Factors Influencing the Performance of Nepalese Stock Market

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Abstract

This paper investigates the effect of selected macroeconomic factors viz. remittances, money supply, exchange rate, and interest rate on stock market performance based on literatures available in international and Nepalese context. The major objective of this paper is to find out the new area of research in Nepalese perspective with the help of literature review. The study demonstrates that remittance and money supply positively affect the stock market whereas interest rate and exchange rate negatively affect the stock market performance. However, there is lack of consensus on the effect of each macro-economic variable on stock market performance as it has number of literatures available which are similar as well as opposite to these findings. Thus, similar study can be extended employing different methodology with this combination of variables in Nepalese context that may better describe and analyze the performance of Nepalese stock market and helps to reduce the confusion among the literatures.
Keywords: exchange rate, interest rate, money supply, Nepal stock market

Introduction

A stock exchange market is the center of a network of transactions where buyers and sellers of securities meet at a specified price. Stock market plays a key role in the mobilization of capital in emerging and developed countries, leading to the growth of industry and commerce of the

country, as a consequence of liberalized and globalized policies adopted by most emerging and developed government. The stock market is one of the most vital components of a free market economy, as it helps to manage capital for the companies from shareholders in exchange for shares in ownership to the investors. Stock exchange provides business with the facility to raise capital by selling shares to the investors (Black & Gilson, 1998).

Nepal Stock Exchange (NEPSE) is the only one capital market in Nepal. For the formal structure of capital market, Securities Board of Nepal (SEBON) as the apex regulator of the capital market and NEPSE as a secondary market operator were established in 1993.Twenty years have passed but the Nepali capital market is still considered an infant as it is not in the leading role for the mobilization of savings toward investment. Emerging stock markets are partially segmented from global capital markets. Therefore, local factors rather than global factors should be the primary source of the movement in stock returns in these markets.

The stock market is affected by many highly interrelated economic, social, as well as political factors, and these factors interact with each other in a very complicated manner. Therefore, it is generally difficult to identify the effective factors on the stock price index. Over the past few decades, the interaction of stock market and macroeconomic variables has been an interesting study for the relationship between macroeconomic variables and the stock market in both developed and developing countries (Rad, 2011). Macroeconomics is a branch of economics dealing with the performance, structure, behavior, and decision-making of an economy as whole. This includes national, regional, and global economies. Macroeconomics is the aggregate indicators of economy such as GDP, unemployment rates, price indices, and the interrelations among the different sectors of the economy which helps to better understand how the whole economy functions. Previous studies like Fama (1981), Geske & Roll (1983), and Chen, Roll, & Ross (1986), among others, have indicated a link between increased volatility in the stock market and movement of macroeconomic variables. Therefore, it is important to explore similar in Nepalese stock market.

Literature Review
Various studies have been done in this field by using different variables, methodology, and time span. In the thematic paper there are more than seven articles are reviewed. Many studies in finance literature aim to find which macro-economic factors influence stock markets and by doing so to predict market returns and performance.

Bulmash & Trivoli (1991) investigated the relationship between stock prices and national economic indicators in the US using time lags. From the study result, they found stock price is positively correlated with the money supply. However, there was a negative relationship between stock prices and the Treasury bill rate.

Maysami & Koh (2000) examined the relationships between Singapore stock index and selected macroeconomic variables over a seven-year period from 1988 to 1995 and they revealed that there exists a positive relationship between stock returns and changes in money supply but negative relationships between stock returns with short-term interest rates and exchange rates.

Simpson & Evans (2003) made a notable contribution to financial markets literature exploring the relationships between Australian banking stock market performance and major economic variables of monetary policy like exchange rate and short and long-term interest rates. They used the monthly data for the stock performance, exchange rates, and interest rates for the period of January 1994 to February 2002. The study found no evidence that Australia's bank stock market performance response to major selected macroeconomic variables from a co-integrating relationship between short-term and long-term interest rates and exchange rates over the study period.

In Thailand, Brahmasrene & Jiranyakul (2007) investigated the stock market to find out how some selected macroeconomic variables (money supply, exchange rate, oil prices, and industrial production) and share price index relate performing time series analysis. It is concluded that money supply positively affects stock prices, while exchange rate negatively influences stock prices.

