International Journal of Electronic Finance

ISSN online: 1746-0077 - ISSN print: 1746-0069
https://www.inderscience.com/ijef

Financial determinants of equity share pricing: evidence from BSE 100 Index

Sarita Yadav, Pankaj Kumar

DOI: 10.1504/IJEF.2024.10054618

Article History:

Received:	12 December 2022
Last revised:	27 January 2023
Accepted:	03 February 2023
Published online:	01 December 2023

Financial determinants of equity share pricing: evidence from BSE 100 Index

Sarita Yadav* and Pankaj Kumar

Department of Management Studies,
Deenbandhu Chhotu Ram University of Science and Technology,
Murthal, Sonepat-131039, Haryana, India
Email: yadav.sarry@gmail.com
Email: pankaj3950@yahoo.co.in
*Corresponding author

Abstract: The aim of the study is to examine the impact of financial explanatory variables on the equity share price of companies listed on the Standard and Poor (S&P) BSE 100 Index. A secondary dataset of 16 financial variables is considered for 14 financial years from 2005–2006 to 2018–2019. Panel data regression analysis has been employed, and Hausman results indicated that the fixed effect model is appropriate over the random effect of seeing the impact. Further diagnostic testing revealed that panel data assumptions are violated hence cluster robust standard error test has been employed to correct the assumptions. Results revealed that among 16 financial variables, earning per share, price to book value, book value per share, and dividend per share have a significant positive impact on market price of equity shares, whereas the size of the firm, return on net worth, and dividend yield have shown significant negative impact.

Keywords: stock market; financial variables; equity market price; S&P BSE 100 Index.

Reference to this paper should be made as follows: Yadav, S. and Kumar, P. (2024) 'Financial determinants of equity share pricing: evidence from BSE 100 Index', *Int. J. Electronic Finance*, Vol. 13, No. 1, pp.83–102.

Biographical notes: Sarita Yadav is a Research Scholar in the area of finance in the Department of Management Studies, Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Sonepat, Haryana, India. Her research interests include valuation of equity share pricing and related aspects.

Pankaj Kumar is presently working as an Associate Professor in the Department of Management Studies, Deenbandhu Chhotu Ram University of Science and Technology, Sonipat, Haryana, India. He has obtained degrees of Bachelor of Commerce with Honours, Master of Commerce, and Doctor of Philosophy from Maharshi Dayanand University, Rohtak, Haryana, India. He has more than 14 years of academic experience and has published a number of research papers in reputed journals listed in ABDC, Scopus, SSCI, ESCI, and ABS.

1 Introduction

The stock market is considered to be the backbone and one of the fastest-growing areas across the world (Namahoot and Jantasri, 2021). This provides an efficient medium for investment where surplus funds are taken from individuals, companies, and the government and supplied to the needy one for investment in any profitable opportunity or direct them to the sectors that produce for the economy (Al-Shubiri, 2010). On the other hand, investors allocate their funds from where they can earn good returns (based on risk and returns), which leads them to invest in long-term securities, such as equity shares, preference shares and debentures (Arkan, 2016). Among all, the equity shares are considered to be the avenue that has a high potential to generate considerable returns on the investment of investors (Zulkifli et al., 2008; Nirmala et al., 2011). It is one of the negotiable instruments of the capital market issued by the company that wants to raise public funds by diluting its ownership. Equity shareholders get dividends as a return on investment in equity shares. As equity shares are negotiable instruments, appreciation in the equity share price also enhances the asset value of shareholders (Mishkin and Eakins, 2009; Ali and Chowdhury, 2010), and the market price of equity shares is considered to be the most important factor for investors to take investment decision (Sharma, 2011). The stock markets are found to have dynamic and volatile behaviour (Irfan and Tanwar, 2017). The volatility, uncertainty, complexity and ambiguity (VUCA) environment and stock market volatility are closely associated. Thus, it is crucial to comprehend the best methods for capturing this relationship (Teixeira et al., 2023).

