflation, and RGDP; (ii) the stock market indicators that significantly explain RGDP in the long run; (iii) the effect of short-run fluctuations in these variables on RGDP growth; (iv) the predictive direction among the variables; and (v) the policy implications arising from the findings. The study begins in 1994 because the Nepal Stock Exchange (NEPSE) opened its trading floor on January 13, 1994, providing an institutionally meaningful starting point for Nepal's organized secondary market. The endpoint, 2025, is the latest completed annual observation for which a consistent series for all variables included in the assembled dataset was available. The study window therefore contains 32 annual observations before losses arising from lagging or differencing.

The overall objective of this study is to investigate the long-run and short-run relationship between stock market development and economic growth in Nepal. Specifically, the study examines the stationarity properties of the variables, tests for cointegration using the ARDL bounds testing approach, estimates long-run coefficients, evaluates short-run dynamics through an error correction model (ECM), performs diagnostic tests to assess model adequacy, and applies pairwise Granger causality tests to examine predictive relationships among the variables (Engle & Granger, 1987; Pesaran et al., 2001).

The study is important in four ways. Theoretically, it contributes to the finance-growth debate by examining supply-leading, demand-following, and feedback interpretations in a developing-country setting. Empirically, it updates Nepal-specific evidence using 32 annual observations covering 1994–2025 and separates multiple dimensions of stock market development. Methodologically, it distinguishes long-run cointegration, short-run error-correction dynamics, and Granger-predictive direction. Practically, it provides evidence for regulators and policymakers on whether market price performance, market size, equity mobilization, market breadth, or macroeconomic stability is more closely associated with real output.

LITERATURE REVIEW

Financial Development and Economic Growth

Classical and modern theories have long associated financial development with economic growth. Bagehot (1873) argued that financial markets can support industrial expansion by channeling capital to productive uses. Schumpeter (1934) emphasized the role of finance in enabling entrepreneurship and innovation, while later endogenous growth models highlighted how investment, knowledge accumulation, and productivity improvements can generate sustained growth (Romer, 1986). In this tradition, financial systems matter because they mobilize savings, evaluate investment projects, monitor firms, diversify risk, and facilitate exchange (Levine, 1997).

Empirical findings, however, are not uniform. Cross-country evidence has often found a positive association between stock market development and growth when markets are

liquid, regulated, and institutionally reliable (Beck & Levine, 2004; Levine & Zervos, 1998). Yet some studies warn that market size alone may be insufficient: equity market liberalization, investor protection, liquidity, macroeconomic stability, and institutional credibility may determine whether stock market expansion translates into real output gains (Bekaert et al., 2005; Singh, 1997). This distinction is crucial for emerging markets, where market capitalization and index movements may be influenced by valuation changes rather than broad productive investment.

Stock Market Development in Nepal

Nepal's capital market has developed gradually, with NEPSE serving as the central organized secondary-market institution. Earlier Nepal-based studies produced mixed results. Regmi (2012), using data for 1994–2011 and cointegration/error-correction methods, reported a significant contribution of stock market development to economic growth. Bist (2017), using 1993–2014 data and ARDL bounds testing, likewise found long-run and short-run linkages between market capitalization and real GDP per capita. Rana (2021), by reversing the direction of analysis and treating stock returns as the outcome, found a long-run positive effect of real GDP growth and negative effects of inflation and the exchange rate on stock-market returns. The differences across dependent variables, periods, and market indicators show why the Nepalese stock market-growth nexus cannot be inferred from a single measure.

Recent Evidence on Nepal's Stock Market–Growth Nexus

Recent Nepalese evidence has expanded both the time span and the econometric approaches used to study the stock

market–growth relationship. Dhungana (2023) examined annual data for 1995–2022 using Johansen cointegration, Granger causality, and VAR techniques and reported long-run cointegration between economic growth and indicators including market capitalization, trading turnover, the NEPSE Index, gross capital formation, and gross national savings. Bhattarai et al. (2024), using 1994–2019 annual data and an ARDL model, constructed measures of market size, depth, and efficiency and reported a long-run unidirectional relationship from stock market development to economic growth, with size and liquidity playing important roles. Most directly comparable to the present study, Bhandari (2025) analyzed 1994–2024 data with ARDL and ECM specifications and emphasized the long-run importance of paid-up capital and the number of listed companies, while market capitalization and turnover were less consistently influential.

A parallel recent literature examines the reverse channel—how macroeconomic conditions shape NEPSE performance—and also reports heterogeneous results. Shahu (2023), using 1995–2022 annual data and OLS, found significant effects of GDP and the exchange rate on the Nepalese stock market. Shrestha and Rana (2024), applying ARDL bounds testing to 1994–2023 data, confirmed cointegration between macroeconomic variables and stock-market returns but found real GDP and inflation to be negative and statistically insignificant in the long run. Sigdel and Adhikari (2024), using a VECM for 1994–2023, also identified long-run equilibrium relationships and significant macroeconomic influences on the NEPSE Index. Adhikari et al. (2024) reported a significant negative association between GDP growth and the NEPSE Index and a negative

but statistically insignificant inflation effect, while [Thapa and Chamlagain \(2025\)](#), using 139 observations from 2012–2024 in an ARDL model, found strong persistence in NEPSE and mixed effects of interest-rate and price variables. Taken together, this recent evidence shows that findings depend on the direction of the model, the market indicator selected, the frequency and period of data, and the econometric framework. The present study therefore adds value by treating RGDP as the outcome while jointly separating price performance, market size, paid-up equity capital, market breadth, and inflation through long-run ARDL, short-run ECM, and predictive-direction tests.

Positioning of the Present Study

Building on these debates, this study treats the stock market as a multi-dimensional phenomenon. The NEPSE Index captures market-price performance, market capitalization captures aggregate market size, paid-up capital captures equity financing, and the number of listed companies captures market breadth and corporate participation. Inflation is included as a macroeconomic control because price instability can reduce real purchasing power, increase uncertainty, and influence investment decisions. Therefore, the empirical question is not simply whether the stock market matters, but which dimensions of stock market development significantly influence Nepal's RGDP and whether their effects differ between the long run and short run.

