Determinants of Share Price Behaviour : A Detailed Review of Empirical Studies

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Abstract

Shares provide exciting opportunities for making big money. This is the reason why they have become immensely popular with the investing public as a form of investment. However, share price behaviour is a very complicated issue. This is because shares generally represent a riskier investment than do the fixed return investments. Hence, the problem of deriving a suitable basis for the evaluation of ordinary shares has been at the forefront of investment analysis. Usually, share prices are determined by the interaction of the supply and demand subject to imperfection of the stock market. In this context, the major problem is the identification and measurement of different factors which influence supply and demand. This can be achieved only by detailed review of literature on the subject. As such, the present study seeks to examine and identify the various determinants of share prices through a detailed review of empirical studies on the subject.

Keywords : **share price behaviour, stock prices, financial economics, determinants**

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Share price behaviour is a very controversial issue in the field of financial economics. It is not properly understood by a large segment of the financial community. However, shares provide exciting opportunities to make big money. That is the reason why they have become immensely popular with the investing public as a form of investment. The stock market provides the necessary facilities to the investors in this respect. However, profit hunting in the stock market is a top game. To become successful in this game requires knowledge of the forces that cause ups and downs in the prices of shares. These forces are unremittingly at work, and they have varying power, intensity, and duration. They grow out of events, conditions, and circumstances, and acquire potency as a result of the acts of men, companies, and governments throughout the world.

As such, share price behaviour is an issue which can be examined only through intensive research studies. It has been a subject of enquiry for the last few decades. Investigative empiricism on this subject over the years has led to the development of various econometric models, attempting to determine, categorize, explain, and measure the different types of observed share price behaviour in the market. However, nothing conclusive is yet known about the likely behaviour of share prices and the forces influencing them in the market.

The present paper seeks to undertake a detailed review on some of the major studies so far undertaken both in India and abroad on the subject. This has been done with a view to get an insight into the various determinants having a direct bearing on share prices in the market.

Review of Empirical Studies

A number of studies exist in the literature of finance to identify and quantify the impact of factors determining stock prices. Most of them are cross section studies. However, very few time series studies (both micro level as well as macro level) have been carried out during the last five decades. Some of these studies are reviewed below:

In an early study, Durand (1957) estimated equations to examine the relationship between price per share, earnings

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per share, dividend per share, and book value per share for various banking stocks and four groups of public utility stocks. The general conclusion of the study was that the effect of dividend payout on stock prices is significant.

Gordon (1959) studied four industry samples for two years for examining the relationship of share prices with dividend per share, book value per share, earnings per share, and growth. The study results revealed that the coefficient of growth factor was disappointing. The impact of earnings per share and book value per share on stock prices turned out to be statistically insignificant. However, the coefficient of dividend had a positive and significant relationship with share prices.

Benishay (1961) in his study examined the influence of trend in earning, trend in market value of equity price, dividend payout ratio, expected stability of equity value, size of the firm and liquidity of its share, and debt-equity ratio on earnings - price ratio. The study was based on 56 companies for four years (1954-57). The study results disclosed that dividend payout ratio had a negative and statistically significant coefficient, and the debt-equity ratio had a negative coefficient in all the estimated equations. However, the coefficient of trend in market value of equity shares had a negative value.

Fisher (1961) tried to examine the impact of dividend per share, undistributed profit per share, and size index on price per share. The study was based on five industry samples for five years. The results of the study disclosed that variations in the last declared dividend per share accounted for a considerable part of the variations in share prices between companies. The last declared undistributed profit per share had a significant influence on share prices. However, the influence of past rate of growth in dividend per share on share prices appeared to be small and uncertain. The introduction of size index improved the explanation of share prices. Furthermore, the coefficient of the size index was found to be reasonably stable over time.

Gordon (1962) in his study of the food and machine industry for the year 1954-58 found that dividend had a highly significant relationship with the price per share. Growth variable coefficients were also found to be highly significant both for the food and machine sample companies. However, the study failed to find the impact of asset liquidity and debt maturity variable on share prices.

Friend and Puckett (1964) used five industry samples, namely chemical, electronics, electric utilities, food, and steel for two years - 1956 and 1958 - to examine the impact of share prices on a selected number of fundamental factors. They opined that there was a little basis for the customary view "that in the stock market generally, except for unusual growth stocks, a dollar of dividend has several times the impact on share price of a dollar of retained earnings". This may be valid for non-growth industries, and the opposite may be true for growth industries. To the extent that this conclusion holds, it is possible that the management might be able, at least in some measure, to increase stock prices in non growth industries by raising dividends, and in growth industries, by greater retention.