Liu & Shrestha (2008) conducted a study to examine the relationship between Chinese stock market indices and a set of macroeconomic variables applying heteroscedastic cointegration analysis. Monthly data covering January 1992 to December 2001 were taken under the study. The study demonstrated a positive relationship between stock prices and money supply and a negative relationship between stock prices and interest rate and exchange rate.

Micro and macro level study of the stock market carried out by Ali (2011) in Bangladesh reported that the industrial production index, market earning per share and growth in market capitalization positively impact on the stock market, however, foreign remittances negatively related to stock prices. Inflation and foreign remittances negatively related to stock prices. Inflation and foreign remittance were used as macro level and market price earnings, growth in market capitalization as micro level variables employing multivariate regression model.

Kuwornu & Victor (2011) tested the relationship between macroeconomic variables and stock market returns using monthly data over period of January 1992 to December 2008. Full information likelihood estimation procedure was applied and the empirical results revealed that there is a negative significant relationship between stock market returns and exchange rate and Treasury bill rate in Ghana.

Murcia (2014) carried out a study to estimate the macroeconomic determinants of Philippine stock market indices. Monthly data of macroeconomic variables were taken throughout the study period covering 2006 to 2012. Multiple regressions was applied for analysis and study result revealed that exchange rate significantly determines stock market returns and remittances found to be the insignificant positive relation with stock return, however, exchange rates showed the negative relation.

Ali, Abrar-ul-haq & Ullah (2015) conducted a study to capture the macroeconomic determinants that effect more or less in stock market development at Karachi Stock Exchange. The study employed Phillips and Perron test for stationarity, autoregressive distributed lag and error correction model. The study revealed that money supply positively contributed to the development of stock market in both short run and long run and remittances found to be the insignificant effect in both short run and the long run.

Using annual time series data from 1976 to 2011 from Pakistan, Raza,Jawaid, Afshan, & Karim (2015) studied the impact of foreign capital inflows and economic growth on the stock market capitalization. The autoregressive distributed lag bound testing cointegration approach, the error correction model, and the rolling window estimation procedures performed. Results indicated that remittances and economic growth have the significant positive relationship with stock market capitalization in long run as well as in short run.

Asekome & Agbonkhese (2015) empirically examined the macroeconomic variables that contributed to the Nigeria stock market bubble, its consequent melt down and its gradual recovery during the period under review and particularly period 2007-2013. Relying on the OLS regression analysis, the study documented that money supply is statistically significant while the exchange rate is not significant. Further, the study revealed that exchange rate is positively related to stock index while money supply is negatively related with stock market.

Kotha & Sahu (2016) explored the long-term and short-run nexus between Indian stock market and selected macroeconomic indicators employing monthly data from
July 2001 to July 2015. Johansen's co-integration analysis and Granger-causality tests were applied and the study observed that three out of four factors viz., WPI, moneys supply, and T-bill rate were relatively more significant in a long run relation. Turning to short run relations, the study reported bi-directional causality between Sensex and exchange rate. Inflation and money supply showed the positive and significant relation with stock returns whereas interest rate showed the negative and insignificant relation.

Boachie, Mensah, Frimpong & Ruzima (2016) examined the effect of interest rate and liquidity growth on stock market performance in Ghana using monthly data for the period 2010:12 to 2013:11. After employing robust linear regression, there was compelling evidence that

performance of the Ghanaian stock market is highly influenced by liquidity growth, exchange rate and inflation; and that interest rate (91

T-Bill rate) effect is insignificant though positive on the stock market index for the period under study.

Amtiran, Indiastuti, Nidar, & Masyita (2017) conducted a study to examine the relationship between macroeconomic factors and stock returns in the Indonesian capital market. Secondary data was used under this study from the period of 2007 to

2014. The purposive sampling technique was used and the total sample of this research was 80 companies listed in the Indonesian stock exchange and data were analyzed employing the OLS regression technique. The results proved that exchange rate, and interest rates have a positive relationship with stock returns; inflation has a negative correlation with stock returns.