Research Gap

The reviewed literature identifies four principal gaps. First, the finance-growth literature offers competing supply-leading, demand-following, and feedback explanations, yet Nepalese studies do not consistently distinguish long-run association, short-run

adjustment, and predictive direction within one design. Second, recent Nepalese evidence remains mixed: studies using ARDL, VECM, VAR, and regression frameworks reach different conclusions because they model different dependent variables and market indicators ([Adhikari et al., 2024](#); [Bhandari, 2025](#); [Bhattarai et al., 2024](#); [Dhungana, 2023](#); [Shrestha & Rana, 2024](#); [Sigdel & Adhikari, 2024](#)). Third, many studies operationalize stock market development through one indicator or a composite index, whereas price performance, market capitalization, paid-up capital, and the number of listed companies may represent distinct economic channels. Fourth, relatively limited attention is given to whether RGDP predicts stock market indicators rather than the reverse. The present study addresses these gaps by using an ARDL bounds-testing framework, an error-correction model, diagnostic and stability tests, and pairwise Granger causality tests over 1994–2025.

Conceptual Framework of the Study

The conceptual framework assumes that stock market performance indicators and inflation can influence RGDP through capital mobilization, firm financing, investor confidence, price stability, and market participation. A higher number of listed companies may indicate broader corporate formalization and more opportunities for productive investment. A higher NEPSE Index may signal investor optimism, but it also reflects speculative or valuation-driven movement that does not immediately translate into real output. Inflation is expected to weaken real growth by increasing uncertainty and reducing real purchasing power.

On this basis, the study examines one general proposition: stock market development indicators and macroeconomic conditions

Table 1
Review of Literature Framework

Literature stream	Key references retained in the manuscript	Main argument or evidence	Use in the present study
Finance-growth theory	Bagehot (1873); Schumpeter (1934); Romer (1986); Levine (1997)	Financial systems can mobilize savings, allocate capital, support innovation, and reduce information and transaction costs	Provides the theoretical basis for expecting stock market variables to be associated with RGDP.
Supply-leading, demand-following, and feedback views	Patrick (1966); Levine and Levine and Zervos (1998)	Finance may lead growth, growth may create demand for finance, or both may reinforce each other.	Justifies testing for long-run association, short-run adjustment, and Granger-predictive direction rather than assuming one-way causality.
Cross-country and emerging-market evidence	Beck and Levine (2004); Bekaert et al. (2005); Singh (1997)	Stock markets support growth more effectively when liquidity, regulation, investor protection, and institutional quality are stronger.	Supports separating market size and index performance from the broader productive relevance of stock market development.
Nepal-specific empirical studies	Regmi (2012); Bist (2017); Rana (2021); Dhungana (2023); Bhattarai et al. (2024); Bhandari (2025)	Nepal-based findings remain mixed and are sensitive to the dependent variable, model specification, sample period, and the measure of stock-market development.	Positions the study as an updated Nepal-focused ARDL analysis that distinguishes market price, market size, equity mobilization, market breadth, and inflation channels.
Time-series methodology	Dickey and Fuller (1979); Pesaran et al. (2001); Nkoro and Uko (2016); Shrestha and Bhatta (2018)	Stationarity, lag selection, cointegration, ECM, diagnostics, and causality tests are required for valid time-series inference.	Supports the use of ADF, ARDL bounds testing, ECM, diagnostics, and Granger causality in the empirical design.

Note. The framework is synthesized from the sources already retained in the manuscript and is used to organize the theoretical, empirical, Nepal-specific, and methodological basis of the study.

significantly explain economic growth in Nepal. The empirical analysis tests this proposition using long-run ARDL estimates, short-run error correction estimates, and Granger causality tests.

Hypothesis Development

The hypotheses are derived from finance-growth theory, the demand-following and feedback perspectives, macroeconomic-stability arguments, and prior empirical evidence. Financial markets can influence real activity by mobilizing savings, improving capital allocation, facilitating liquidity, and supporting investment (Levine, 1997; Levine & Zervos, 1998). At the same time, a growing real economy can raise the demand for financial services and market participation (Patrick, 1966). Emerging-market evidence also cautions that market valuations need not translate directly into productive investment (Bekaert et al., 2005; Singh, 1997), while inflation can weaken financial-sector performance and investment incentives (Boyd et al., 2001). These mechanisms provide the theoretical basis for specifying both positive stock-market channels and a negative inflation channel.

The empirical formulation follows directly from these mechanisms. The NEPSE Index represents market-price performance; real market capitalization represents market size; real paid-up capital represents equity-capital mobilization; the number of listed companies represents market breadth and corporate participation; and inflation represents macroeconomic instability. Recent Nepalese studies further show that the signs and significance of these relationships vary across indicators and model direction (Bhandari, 2025; Bhattarai et al., 2024; Dhungana, 2023; Shrestha

& Rana, 2024). H_1 – H_5 therefore test the variable-specific relationships with RGDP, H_6 tests whether the variables share a long-run equilibrium as implied by the ARDL framework (Pesaran et al., 2001), and H_7 tests whether deviations from that equilibrium are corrected through a negative and significant error-correction term (Engle & Granger, 1987).

METHODS

Research Design and Data

The study uses a quantitative, explanatory research design based on annual secondary time-series data. The initial dataset comprises 32 annual observations from 1994 through 2025 inclusive; effective observations in individual estimations are lower where lagging or differencing is required. The starting year is institutionally grounded: NEPSE opened its trading floor on January 13, 1994 (Nepal Stock Exchange, n.d.). The endpoint, 2025, is the most recent completed annual observation for which a consistent series for every variable in the assembled dataset was available. Annual data are used because quarterly data for all model variables were not available consistently across the full study period. The data were compiled from the public and institutional sources reported in the dissertation, including NEPSE, the Securities Board of Nepal (SEBON), Nepal Rastra Bank publications, the Economic Survey, and national statistical sources.