Wippern (1966) in his study made an attempt to examine the impact of variables like leverage, growth, payout, size, and industry on earnings - price ratio of 50 firms from several industries for four years. The study results disclosed that the coefficients of growth, payout, and size variables were all consistently significant at the 5% significance level. Furthermore, it was found that there was a linearly increasing relationship between equity yield and leverage.

Arditti (1967) in his study first regressed the required rate of return on equity on variance, skewness, and market correlation of a firm's return. Then he studied the influence of debt-equity ratio and dividend payout ratio on the required rate of return. Finally, he considered all the variables together in the estimated equation for all the firms listed in Standard and Poor's Composite Index of Industrials, Railroads and Utilities for the years 1946 through 1963. The findings of the study disclosed that the variance of distribution of the required rate of return turned positive and significant at the 1% level, the coefficient of skewness of return turned negative and significant at the 1% level, and the coefficient of a debt-equity ratio turned negative and significant as expected.

Bower, R. and Bower, D. (1969) in their study “Risk and Valuation of Common Stock” found that the price - earnings ratio was positively elastic with respect to growth, but its elasticity was low. The price - earnings ratio was positively elastic with respect to the payout ratio. Furthermore, the study disclosed that the price - earnings ratio was positively elastic with respect to marketability, conformity variable, and price variability. It was found that the firm effect made a greater contribution to the explanation of the price - earnings ratio than any other variable.

Malkiel and Cragg (1970) in their study “Expectations and the Structure of Share Prices” based on 178 companies for the period from 1961-65 observed that the impact of growth variable on share prices was found to be highly significant throughout. The coefficients of payout and risk measures had the expected signs, but were found to be statistically insignificant. However, the study disclosed that the coefficient of the operating risk variable was not

statistically significant and had the wrong sign in 1964, whereas the coefficient of financial risk variable always had the right sign and was found to be significant.

Linter (1973) and Oudet (1973) in their studies tried to examine whether financial assets were hedges against inflation. They reported that there exists a negative relation between stock return and changes in general price level. These findings were later on well supported by Bodie (1976), Nelson (1976), and Fama and Schwert (1977).

Fama (1981) produced documented evidence of a strong positive relationship between equity returns and real economic activities such as industrial production, capital expenditure, and gross national product. Pearce and Roley (1985) in their study "Stock Prices and Economic News" found that unexpected announcements in monetary policy had a significant influence on stock prices.

Chen, Roll, and Ross (1986) , who built on Fama's investigation, tested whether a set of macroeconomic variables would explain unexpected changes in equity returns. The study disclosed that the economic variables such as industrial production, changes in risk premium, and twist in the yield curve were significant in explaining stock returns.

Errunza and Hogan (1998) investigated the impact of macroeconomic factors on monthly stock returns for eight countries, that is, Italy, UK, France, Germany, Switzerland, Netherland, Belgium, and USA. Monetary instability was found to be significant for Germany and France, whereas, industrial production was found to be a significant factor for Italy and Netherlands. However, in case of UK, Switzerland, and Belgium, the importance of macroeconomic factors did not improve their ability to forecast.

Ibrahim (1999) investigated the dynamic interactions between seven macroeconomic variables and the stock prices for an emerging market, Malaysia, using cointegration and Granger's causality tests. The results strongly suggested informational inefficiency in the Malaysian market. The bivariate analysis suggested cointegration between the stock prices and three macroeconomic variables – consumer prices, credit aggregates, and official reserves.

Mohammad and Rasheed (2001) tried to examine the long run and short run association between stock prices and exchange rates of four South Asian countries, namely Pakistan, India, Bangladesh, and Sri Lanka for the period from 1994 to 2000. They employed co-integration, vector error correction modelling, and standard Granger's causality tests and disclosed that there is no short run association between stock prices and exchange rates for all the four countries. No long run relationship was also observed for Pakistan and India. However, for Bangladesh and Sri Lanka, there appeared to be bidirectional causality between these two financial variables.

