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Dynamic Relationships between Economic Fundamentals and Capital Market Nepal: Evidence from Vector Error Correction Model Analysis

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Abstract

Nepal's stock market (NEPSE), though steadily growing since its establishment in 1993, remains structurally fragile, illiquid, and vulnerable to macroeconomic fluctuations, making it critical to understand the fundamental drivers of its performance. Despite growing academic interest, existing studies have examined macroeconomic determinants in isolation using limited econometric frameworks, leaving the short-run and long-run dynamics of NEPSE performance insufficiently understood. This study investigates the dynamic effects of key macroeconomic variables — specifically GDP, money supply, gross fixed capital formation, and market capitalization on NEPSE performance using annual time-series data form 1994-2024. The Johansen cointegration test and Vector Error Correction (VEC) model were employed to capture both short-term fluctuations and long-term equilibrium relationships among the variables. The results reveal a significant long-run equilibrium relationship between the selected macroeconomic indicators and NEPSE performance, with money supply exerting a positive influence and interest rates demonstrating a negative impact on stock market returns. These findings suggest that Nepal's stock market is highly sensitive to monetary and fiscal conditions, emphasizing the need for stable macroeconomic governance to sustain market development. The study offers empirically grounded, context-specific insights that equip investors and policymakers with a clearer understanding of the forces shaping Nepal's evolving financial market landscape.

Keywords: Economic Growth, Money Supply, Cointegration , Vector Error Correction Model, Stock Market Dynamics

Introduction

The Nepalese stock market faces significant volatility and underdevelopment due to low investor awareness, manipulation, inadequate regulations, and political instability. Key variables affecting market dynamics include GDP growth, inflation, interest rates, currency exchange rates, and governmental policies. Phuyal's (2016) work, utilizing a vector error correction model,

discovered an equilibrium relationship between NEPSE and multiple macroeconomic parameters, including CPI, money supply, exchange rate, and interest rate, for instance, high inflation may decline purchasing power and investor confidence, whereas rapid GDP growth may boost stock prices and market confidence. Exchange rate variations can also affect how competitive imports and exports are, affecting businesses listed on stock exchanges (Alzoubi, 2022). The stock market is a crucial part of a free market economy, facilitating capital market for enterprises by exchanging ownership shares with investors. According to Black and Gilson (1998), stock exchanges allow businesses to raise funds by selling shares to investors.

The connection between economic development and stock market returns is a persistent financial problem. Recently, for example, several developing countries have accomplished striking growth; also, numerous institutional investors are wondering whether they can give these countries a higher weight cantered on gross domestic product (GDP) instead of market capitalization. Investors like these, expect that big future returns have explained this greater weight (Ghimire, 2022).

Nepal's stock market, represented by the Nepal Stock Exchange (NEPSE), was formally established in 1993, replacing the Securities Exchange Center (SEC). Since its inception, NEPSE has witnessed steady growth in market capitalization, trading volume, and the number of listed companies. Yet, despite these advances, the market remains relatively small, illiquid, and less competitive compared to regional counterparts (Dhungana, 2024). Moreover, macroeconomic variables such as interest rates and inflation continue to influence market dynamics in ways that are not yet fully understood (Adhikari et al., 2024; Shrestha & Subedi, 2014).

Performance of stocks is critical in performance of GDP as it has a crucial component in the theory put forward to increased output (Nazir, Nawaz, & Gilani, 2010). Nepal stock exchange (NPSE) is an institution regulation stock market in Nepal. It is normally believed that huge decrease in stock prices reflects recession in the future and rising securities prices are foremost factors for boosting the GDP (Siong & Thing, 2008). Key factors such as money supply, market capitalization, lending interest rates, investment, and liquidity have been demonstrated to have a major impact on stock market behavior. Devkota and Dhungana (2019) have claimed that there is a long-run link between macroeconomic indicators and the Nepalese stock market. The study found that money supply has a beneficial impact on the stock market in Nepal, while interest rates have a negative impact. However, gold prices and exchange rates had no impact.