The dependent variable is real gross domestic product (RGDP), used as a measure of economic activity. The explanatory variables are the NEPSE Index, real market capitalization, real paid-up capital, inflation, and the number of listed companies. Nominal variables were converted to real terms where

Table 2
Conceptual Framework

Construct	Observed variable	Expected direction with RGDP	Transmission logic	Test in the study
Stock market price performance	NEPSE Index	Positive in theory; ambiguous in emerging markets	Higher index values may signal investor confidence, liquidity, and valuation gains, but may also reflect speculative cycles.	Long-run ARDL coefficient, short-run ECM coefficient, and Granger causality.
Stock market size	Real market capitalization	Positive in theory	A larger market can broaden financing options and wealth effects, but valuation changes may not equal productive investment.	Long-run ARDL coefficient and Granger causality.
Equity capital mobilization	Real paid-up capital	Positive	Higher paid-up capital may indicate greater firm financing capacity and formal equity mobilization.	Long-run ARDL coefficient, short-run ECM coefficient, and market-capitalization causality.
Market breadth and corporate participation	Number of listed companies	Positive	More listings may reflect broader formalization, disclosure, firm participation, and sectoral investment opportunities.	Long-run ARDL coefficient, short-run ECM coefficient, and Granger causality.
Macroeconomic stability	Inflation	Negative	Inflation may erode real purchasing power, raise uncertainty, weaken investment planning, and reduce real returns.	Long-run ARDL coefficient, short-run ECM coefficient, and Granger causality.

Note. RGDP is the dependent variable. Expected directions reflect theoretical expectations before estimation and do not predetermine empirical findings.

appropriate, and variables were expressed in natural logarithmic form for estimation. Log transformation improves interpretability and helps reduce scale differences across variables.

Model Specification

The empirical model specifies RGDP as a function of the NEPSE Index, market capitalization, inflation, paid-up capital, and listed companies:

Table 3

Hypothesis Development with Theoretical Basis, Empirical Foundation, and Expected Relationship.

Hypothesis	Theoretical basis	Empirical foundation	Expected relationship
H ₁ : The NEPSE Index has a statistically significant relationship with RGDP in Nepal.	Finance-growth theory suggests that stock market performance can reflect investor confidence, liquidity, and economic expectations, which may influence real economic activity (Levine & Zervos, 1998). However, in emerging markets, index movements may also reflect speculative activities rather than productive investment (Singh, 1997).	Stock-market indices are widely used as market-development measures, but Nepalese evidence is mixed across model directions and specifications (Dhungana, 2023; Shahu, 2023; Sigdel & Adhikari, 2024).	A significant relationship is expected between NEPSE Index performance and RGDP.
H ₂ : Real market capitalization has a statistically significant relationship with RGDP in Nepal.	Market capitalization represents the size and depth of the stock market. A larger market can improve resource mobilization, investment opportunities, and capital allocation (Beck & Levine, 2004; Levine, 1997).	Market size is a recurring stock-market development measure. Nepalese ARDL evidence finds that its growth relevance depends on specification and accompanying indicators (Bhattarai et al., 2024; Bhandari, 2025).	Real market capitalization is expected to have a positive relationship with RGDP.
H ₃ : Real paid-up capital has a statistically significant relationship with RGDP in Nepal.	Equity capital mobilization allows firms to obtain long-term financing for investment and expansion. Financial development theory suggests that improved access to capital supports productive capacity and economic growth (Levine, 1997; Schumpeter, 1934).	Recent Nepalese evidence directly identifies paid-up capital as an important equity-mobilization channel in growth models (Bhandari, 2025).	Real paid-up capital is expected to have a positive relationship with RGDP.

RGDP = f(NEPSE, MC, Inflation, Paid-up Capital, Listed Companies).

The log-linear estimation equation is:

$$\ln \text{RGDP}_t = \alpha + \beta_1 \ln \text{NEPSE}_t + \beta_2 \ln \text{MC}_t$$

$$+ \beta_3 \ln \text{Inflation}_t + \beta_4 \ln \text{PaidUp Capital}_t + \beta_5 \ln \text{Listed Companies}_t + \epsilon_t.$$

In this formulation, α is the intercept, β is the estimated vectors of association between the explanatory variables and RGDP, and

Hypothesis	Theoretical basis	Empirical foundation	Expected relationship
H ₄ : The number of listed companies has a statistically significant relationship with RGDP in Nepal.	A greater number of listed firms represents market breadth, corporate participation, formalization, disclosure practices, and wider access to equity financing.	Recent Nepalese ARDL evidence highlights the number of listed companies as a potentially important market-breadth indicator for long-run economic growth (Bhandari, 2025).	The number of listed companies is expected to have a positive relationship with RGDP.
H ₅ : Inflation has a statistically significant negative relationship with RGDP in Nepal.	Macroeconomic stability theory suggests that inflation increases uncertainty, reduces purchasing power, distorts investment decisions, and negatively affects economic growth.	Inflation can impair financial-sector performance and investment incentives (Boyd et al., 2001); Nepalese studies also report negative inflation coefficients, although significance varies with the outcome modeled (Adhikari et al., 2024; Shrestha & Rana, 2024).	Inflation is expected to have a negative relationship with RGDP.
H ₆ : Stock market indicators, inflation, and RGDP are cointegrated in the long run.	The ARDL bounds testing framework assumes that economic variables may share a long-run equilibrium relationship even when short-run adjustments occur (Pesaran et al., 2001).	Long-run relationships have been reported in Nepal using ARDL and other cointegration frameworks (Bhattarai et al., 2024; Bist, 2017; Dhungana, 2023).	A long-run equilibrium relationship is expected among the variables.
H ₇ : Deviations from long-run equilibrium adjust significantly through the error correction mechanism.	Error correction theory explains that short-run deviations from equilibrium are gradually corrected toward the long-run relationship (Engle & Granger, 1987).	ARDL-based Nepalese studies interpret a negative and significant error-correction term as evidence of convergence toward long-run equilibrium (Bist, 2017; Shrestha & Rana, 2024).	The error correction coefficient is expected to be negative and statistically significant.

et is the disturbance term. The log-linear approach is appropriate because the model includes macro-financial variables measured on different scales.