Numerous researchers believe that investors can earn abnormal profits by identifying the determinants of share prices with the help of financial, economic, and technical analysis (Banz, 1981; Basu, 1983; Wong and Lye, 1990; Chan et al., 1991). Technical analysis uses past trends, volume, and other technical indicators to forecast future share prices (Mishra and Dehuri, 2012), whereas the fundamental approach bases its predictions on financial fundamentals (Dhole, 2017). Technical analysis is seen as an addition to fundamental analysis rather than a replacement because it merely describes market behaviour, whereas fundamental analysis takes into account the factors that affect the market price of shares (Suresh, 2013; Dhole, 2017). The financials of a certain organisation typically reflect fundamental aspects. Firms' overall values are reflected by information in financial statements, which is a key aspect that drives the market price of equity shares (Muhammad and Ali, 2018). Financial explanatory variables are regarded as the most significant among the different factors that affect the price of equity shares (Muhammad and Ali, 2018; Anshika, 2017; Kheradyar et al., 2011; Ou and Penman, 1989; Das and Pattanayak, 2009; Witkowska, 2006; Chan et al., 1991; Srinivasan, 2012; Sukhija, 2014; Dhatt et al., 1999). That is why; it is advisable for investors, brokers, and fund managers to have knowledge of the company-specific financial variables which ascertain the market price of equity shares so that they can make the best promising investment decision about the investment in equity share market operations under stock markets (Sharif et al., 2015).

The literature emphasises that numerous studies have been conducted in developed countries (Wong and Lye, 1990; Fama and French, 1992; Tsoukalas and Sil, 1999; Lam, 2002; Al-Deehani, 2005; Witkowska, 2006; Liu and Liu, 2007; Dimitropoulos and Asteriou, 2009; Hui et al., 2010; Gill et al., 2012; In'airat, 2018) as well as in developing economies (Mohanty, 2002; Pirie and Smith, 2008; Martani et al., 2009; Sharma, 2011; Kalunda and Haryati, 2012; Musthafa and Jahfer, 2013; Ernest and Oscar, 2014; Wangui

et al., 2015; Kai and Rahman, 2018; Sukesti et al., 2021). Few studies have been conducted to examine the factors and their link with equity shares with regard to developing economies, particularly in India. Further, literature provides evidence that in the Indian context, very few studies have been done to know the upswing and downswing of BSE Sensex index and NSE Nifty index in reference to a limited financial variables and for a short period (Singh and Sharma, 2006; Das and Pattanayak, 2009; Malhotra and Tandon, 2013; Khanna, 2014; Divya and Rao, 2015; Irfan and Tanwar, 2017; Rao and Suryanarayana, 2018; Bhatia and Mulenga, 2019). The nature of stock markets are considered to be dynamic and volatile (Irfan and Tanwar, 2017). Stock exchanges can be used to measure the performance of the stock market and broad trends. Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) are the two nationalised stock exchanges in India. BSE is the oldest stock exchange in Asia and the 9th largest in terms of market capitalisation. As a result, by concentrating on the effect of financial variables on the stock prices of Indian companies listed in BSE 100 Index, the current study fills a significant gap in the literature. The current study focuses on company-specific financial variables to examine share price valuation, which will provide insight to the investors to look for before investing in equity shares. The study will also provide insight to the management of the company to design a policy to strengthen the finances of the company, which have a significant influence on the equity share price. This will help the company to increase its valuation.

2 Review of literature

From the inception of equity share pricing, researchers have been trying to determine the factors of equity share price in the context of accounting fundamental variables or financial explanatory variables. Pioneer work was done by Collins (1957) to know the determinants of equity share prices in the context of accounting fundamentals. The study indicated numerous firm-specific factors, including operating earnings, book value, dividend, and net profit, which significantly impacted the equity share prices of the US capital market. Further, Ball and Brown (1968) and Beaver (1968) challenged many theories which claimed the irrelevancy of accounting numbers to the firm value and demonstrated that financial information is reflected in share prices. The study indicated that with the announcement of financial information, investors were alerted about the shares in which they were trading. Among all financial variables, Basu (1977) studied the impact of price earning ratio on the stock returns of the companies indexed in the New York stock exchange from April 1957 to March 1971 and revealed that a portfolio with a low price earning ratio/high earning price ratio generated high returns than a portfolio with a high price earning ratio/low earning price ratio. However, Reinganum (1981) cast doubt on it and asserted that influence might be due to the size effect. In this line, Banz (1981) in the USA, Brown et al. (1983) in Australia, and Levis (1985) in the UK examined the relationship between the size in terms of market capitalisation and risk-adjusted rate of return and found a significant negative association. In the context of the influence of size, Basu (1983) re-examined the combined effect of size and earning price ratio on stock returns and pointed to a significant positive impact of earning price ratio, which was later on asserted by other studies too in different countries (Kumar, 2017; Malhotra and Tandon, 2013; Avdalovic and Milenkovic, 2017; Khan and

