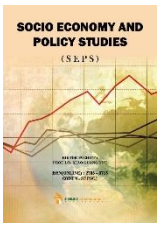
ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2785-8715 (Online)
CODEN: SEPSCJ

Socio Economy and Policy Studies (SEPS)

DOI: http://doi.org/10.26480/seps.01.2023.52.55



REVIEW ARTICLE

IMPACT OF MACROECONOMIC VARIABLES ON THE STOCK MARKET OF NEPAL: A REVIEW

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ARTICLE DETAILS

Article History:

Received 03 January 2023
Revised 06 February 2023
Accepted 15 March 2023
Available online 19 March 2023

ABSTRACT

This study examines how certain macroeconomic variables, such as remittances, money supply, exchange rates, and interest rates, affect stock market performance using literature from both the international and Nepalese contexts. This paper's main goal is to use a literature evaluation to identify a new field of study from a Nepalese perspective. The analysis shows that money supply and remittances have a favorable impact on the stock market, whereas interest rates and exchange rates have a negative impact on the performance of the stock market. There isn't agreement, though, on how each macroeconomic factor affects stock market performance because there is a wealth of literature both supporting and refuting these findings. As a result, a similar study can be expanded using a different approach using this set of variables in the context of Nepal, which could assist to clarify the literature and provide a better description of the performance of the Nepalese stock market.

KEYWORDS

Literature review, Macroeconomic variables, NEPSE index

1. INTRODUCTION

The two main components of Nepal's securities market are Nepal Stock Exchange Limited (NEPSE), the country's sole stock market and Securities Board of Nepal (SEBON), an apex regulator and facilitator of the capital market (Gurung, 2004.). The floatation of shares by Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. in 1937 marked the beginning of the history of the securities market. Other notable developments in the capital markets include the introduction of the Company Act in 1964, the first issue of Government Bonds in 1964, and the founding of Securities Exchange Center Ltd. in 1976. As part of a campaign to modernize the capital markets, the Nepal government transformed the Securities Exchange Center into Nepal Stock Exchange as a secondary market operator in 1993 (Nepal Stock Exchange).

NEPSE Index experienced numerous ups and downs from its founding until 2012, including two significant crashes in 2000 and 2009. From 2008 to 2011, the market's downward trend was constant, and the NEPSE Index dropped 883 points to reach 292 from 1175. Similarly, the market capitalization has also dropped by around 50%. Thousands of stock market investors lost a big portion of their fortune in each crash, and the majority of them accrued debt to varying degrees, which led to widespread social unrest (Phuyal, 2016). The securities market is a system that connects buyers and sellers of securities in order to enable the exchange of financial securities or assets. Through the issuance of shares, debentures, or bonds for businesses and the government, securities markets offer a practical method for raising long-term capital. The securities market, which is further separated into the primary and secondary markets, is the market place for various financial securities. The first market is the public market for newly issued securities, whereas the second market is the market for used assets that were previously traded in the primary market (Gurung, 2004).

The nature of the capital market, and the secondary market in particular, is highly volatile, and this has been true for Nepali markets as well. As a result, during the course of the past 20 years, the Nepalese stock market, as measured and reflected by the NEPSE index, has gone through many ups and downs. Numerous factors influence stock prices, which in turn affect the total index. Costs of investible funds and prices of alternative investment vehicles have been regarded as being more potent stock market influencers than other factors (Gaire, 2016). Various factors, which may be company-specific, sector-specific, or environmental, have an impact on stock prices (macroeconomic or political). Macroeconomic factors, social or political events, market perceptions of the direction of future economic growth, and monetary and fiscal policy announcements, among other things, all have an impact on stock price swings (Ojha, 2021).

The stock market regulators would be prompted to foster investor trust and confidence by implementing appropriate regulatory reforms for mitigating the emerging problems and challenges if the causal relationship between the NEPSE index and the macroeconomic variables were explored. This would help investors make well-informed decisions by weighing the expected benefits against the potential costs and risks involved. Furthermore, the relationships would offer important information that would aid in creating a macroeconomic system that is effective, stable, and beneficial. As a result of the macroeconomy's solid underpinnings, the stock market would experience vigorous expansion (Devkota, 2018). The stock market indicator is regarded as the economic barometer (Devkota & Dhungana, 2019). The empirical literature reveals a lack of agreement on the presence and type of relationship between economic growth and the stock market, along with disagreement on their causal connection. Thus, this study aims to fill this void in the literature by reviewing the impact of macroeconomic variables on Nepal's stock market development and making recommendations to policymakers on how to strengthen the Nepalese financial market so that it better reflects the economic success of the nation.