Econometric Strategy

The analysis follows a time-series procedure. First, the Augmented Dickey-Fuller (ADF) test is used to examine stationarity. This step is necessary because non-stationary variables

can produce spurious regression results (Dickey & Fuller, 1979). Second, the lag length is selected using information criteria, with the Schwarz Information Criterion supporting a one-lag ARDL specification. Third, the ARDL bounds testing approach is used to test for cointegration among the variables (Pesaran et al., 2001). The ARDL approach is appropriate when regressors are integrated of order zero, order one, or a

Table 4
Variable Definitions and Expected Roles

Variable	Symbol in Model	Measurement/Role
Real gross domestic product	LN_R_GDP	Dependent variable: real economic output
NEPSE Index	LN_NEPSE	Stock market price-performance indicator
Real market capitalization	LN_R_MC	Stock market size indicator
Real paid-up capital	LN_R_PAID_UP_C	Equity capital mobilization indicator
Number of listed companies	LN_NO_OF_LISTED_C	Market breadth and corporate participation indicator
Inflation	LN_INFLATION	Macroeconomic stability/control variable

Note. Variable names follow the dissertation output. The source document sometimes spells listed as “listeded” in output labels; the article standardizes the term as listed companies.

mixture of both, provided that no variable is integrated of order two.

After establishing cointegration, the study estimates both long-run coefficients and a short-run error correction model. The error correction term measures the speed at which deviations from long-run equilibrium are corrected. Diagnostic testing includes the Breusch-Godfrey test for serial correlation, heteroskedasticity testing, the Jarque-Bera normality test, and CUSUM/CUSUMSQ stability tests. Finally, pairwise Granger causality tests assess whether past values of one variable improve the prediction of another variable. These tests indicate predictive precedence and should not be interpreted as proof of structural causation.

Hypothesis-Testing Procedure

The hypotheses are evaluated using coefficient signs, probability values, and model-level tests. A relationship is considered statistically supported when the reported p-value is below conventional significance levels. Cointegration is evaluated through the ARDL bounds F-statistic, while short-run adjustment is evaluated through the sign and significance of the error correction term. Granger causality

is interpreted as predictive precedence, not as definitive structural causation.

Model Reliability, Validity, and Robustness Checks

Reliability and validity in the time-series design are strengthened through a sequential procedure: stationarity testing before model estimation, lag selection using information criteria, bounds testing before long-run interpretation, ECM estimation after cointegration, and post-estimation diagnostics. The Breusch-Godfrey test, heteroskedasticity test, Jarque-Bera normality test, and CUSUM/CUSUMSQ stability checks are used to assess whether the estimated model satisfies core assumptions required for credible interpretation.

Ethical Considerations

The study uses secondary macroeconomic and capital-market data. No human participants, private personal data, or intervention procedures are involved in the econometric analysis. The author should nevertheless confirm that all datasets are publicly accessible or properly authorized and should provide a replication dataset or data appendix if required by the target journal.

Table 5
Long-Run ARDL Estimates

Variable	Coefficient	Std. Error	t	p
NEPSE Index	-0.009996	0.085228	-0.117289	0.9080
Inflation	-0.313139	0.115930	-2.701093	0.0151
Listed companies	1.220311	0.206323	5.914565	0.001
Market capitalization	6.07E-09	1.16E-07	0.052433	0.9588
Paid-up capital	-1.85E-07	7.48E-07	-0.247067	0.8078
Constant	8.856155	0.704677	12.56767	0.001

Note. Dependent variable: LN_R_GDP. Model: ARDL(1, 1, 1, 1, 0, 1). Values are taken from the dissertation output and standardized for APA-style presentation.

RESULTS

Preliminary Tests

The descriptive statistics indicate that most variables are approximately normally distributed, while market capitalization deviates from normality. The correlation matrix shows predominantly positive associations among the variables. It does not indicate severe multicollinearity, as no pairwise correlations exceed the common high-correlation threshold reported in the source analysis.

The ADF unit root tests reveal mixed integration properties. The NEPSE Index and inflation are stationary at a level, whereas other variables require first differencing. After first differencing, all variables become stationary. Because the variables display a mixture of I(0) and I(1) properties and no variable is treated as I(2), the ARDL bounds testing approach is appropriate. The selected model is ARDL(1, 1, 1, 1, 0, 1), with one lag supported by the Schwarz Information Criterion.

Bounds Test and Long-Run Estimates

The ARDL bounds test confirms cointegration among the variables. The F-statistic is

6.8769, which exceeds the upper-bound critical values reported in the dissertation output at conventional significance levels. This result rejects the null hypothesis of no level relationship and supports the existence of a long-run relationship between stock market indicators, inflation, and RGDP.

Table 5 reports the long-run coefficients. Inflation has a statistically significant negative association with RGDP. Specifically, a 1% increase in inflation is associated with an estimated 0.313% decrease in RGDP in the long run, holding other model variables constant. By contrast, the number of listed companies has a statistically significant positive association with RGDP: a 1% increase in listed companies is associated with an estimated 1.220% increase in RGDP. The NEPSE Index, real market capitalization, and real paid-up capital are not statistically significant in the long-run equation.

Short-Run Error Correction Estimates

The short-run error correction results are reported in Table 6. The error-c model explains a substantial share of the variation in the dependent variable, with an R-squared of 0.7745 and an adjusted R-squared of 0.7353.

Table 6
Short-Run Error Correction Estimates

Variable	Coefficient	Std. Error	t	p
Delta NEPSE Index	-0.053489	0.014267	-3.749204	0.0016
Delta inflation	-0.060678	0.009280	-6.538902	< 0.001
Delta listed companies	0.595087	0.063208	9.414728	< 0.001
Delta paid-up capital	1.51E-06	1.95E-07	7.758574	< 0.001
CointEq(-1)	-0.278767	0.034543	-8.070204	< 0.001

Note. R-squared = 0.774516; adjusted R-squared = 0.735301; Durbin-Watson = 2.244517. Dependent variable: D(LN_R_GDP).