Nepalese Perspective

Baskota (2007) analyzed the effect of trading days, trading volumes, base money supply, interest rates, inflation, and industrial production on the stock returns using the data from NEPSE for the period 1994 to 2006. The study concluded that there is no persistence of volatility in Nepalese stock market and the stock price movements are not explained by the macroeconomic variables.

Rana (2013) found no unidirectional or bidirectional causality between stock market returns and interest rate. Study used eighteen annual observations from 1994/95 to 2011/12 and analyzed applying the Granger (1969) causality test.

Shrestha & Subedi (2014) found the positive relation between the growths of
NEPSE with money supply, however, negative relation showed by Treasury bill rate.
The result was drawn by empirical examination in Nepal by using monthly data from August 2000 to July 2014 with the help of regression correlation methods.

In the more recent study, Phuyal (2016) documented that the stock market has a long run equilibrium relationship with a set of macroeconomic variables, significant positive relation between remittance and NEPSE index applying Johansen's co-integration method. Study employed monthly data from 2003 to 2012.

Methodology

This thematic paper is based on the different articles that have been published in different international and national journals, books, and websites. Then, articles have been reviewed first and research gap have been identified from the review. Then, conclusions have been drawn based on review of literatures. In short, literature review is the methodology of the thematic paper.

Research Gap

According to Aduda, Masila, & Onsongo (2012) the rising index or consistent growth in the index is the sign of growing economy and if the index and if the index and stock prices are on the falling side or their fluctuations are on the higher side it gives the impression of instability in the economy exist in that country. On the other hand, both theory and empirical literatures hold that the growth of a stock market is directly related to the economy, which consists of various variables like GDP, FDI, remittances, interest rate, and many others. These variables are the backbone of any economy and the stock prices are affected by changes in fundamentals of the economy and the expectations about future prospects of these fundamentals. Stock market index is a way of measuring the performance of a market over time and these indices used as a benchmark for the investors or fund managers who compare their return with the market return.

The evolution of remittances as a major foundation of the Nepalese economy has raised the concerns over its several aspects including the potential role of remittance in influencing the stock market performance. The share of foreign remittances is one of the major sources of inflow of capital from developed to developing countries and this inflow boosts up the economy. In this respect, Ratha (2013) revealed that diaspora remittances could raise domestic savings and improve financial intermediation, which could in turn; improve the growth prospects of the origin countries and studies like Murcia (2014), Raza et. al (2015), and Gautam & Acharya (2016) also found positive relation between stock market performance and remittance. Further, Yasin (2005) revealed a positive correlation between diaspora remittance and development of financial systems in developing or emerging countries, however Ali (2014) and Ali et.al (2015) found negative.

In recent year, due to globalization, business transaction in modern days are directly and indirectly affected by international activities, and as a result, cost of goods and services, sales, and cash flows may change with changes in exchange rate. Hence, changes in exchange rate may influence the competitiveness of companies and industry operations as well. According to Nieh& Lee (2001), basically, fluctuation in the foreign exchange rate can influence the value of the firm since the future cash flows of the firm change. Exchange rate appreciates, since exporters will lose their competitiveness in the international market, the sales and profits of exporters will shrink, and the stock prices will decline. On the other hand, importers will increase competitiveness in domestic market. Therefore, their profit and stock prices will increase. Phylaktis & Ravazzolo (2005) claimed that exchange rates can affect stock prices of domestic firms, since they may import part of their inputs and export their outputs. For example, a devaluation of its currency makes imported inputs more expensive and exported output cheaper for a firm. Depreciation in currency increases export, however, at the same time depreciation of the domestic currency increased the cost of imports, which indicates positive relation between them.