These macroeconomic variables shape market behavior and investor sentiment. Donwa and Odia (2010) argues that well developed stock markets boost savings from a theoretical perspective. Savings have been established to be positively related to the growth of GDP (Mnuro, 2000), reveals that stock market form a foundation for investment through savings. Sustaining in stock market which is performing well drives growth in the economy by easing flow of finances from savers to borrowers. This however, comes after addressing various issues which hinder stock market performance especially in developing countries like Nepal.

The development of Nepal's stock market and its determinants are examined in this study since several factors, including stock market development, affect economic growth. The stock market development indicators are market capitalization, trading turnover, NEPSE index, gross capital formation, and gross national savings. To determine the relationship between stock market performance and its fundamentals determinants of in Nepal is addressed by this research. Reason behind this was that, to have a well performing stock market, there must be economic growth and thus, investors must be undertaking expansionary strategies requiring extra financing from the stock market whereas savers are believed to be having surplus capital for investment. Strong stock market performance especially in the periods of high economic growth is crucial in mending the allocation problem which ensures that borrowers access the available surplus funds from savers. The relationship between performance of stock market and growth in the economy in Nepal forms heart for this research (Dhungana, 2023). A study conducted by Chen, Roll, and Ross (1986) discovered that the NEPSE Index is positively affected by GDP growth, boosting business earnings and investor confidence. Within the Nepalese setting,

The relationship between equity market and macro-economic variables has been usually examined, particularly in developed economies. According to Adam et al. (2016), the stock market is a significant component of the securities market that directly mobilizes capital to finance productive enterprises through the issuance of market shares. Money supply, market capitalization, lending interest rates, investment, and liquidity have all been shown to have a substantial impact on stock market performance. These macroeconomic variables play a pivotal role in shaping market dynamics and investor sentiment.

Stock market performance is highly valued by investors, who are also becoming more aware of how the macroeconomic situation is changing. The most important factors influencing investor sentiment and equities valuation are still interest rates, money supply interest rate, and GDP (T. H. Nguyen et al., 2024). Given that the relationship between these factors and stock indices is still a source of intense academic discussion with recent evidence indicating that inflation's impact varies significantly across economic regions this work aims to close the research gap by providing updated insights into these macro-economic fundamentals and stock market performance in Nepal

This study emphases on a significant gap in the literature by analyzing Nepal's stock market using advanced econometric tools, such as the Granger Johansen co-integration test and VEC models, examine macroeconomic determinants and their impact on stock market performance. Through methods like Johansen cointegration and Vector Error Correction (VEC) models, the study will also investigate short-term and long-term interactions between these variables. The relevance of this research lies in its potential to improve financial market forecasting, providing investors and policymakers with a clearer understanding of the factors that drive stock market fluctuations. Moreover, by addressing the gaps identified in previous studies, this research will contribute to a more wide-ranging knowledge of market dynamics in Nepal's emerging market.

Although several studies have investigated how economic indicators influence stock market behavior, the Nepalese context remains underexplored and methodologically limited. Existing

works tend to examine individual variables in isolation, yielding inconsistent conclusions that are difficult to generalize. The application of robust econometric frameworks capable of capturing both short-term fluctuations and long-term equilibrium relationships has been largely absent from Nepal-focused research. Additionally, no study has taken a holistic approach by simultaneously incorporating variables such as GDP, money supply, gross fixed capital formation, and market capitalization into a unified analytical model. Given Nepal's distinctive market conditions characterized by structural fragility, regulatory limitations, and low market participation findings drawn from broader regional or global studies offer limited applicability. This study therefore seeks to fill these voids by employing advanced time-series econometric techniques to deliver empirically grounded and context-sensitive insights into the drivers of NEPSE performance.