Günsel and Çukur (2007) carried out a study to know the effect of macroeconomic factors on the London stock return. The study considered seven macro-economic factors such as - **(1)** The term structure of the interest rate, **(2)** inflation, **(3)** risk premium, **(4)** sectoral industrial production, **(5)** exchange rate, **(6)** money supply, and **(7)** sectoral dividend yield. The regression results of the study showed that there are big differences among industry portfolios against macroeconomic variables. The test results indicated that dividend yield is significant and negative at 1% significance level for all the industries, namely : **(1)** food beverage & tobacco, **(2)** construction, **(3)** building materials & merchants, **(4)** electronics and electrical equipments, **(5)** engineering, **(6)** household goods & textiles, **(7)** paper, packaging & printing, **(8)** chemicals, **(9)** diversified, **(10)** oil exploration & production . According to the test results, current unexpected inflation did not have any effect on the industry returns with the exception of food, beverage and tobacco at 10% . Risk premium had a positive effect on the returns in the construction and engineering industry. Effective exchange rate was an important factor to determine the international competitiveness. The results implied that two sectors, building materials & merchants and engineering suffered because of the effective exchange rate movements. Current money supply had a positive effect on the return of building materials & merchants, food, beverage and tobacco, and a negative effect on the return of household goods and textiles. One month lagged term structure of interest rate had a positive effect on the returns of four industries - construction, food, beverage & tobacco, oil exploration & production, and electronic & electrical equipment. Unexpected sectoral production figures seemed to have a negative relation with food, beverage and tobacco industry at the 5% significance level.

Gay (2008) tried to identify by investigating the time series relationship between a stock market index and macroeconomic variables like exchange rates and oil prices of BRIC countries. He used the Box Jenkins ARIMA model and studied the data for the time period from 1999-2000. The study results disclosed that there was no significant relationship between the respective exchange rates and oil rates on the stock market indices of BRIC countries. Furthermore, the study disclosed that there was no significant relationship between the present and past

stock market returns.

Somoye, Akintoye, and Oseni (2009) carried out a research study on the determinants of equity prices in the Nigerian capital market. Comprising of a sample size of 130 companies and seven independent variables namely EPS, DPS, GDP, lending interest rate, crude oil price, inflation, and foreign exchange rate, the study disclosed that all the variables had a positive correlation with stock prices, with the exception of lending interest rate and inflation rate.

A study by Hussainey and Ngoc (2009) was based on two important aspects of share price behaviour. The first aspect of the study was to assess the impact of Vietnamese macroeconomic factors such as interest rate and industrial production on the stock prices. The second aspect was to study the influence of international - U.S. - macroeconomic factors on the Vietnamese stock prices. The study disclosed the positive relation of the domestic industrial production and U.S. industrial production on the Vietnamese stock prices.

Rahman, Sidek, and Tafri (2009) tried to explore the interactions between selected macroeconomic variables such as money supply, exchange rate, reserves, industrial production index, and stock prices in Malaysia. The study revealed the linkage of all the variables with the stock prices.

Büyüsalvarci (2010) tried to study the impact of macroeconomic variables such as consumer price index (CPI), money market interest rate (MIR), gold prices (GLD), industrial production index (IPI), international crude oil prices (OIC), foreign exchange rate (FEX), and money supply (MS) in ISE-100 index of the Turkish Stock Market by using a multiple regression model for the monthly data from 2003 to March 2010. The results of the study indicated that interest rate, industrial production index, oil price, and foreign exchange rate had a negative effect on ISE-100 index return, while money supply positively influenced the ISE-100 index return. However, inflation rate and gold prices did not appear to have any significant effect on the ISE-100 index return.

The study of Singh, Mehta, and Varsha (2011) on Taiwan's stock market revealed the effect of exchange rate and GDP on stock return, while inflation rate, employment rate, and money supply had a negative relation with the stock returns.

Inegbedion (2012) carried out a study on the macroeconomic determinants of stock prices in Nigeria. With a time-series data from 2001 to 2009, the study disclosed the significance of only one variable, that is, exchange rate, out of three variables such as interest rate, inflation rate, and exchange rate which influenced the stock price behaviour in Nigeria.

Empirical Studies In India

There exist a large number of econometric studies in India on share price behaviour. Most of them are cross section studies. However, very few time series studies have been carried out that have attempted to identify and quantify the impact of a selected number of variables on the share price behaviour in the Indian stock market. Most of these studies have made extensive use of regression analysis for drawing inferences. This section outlines some of these studies briefly.