Table 7
Model Diagnostics and Stability Summary

Test	Reported Statistic/Value	p	Conclusion
Breusch-Godfrey serial correlation	F = 0.460013; Obs. R-squared p = 0.37	0.500	No evidence of serial correlation
Correlogram Q-statistics	p-value above conventional threshold	0.629	No autocorrelation indicated
Breusch-Pagan-Godfrey heteroskedasticity	Obs. R-squared = 8.734912	0.557	No evidence of heteroskedasticity
Jarque-Bera normality	Residual normality test	0.723	Residuals approximately normal
CUSUM and CUSUMSQ	Plots within 5% bounds	NA	Parameters stable

Note. Diagnostic values are reported from the dissertation output. NA = not applicable.

The Durbin-Watson statistic of 2.2445 is consistent with the diagnostic finding of no serious serial correlation.

Diagnostic and Stability Tests

The diagnostic tests support the reliability of the estimated model. The Breusch-Godfrey test does not indicate serial correlation. The heteroskedasticity test does not reject homoskedasticity. The Jarque-Bera normality test reports a p-value of 0.7226, indicating that the residuals do not significantly depart from normality. The CUSUM and CUSUMSQ plots remain within the 5% critical boundaries, supporting parameter stability for the period under study.

Granger Causality Results

The pairwise Granger causality tests provide additional insight into predictive direction. The results do not support a predictive effect of the NEPSE Index on RGDP at conventional significance levels ($p = 0.11$), but they do support predictive precedence from RGDP to the NEPSE Index ($p = 0.032$). The results also show that RGDP Granger-predicts real market capitalization ($p = 0.006$), whereas real market capitalization does not Granger-predict RGDP ($p = 0.29$). Real paid-up capital and real market capitalization exhibit bidirectional predictive relationships. Inflation and RGDP do not show significant Granger-predictive

Table 8

Granger Causality Summary

Predictive Direction Tested	p-value	Decision
NEPSE Index -> RGDP	0.110	Not significant
RGDP -> NEPSE Index	0.032	Significant
Listed companies -> RGDP	0.220	Not significant
Market capitalization -> RGDP	0.290	Not significant
RGDP -> market capitalization	0.006	Significant
Paid-up capital -> market capitalization	0.002	Significant
Market capitalization -> paid-up capital	0.010	Significant

Note. The arrow indicates the tested predictive direction. Granger causality indicates predictive precedence, not definitive structural causation.

relationships in either direction, and the number of listed companies does not Granger-predict RGDP in the reported pairwise test. These results indicate temporal predictive precedence rather than structural causation.

Hypothesis-Testing Summary

Table 9 summarizes how the hypotheses are evaluated using the preserved ARDL, ECM, bounds, and Granger causality results.

DISCUSSION

The findings show that Nepal's stock market-growth relationship is more complex than the proposition that market expansion automatically generates economic growth. The ARDL bounds test establishes a long-run equilibrium relationship among the stock market indicators, inflation, and RGDP, but the individual coefficients differ sharply across the market dimensions. The results therefore support a multidimensional interpretation: market breadth, market valuation, equity mobilization, and macroeconomic stability should not be treated as interchangeable indicators. This interpretation is consistent with recent

Nepalese research, which reports different results according to the dependent variable, period, indicator set, and econometric method (Bhandari, 2025; Bhattarai et al., 2024; Dhungana, 2023; Shrestha & Rana, 2024).

NEPSE Index and Economic Growth

The NEPSE Index is statistically insignificant in the long-run RGDP equation, while its short-run change is negative and significant. The long-run result implies that stock-price appreciation by itself is not a reliable indicator of sustained real-output expansion. A stock index can capture expectations, investor confidence, liquidity, and valuation changes, but in a relatively shallow market it can also respond to speculative trading and shifts in sentiment that are only loosely connected to productive capital formation (Bekaert et al., 2005; Singh, 1997). Thus, the result does not reject the relevance of the stock market; rather, it indicates that price performance is an incomplete measure of its real-economy contribution.

Recent Nepalese evidence helps explain why the index-growth relationship can appear unstable across studies. Dhungana

Table 9
Hypothesis-Testing Summary

Hypothesis	Empirical test used	Key result retained from the analysis	Decision
H ₁ : The NEPSE Index significantly affects RGDP.	Long-run ARDL, short-run ECM, and Granger causality	Long run: $p = 0.9080$, not significant. Short run: coefficient = -0.053489 , $p = 0.0016$. NEPSE Index $\rightarrow$ RGDP Granger $p = 0.11$.	Partially supported only in the short-run ECM; not supported in the long run or the Granger direction.
H ₂ : Real market capitalization significantly affects RGDP.	Long-run ARDL and Granger causality	Long run: coefficient = $6.07E-09$, $p = 0.9588$. Market capitalization $\rightarrow$ RGDP Granger $p = 0.29$. RGDP $\rightarrow$ market capitalization $p = 0.006$.	Not supported as a direct predictor of RGDP; evidence instead supports predictive movement from RGDP to market capitalization.
H ₃ : Real paid-up capital significantly affects RGDP.	Long-run ARDL and short-run ECM	Long run: coefficient = $-1.85E-07$, $p = 0.8078$. Short run: coefficient = $1.51E-06$, $p < 0.001$.	Partially supported in the short run; not supported in the long run.
H ₄ : The number of listed companies significantly affects RGDP.	Long-run ARDL, short-run ECM, and Granger causality	Long run: coefficient = 1.220311 , $p < 0.001$. Short run: coefficient = 0.595087 , $p < 0.001$. Listed companies $\rightarrow$ RGDP Granger $p = 0.22$.	Supported in long-run and short-run equations; not supported by pairwise Granger causality.
H ₅ : Inflation significantly and negatively affects RGDP.	Long-run ARDL and short-run ECM	Long run: coefficient = -0.313139 , $p = 0.0151$. Short run: coefficient = -0.060678 , $p < 0.001$.	Supported in both long-run and short-run estimates.
H ₆ : Stock market indicators, inflation, and RGDP are cointegrated.	ARDL bounds test	F-statistic = 6.8769 , above the reported upper-bound critical values.	Supported; the null of no levels relationship is rejected.
H ₇ : Disequilibrium adjusts significantly toward the long-run equilibrium.	Error correction model	CointEq(-1) = -0.278767 , $p < 0.001$, implying about 27.9% annual adjustment.	Supported.