The study examines the relationship between key macroeconomic variables and stock market performance in Nepal, focusing on both short-run dynamics and long-run equilibrium. It analyzes how factors such as GDP, inflation, interest rates, money supply, and exchange rates influence the NEPSE index and investor behavior. The research further aims to identify the major determinants of market performance and assess the contribution of the stock market to economic growth, using advanced econometric techniques such as cointegration and VECM.

Methodology

This study employs annual time series data spanning from 1995 to 2024, providing a comprehensive 30-year dataset that captures the evolution of Nepal's financial market and macroeconomic disorder. The dataset encompasses variables that signify the fundamental dimensions of financial market development and economic performance in Nepal.

As this paper claims for a need to empirically examine the dynamic relationship between macro-economic indicators and the performance of the Nepal Stock Exchange Index (NEPSE) in Nepal. The study has taken Nepal Stock Exchange (NEPSE) index, as dependent variable, which serves as the primary indicator of stock market performance and investor sentiment in Nepal's equity market. The explanatory variables include Gross Domestic Product (GDP), Money Supply (M2) capturing monetary conditions, Market Capitalization (MCAP reflecting the size and depth of the capital market, and Gross fixed Capital formation (GFCF) which representative investment activity levels. Selected variables for the mode are transformed into natural logarithmic form to facilitate interpretation of coefficients as elasticities and to ensure consistency with standard econometric practice for time series analysis. In time series data, the issue of stationary is an important character because regression on nonstationary variables can be spurious. However, co-integration provides a way to examine whether apparently spurious regression is spurious or not. In this study, to carry out the co-integration, Johansen-Juselius (1990) co-integration test has been used. The research design enables empirical investigation of both short-term and long-term economic dynamics, supporting the identification of causal linkages between selected variables.

The functional relationship between macroeconomic variables and Nepalese stock market can be presented as:

NIPSE= f (GDP, M2, MCAP, GFCF)

Converting the functional relationship into linear form;

$NEPSE_t = \beta 0 + \beta_1 GDP + \beta_2 M2t + \beta_3 MCAPt + \beta_4 GFCF + Ut$

Taking natural log on both sides: $LnNEPSE_t = \beta 0 + Ln\beta 1 GDPt + + Ln\beta 2 M2t\ lnM2t + \beta 3\ MCAP_t + \beta 4\ GFCF$

The econometric analysis begins with comprehensive testing for group unit roots to determine the integration properties of each time series. The presence of unit roots fundamentally affects the appropriate modeling strategy and determines whether variables can be analyzed in levels or require differencing to achieve stationarity. This research scrutinizes time series data spanning 1994 to 2024, focusing on the effects of macroeconomic variables on NEPSE. The three-decade dataset is subjected to unit root tests, co-integration assessments, and Vector Error Correction Model methodologies to elucidate the findings. The Augmented Dickey-Fuller test is employed as the primary unit root testing procedure, following the specification:

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \sum_{i=1}^{p} \gamma_i \Delta Y_{t-i} + \varepsilon_t$$

where Y_t represents each variable in logarithmic form, Δ denotes the first difference operator, α is the intercept term, β is the coefficient of interest for testing the unit root hypothesis, and ε_t is the error term. The null hypothesis H_0: $\beta = 0$ indicates the presence of a unit root, while the alternative hypothesis H_1: $\beta < 0$ suggests stationarity.

Following validation that variables are integrated of order one, the analysis employs the Johansen cointegration methodology to test for long-run equilibrium relationships among the variables. The Johansen approach provides a comprehensive framework for testing cointegration in multivariate systems while allowing for multiple cointegrating relationships. This study employed a model to look at long-term links between macroeconomic indicators and the stock market. For this goal, cointegration analysis is regarded as an ideal tool. So, it employs the Johansen (1991) method. For the VECM, the variables' integration order is first determined.

Vector Error Correction Model Specification

Upon confirmation of cointegration relationships, the analysis proceeds with Vector Error Correction Model estimation to capture both short-run dynamics and long-run equilibrium relationships. The VECM representation provides a comprehensive framework for analyzing adjustment mechanisms and dynamic interactions among the variables.