In one of the earlier studies, Desai (1965) examined the impact of dividend per share, retained earnings per share on the market price per share by using a linear regression model. He selected two samples, one from the textile industry, and the second from many firms. The study disclosed that dividend per share was the most significant variable influencing the share prices in the positive direction. However, variables like earnings per share and retained earnings per share revealed a weak influence on share prices.

Srivastava (1968) in his empirical work tested the influence of DPS and retained earnings on share price of joint stock companies in India. For the purpose of the study, six industry samples were chosen from cotton, textiles, tea, sugar, electric, coal, and paper industries for the year 1961. In the study, DPS turned out to be the most significant variable, while retained earnings had an insignificant influence on share prices of the said industries.

Sarkar (1971), using time-series data, studied the share price behaviour and concluded that the retained earnings had no effect on the share price, while the influence of dividend was very much significant. Kumar and Mohan (1975) used cross section data for five industries. They used dividend, retained earnings, and tagged price as explanatory variables. They observed that in a relatively stagnant industry like cotton textiles, the impact of retained earnings was higher. On the other hand, in electrical and engineering industries, dividends explained share price variations much more than retained earnings.

Chandra (1978) studied the influence of dividend, price dividend multiplier, growth in income, risk, leverage, and size upon the market prices of shares with the help of log linear regression analysis. The study supported that returns, growth, and size had a positive influence on share prices, while risk and leverage had no influence at all.

Bhole (1980) carried out a study on relative influence of earnings and dividends on share prices. Obtaining the data from the official stock exchange directory of BSE for a period of ten years, the study disclosed that the variations in share prices cannot be explained well by dividend or earnings per share. Among these two factors, the latter explained the movements in share prices in a relatively better manner.

Zahir and Khanna (1982) investigated the relationship between equity share price, book value per share, dividend per share, earning rate, yield, and coverage. The study disclosed that share prices had a negative relation with yield and a positive relation with book value. However, the study found a very weak relation between share prices and coverage.

Krishnan (1984) attempted to examine the empirical relationship between equity price and variables like DPS, EPS, BPS, yield, and cover. The study concluded with the observation that EPS and cover were not important determinants of share prices. However, factors like DPS and BPS turned out to be significant in explaining the variations in the market price of shares.

Dixit (1986) examined the behaviour of equity share prices on the basis of 43 sample companies, and revealed that DPS, BPS, EPS, size, and ROI were significant determinants of share prices. However, leverage and growth variables turned out to be insignificant in the study. Darrat and Mukherjee (1986), in their study, applied a vector auto regression model (VAR) on Indian data over 1948-1984. Relationships between stock prices and important macroeconomic variables like exchange rate (rupee / dollar), prime lending rate, narrow money supply, and index of industrial production were investigated in the study. The results of the study reported a weak causality running from IIP to share price index (Sensex and Nifty), but it was not the other way round. In other words, it held the view that the State economy affected the prices of stocks.

Kumar and Hundal (1986) in their study analyzed the impact of DPS, EPS, BPS, net worth, retention ratio, leverage, and growth in total assets on the market price of shares by using a linear regression model. They studied the influence of these variables on three major industrial groups - namely textile, chemical, and engineering. The study results disclosed the sensitiveness of the market towards dividend policy of the sample firms. In case of the textile industry, the growth variable turned out to be positive and statistically significant.

Chawla and Srinivasan (1987) estimated a model to explain the relationship between share prices and dividend and retained earnings. The results of the study indicated that in case of the chemical industry, both the dividend and retained earnings significantly explained the variations in share prices. However, the impact of dividend was more pronounced than it was for retained earnings.

Sharma (1989) identified some influential factors that explained the share prices of cotton industries in India. Share prices of 30 firms listed on the BSE for the period from 1976-1980 were considered for the study. Using regression analysis, Sharma traced six variables as significant, which explained 67% of the variations in the P/E ratio. These variables were - growth rate in market price per share, dividend payout ratio, variability in earnings, variability in market price, leverage, and size.

Shankaran (1991) in his study explored the relationship between the Indian stock market (BSE) and other prominent international stock markets. The results from the study disclosed that there was no meaningful relationship between the BSE index and other international stock market indices. Furthermore, the study disclosed that the British and South Korean indices were inversely related to BSE.