Amanullah, 2012). Basu (1983) and Peavy and Goodman (1983) supported that the explanatory power of earning price ratio increases with size and beta and found a significant negative impact of size. Though, size showed negligible impact when beta and earning price ratio were used as a control variable. Whereas Cook and Rozeff (1984), Jaffe et al. (1989) and Wong and Lye (1990) contradicted the results of Basu (1983) and predicted that size does have a significant negative influence on stock returns which was later supported by many a study (Ghauri, 2014; Avdalovic and Milenkovic, 2017).

The literature was further extended by Patell (1976) and investigated the influence of earning per share on share prices and indicated that forecasted earning per share was positive and significantly accompanied by significantly adjusted share prices only when they exceeded the expectation of shareholders. Later, Bhole (1980) determined earning per share as a significant factor for stock price companies listed on New York stock exchange, and Balkrishnan (1984) examined earning per share as the most influential variable with reference to the private sector in India. Earning per share has been founded as a key and most influential financial variable for investors and has shown a strong positive significant relationship with the market price of shares (Martinez, 2003; Al-Deehani, 2005; Singh and Sharma, 2006; Al-Shubiri, 2010). However, Haque and Faruquee (2013) and Anshika (2017) showed that earnings per share have no influence on the stock price of Bangladesh and Indian stock markets, respectively. Further, Bhandari (1988) tested the relationship between the debt-equity ratio and the market price of shares and found it is an important predictor with positive significant explanatory power (Rao and Suryanarayana, 2018; Jaffe et al., 1989; Martani et al., 2009; Dhatt et al., 1999; Barbee et al., 1996) and its estimation coefficient got increased when size and beta taken as a control variable. By the time researchers included other accounting variables too in their study, and on the same equation, Chan et al. (1991) identified book-to-market ratio and cash flow yield as prominent explanatory financial variables with respect to share prices in Japan, and Fama and French (1992, 1995, 1996) evaluated the effect of size and book to market equity ratio with the beta, leverage, and price earning ratio. Among all variables, book to market ratio was found to have the most positive significant explanatory power. Price earning ratio and leverage were found to have a significant positive impact but insignificant with size, beta, and book-to-market equity ratio. Book to market equity ratio has been found to have a significant positive influence on stock returns across studies of many countries (Lam, 2002; Chen and Tu, 2002; Khan and Amanullah, 2012; Arkan, 2016; Anshika, 2017). On the other side, Shafana et al. (2013) found the book-to-market equity ratio negative but significant for equity the share price of the capital market of Sri Lanka.

In another study of financial determinants, Tsoukalas and Sil (1999) examined dividend yield, dividend growth rate, and interest rate taken into account and attributed dividend yield as positively significant (Pandey, 2001) with stock price amongst all variables. In an early-year study, Zahir and Khanna (1982) showed dividend yield as highly significant but negatively associated with the share prices of private sector firms. Later, Dimitropoulos and Asteriou (2009) and Malhotra and Tandon (2013) also found dividend yield as negatively but significantly associated with the market price of shares. With earning per share, dividend per share is also considered the key factor influencing share prices and investors' investment decisions. However, the unanimous result was found for dividend per share across the studies and has been determined as the significantly positive and most influencing explanatory variable of the stock price for investors by Zahir and Khanna (1982), Balkrishnan (1984), Gallizo and Salvador (2006),