Quick Response Code	Access this article online	
	Website: www.seps.com.my	DOI: 10.26480/seps.01.2023.52.55

Cite The Article: Pawan Kumar Chaudhary, Sabin Ghimire (2023). Impact of Macroeconomic Variables on the Stock Market of Nepal: A Review. *Socio Economy and Policy Studies, 3(1): 52-55.*

2. Literature Review

Numerous research has been conducted in this area utilizing various variables, methodologies, and time periods. More than twenty papers are reviewed in the subject paper. The objective of this review is to understand how different macroeconomic variables affect the Nepalese stock market.

2.1 Nepalese Perspective

(Devkota M. L., 2018) investigated the dynamic causality between stock prices and macroeconomic variables like NEPSE Index (NI), consumer price index (CPI), the exchange rate (ER), gross domestic product (GDP), Treasury bill rate (TBR), and money supply (M1) using secondary data for the period between 1994 and 2016. The results indicate that the consumer price index, exchange rate, Treasury bill rate, and money supply have positive long-term relationships with the NEPSE Index, but the gross domestic product has a negative long-term relationship has a negative relationship with the NEPSE Index. He also concluded that there are unidirectional long-run Granger causalities connecting the money supply and the consumer price index to the NEPSE Index using the vector error correction model (VECM) and a unidirectional short-run Granger causation also exists between the exchange rate and the NEPSE Index. The gross domestic product and the NEPSE Index as well as the Treasury bill rate and the NEPSE Index have feedback relationships. He further revealed that the majority of the variance in the NEPSE Index is captured by its own innovation by using Variance Decomposition (VDC) analysis although all of the macroeconomic variables in his study appear to have some short-term impact on the NEPSE Index.

(Gaire, 2016) investigated cointegration and causality between the NEPSE index in relation to short-term interest rates and gold prices in Nepal. He studied the data from January 2006 to December 2016 and found that there is a long-run equilibrium relationship between the NEPSE index, short-term interest rates, and gold prices in Nepal employing the unit root (ADF) tests and Cointegration (Johansen) tests. He also revealed that, according to the Granger Causality Test, there is no causal relationship between the price of gold and the NEPSE index. He also confirmed that there is a unilateral causal relationship between the NEPSE index and short-term interest rate.

(Phuyal, 2016) used Johansen's cointegration method to determine whether certain macroeconomic variables have a long-term relationship with stock prices in an emerging market like the Nepali stock market. He used monthly data from January 2003 to December 2012 and six macroeconomic variables like Consumer Price Index (CPI), Money Supply (M_1), Foreign Exchange Rate (FER), Short Term Interest Rate (IR), Remittance Flow, and Inflation Rate for study. The findings showed that the Nepali stock market had a long-term equilibrium relationship with several macroeconomic indicators, including inflation, interest rates, and remittance flow, with the short-term disequilibrium being corrected by 1.79 percent on a monthly basis. Further evidence of Granger causality between them was provided by this. According to the Wald test, remittance income and the lag values of the NEPSE index up to six levels both had a short-term impact on the stock market index.

(Bhattarai & Joshi, 2009) studied the dynamic relationship between the stock market and macroeconomic factors in the Nepali stock market. The study showed that some macroeconomic indicators and stock indexes are interdependent in both the short and long terms. The estimated outcomes support the widely-held belief that stock returns serve as a hedge against inflation by pointing to a unidirectional short-run (positive) causal relationship between the consumer price index (CPI) and stock index but a long-run (reverse) causal relationship (from stock index to CPI). The multivariate results corroborated the short-term positive and unidirectional relationship flowing from the money supply to the stock index but verified the absence of long-run causality. Although there was no short-run linkage, the multivariate data showed long-run causation connecting the stock index to the treasury bill rate. He also confirmed that findings of the variance decompositions had a significant relative exogeneity of the stock index, although the impulse response graphs demonstrated that the stock index's response to shocks in macroeconomic variables did not last for an extended period of time.

(Devkota & Dhungana, 2019) used the ARDL and ECM models to evaluate the relationship between the broad money supply, interest rate, inflation, gold price, and the exchange rate of the US dollar to the equivalent Nepalese currency in order to understand how the Nepal Stock Exchange Index behaves. They used annual data spanning 25 years, from 1994 to 2018 for analysis. The outcome indicated that the long-term variation of the NEPSE Index is closely related to the general money supply, interest rate, inflation, and exchange rate. But NEPSE index could not be defined by the gold price in the long term. (Bhattarai et al., 2021) used an autoregressive distributed lag (ARDL) model with bound testing procedures to analyze the relationship between Nepal's stock market development and economic growth. They included annual time series data from 1994 to 2019 for the study. Their findings imply that the stock market development index and economic growth have a long-term, unidirectional causal link. The size and liquidity of the stock market are important factors, demonstrating the ability of the stock market to mobilize money and disperse risks with smoother stock trading. Market inflation, the control variable, has no noticeable impact on either of the analyzed primary variables.