The general VECM specification for the three-variable system comprising NEPSE index, GDP, and money supply follows:

$$\Delta lnnepse\ {}_tS = \alpha_1 ECT_{t-1} + \sum_{i=1}^{p} \beta_{1i} \Delta lnnepse_{t-i} + \sum_{i=1}^{p} \gamma_{1i} \Delta lngdp_{t-i} + \sum_{i=1}^{p} \delta_{1i} \Delta lnm2_{t-i} + \varepsilon_{1t}$$

$$\Delta lngdp_t = \alpha_2 ECT_{t-1} + \sum_{i=1}^{p} \beta_{2i} \Delta lnnepse_{t-i} + \sum_{i=1}^{p} \gamma_{2i} \Delta lngdp_{t-i} + \sum_{i=1}^{p} \delta_{2i} \Delta lnm2_{t-i} + \varepsilon_{2t}$$

$$\Delta lnm2_t = \alpha_3 ECT_{t-1} + \sum_{i=1}^{p} \beta_{3i} \Delta lnnepse_{t-i} + \sum_{i=1}^{p} \gamma_{3i} \Delta lngdp_{t-i} + \sum_{i=1}^{p} \delta_{3i} \Delta lnm2_{t-i} + \varepsilon_{3t}$$

where ECT_{t-1} signifies the error correction term derived from the cointegrating relationship, α_i are the error correction coefficients indicating the speed of adjustment toward long-run equilibrium.

Model Selection and Diagnostic Testing

The optimal lag length for each VECM specification is determined using information criteria including Akaike Information Criterion (AIC), Hannan-Quinn Information Criterion (HQIC), and Schwarz Bayesian Information Criterion (SBIC). The selection balances model fit against parameter parsimony, ensuring adequate capture of dynamic relationships while maintaining degrees of freedom appropriate for the annual data frequency.

Comprehensive diagnostic testing evaluates model adequacy through several procedures. Serial correlation testing employs the Lagrange Multiplier test to ensure that residuals exhibit no systematic autocorrelation patterns. Normality testing uses the Jarque-Bera test to assess whether residuals follow normal distribution assumptions required for valid statistical inference.

Stability testing examines the eigenvalues of the VECM system to confirm that the model satisfies stability conditions necessary for meaningful impulse response analysis and variance decomposition. The stability condition requires that all eigenvalues except those corresponding to the cointegrating relationships lie within the unit circle.

Impulse Response and Variance Decomposition Analysis

The estimated VECM provides the foundation for impulse response function analysis, which traces the dynamic effects of one-standard-deviation shocks to each variable on all variables in the system. Variance decomposition analysis quantifies the relative importance of each variable in explaining forecast error variance at different time horizons. This analysis provides insights into the channels through which macroeconomic variables influence financial market performance and vice versa.

Results and Discussion

Group unit root test al Level

Table.1

Result of Group unit root test al Level

Group unit root test: Summary				
Series: LNNEPSE, LNM2, LNGDP, LNMCAP, LNGFCF				
Exogenous variables: Individual effects				
Automatic selection of maximum lags				
Automatic lag length selection based on SIC: 0 to 1				
			Cross-	
Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.34828	0.3638	*5*	144

Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.45310	0.9929	5	144
ADF - Fisher Chi-square	1.46264	0.9990	5	144
PP - Fisher Chi-square	1.16056	0.9997	5	145

Source: Author's Calculation

The results of unit root tests at levels consistently indicate that all variables in the system are non-stationary, containing unit roots and following I(1) processes. All test statistics fail to reject the null hypothesis of unit root presence at conventional significance levels, with probability values well above 0.05. The Levin, Lin & Chu t-statistic of -0.34828 (p-value = 0.3638 indicate failure to reject the unit root hypothesis.