Al-Shubiri (2010), Chughtai et al. (2013), Sharif et al. (2015) and Goyal and Gupta (2019). However, dividend per share was found to be a negatively significant explanatory variable for the companies listed in the Bombay stock exchange (Divya and Rao, 2015) and insignificant for the automotive and information technology industry (Geetha and Swaaminathan, 2015). At the same time, Ebrahimi and Chadegani (2011) concluded that the influence of dividend per share is not stable over a period of time. In addition, Rajhans and Kaur (2013) concluded that net sales, profit, fixed assets, and the weighted average cost of capital significantly explain variance in share prices, while the debt-equity ratio and dividend payout ratio is insignificant. Among all, profit is highly related to equity share prices, followed by sales and the weighted average cost of capital. Ozlen (2014) extended the literature and identified the debt ratio, current ratio, total asset turnover ratio, net profit margin, and price earning ratio as significant financial variables to explain stock returns. Still, the direction of variance varies from industry to industry. Return on equity has been reported as a positively significant financial explanatory variable (Arkan, 2016; Anshika, 2017) as well negatively significant (Divya and Rao, 2015) for change in share price. In recent studies, Al-Malkawi et al. (2018) estimated the dataset from the financial year 2000 to 2015 and found a positive and statistically significant association of book value per share, dividend per share, price earning ratio, return on equity, earning per share and size with stock returns.

In contrast, debt and dividend yield exhibited a negative and significant association with the market price of shares. A dataset from the financial year 2014 to 2018 related to BSE Sensex index listed companies were studied by Goyal and Gupta (2019) and concluded that price earning ratio and earning per share has a significant positive influence on stock returns, which has been asserted by Pallathadka (2020) for the information technology sector and Gyawali (2022) for the banking sector. In another study on the banking sector, Sharma et al. (2022) revealed that the capital adequacy ratio, return on equity, net interest margin, and earnings per share all positively impact banking stocks. In order to see the influence of the debt-equity ratio, total asset turnover ratio, and return on asset on the share price of real estate companies, Kurniawan (2021) applied panel data regression and revealed that among all, only the total asset turnover ratio shown a significant positive impact. In this line, Sukesti et al. (2021) asserted that the return on assets, debt-equity ratio, and net profit margin all have a positive and substantial impact on the stocks of manufacturing companies. A generalised method has been undertaken by Ruhani and Junoh (2022) to assess the effect and revealed that earnings per share, market capitalisation, dividend yield, trading volume, and price-earnings are substantial contributors to stock market returns. Existing literature shows that, moreover, studies are done in developed nations, though contributions represent developing nations too but undertaken very few financial variables and a short period. If we see at the Indian context, no literature is available on BSE 100 Index. So, the present study focused on examining the effect of various explanatory financial variables on the movement of equity share price of S&P BSE 100 index listed companies.

3 Research methodology

The present study aims to examine the impact of financial explanatory variables on the equity share price of companies listed on the Standard and Poor (S&P) BSE 100 Index.

3.1 Sample

The S&P BSE 100 Index, which is a barometer of 101 largest and most liquid Indian companies within the S&P BSE large to the mid-cap category, has been chosen as a sample for current contribution. This accounts for a two-third market capitalisation of the listed universe at BSE limited as of the report on 30 March 2019 (BSE India, 2019). Therefore, it can be said that the sample is good enough to represent the corporate sector in India.

3.2 Data sourcing

The CMIE PROWESS database is used as a source collected yearly for 16 financial variables (Table 1) defined through a literature survey for the 14 years from the financial year 2005-06 to 2018-19 for 65 out of 100 companies listed in the S&P BSE 100 index. As 21 companies were listed after the study period, and for 14 companies, data was unavailable. The cement and infrastructure sector (6), automobile sector (7), information technology and power sector (8), fast moving consumer goods sector (10), pharmaceutical sector (12), and oil, gas, energy, and chemical sector (12) were all included in the S&P BSE Index's composition. Companies not included in the sectors mentioned above were classified as miscellaneous (10).

3.3 Model specification

Descriptive statistics were used to summarise variables constructively, and then correlation was carried out to see the meaningful relationship between the financial variables and market price of equity shares. Further, panel data analysis is used by using EViews 12, as it allows us to construct and test more complicated behaviour than pure cross-section and time series. It provides more opportunities to use a more extensive dataset and provides a larger degree of freedom. Hence, to determine the impact of company-specific financial variables on up and down swings in the equity share price of S&P BSE 100 Index listed companies, the following panel data models are preferred:

1 ordinary least square method (OLS)

2 fixed effect model (FE)

3 random effect model (RE).