(Dhungana, 2022) examined the effect of macroeconomic variables like broad money supply, exchange rate, and real GDP on the stock market of Nepal using secondary annual time series data from 1994 to 2020. Her study showed that the broad money supply has a strong long-run relationship with fluctuations in the NEPSE Index and the NEPSE index has a short-run relationship with real GDP and exchange rate. She concluded that macroeconomic variables like the broad money supply exchange rate and real GDP affect the Nepalese stock market. (Rana, 2021) applied an ARDL bounds testing methodology to explore the long-run link between Nepal's stock market returns and macroeconomic variables like real GDP, exchange rate, interest rate, and inflation rate for the time span of 1995–2020. His analysis results showed that real GDP growth has a large long-term positive impact on stock market returns in Nepal, but the exchange rate and inflation have negative effects. Any short-run disequilibrium among the variables tends to recover to its long-run equilibrium with a speed of adjustment of 47.57 percent in a year, as per the outcome of error correction representation.

(Ojha, 2021) made an effort to establish a connection between key macroeconomic determinants and their influence on the Nepalese stock market using regression analysis on data sets covering the years from 1994-2020. He identified a significant relationship between the macroeconomic variables affecting the stock market and stock price. The results suggest that, in the long run, changes in the broad money supply, interest rates, inflation, and exchange rates are closely related to changes in stock market prices. GDP, money supply, and exchange rate all have positive connections in the short term, but only the money supply does so in the long run. He further revealed that the prices of stocks increase as the money supply increases.

(Kumar Shrestha & Raj Subedi, 2014) used monthly data from mid-August 2000 to mid-July 2014 to objectively evaluate the macroeconomic factors that affect the Nepalese stock index (NEPSE) by employing the OLS method and correlation analysis. Their results suggest that there is the presence of a substantial correlation between the macro variables (Consumer Price Index, Broad Money, and Treasury Bill Rate) and the NEPSE index. Their study revealed that the NEPSE index reacts positively to inflation and broad money growth, but negatively to the rate on treasury bills. They also suggested that the stock market reacts strongly to changes in the political climate and NRB policies.

(Panta, 2020) studied macroeconomic determinants of stock market prices in Nepal in 2020. The outcome suggested that the long-term variation of the NEPSE Index is closely related to the general money supply, interest rate, inflation, and exchange rate. Only the money supply has a long-run positive link while money supply, GDP, and exchange rate all have positive short-run effects. He further concluded that the broad money supply, interest rate, inflation, and currency rate are the main elements determining the stock market price of Nepal, despite the fact that the Nepalese stock market is not yet highly developed and mature.

2.2 International Perspective

(Amtiran & Masyita, 2017) studied the Indonesian capital market, to determine how macroeconomic factors, economic growth, inflation, and exchange rates impacted stock returns using Arbitrage Price Theory (APT). They found that Stock returns are positively correlated with GDP, inflation is negatively correlated with stock returns, interest rates are positively correlated with stock returns, and exchange rates are positively correlated with stock returns. Macroeconomic considerations have a significant impact on market conditions in Indonesia, particularly in relation to interest rates and exchange rates.

(Chee et al., 2015) explored how the Malaysian stock market responded to several macroeconomic factors, including industrial production, inflation, money supply (M1), interest rate, and exchange rate, between the first quarters of 1980 and the third quarter of 2011. Their study established the existence of a long-run link between share prices and economic

activity using the autoregressive distributed lag (ARDL) bounds test. According to the long-run coefficients, inflation and money supply have a favorable impact on Malaysian share values while negatively affecting interest rates. The results of the error correction mechanism showed that real money growth and real interest rates are the main causes of real returns. Significant relationships have been found when the exchange rate is taken into account in the estimation, which suggests that changes in the exchange rate can affect the movement of stock prices. This analysis showed that the exchange rate is a proper predictor of stock returns with explanatory power.

(Demir, 2019) studied to examine how several significant macroeconomic issues affect the BIST-100 index of Turkish stocks (Borsa Istanbul-100). The results of the ARDL Bounds Test on the quarterly data indicated that the stock market index is positively impacted by economic growth, the relative value of the domestic currency, portfolio investments, and foreign direct investments while negatively impacted by interest rates and crude oil prices. The findings briefly demonstrate that the Istanbul Stock Exchange Market requires a stronger home currency, greater international capital inflows, and lower energy and investment costs.