Purank (1992) tested the consistency of equity share prices of BSE (SENSEX) companies with their fundamentals and found that dividend per share and earnings per share had a direct positive association with equity share price. Zahir (1992) attempted to compare the price behaviour of more volatile shares with that of less volatile shares. He tried to examine the significance of both internal and external factors causing variation in prices of two groups of shares and concluded that the internal factors explained - to the tune of - 67% of share price variations in case of more volatile shares.

Mahapatra and Sahu (1993) estimated a model to explain equity price behaviour of Group A shares using time series analysis. Both dividend and yield significantly explained the variations in the prices of equity shares. Other variables such as size, return on investment, earnings per share, and book value per share were not found to be significant.

Murthy (1994) tried to examine the relationship between share prices and macro variables representing economic activity by using the annual data regression method for drawing inferences. The study results disclosed that in India,

movements in share returns are closely related to movements in monetary-fiscal variables as well as real variables. The strong lagged relationship of share price with money supply and other variables indicated inefficiencies in the efficient market sense. Furthermore, the study disclosed that a negative relationship between share prices and inflation was not evident in the Indian stock market.

Sen (1996) examined the share price movement in India during 1985–1994 to ascertain the role of foreign capital vis - a - vis internal economic factors such as GDP growth, change in interest rate, and exchange rate movements in determination of stock prices. By employing the regression model, the results of the study disclosed that both industrial production and foreign exchange reserve were the key determinants of stock market performance in India. In addition, the study revealed that stock prices received significant support from foreign capital flows.

Rao and Jose (1996) intended to examine the explanatory power of different task variables on security returns. A sample of 71 companies -whose scripts were actively traded, belonging to different industry groups during 1975-1991 - were considered for the study for drawing inferences. The study observed that the coefficient of total small savings with government on current and non current account was found to be significant at the 1% level of significance followed by other task variables such as index of industrial production, whole sale price index, foreign exchange reserves, aggregate deposits with commercial banks, inter-bank call money rate, and so forth at the 5% level of significance.

Mahapatra and Sahu (1996) tried to identify and quantify the impact of a selected number of fundamental and technical factors on the equity prices during 1980-91. With the help of step wise multiple regression analysis, a sample of 43 companies were examined. The results of the study disclosed that both fundamental and technical factors were of equal importance to the investors for examining the share price variation. Fundamental factors like yield, size, and EPS were the most important determinants explaining around 90% of the variation in equity price. Furthermore, technical factors like index of industrial production and security price index were important determinants explaining around 89% of the variations in the share prices.

Naka, Mukherjee, and Tufte (1998) tried to analyze the relationship between selected macroeconomic variables and the Indian stock market. By employing a vector error correction model, the study reported that there existed three long term equilibrium relationships among these variables. The results of the study disclosed that domestic inflation was the most severe deterrent to the Indian stock market performance, and domestic output growth was its predominant driving force. Further, the study observed that industrial production was the largest positive determinant of Indian stock prices, while inflation was the largest negative determinant.

Pethe and Karnik (2000) used co-integration and the error correction model to test for casualty between macro variables and the two major share price indices in India, that is, SENSEX and NIFTY using monthly data for the period from April 1992 to December 1997. Five macroeconomic variables were considered for the investigation, that is, exchange rate of the rupee against dollar, price lending rate, narrow money supply, broad money supply, and index of industrial production. The results of the study disclosed that only index of industrial production affected Sensex and Nifty. The study, however, found no evidence of casualty between other macro variables and the stock price indices.

Malhotra and Prakash (2001), considering corporate fundamentals, analyzed the determinants of 'A' Group and 'B' Group shares during 1989-90 to 1998-99, and found that changes in net sales per share had a negative correlation with the changes in the price of equity shares. They further concluded that the book value per share, price to earnings ratio, market price to book value, and earnings per share turned out to be significant factors which influenced share prices.

Chakrabarti (2001) investigated the causal relationship between FII and stock market returns. The results of the study disclosed that in the pre Asian crisis period, any change in FII had a positive effect on the equity returns. But in post Asian crisis period, this causation was reversed.