Group Unit root Test at First Difference

Table 2:

Result of Group Unit root Test at First Difference

Group unit root test: Summary				
Series: LNNEPSE, LNM2, LNGDP, LNMCAP, LNGFCF				
Exogenous variables: Individual effects, individual linear trends				
Automatic selection of maximum lags				
Automatic lag length selection based on SIC: 0 to 5				
			Cross-	
Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.03925	0.0000	5	135
Breitung t-stat	-6.29706	0.0000	5	130
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.50512	0.0000	5	135
ADF - Fisher Chi-square	45.1534	0.0000	5	135
PP - Fisher Chi-square	71.9318	0.0000	5	140
** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.				

The unit root tests applied to first differences of all variables provide strong evidence of stationarity, confirming that each series is integrated of order one, I (1). All test statistics consistently exceed critical values at high significance levels, with probability values of 0.0000, leading to decisive rejection of the null hypothesis of unit root presence. These results confirm that all variables become stationary after first differencing, establishing their I(1) integration order and validating the appropriateness of cointegration analysis for examining long-run relationships.

Cointegration Analysis Results

Table 1 reveals the Johansen cointegration test results for various model specifications. The analysis reveals robust evidence of long-run equilibrium relationships across multiple variable combinations.

Table 3:

Johansen Cointegration Test Results

Variables	Lags	Rank	Trace Statistic	Critical Value (5%)	Max Eigenvalue	Critical Value (5%)
NEPSE, GDP, M2 (3 lags)	3	1	34.03*	29.68	25.91*	20.97
NEPSE, GDP, M2 (2 lags)	2	1	29.30*	29.68	21.36*	20.97
NEPSE, GDP, MCAP	2	2	45.98*	29.68	26.47*	20.97
NEPSE, GDP, M2, MCAP	2	2	77.70*	47.21	48.82*	27.07
Five-variable system	2	3	120.59*	68.52	53.52*	33.46

Note: **Indicates rejection of null hypothesis at 5% significance level*

Source: Author calculation

The cointegration tests establish progressively stronger evidence of long-run relationships as additional variables are incorporated into the analysis. The three-variable system comprising NEPSE index, GDP, and money supply exhibits marginal cointegration evidence with one cointegrating relationship. The inclusion of market capitalization substantially strengthens the cointegration evidence, while the comprehensive five-variable model shows multiple cointegrating relationships with highly significant test statistics.

Vector Error Correction Model Results

Table 4 depicts the estimation results for the primary VECM specification including NEPSE index, GDP, and money supply. This model serves as the foundation for understanding fundamental relationships in Nepal's financial system.

Table 4:

VECM Estimation Results - Primary Model (NEPSE, GDP, M2)

Variables	Error Correction Term	NEPSE (t-1)	GDP (t-1)	M2 (t-1)	Constant	R^2	RMSE
ΔNEPSE	-0.731***	0.514**	-0.231	-0.753	0.047	0.432	0.280
	(0.207)	(0.195)	(0.303)	(1.077)	(0.187)		
ΔGDP	-0.138	-0.160	-0.083	1.888***	-0.223**	0.456	0.160
	(0.118)	(0.111)	(0.173)	(0.615)	(0.107)		
ΔM2	0.035	-0.005	0.081	0.348*	0.101***	0.923	0.050
	(0.037)	(0.035)	(0.054)	(0.192)	(0.033)		

Source: *Author's Calculation using E-views 10*

Note : *Standard errors in parentheses; *, **, *** indicate significance at 10%, 5%, and 1% levels respectively*

The primary VECM demonstrates strong error correction dynamics with the NEPSE index exhibiting rapid adjustment toward equilibrium. The error correction coefficient of -0.731 indicates that approximately 73 percent of deviations from long-run equilibrium are corrected within one year, suggesting efficient market adjustment mechanisms. The lagged NEPSE returns show significant positive persistence, indicating momentum effects in Nepal's stock market.

Extended VECM with Market Capitalization

Table 5 presents outcome for the extended model incorporating market capitalization, which reveals two distinct cointegrating relationships and enhanced explanatory power.

