Review of Long-Run and Short-Run Relationship between Macroeconomic Variables and Stock Prices in Pakistan

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Abstract
The purpose of this study is to describe the relationship between stock returns and macroeconomic variables. In this review paper we write the review of fourteen papers related to the relationship between stock returns and macroeconomic variables. However different papers shown different results but we tried to summarize these results in best manner. Two long run relationships were found. In the long run inflation has a negative relationship with stock returns but industrial production index, real affective exchange rate, and money supply has a positive relationship with stock returns.
Keywords: Stock returns, macroeconomic variables

INTRODUCTION

Stock return refers to the gain or loss on a security in a particular period. There are two components of return, income and capital gain, and it is usually described in terms of percentage.

Macroeconomic variables are indicators of overall situation of a particular country economic conditions. The volatility of stock returns due to macroeconomic variables is an important factor in overall risk assessment. Extensive amount of studies have been conducted to determine the casual relationship of stock returns and macroeconomic variables. Risk management in capital market is vital to economic stability. The process of realizing risk and then making effective strategies to minimize it is known as risk management. Risk management enables investors to access information about indicators that predict market risk. In stock markets both investors and regulators need risk management models. Investors need these models to manage the risk associated with their investment and Regulators need these models to assure the financial reliability of stock markets.

The evidence regarding the casualty between stock prices and macroeconomic variables is not conclusive. Unidirectional casualty was found between stock prices and consumption expenditure by Nishat and Sagir (1991), and also casualty from investment spending to stock prices was found by Nishat and Sagir (1991), they also found that the GDP lag the stock prices in Pakistan.

In Pakistani environment studies conducted by Nishat and Sagir (1991), Hussain and Mehmood (2001), Naeem and Rasheed (2002), Nishat and Shaheen (2004), Saleem (2007) and Ali et al. (2010) are notable. However their results regarding casualty between stock prices and macroeconomic variables were different and not conclusive. In this review paper we tried to draw some conclusions based on the study of above literature.

Background of the study

Hussain, Zaman and Baloch (2014) studied the relationship between interest rates and stock prices throughout the period of 1994 to 2014 for KSE100 index. Co-integration test and Granger casualty test were applied to check the relationship. The results exposed that there is no significant relationship between these two variables in either direction. Alam and Uddin (2009) studied the relationship between interest rates and share prices for a period of 1988 to 2003 for seven developed and eight developing countries. The results revealed that the relationship between interest rate and stock prices is negative for all these countries accept Philippine.

Sohail and Hussain (2009) examined the casual relationship of macroeconomic variables and stock prices for a period of 2002 to 2008 for LSE 25 index. The results shown that the impact of CPI on stock returns was negative, though industrial production index, exchange rate, and money supply had a positive impact on stock returns. Ahmad (2008) explored the relationship between macroeconomic variables and stock prices during a period of 1995 to 2007. Co-integration test and granger casualty test were applied to explore the relationship. The results revealed the stock prices lead economic activity in India except interest rates. Interest rates seems to lead stock prices.

Singh, Mehta and Warsha (2011) examined the relationship between macroeconomic variables and stock prices during a period of 2003 to 2008. Linear regression employed to test the effect of macroeconomic variables on stock returns. The returns of 50 listed companies of Taiwan are used. The findings shown that exchange rate and GDP seem to affect all of portfolio returns. While inflation rate had only impact on portfolio

of small companies. On the other hand employment rate and money supply do not have any significant effect on stock returns.

Shahbaz, Ahmed and Ali (2008) examined the relationship between stock market development and economic growth for Pakistan during a period of 1971 to 2006. Engle-Granger casualty test is used to explore the relationship. The findings revealed that here is strong relationship between these two variables. Hussian and Mahmood (2001) studied the relationship between stock prices and macroeconomic variables during a period of 1960 to 1990. Co integration and error correction analysis were used to explore relationship. The findings revealed the presence of long run relationship.

Nishat, Shaheen and Hijazi (2004) studied the relationship between stock prices and macroeconomic variables during a period of 1973 to 2002 for KSE100 index. The results concluded that industrial production index was the most positive while inflation rate was the most negative determinant of Pakistani stock prices. Farooq, Keung & Kazmi (2004) studied the relationship between stock prices and exchange rate during a period of 1994 to 2004 for KSE 100 index. The findings revealed that there is no relationship between these two in long run, while in short run the casualty run from share prices to exchange rate and from exchange rate to service indices.

Ali et al. (2010) studied the casual relationship between stock prices and macroeconomic variables during a period of 1990 to 2008 for KSE100 index. The findings conclude that industrial production index and the inflation rate in Pakistan depend upon the stock prices, opposing to this exchange rate had not relied on the stock prices in Pakistan.

Khrawish et al. (2010) stated the relationship between interest rate and stock prices for a period of 1990 to 2008 for Amman stock exchange. The OLS regression models were used to test the relationship. The results suggested that there is a strong positive relationship between these two variables for Amman stock exchange. The results of regression model also revealed a negative relationship between market prevailing interest rates and the government development stock rates.

Bhattacharya and Mukherjee (2002) studied the causal relationship between stock prices and macroeconomic variables for the period of 1992 to 2001.Their results show that there is no causal relationship between stock price and money supply, national income and interest rate but there is a bidirectional causation between stock price and rate of inflation. The results also suggest that industrial production index lead the stock price.

Chen (2008) investigated whether the recession in the stock market can be predicted by macroeconomic variables. Interest rate Inflation rates, money stocks, GDP, and unemployment rates are evaluated individually. Monthly data was taken from Standard and Poor's S&P 500 price index which suggests that among the macroeconomic variables Inflation rates are the most powerful predictors of recessions in the U.S. stock market.

Ibrahim and Aziz (2003) investigated the relationship between stock prices and industrial production, money supply, consumer price index and exchange rate in Malaysia. Stock prices had a positive long-run relationships with industrial production and CPI. On the other hand, stock prices had a negative relationship with money supply and exchange rate.

Gjerde and Saettem (1999) examined the causal relation between stock returns and macroeconomic variables in Norway. The findings suggested a positive relationship between oil price and stock returns. Although the study did not show a significant relation between stock returns and inflation.

Discussion and Conclusion

This study examined long run and short run relationship between stock returns and macroeconomic variables. Two long run relationships were found. In the long run inflation has a negative relationship with stock returns but industrial production index, real affective exchange rate, and money supply has a positive relationship with stock returns. However three months treasury bills have an insignificant positive relationship with stock returns in long run.

This study suggest that appropriate economic measures should be taken by higher authorities to control inflation because of its negative impact on stock returns, and also government should promote industrial production in order to stabilize stock markets and attract investors which in turns play an important role in the economic development of Pakistan.

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