Panda and Kamaiah (2001) investigated the causal relationship and dynamic interactions between monetary policy, expected inflation, real activity, and stock returns in the post liberalization period using a vector-auto regression model. The study disclosed that expected inflation and real activity affected stock returns, monetary policy losses, its explanatory power for stock returns when expected inflation and real activity were present in the system. It was found that the relationship of monetary policy, expected inflation and real activity with stock returns lacked consistency and there was no causal linkage between expected inflation and the real activity.

Bhattacharya and Mukherjee (2002) in their study used Toda and Yamamato's long run Granger causality test to examine the causal relationship between Sensex and five macroeconomic variables, that is, money supply, index of

industrial production, national income, interest rate, and rate of inflation using monthly data from 1992-93 to 2000-2001. The study results disclosed that index of industrial production caused Sensex causalty, while there existed a bi-directional causality between Sensex and rate of inflation.

Mukhopadhyay and Sarkar (2003) conducted a systematic analysis of the Indian stock market in the pre and post liberalization period to examine the influence of macroeconomic factors on stock returns. The study results revealed that specifically for the post liberalization period, real economic activity, inflation, money supply, FDI, and the NASDAQ index were significant in explaining variations in the Indian stock returns. The study further disclosed that nominal exchange rate was found to be significant during the pre-liberalization period, while it was found to be insignificant in the post – liberalization period. Amilan (2004) intended to analyze the consistency of equity shares with corporate fundamentals. The results of linear regression estimates proved that in the textile and electrical application industries, none of the selected fundamental factors had any significant influence on the equity returns.

Mahapatra and Lall (2004) observed that in India, investors generally attached more weight on dividend per share while making their investment plans. The study further disclosed that yield variable was negatively but significantly associated with share prices. However, the study revealed that corporate fundamentals like BPS, ROI, leverage, size, and EPS had no significant influence on share prices.

Mishra (2004) investigated the relationship between the stock market and foreign exchange by employing Granger's causality test and vector auto regression tool for the period from 1992-2002. The study disclosed that there existed a unidirectional causality between the exchange rate and interest rate and also between the exchange rate return and demand for money. Further, the study revealed that there was no Granger causality between exchange rate return and stock return.

Kumar (2006) examined the role of foreign institutional investors and mutual funds in the Indian stock market. The study explained the market movements using the direction of the fund flows from these investors. Regression analysis was extensively used in the study for drawing inferences. The results of the study revealed that institutional activity had an influence on the stock market and both foreign institutional investors as well as mutual funds had a significant impact on the market's direction. Further, by employing Granger's causality test, the study disclosed that Indian mutual funds were leading the pack and were giving direction to the market and even foreign institutional investors were following their directions. Singhania (2006) examined the various determinants of equity share prices during 1997-2004 with the application of multiple regression analysis, which disclosed that BPS, DPS, EPS, and P/E ratios were significant determinants of share prices, whereas dividend cover and yield variable turned to be positive, but statistically insignificant.

Sharma and Singh's (2007) study was based on the monthly data of a comparatively long horizon, covering the period from April 1986 to March 2005. They applied multiple regression analysis to test the significance of the variables like foreign exchange reserves, claims on private sector, wholesale price index, call money rate, index of industrial production, exchange rate, and broad money on the Sexsex. Variables like foreign exchange reserve, exchange rate, index of industrial production, money supply, and claim on private sector were found to have a considerable influence on the stock market movement. However, a few variables like interest rate and wholesale price index showed a negligible influence on the stock market.

Nair (2008) in his study examined the macroeconomic determinants of stock market development in India during 1993-2007. Co-integration and error correction models were used extensively for the purpose of analysis. The results of the study disclosed that real variables like real income, its growth rate, and interest rate had a significant effect on stock market development. Interest rate had a negative impact on the stock market development. Furthermore, the study disclosed that variables like foreign institutional investment, exchange rate, and inflation rate had no role in determining stock market development.

Ahmed (2008) studied the causal relation between index of industrial production, exports, foreign direct investment, money supply, exchange rate, interest rate, Nifty, and Sensex. Toda and Yamamoto's Granger causality test was applied to explore the long-run relationship between the variables, while BVAR modelling for variance decomposition and impulse response functions were applied to examine the short-run relationships. The results of the study revealed differential causal links between aggregate macroeconomic variables and stock indices in the long run. However, the revealed causal pattern was similar in both markets in the short run. Further, the study indicated that stock prices in India lead exchange rate, exports, index of industrial production, money supply; while interest rate and foreign direct investment lead stock prices.