(John, 2019) looked at annual time series data from 1981 to 2016 to examine how macroeconomic issues affected the performance of the Nigerian stock market. As independent variables, the money supply, interest rate, exchange rate, and inflation rate were all four macroeconomic factors. Market capitalization, a stand-in for stock market performance, was the dependent variable. The results of the Ordinary Least Square (OLS) regression showed that the money supply has a significant positive effect, interest rates have a significant negative effect, exchange rates have a positive but not a significant impact and inflation rates have a positive but not statistically significant impact on stock market performance. The findings of the cointegration test showed that the stock market performance and macroeconomic indicators had a long-run link. He concluded that the money supply and interest rate are real determinants because they had a significant impact on Nigerian stock market performance.

(Ali, 2011) studied to determine how changes in a few macroeconomic and microeconomic variables affect stock returns at the Dhaka Stock Exchange. To estimate the association, a multivariate regression model was constructed using the OLS Standard Formula. Based on the regression coefficient, he discovered that inflation and foreign influence have a negative impact on stock returns, and monthly percent average growth in market capitalization has a favorable impact. He further concluded that the absence of Granger causality between stock price and particular micro- and macro-factors finally shows the signs of an informationally inefficient market.

(Nur, 2020) studied to determine whether macroeconomic factors can affect the stock market and whether they tend to follow a regional pattern. Real interest rates, inflation rates, GDP growth rates, growth rates of foreign currency reserves, fiscal deficits, FDI to GDP ratios, and exchange rates were all considered independent variables while the stock market return was selected as the dependent variable. He used the data set spanned the years from 1993 to 2019 for five South Asian nations - Bangladesh, India, Pakistan, Sri Lanka, and Nepal. He found that GDP growth rate, exchange rate, and stock market returns are all related in a cause-and-effect manner as per the Granger Casualty test. He further revealed that the GDP growth rate, foreign currency reserve growth rate, and fiscal deficit positively impact the stock market returns, and Interest rates, inflation rate, FDI to GDP ratio, and exchange rate have a negative impact on the stock market return.

(Ullah et al., 2017) made an effort to identify the macroeconomic factors that more or less influence the growth of the stock market. They used Karachi Stock Exchange (KSE) as a proxy for Pakistan's stock market. Stock market development (SMD) was used as the dependent variable in this study, while explanatory factors were gross domestic saving (GDS), money supply (MS), and foreign remittances (FR). The Phillips and Perron (PP) test for stationarity and the ARDL to the co-integration methodology for examining the interaction between the short- and long-term dynamics was used. The ARDL to Co-integration results revealed that both short- and long-term growth of Pakistan's stock market is favorably influenced by gross domestic savings and money supply. Further, they concluded that most international transfers are spent for personal consumption, and they have little impact on stock prices both immediately and over the long term.

3. Methodology

The various articles that have appeared in various national and international periodicals, publications, and websites are the basis for this thematic article. Then, after carefully examining the articles, research gaps were discovered. Then, a conclusion was reached after reviewing the literature. The methodology of the thematic article is, in essence, the literature review.

3.1 Research Gap

It is noteworthy that there is no agreement on how macroeconomic conditions affect stock market performance. A review of the literature suggests that the impact of macroeconomic factors on stock market performance varies among countries and is therefore inconsistent. Furthermore, there hasn't been enough of this research done on the Nepalese stock market regarding factors like imports, silver, different commodities sold, and purchasing power. As a result, a similar study could be expanded to fill this gap. In addition, using these chosen variables, a study could be conducted at the NEPSE using very recent data and utilizing alternative methodologies, such as regression, ARDL approach, and other economic models, which could better describe the performance of the stock market in the context of Nepal and help to clarify any ambiguity in earlier literature.

4. Conclusion

Numerous contributions on this subject have been made over the past few decades as a result of the expanding research interest in and significance of the impact of macroeconomic variables on the stock market. This study has made an effort to paint a picture of the corpus of research that has been done on the impact of macroeconomic factors on the stock market. First, we may say that the variables most frequently discussed are treasury bills, inflation, exchange rates, GDP, and money supply. The analysis comes to a variety of conclusions based on the literature and the backing of most studies' findings. First, the analysis shows that the money supply influences the stock market favorably. It follows that faster economic growth in the money supply increases the amount that investors can invest, which enhances the performance of the stock market. Second, the study comes to the conclusion that remittances have a favorable impact on stock market performance.

This implies that a considerable portion of remittance is invested in the stock market, boosting stock market performance and that an increase in remittance will thus have a significant positive impact on stock market performance. Third, the Nepalese stock market index and exchange rate have a negative correlation. This can be explained by the fact that a country's economy will only get worse if the Nepalese rupee continues to depreciate against other currencies, which will result in high import costs for domestic companies and subpar performance. The study's final finding is that interest rates have a detrimental impact on stock market performance. This means that as T-bill rates rise, investors tend to transfer their investments into government securities, which results in a dismal stock market performance.

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