The above-said models are based on different assumptions based on intercepts, i.e., constant and slope. OLS model assumes that all the parameters remain constant across the cross-section and time period under the study and data is called poolable. The equation of OLS is as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_k X_{ki} + e_i$$

where Y_i is dependent variable; X_{1i}, …, X_{ki} are independent variables; e_i is the error term; β_0 is a constant coefficient, β_1, β_2, β_3……β_{ki} are the coefficient of respective variables.

Whereas fixed effect assumes intercept changes across the cross-section but remains constant in time series, so we can say there is a cross-section effect. FE model allows heterogeneity or individuality among all the cross-section units by having its intercept value. It means the intercept or cross-section units may differ, but the intercept does not

vary over time. But in the case of RE model, we assume that unobserved heterogeneity behaves in a random fashion. The equation of FE model is as follows:

$$Y_{it} = \beta_{0i} + \beta_{1it}X_{1it} + \beta_{2it}X_{2it} + \ldots + \beta_{16it}X_{16it} + e_{it}$$

where Y_{it} is the market price of equity shares for i^{th} cross-section unit and t^{th} time unit; X_{1it} is earning per share; X_{2it} is price to book value; X_{3it} is earning yield; X_{4it} is book value per share; X_{5it} is total asset turnover ratio; X_{6it} is net profit margin; X_{7it} is size; X_{8it} is the size in terms of total assets; X_{9it} is the price to sales; X_{10it} is return on capital employed; X_{11it} is current ratio X_{12it} is quick ratio; X_{13it} is dividend per share; X_{14it} is dividend payout ratio; X_{15it} is return on net worth, and X_{16it} is dividend yield which are independent variables for i^{th} cross-section and t^{th} time unit; e_{it} is an error term, β_{0i} is intercept; β_{1it}, β_{2it}, β_{3it}, …, β_{16it} are the coefficient of respective variables for i^{th} cross-section and t^{th} time unit.

Table 1 Description of financial variables

Sr. no.	*Financial variables as determinant*	*Measurement*	*Significant impact*
1	Current ratio (CR)	Current assets/current liabilities	Positive, negative
2	Quick ratio (QR)	Liquid assets/current liabilities	Positive
3	Net profit margin (%) (NPM)	Net profit after tax/net sales	Positive, negative
4	Return on capital employed (%) (ROCE)	Earning before interest and tax/capital employed	Positive
5	Return on assets (%) (ROA)	Net profit after tax/average total assets	Positive, negative
6	Earning per share (Rs.) (EPS)	Net profit after tax and preference dividend/number of equity share outstanding	Positive
7	Dividend per share (Rs.) (DPS)	Total dividend paid to ordinary shareholders/number of ordinary shares outstanding	Positive
8	Dividend payout ratio (DPR)	Dividend paid to ordinary shareholders/net profit after tax and preference dividends	Positive
9	Dividend yield (%) (DY)	Dividend per share/market value per share	Negative
10	Book value per share ratio (BVPS)	(Shareholders equity – preference equity)/number of equity shares outstanding	Positive
11	Return on net worth (%) (RONW)	Net profit after tax and preference dividend/net worth	Positive
12	Price to book value ratio (PB)	Market price per share/book value per share	Positive, negative
13	Total asset turnover ratio (TATR)	Net sales/total assets	Positive
14	Size of the firm (Rs. billion)	Logarithm of total assets	Negative
15	Price to sales ratio (PS)	Market capitalisation/net sales	Positive
16	Earning yield (%) (EY)	Earning per share/market price per share	Positive

Source: Authors' elaboration

With the help of EViews 12, F-statistics is used for the model selection among OLS and FE, wherein a significant value of F-statistics will lead to the selection of FE model over OLS. Hausman (1978) test statistics have been employed, which test the association between the FE/RE effect and regressors for specification (Gaganis et al., 2009). Further, the test also validates whether any correlation exists between the unique errors and the model's regressor.

Further panel data assumptions such as multi-collinearity, heteroskedasticity, and serial correlation have been checked to see the error term and violation of these assumptions corrected by employing cluster robust standard error test to see the impact of financial variables (independent variables) on the market price of equity shares (dependent variable).