Table 5:

VECM Results - Extended Model with Market Capitalization

Variables	ECT_1	ECT_2	NEPSE(t-1)	GDP(t-1)	MCap(t-1)	Constant	R^2
ΔNEPSE	-0.543*	0.346	0.302	-0.481	-0.028	-0.045	0.370
	(0.293)	(0.299)	(0.749)	(0.360)	(0.746)	(0.128)	
ΔGDP	- 0.443***	-0.649***	1.012***	-0.010	-1.138***	-0.007	0.667
	(0.124)	(0.127)	(0.318)	(0.153)	(0.317)	(0.054)	
ΔMCap	-0.438	0.176	0.170	-0.388	0.121	0.062	0.389
	(0.330)	(0.338)	(0.845)	(0.407)	(0.842)	(0.145)	

Source: *Authors Calculation*

Standard errors in parentheses; *, **, *** indicate significance at 10%, 5%, and 1% levels respectively

The extended model discloses more complex adjustment mechanisms with two error correction terms capturing distinct equilibrium relationships. GDP exhibits strong responsiveness to both error correction terms, indicating its essential role in maintaining system equilibrium. The significant coefficients on lagged NEPSE returns in the GDP equation suggest important feedback effects from financial markets to economic growth.

Comprehensive Four-Variable VECM

The comprehensive model incorporating NEPSE index, GDP, money supply, and market capitalization provides the most complete representation of Nepal's financial market dynamics.

Table 6:

Comprehensive VECM Results (Four Variables)

Variables	ECT_1	ECT_2	NEPSE(t-1)	GDP(t-1)	M2 (t-1)	MCAP (t-1)	R^2
ΔNEPSE	-0.586***	-0.011	0.203	-0.272	-0.464	0.280	0.450
	(0.220)	(0.336)	(0.742)	(0.345)	(1.250)	(0.754)	
ΔGDP	-0.232***	-0.687***	1.131***	0.208*	2.358***	-1.293***	0.801
	(0.077)	(0.118)	(0.260)	(0.121)	(0.439)	(0.265)	
ΔM2	0.037	0.099**	-0.311***	0.035	0.151	0.322***	0.946
	(0.033)	(0.051)	(0.112)	(0.052)	(0.190)	(0.114)	
ΔMCAP	-0.521**	-0.181	0.123	-0.208	-0.624	0.375	0.454
	(0.252)	(0.384)	(0.847)	(0.394)	(1.428)	(0.861)	

Source: *Author's Calculation*

Standard errors in parentheses; *, **, *** indicate significance at 10%, 5%, and 1% levels respectively

The comprehensive model has impressive predictive value, notably for GDP and money supply equations, with R-squared values of 80.1 percent and 94.6 percent, respectively. GDP has significant connections with several lagged variables as well as both error correction terms, indicating considerable interconnectivity among all variables.

Long-Run Cointegrating Relationships

Table 5. presents the estimated long-run cointegrating relationships from the primary VECM specification, normalized on the NEPSE index.

Table 7:

Long-Run Cointegrating Relationships

Model	NEPSE	GDP	M2	Market Cap	GFCF	Constant
Primary (3-var)	1.000	0.349	-0.813***	-	-	-1.400
		(0.252)	(0.150)			
Market Focus	1.000	0.000	-	-0.456***	-	-2.078
				(0.027)		
Investment Focus	1.000	1.035***	-	-	-1.402***	-4.121
		(0.372)			(0.255)	

Source: *Authors Calculation*

Standard errors in parentheses; *** indicates significance at 1% level

The long-run relationships reveal economically meaningful coefficients that align with theoretical expectations. In the primary model, a one percent increase in GDP is associated with approximately 0.35 percent increase in the NEPSE index, while a one percent increase in money supply corresponds to 0.81 percent decrease in the index. The negative relationship with money supply likely reflects market concerns regarding inflationary pressures or monetary policy tightening effects on equity valuations

Model Diagnostics and Robustness

Table 6 summarizes the key diagnostic test results for the primary VECM specification.