Note. Supported means that the reported result is statistically significant in the expected or specified test context. Partially supported indicates significance in one model component but not in all relevant tests.

(2023) found long-run cointegration when the NEPSE Index was included alongside several broader development indicators, whereas Bhattarai et al. (2024) emphasized market size and liquidity rather than index appreciation as contributors to growth. Studies that reverse the model direction also report mixed macroeconomic effects on NEPSE: Shahu (2023) found GDP to be significant, Shrestha and Rana (2024) found real GDP to be negative but statistically insignificant for stock-market returns, and Adhikari et al. (2024) reported a significant negative GDP-growth coefficient for the NEPSE Index. These differences are not necessarily contradictory because the dependent variable, frequency, sample period, and control set differ. They instead reinforce the need to distinguish the stock market's valuation channel from its financing and participation channels.

The negative short-run NEPSE coefficient should therefore be interpreted cautiously and not as evidence that stock-market development causes lower growth. One plausible explanation is timing: short-run price movements may react quickly to liquidity conditions, policy expectations, interest-rate changes, or investor sentiment, whereas output adjusts more slowly. In Nepal's relatively concentrated market, rapid price revaluations may consequently move in a different direction from contemporaneous real-output growth without implying a persistent adverse effect. The absence of NEPSE-to-RGDP Granger predictability in the pairwise test provides an additional reason to avoid a structural causal interpretation of the negative short-run coefficient.

The policy implication is that index appreciation should not be used as the principal benchmark of capital-market

success. Regulators can place greater emphasis on disclosure quality, investor protection, market surveillance, the quality of listed firms, and the extent to which equity financing is directed toward productive investment. These institutional improvements are more likely to strengthen the connection between market activity and the real economy than policies aimed primarily at supporting index levels.

Listed Companies and Economic Growth

The number of listed companies is positive and statistically significant in both the long-run and short-run RGDP equations. This is one of the clearest results in the study because the variable represents market breadth rather than market valuation. A larger listed-company base can indicate broader corporate formalization, greater participation in disclosure and governance regimes, increased sectoral representation, and wider access to equity financing. These mechanisms can create stronger links between capital-market development and productive activity than an increase in the prices of an unchanged set of securities.

The finding is consistent with the finance-development argument that broader financial participation can improve resource mobilization and investment opportunities (Levine, 1997; Levine & Zervos, 1998). It is also directly supported by recent Nepalese evidence. Bhandari (2025), using an ARDL framework over 1994–2024, similarly emphasized the long-run importance of paid-up capital and the number of listed companies for economic growth. Dhungana (2023) and Bhattarai et al. (2024) likewise show that broader measures of stock-market development can be related to long-run growth even when individual valuation indicators do not provide a complete explanation.

A Nepal-specific explanation is that new quality listings can represent a genuine expansion of the formal corporate sector, whereas a higher NEPSE Index can result from revaluation of securities already listed. If new listings bring additional firms, sectors, disclosure obligations, and financing opportunities into the organized market, market breadth may better proxy real financial deepening. The finding should nevertheless be interpreted as an association within an aggregate time-series model: the pairwise Granger result does not show that listed companies predict RGDP, so the coefficient alone does not establish a one-way causal mechanism.

This distinction between equation-level association and predictive precedence helps reconcile the strong ARDL/ECM coefficients with the insignificant listed-companies-to-RGDP Granger test. The long-run coefficient describes how the variables move together within the estimated equilibrium relationship, whereas the pairwise causality test asks whether past values of one series improve prediction of the other under a different specification. The two tests therefore answer different questions and need not yield identical decisions.

For policy, the result favors efforts to broaden the market through credible listings rather than merely increasing the number of securities mechanically. Listing incentives can be combined with stronger governance, transparent reporting, sectoral diversification, and suitable pathways for viable small and medium-sized enterprises. The objective should be a broader market whose listed firms use raised capital for productive expansion.

Inflation and Economic Growth

Inflation is significantly and negatively associated with RGDP in both the long run and short run. This result is consistent with the macroeconomic-stability channel: inflation can reduce real purchasing power, increase uncertainty, distort investment decisions, and weaken the efficiency with which the financial system allocates resources. [Boyd et al. \(2001\)](#) similarly document a negative relationship between inflation and financial-sector performance, providing an empirical basis for expecting persistent price instability to weaken the environment in which financial development supports real activity.

Recent Nepalese studies that model stock-market performance rather than RGDP also generally report negative inflation coefficients, although statistical significance varies. [Shrestha and Rana \(2024\)](#) found inflation to be negative but statistically insignificant for stock-market returns, and [Adhikari et al. \(2024\)](#) likewise reported a negative but insignificant inflation effect on the NEPSE Index. [Thapa and Chamlagain \(2025\)](#) found a negative but insignificant CPI coefficient in their ARDL model of NEPSE. The present result is therefore complementary rather than inconsistent: inflation may have a clearer adverse association with real output than with short-run stock valuation, and the two outcomes capture different transmission channels.

In Nepal, the relevance of price stability is heightened by import dependence, external price shocks, financing conditions, and changes in household real income. These factors can affect consumption, saving, and investment simultaneously. Persistent inflation can therefore weaken real growth even when the stock market itself does not respond proportionately. The significant

negative coefficient in both horizons suggests that macroeconomic stability is an important background condition for capital-market development to translate into sustainable economic benefits.

The policy implication is that capital-market reform and macroeconomic stabilization should be treated as complementary. Maintaining price stability, reducing uncertainty, and preserving real investment incentives can improve the environment in which firms raise and deploy equity capital. The estimated association does not identify a single policy instrument, but it supports coordination between financial-market development and broader monetary and fiscal stability objectives.

Granger Causality and Direction of Relationship

The Granger causality results add an important directional dimension. RGDP significantly predicts subsequent movements in the NEPSE Index and real market capitalization, whereas the reverse directions are not statistically significant. This pattern implies that, within the pairwise predictive framework used here, developments in the real economy contain information about future market valuation and market size that is not symmetrically present in the reverse direction.