The market price of shares is taken as an average of low market price and high market price.

$$\text{Market price} = (\text{low price} + \text{high price})/2$$

4 Data analysis and results

4.1 Descriptive statistics

Descriptive statistics (Table 2) is explained in terms of the mean value and standard deviation of financial variables and equity share price for the period of 14 years from the financial year 2005–2006 to 2018–2019.

Table 2 Descriptive statistics

Variables	*Mean value*	*Standard deviation*
MP	1,315.411	2,683.706
EPS	45.043	68.554
PB	6.588	6.405
EY	1.521	1.604
BVPS	253.368	352.882
TATR	1.081	0.712
NPM	1,648.487	13,925.443
Size	3.887	0.905
ROA	0.162	0.341
PS	393.514	3,907.638
ROCE	21.711	20.361
CR	2.552	13.807
QR	2.153	13.825
DPS	15.251	24.792
DPR	31.487	32.808
RONW	24.698	21.472
DY	386.991	655.874

Table 3 Correlation analysis results

Variables	*MP*	*EPS*	*PB*	*EY*	*BVPS*	*TATR*	*NPM*	*SIZE*	*ROA*	*PS*	*ROCE*	*QR*	*CR*	*DPS*	*DPR*	*RONW*	*DY*
MP	1																
EPS	0.856**	1															
PB	0.223**	0.041	1														
EY	–0.157**	–0.075*	–0.143**	1													
BVPS	0.782**	0.806**	–0.161**	–0.091**	1												
TATR	0.091**	0.045	0.295**	0.074*	–0.033	1											
NPM	–0.051	–0.06	–0.090**	0.087**	–0.051	–0.150**	1										
SIZE	0.029	0.090**	–0.167**	0.096**	0.187**	0.159**	–0.658**	1									
ROA	–0.021	–0.013	0.037	0.065*	–0.080*	–0.129**	0.696**	–00.682**	1								
PS	–0.013	0.014	–0.055	0.097**	0.032	–0.150**	0.009	0.012	–0.021	1							
ROCE	0.094**	0.102**	0.670**	0.085**	–0.127**	0.219**	–0.116**	–.096**	0.089**	–0.049	1						
QR	0.031	0.026	–0.036	–0.003	0.082*	–0.056	–0.005	–0.011	–0.003	0.026	–0.025	1					
CR	0.03	0.025	–0.034	–0.008	0.081*	–0.052	–0.014	–0.006	–0.017	0.023	–0.023	1.000**	1				
DPS	0.617**	0.612**	0.174**	0.082*	0.503**	0.125**	0.095**	–0.043	0.152**	0.034	0.258**	0.047	0.042	1			
DPR	–0.011	–0.028	0.107**	0.173**	–0.059	0.052	–0.036	0.032	–0.013	0.018	0.161**	0.011	0.01	0.147**	1		
RONW	0.019	0.064*	0.602**	0.112**	–0.177**	0.180**	0.100**	–0.279**	0.260**	–0.04	0.896**	–0.042	–0.043	0.235**	0.133**	1	
DY	0.172**	0.227**	0.236**	0.180**	0.096**	0.168**	–0.061	0.137**	0.029	–0.003	0.363**	0.009	0.006	0.447**	0.133**	0.284**	1

Note: Significant at **0.01, *0.05 level.

4.2 Correlation analysis

Correlation analysis has been employed to ascertain the relationship and direction of association between the explanatory financial variables and equity share price. The results (Table 3) depict that the equity share price has a significant positive relationship with EPS (0.856), BVPS (0.782), DPS (0.617), PB (0.223), DY (0.172), ROCE (0.094) and TATR (0.091). In contrast, the equity share price has shown a significant negative association with EY (–0.157). NPM, ROA, size, PS, QR, CR, DPR and RONW have shown an insignificant low association with the equity share price.

4.3 Appropriateness of OLS model

OLS is not the right model to examine the data since the F-statistics value (see Table 4) is significant, indicating that the data cannot be pooled.

Table 4 F-statistics result

Test	*Value*	*Significance level*
F-statistics	92.383	0.000

4.4 Selection among fixed effect and random effect model

As OLS is not an appropriate model for estimation, FE or RE will be employed for estimation. Consequently, to select between FE and RE, Huasman test has been employed.