Asekome & Agbonkhese (2015) and Amtiran et. al (2017) found the positive relation of exchange rate with stock market performance whereas studies like Maysami & Koh (2000), Brahmasrene & Jiranyakul (2007), Liu & Shrestha (2008), Boachie et. al (2016) found negative Maghyereh (2002) documented that high lending rates tend to discourage companies from financing projects through loans from commercial banks and thus they resort to a rather less expensive but equally efficient equity financing. This promotes stock market activity by way of additional listings. High Treasury bill rates, on the other hand, tend to encourage investors to purchase more government instruments. Treasury bills thus tend to compete with stocks and bonds for the resources of investors. This tends to reduce the demand for stock market instruments and cause an eventual reduction in stock prices and study of Bumash&Trivoli (1991), Maysami & Koh (2000), and Kotha & Sahu (2016) documented similar results. Higher interest rate resulting from contractionary monetary policy usually negatively affects stock market return because higher interest rate reduces the value of equity and makes fixed income securities more attractive as an alternative to holding stocks. This may reduce the tendency of investors to borrow and invest in stocks, and raises the cost of doing business and hence affects profit margin. On the contrary, lower interest rates resulting from expansionary monetary policy boosts stock market (Fama, 1981; Geske & Roll, 1983) and contrary to this Kuwarnu & Victor (2011), and Chia & Lim (2015) revealed the positive relation.

Monetary policy influences the general economy through a transmission mechanism. Both a restrictive and an expansionary monetary policy might have bilateral effects. In case of expansionary monetary policy, the government creates excess liquidity by engaging in open market operation, which results in an increase in bond price and lower interest rates. The lower interest rate would lead to the lower required rate of return and thus, the higher stock price and vice-versa. However, a decrease in money supply might result in the lower inflation, hence the lower required rate of return via the lower nominal interest rate. Thus, this would lead to the higher stock prices. Further, if the increased supply of money causes a rise in inflation, then the discount rate will increase and subsequently reduces the prices of stock. Studies such as Mukherjee & Naka (1995), Maysami et al. (2004), Liu & Shrestha (2008), Shrestha & Subedi (2014), Ali et. al (2015), and Kotha & Sahu (2016) showed that money supply and stock prices are positively connected while Rahman, Noor, & Tafri(2009) and Asekome & Agbonkhese (2015) proved the reverse.

It is notable that there is lack of a consensus on the effect of macroeconomic factors on stock market performance. Literature review reveals that the effect of the macroeconomic variables on stock market performance differs from country to country and is therefore not consistent; further, such studies have not been carried out in sufficient numbers in Nepalese stock market. Thus, similar study can be extended to fill this gap, moreover, using these selected variables, study can be carried out at the NEPSE with very much recent data and employing different methodology such as regression and other economic models that may better describe the

performance of stock market in Nepalese context and helps to make clear the confusion in the past literatures.

Conclusions

The major role of the stock market in the economy is to raise capital and utilize such capital into the productive sectors and to ensure that the funds raised are utilized in the most profitable opportunities. This paper performs the necessary analysis to answer whether changes in the selected macroeconomic indicators affect the stock market performance or not and sheds light on the nexus between stock market and four key macroeconomic variables. The study has been guided by an objective to explore the relationship between selected macroeconomic indicators and stock market performance in international and Nepalese context based on the available literatures. The selected key macroeconomic indicators that have been included in the study are remittances, exchange rate, interest rate, and money supply and effect of these indicators have been analyzed with the help of literatures and research gap has been found. Based on the literature and support of majority findings of the studies, the study draws a number of conclusions.

First, the study concludes that remittance has positive effect on stock market performance. This means an increase in remittance will significantly improve the performance of stock market and it implies that a substantial percentage of remittance is invested in the stock market and hence improving stock market performance. Second, the study reveals that money supply positively affect the stock market. Meaning that when money supply growth is higher in the economy it leads to increase in investable amount among investors and hence improves the stock market performance. Third, there is a negative relationship between exchange rate and stock market index in Nepal. This can be explained by the fact that depreciation of Nepalese rupees against foreign currency would lead cost of import high for native industries and resulting poor performance and continuous depreciation currency is the sigh of worsening the economy of particular country. Finally, the study concludes that interest rate has the negative effect on stock market performance meaning that when T-bill rates rise investors tend to shift their investment in government securities resulting weak performance of stock market. This research contributes to the finance literature regarding emerging stock markets. The findings of this paper are important for finance academics, researchers, and practitioners.

Conflict of Interest

There is no any conflict of interest.

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