The result is more consistent with [Patrick's \(1966\)](#) demand-following interpretation than with a simple supply-leading view. As real activity expands, firms may demand more external finance, corporate earnings and valuations may improve, investor participation may broaden, and the financial system may respond to the larger scale of economic activity. At the same time, the significant listed-company coefficients in the ARDL and ECM equations indicate that the broader

finance-growth relationship is not purely one-directional. The evidence is therefore best read as supporting an important demand-following channel while allowing for feedback between market development and the real economy.

Recent Nepalese evidence provides useful context. [Dhungana \(2023\)](#) reported dynamic interaction between stock-market development and economic activity using Johansen cointegration, Granger causality, and VAR methods, while [Bhattarai et al. \(2024\)](#) reported a stock-market-development-to-growth direction using a different index and sample. [Sigdel and Adhikari \(2024\)](#) also found long-run equilibrium and asymmetric causal relationships when NEPSE was modeled as the outcome. The differences across studies underline that predictive direction is sensitive to the variables, lag structure, sample period, and aggregation strategy. For that reason, the present Granger findings are described as predictive precedence rather than structural causation.

For policy, the directional evidence suggests that a stronger capital market cannot be created sustainably by market-focused measures alone. Policies that improve productive-sector performance, business formalization, corporate profitability, and investment opportunities can themselves deepen demand for capital-market services. Capital-market reforms should therefore accompany, rather than substitute for, policies that strengthen the real economy.

Overall Discussion and Link with Research Objectives

Overall, the findings answer the study objectives in a coherent sequence. Cointegration confirms a long-run equilibrium among the variables; the coefficient estimates identify market breadth and inflation as the

clearest long-run correlates of RGDP; the ECM shows short-run roles for the NEPSE Index, inflation, listed companies, and paid-up capital; and the Granger tests show that real economic activity predicts key market-valuation measures. The evidence thus rejects a one-dimensional interpretation of stock market development and indicates that the growth relevance of Nepal's capital market depends on the channel through which development occurs.

Taken together, these findings indicate that the growth relevance of Nepal's stock market lies more in market breadth, productive equity mobilization, and macroeconomic stability than in index appreciation alone. At the same time, the predictive evidence reveals an important demand-following channel from real economic activity to the NEPSE Index and market capitalization. These combined results provide the basis for the policy implications and the conclusion that follow.

Policy Implications

First, Nepal should strengthen the quality and breadth of listings rather than focusing only on aggregate index performance. Policies that encourage productive firms, small and medium-sized enterprises, and firms from diverse sectors to enter the capital market could improve the real-sector connection of the stock exchange. This requires listing incentives, reduced procedural friction, stronger corporate governance, transparent disclosure standards, and investor education.

Second, price stability should remain a core macroeconomic priority. Inflation is negatively associated with RGDP in both the long-run and short-run estimates, so policies that contain persistent inflationary pressures and reduce uncertainty can support

the environment in which investment and financial-market development occur. The estimates establish an association rather than isolating the causal effect of any particular monetary or fiscal instrument.

Third, capital-market regulation should aim to reduce excessive volatility and strengthen the informational quality of prices. The negative short-run association between changes in NEPSE and RGDP growth does not imply that the stock market is harmful or that higher prices cause lower output. Rather, it indicates that short-run price movements should be interpreted cautiously in a developing market. Better disclosure, surveillance, financial literacy, risk-management mechanisms, and market-making arrangements can help align market prices more closely with economic fundamentals.

Fourth, the financial system should channel equity financing toward productive investment. Paid-up capital is significant in the short-run ECM but not in the long-run equation, suggesting that equity mobilization may have immediate growth associations without necessarily translating into sustained output unless it is directed toward productive sectors. Policy should therefore connect capital raising with investment quality, sectoral diversification, and long-term productivity.

LIMITATIONS AND FUTURE RESEARCH

Several limitations should be acknowledged. The study uses annual data because quarterly data were unavailable for the full set of variables. Annual data reduce the number of observations and may conceal short-run volatility. The study also focuses on

selected aggregate stock market indicators. It does not include sectoral indices, investor composition, trading liquidity, interest rates, exchange rates, remittance flows, institutional quality, or political events. These omitted factors may influence both stock market performance and economic growth.

Future studies should use quarterly or monthly data when available, incorporate structural-break tests for major shocks, and compare Nepal with other South Asian or emerging markets. Sector-specific models would be useful because banking, insurance, hydropower, manufacturing, and service-sector listings may have different relationships with real output. Future research should also examine whether capital raised through the stock market is invested in productive capacity or used primarily for balance-sheet restructuring.

CONCLUSION

This study establishes a long-run equilibrium relationship between stock market indicators, inflation, and economic growth in Nepal over 1994–2025. The ARDL bounds F-statistic of 6.8769 exceeds the reported upper-bound critical values, supporting cointegration and answering the first research question affirmatively. The significant negative error-correction term further shows that short-run deviations converge toward the estimated long-run equilibrium, with approximately 27.9% of disequilibrium corrected within one year.

The variable-specific results show that market breadth and macroeconomic stability matter more consistently than aggregate market valuation. In the long run, inflation is negatively associated with

RGDP and the number of listed companies is positively associated with RGDP, whereas the NEPSE Index, real market capitalization, and real paid-up capital are not statistically significant. In the short run, changes in the NEPSE Index and inflation are negative, while changes in listed companies and paid-up capital are positive. The contrast between the long-run and short-run coefficients confirms that different dimensions of capital-market development operate over different horizons.

The predictive-direction results provide a further qualification. RGDP Granger-predicts the NEPSE Index and real market capitalization, while those two market indicators do not significantly Granger-predict RGDP in the reported pairwise tests. This evidence is more consistent with an important demand-following channel, in which real economic expansion helps create conditions for capital-market growth, than with a simple one-way supply-leading interpretation. Because Granger causality indicates predictive precedence rather than structural causation, the results should not be read as proof that changes in RGDP mechanically cause later market movements.

The overall conclusion is that Nepal's capital market is most likely to support sustainable economic development when expansion reflects broader and higher-quality corporate participation, productive use of equity capital, and a stable macroeconomic environment. Policy should therefore prioritize credible and diverse listings, strong disclosure and governance, investor protection, productive capital allocation, and price stability rather than treating increases in the NEPSE Index alone as evidence of economic progress. This conclusion follows directly from the

long-run, short-run, and predictive findings discussed above and does not extend beyond the associations identified by the study.