Hausman test (χ^2 statistics) value (Table 5) 34.966 is significant at 1% significance level. These results provide us with a conclusion that a correlation can exist between the market price of shares and the error term, whereas FE model is preferred to the RE Model for estimating the relationship among the variables because FE model demeans the unobserved heterogeneity. In addition, the Durbin-Watson value (2.228) (Table 5) appears to be approximately two, indicating no autocorrelation among the endogenous variables.

Table 5 FE and RE model

Variables	*FE model*			*RE model*		
	β	*t-ratio*	*p-value*	*Coefficient*	*t-ratio*	*p-value*
Constant	415.532	1.489	0.136	330.169	1.204	0.228
EPS	19.2514	20.680	0.000	19.873	21.640	0.000
PB	139.556	18.400	0.000	140.805	18.700	0.000
EY	3.662	0.157	0.875	−6.952	−0.303	0.761
BVPS	2.741	15.050	0.000	2.600	14.640	0.000
TATR	7.947	0.157	0.874	29.355	0.584	0.559
NPM	−0.003	−0.973	0.330	−0.001	−0.480	0.630
Size	−287.874	−4.594	0.000	−264.884	−4.331	0.000
ROA	−104.970	−0.600	0.548	−130.972	−0.764	0.444

Note: Significance at **0.01 level.

Table 5 FE and RE model (continued)

Variables	*FE model*			*RE model*		
	β	*t-ratio*	*p-value*	*Coefficient*	*t-ratio*	*p-value*
PS	−0.009	−1.076	0.282	−0.012	−1.481	0.138
ROCE	4.275	0.940	0.347	4.635	1.036	0.300
QR	11.180	0.108	0.913	6.605	0.064	0.948
CR	−15.364	−0.148	0.881	−9.744	−0.094	0.924
DPS	15.041	7.683	0.000	15.498	7.990	0.000
DPR	−0.066	−0.120	0.904	0.030	0.055	0.955
RONW	−28.239	−7.037	0.000	−28.601	−7.201	0.000
DY	−0.1475	−2.355	0.018	−0.205	−3.362	0.000
Durbin-Watson value		2.228			2.228	
Adjusted R^2		0.881			0.820	
F-statistics		78.128**			149.742**	
Hausman test (χ^2 statistics)			34.966**			

Note: Significance at **0.01 level.

4.5 Diagnostic testing

In order to select an appropriate model checking various assumptions of panel data are essential to ensure that the results are reliable and accurate. For panel data regression, the aforementioned assumptions were examined:

4.5.1 Multi-collinearity

Multi-collinearity occurs when there are many perfectly linear associations between endogenous variables (Gujarati, 2011). Variables are not multi-collinear if the variance inflation factor (VIF) value is less than 10. VIF value (Table 6) indicates that CR and QR have greater than a value 10. After excluding QR as a dependent variable, the remaining variables showed VIF values below 10, which exhibits no multi-collinearity, and the investigation can be continued with the rest of the endogenous variables.

4.5.2 Heteroskedasticity

The error term in the traditional linear model is presumed to be homoskedastic across observations. However, the violation of this assumption causes heteroskedasticity (Gujarati, 2011). The presence of heteroskedasticity produces inefficient estimates because of the inconsistent covariance matrix of regression coefficients. The modified-Wald test has been employed in the current contribution to examining heteroskedasticity. χ^2 statistics value (Table 7) for modified Wald statistics is significant; it indicates the variance of the error term is heterogeneous (Greene, 2000).

Table 6 Variance inflation factor

Variables	*Centred before VIF*	*Centred after VIF*
BVPS	3.682	3.680
CR	1,959.270	1.019
DPR	1.090	1.090
DPS	2.206	2.199
DY	1.512	1.502
EPS	3.758	3.756
EY	1.271	1.257
NPM	2.636	2.636
PB	2.224	2.212
PS	1.053	1.044
QR	1,959.530	-
ROA	3.242	2.508
ROCE	7.863	7.779
RONW	6.932	6.923
SIZE	2.885	2.731
TATR	1.232	1.214

Table 7 Modified-Wald test results

Test	*Statistics*	*p-value*
χ^2 statistics (65)	209,060	0.000

4.5.3 Serial correlation

It indicates the correlation between the current and the previous error term. If a correlation is not there, it means no serial correlation. Regression results are considered to be ineffective when a serial correlation is present. Breusch-Godfrey serial correlation LM test results indicated that the F-statistics value (Table 8) is significant, indicating the presence of serial correlation.