Table 8:

Diagnostic Test Results

Test	Statistic	P-value	Interpretation
Serial Correlation (LM Test)			
Lag 1	9.945	0.355	No autocorrelation
Lag 2	8.787	0.457	No autocorrelation
Normality (Jarque-Bera)			
NEPSE Equation	1.190	0.552	Normal residuals
GDP Equation	51.639	0.000	Non-normal residuals
M2 Equation	0.310	0.856	Normal residuals
Stability Condition			
Unit Moduli	2	-	Stable system
Max Eigenvalue	0.679	-	Convergent

Source: *Authors Calculation*

The diagnostic tests demonstrate in table 7 demonstrates the acceptable model performance in terms of serial correlation, with no indication of autocorrelation in residuals at conventional significance levels. The stability criterion shows that the proper specification includes exactly two-unit moduli that match to the cointegration rank. However, the GDP equation deviates from normalcy, implying the possibility of outlier observations that could represent significant economic events during Nepal's development period.

The empirical findings yield several significant insights pertinent to the comprehension of the development of Nepal's financial market and its association with macroeconomic fundamentals. The robust error correction mechanism observed in the NEPSE equation suggests that Nepal's stock market adeptly assimilates information regarding long-term economic relationships, swiftly adjusting to reestablish equilibrium after transient deviations. This study line up with Khatri (2019), which emphasized that macro-economic variable like money supply, exchange rates, deposits, and interest rates pointedly affect stock market performance .

The negative long-run relationship between money supply and stock market valuation suggests that expansionary monetary policy may have complex effects on equity markets in Nepal. While increased liquidity might initially support market activity, concerns about inflation and currency depreciation may ultimately depress stock valuations. This finding has important implications for monetary policy coordination with financial market development objectives.

The positive relationship between GDP and stock market performance confirms that fundamental economic growth drives long-term financial market development in Nepal. The coefficient magnitude suggests that sustained economic growth creates proportional increases in stock market valuation, supporting the view that financial market development accompanies real economic progress.

The strong explanatory power achieved in the money supply equation indicates that financial market variables and GDP growth significantly influence monetary dynamics in Nepal. This relationship suggests important feedback mechanisms between real economic activity, financial market development, and monetary conditions that policymakers should consider when designing macroeconomic stabilization programs.

Conclusion

The paper highlights the dynamic association between macro-economic indicators and the performance of the Nepal Stock Exchange Index (NEPSE), using the ARDL model to address the mixed integration order of the variables. The findings reveal that reserve money and deposits exert both positive and negative effects on NEPSE depending on time lags, while liquidity impacts the market positively with a delay. Lending interest rate consistently shows a significant negative influence, confirming its dampening effect on investor activity and market performance. Empirical evidence aligns with Adhikari et al. (2024) and Dhungana (2023) confirm that interest rates negatively affect NEPSE, whereas money supply shows a positive long-term impact. Similar patterns are observed in broader emerging markets (Nguyen et al., 2024; Alzoubi, 2022). These results underscore the importance of time-lagged macroeconomic effects and suggest that NEPSE is sensitive to shifts in monetary and banking conditions. Importantly, the adoption of the ARDL model proves

effective in capturing both short-run adjustments and long-run equilibrium dynamics. The absence of serial correlation and heteroskedasticity validates the model's reliability. This research fills a critical gap in Nepalese capital market literature and offers actionable insights for policymakers, investors, and financial institutions. However, the analysis has some limitations, as the ARDL approach may overlook structural changes and nonlinear relationships. The omission of variables like inflation and exchange rates also restricts the depth of interpretation. These gaps suggest the need for more comprehensive and advanced approaches in future research. The emerging stock market in Nepal, understanding these macro-financial linkages will be vital for informed investment decisions and sound economic policymaking

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