Scope and Delimitations

The study is delimited to Nepal and uses annual secondary time-series data from 1994 through 2025 inclusive. It focuses on aggregate national indicators: RGDP, the NEPSE Index, real market capitalization, real paid-up capital, inflation, and the number of listed companies. The study does not estimate sector-level effects on the stock market, investor-level behavior, liquidity ratios, interest-rate channels, remittance effects, political shocks, or firm-level productivity outcomes. These delimitations are acknowledged so that the findings are interpreted as macro-level time-series evidence rather than firm-level causal proof.

Contribution of the Study

This article reformulates a dissertation-based empirical study into a peer-reviewed journal format. It investigates the relationship between stock market performance and economic growth in Nepal using annual data from 1994 through 2025 inclusive. The study uses the ARDL bounds testing

approach because the variables exhibit mixed stationarity properties. Specifically, it estimates the long-run and short-run associations between RGDP and five explanatory variables: the NEPSE Index, real market capitalization, real paid-up capital, inflation, and the number of listed companies. It also uses diagnostic and Granger causality tests to evaluate model reliability and temporal predictability.

The study contributes to the Nepal-specific literature in three ways. First, it examines 32 annual observations spanning 1994–2025, beginning with the institutional start of organized NEPSE trading and extending through the latest consistently assembled annual observation. Second, it separates long-run equilibrium relationships from short-run dynamics and predictive precedence. Third, it compares price-level market performance, market size, equity mobilization, and market breadth rather than treating stock market development as a single construct. This distinction is policy-relevant because an expanding index or market valuation does not necessarily imply broader productive capital formation or real-sector diversification.

Funding

No funding information was provided in the source document. The author should update this statement before submission.

Conflict of interest

No conflict-of-interest information was provided in the source document. The author should update this statement before submission.

REFERENCES

- 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>
- Bagehot, W. (1873). *Lombard Street: A description of the money market*. Henry S. King.
- Beck, T., & Levine, R. (2004). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance*, 28(3), 423–442. [https://doi.org/10.1016/S0378-4266\(02\)00408-9](https://doi.org/10.1016/S0378-4266(02)00408-9)
- Bekaert, G., Harvey, C. R., & Lundblad, C. (2005). Does financial liberalization spur growth? *Journal of Financial Economics*, 77(1), 3–55. <https://doi.org/10.1016/j.jfineco.2004.05.007>
- Bhandari, K. (2025). Effect of the stock market on economic growth in Nepal. *NPRC Journal of Multidisciplinary Research*, 2(13), 91–109. <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, J. P. (2017). Stock market development and economic growth in Nepal: An ARDL representation. *Journal of Finance and Economics*, 5(4), 164–170. <https://doi.org/10.12691/jfe-5-4-2>
- Boyd, J. H., Levine, R., & Smith, B. D. (2001). The impact of inflation on financial sector performance. *Journal of Monetary Economics*, 47(2), 221–248. [https://doi.org/10.1016/S0304-3932\(01\)00049-6](https://doi.org/10.1016/S0304-3932(01)00049-6)
- Dhungana, B. R. (2023). Stock market development and economic growth of Nepal. *Journal of Business and Social Sciences Research*, 8(2), 31–50. <https://doi.org/10.3126/jbssr.v8i2.62132>
- Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association*, 74(366), 427–431. <https://doi.org/10.2307/2286348>
- Engle, R. F., & Granger, C. W. J. (1987). Cointegration and error correction: Representation, estimation, and testing. *Econometrica*, 55(2), 251–276. <https://doi.org/10.2307/1913236>
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35(2), 688–726.
- Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review*, 88(3), 537–558.
- Nepal Stock Exchange. (n.d.). *Introduction*. <https://nepalstock.com.np/about-us/introduction>
- Nkoro, E., & Uko, A. K. (2016). Autoregressive distributed lag (ARDL) cointegration technique: Application and interpretation. *Journal of Statistical and Econometric Methods*, 5(4), 63–91.
- 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>
- Rana, S. B. (2021). Cointegration between macroeconomic variables and stock market returns in Nepal. *Journal of Business and Social Sciences Research*, 6(1), 1–19. <https://doi.org/10.3126/jbssr.v6i1.38120>
- Regmi, U. R. (2012). Stock market development and economic growth: Empirical evidence from Nepal. *Administration and Management Review*, 24(1), 1–28. <https://nepjol.info/index.php/AMR/article/view/7232>
- Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, 94(5), 1002–1037. <https://doi.org/10.1086/261420>
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press.

- Shahu, D. K. (2023). Stock market responses to macroeconomic dynamics. *Journal of Business and Social Sciences*, 5(1), 81–88. <https://doi.org/10.3126/jbss.v5i1.72449>
- Shrestha, M. B., & Bhatta, G. R. (2018). Selecting appropriate methodological framework for time series data analysis. *The Journal of Finance and Data Science*, 4(2), 71–89. <https://doi.org/10.1016/j.jfds.2017.11.001>
- Shrestha, P. M., & Rana, M. (2024). Exploring the nexus between macroeconomic variables and stock market returns in Nepal: An ARDL bounds testing approach. *Journal of Business and Management*, 8(1), 83–95. <https://doi.org/10.3126/jbm.v8i1.72121>
- Sigdel, S., & Adhikari, G. (2024). Examining the impact of macroeconomic variables on the NEPSE Index: VECM approach. *Journal of Kathmandu BernHardt College*, 6(1), 57–72. <https://doi.org/10.3126/jkbc.v6i1.72968>
- Singh, A. (1997). Financial liberalisation, stock markets and economic development. *The Economic Journal*, 107(442), 771–782.
- Thapa, K. B., & Chamlagain, G. P. (2025). Empirical analysis of macroeconomic determinants of stock market performance: Evidence from the Nepal Stock Exchange using an ARDL model. *Dristikon: A Multidisciplinary Journal*, 15(1), 89-97. <https://doi.org/10.3126/dristikon.v15i1.77123>