Das and Pattnayak (2009) examined the effect of various fundamental factors on the behaviour of stock market and tried to identify the important variables which had a significant effect on stock price movement. They used the Sensex as a proxy to capture the entire stock market movement. By employing statistical techniques, the study tried to establish a meaningful relationship among various explanatory variables. The analysis disclosed that higher earning power, return on investment, growth possibilities, and favourable valuation had a positive impact on the share prices and stock market movement.

Sharma and Mahendru (2010) employed multiple regression models to test the effect of a selected number of macroeconomic factors on stock prices. The key macro economic variables used in the study were change in exchange rate, foreign exchange reserve, inflation rate, and gold prices. The study results disclosed that economic variables like exchange rate and gold prices had a significant effect on stock prices as a whole. However, the results of the study disclosed that inflation rate and foreign exchange reserves had no influence on the stock prices.

Srivastava (2010) in his study employed Johansen's multivariate cointigration test to determine whether selected macroeconomic variables were cointegrated with share prices in the Indian stock exchange. Further, the vector error correction mechanism was used in the study to examine the dynamic relation between stock indices and various macroeconomic variables. The findings of the study concluded that emerging economies like India in the long run are more affected by domestic macroeconomic factors. The main domestic macroeconomic factors affecting the Indian stock market in the long run (as per the study) were industrial production, wholesale price index, and interest rate.

Hosseini, Ahmed, and Lai (2011) examined the relationship between market indices and four macro economic variables namely crude oil price, money supply, industrial production, and inflation rate in China and India and found that there existed both long and short term linkages between macro economic variables and stock market indices in each of these two countries.

Kumar (2011) in his study attempted to test the causal relationship between stock prices (NSE Index 'Nifty') and macroeconomic variables, that is, real effective economic rate (REER), foreign exchange reserve (FER), balance of trade (BoT), foreign direct investment (FDI), index of industrial production (IIP), and wholesale price index (WPI) in India. Applying cointegration and Granger's causality test, the study disclosed that there was no co integration between Nifty and all other variables except wholesale price index (WPI) as per Johansen's cointegration test. However, Granger's causality test was applied between the two variables found integrated on same level I, that is, Nifty and WPI. The analysis pointed out that there was no sign of causality between the two variables, and neither Nifty Granger caused WPI nor WPI Granger caused Nifty.

Tripathy (2011) tried to investigate the market efficiency and causal relationship between selected variables like interest rate, exchange rate, inflation rate, and stock markets (BSE) during 2005 to 2011. By using Ljung Box Q - Test, Breusch-Godfrey LM Test, unit root test, and Granger's causality test, the study reported that the Indian stock market was sensitive towards changing behaviour of the international market, exchange rate, and interest rate of the economy.

Shobhana and Karpagavalli (2011) in their study analyzed the influence of fundamental factors on equity prices of 12 Group A and 12 Group B banking shares listed on the BSE for a period of 10 years (2000-2010). The findings of the study disclosed that company specific factors such as market capitalization and dividend yield had a significant influence on equity price of Group A shares. However, in case of Group B, the share book value per share seemed to have a higher impact on share prices.

Nirmala, Sanju, and Ramachandran (2011) focused on identifying the determinants that influenced share prices for a selected number of sectors of the Indian economy. The study used the data pertaining to three sectors namely auto, health care, and public sector undertakings over the period from 2000 to 2009. A fully modified ordinary least square method was employed in the study to draw the inferences. The results of the study disclosed that variables like dividend, price earning ratio, and leverage were significant determinants of share prices for all sectors under consideration. However, profitability was found to influence share prices only in case of the auto sector.

Pal and Mittal (2011) tried to examine the long-term relationship between the Indian capital market and key macro variables like interest rates, inflation rate, exchange rate, and gross domestic savings. Quarterly time-series data for the period from 1995 to 1998 was taken for the purpose of analysis. By applying the unit root test, co-integration test, and the error correction mechanism, long term, and short term statistical dynamism was examined. The results of the study established that there was co-integration between macro economic variables and stock market indices, which indicated a long term relationship. Error correction mechanism disclosed that the rate of inflation had a significant

impact on both the Sensex and the Nifty. Further, interest rate had a maximum impact on Nifty. However, significant impact of foreign exchange rate was seen on the Sensex.

Mahapatra and Biswasroy (2011) tried to identify and quantify the impact of a selected number of fundamental and technical factors on the prices of equity shares in India. They carried out this task by choosing a judgment sample of 27 actively traded companies covering a time period of 14 years. Step wise multiple regression analysis was extensively used to draw inferences. The study results disclosed that fundamental factors like DPS, EPS, yield, and ROI together accounted for around 87% of the variations in share prices. Further, the technical factors like security price index and GNP together accounted for nearly 81% of the variations in share prices.

Gill, Biger, and Mathur (2012) carried out a study in the American context. A sample of 333 American firms listed on the New York Stock Exchange (NYSE) for a period of 3 years (from 2009-2011) was selected for this purpose. The overall findings of this study showed that book value per share, earnings per share, dividend per share, price-earnings ratio, the CEO duality, and the internationality of the firm explained the variance of equity share prices in America.

Jadhav and Badade (2012) carried out a study on the determinants of share prices in India with special reference to the service sector consisting of banking, health care, and the IT sector. With a sample size of 15 companies belonging to the above mentioned sectors, the study tried to establish the association between the dependent variables - market price per share (MPS), and the independent variables, earnings per share (EPS), dividend per share(DPS), book value per share (BVS), dividend yield, and P/E ratio. The study revealed the positive association of EPS, BVS, P/E ratio, and dividend yield with market price per share in case of the banking sector whereas EPS, DPS, P/E ratio, and dividend yield were found to be significant in the health care sector. In case of the IT sector, DPS, BVS, P/E ratio, and dividend yield had a significant relation with MPS.

Kalra (2012) conducted a comprehensive study on the impact of macro economic variables on the Indian stock market. Considering explanatory variables such as forex rate, CRR, reserve repo rate, gold prices, wholesale price index (WPI), oil rate, inflation rate, and GDP, the study disclosed the positive association of forex rate, inflation rate, and gold prices with the movement of the Sensex.

Mishra and Singh (2012) tested whether the stock market in India was driven by macroeconomic fundamentals. They applied a non - parametric approach to determine whether any variables were nonlinearly related with stock returns and its volatility by taking monthly observations from 1998 to 2008. Exchange rate, interest rate, index of industrial production, inflation, and foreign institutional investment were taken as macro-economic factors for the purpose of analysis. The study results disclosed that index of industrial production, and foreign institutional investment affected the volatility of the Sensex positively.

Srinivasan (2012) carried out a study to examine the fundamental determinants of share prices in India using panel data. The empirical results revealed that the dividend per share had a negative and significant impact on the share prices of manufacturing, pharmaceutical, energy, and infrastructure sectors. Earnings per share and price earning ratio were found to be crucial factors in case of manufacturing, pharmaceuticals, energy, infrastructure, and banking sectors. Size of the firm was found to be significant, with the exception of manufacturing. The book value per share positively influenced the share prices of pharmaceutical, energy, IT & ITES, and infrastructure.

Trivedi and Behera's study (2012) on the determinants of equity prices of India was one of the recent attempt to examine the influencing role of index of industrial production (IIP), wholesale price index (WPI), interest rate, money supply, foreign institutional investors (FII), and Morgan Stanley's capital international index (MSCI) on equity prices. Cointegration tests demonstrated that equity prices (BSE Sensex) were significantly related to all macroeconomic variables considered for the study.

Determinants of Share Price

The foregoing discussions on the review of empirical studies disclose that a host of factors have been influencing the equity shares prices in the market. All these factors can be categorized as micro or firm level factors which include - dividend per share, earnings per share, book value per share, retained earnings, yield, capital expenditure, return on investment, size, and macro or external factors such as - security price index, index of industrial production, gross domestic product, money supply, investment by foreign institutional investors, and inflation.

Conclusion

From this detailed survey of various studies on share price behaviour, it is evident that a large number of micro as well as macro-level factors have been influencing the stock prices in the market. Undeniably, all the discussed variables are some of the important determinants of share prices. However, these variables need proper consideration by the investors while making investment strategies in the market as there are certain other qualitative factors, such as business environment, culture, regulatory framework, and so forth, the impact of which on share prices cannot be overemphasized. The review of empirical studies also disclosed the fact that share price behaviour underwent a dramatic change after the initiation of economic reform in 1990s.

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