Table 8 Breusch-Godfrey serial correlation LM test results

Test	*Statistics*	*Probability*	*p-value*
F-statistic	239.844	Prob. F (1,958)	0.000
Obs*R^2	195.223	Prob. Chi-Square (1)	0.000

From the results, it is revealed that all assumptions have been violated. Hence, a cluster robust standard error (CRSE) test has been employed to rectify these and obtain the intended findings. CRSE test accounts for heteroskedasticity in a model's unexplained variation. In other words, CRSE can consider this association if the degree of variance in the outcome variable is connected with the endogenous variable.

4.6 Cluster robust standard error test results

Results of the cluster robust standard error model ascertained R^2 value 0.841 (Table 9), which infers that 84.10% variation in equity share price has been explained by above said financial variables over the period of time across the section. The value of F-statistics (143.91) and p-value (0.000) indicates that the model is statistically robust at a 1% level of significance. Further results infer that PB is a positively significant variable with the highest power among all financial variables to explain equity share price ($\beta = 143.778$, $p < 0.001$), and the results are consistent with (Al-Deehani, 2005; Martani et al., 2009; Irfan and Tanwar, 2017; Rao and Suryanarayana, 2018) but inconsistent with the findings (Ferson and Harvey, 1994; Mohanty, 2002). The positive effect indicates that the market price of equity shares has importance over its book value. An increase in the market price of equity shares increases the overall valuation of the firm; this may be the reason that PB has the strongest influence on the equity share price. The second major positive significant variable is EPS ($\beta = 16.437$, $p < 0.001$), and the results are consistent with the findings (Singh and Sharma, 2006; Pirie and Smith, 2008; Al-Shubiri, 2010; Malhotra and Tandon, 2013; Ernest and Oscar, 2014; Irfan and Tanwar, 2017; Kumar, 2017; Muhammad and Ali, 2018; Bhatia and Mulenga, 2019; Goyal and Gupta, 2019). Another financial variable DPS, also has a positive and significant influence on equity share price ($\beta = 10.910$, $p < 0.001$), which is in consensus with (Matthew et al., 2014; Sharif et al., 2015). Since EPS and dividend gains directly impact investors' demand and supply for equity shares, they play a critical role in determining the price of equity shares (Al-Shubiri, 2010). A positive association of EPS and DPS with equity share price suggests that the company's operational effectiveness and capacity to produce profit account for the stock returns in a favourable manner, which may be helpful to investors when investing in equity shares. Yet another variable BVPS, also has a significantly positive but low influence on equity share price ($\beta = 3.534$, $p < 0.001$), and findings are in line with (Singh and Sharma, 2006; Sharma, 2011; Gill et al., 2012; Malhotra and Tandon, 2013; Sharif et al., 2015; Arkan, 2016; Avdalovic and Milenkovic, 2017; Rao and Suryanarayana, 2018; Bhatia and Mulenga, 2019) but not in consensus with (Anshika, 2017). An investor may interpret a higher book value per share as a sign that a company is in a strong financial position and is, therefore, a good investment because it represents the owner's funds (Sharma, 2011).

In contrast, results revealed that size has a significant negative impact on equity share price ($\beta = -28.001$, $p < 0.05$), and findings are in line with (Jaffe et al., 1989; Mohanty, 2002; Avdalovic and Milenkovic, 2017). However, the results are contrary to the findings (Johnson and Soenen, 2003; Martani et al., 2009). This association can be explained by several elements, including risk diversification, market dominance, and improved access to the capital market (Martani et al., 2009). In line with size, RONW also has a considerably negative significant contribution in explaining equity share price ($\beta = -15.094$, $p < 0.05$), but contrary to the findings (Sharma, 2011; Rao and Suryanarayana, 2018). The negative association may be due to the equity share influenced by non-operating profit, which is derived from sources other than sales, which led to a negative connection (Martani et al., 2009). Yet there is a smaller but negatively significant effect of DY on equity share price ($\beta = -0.142$, $p < 0.001$), similar to the findings (Matthew et al., 2014; Sharif et al., 2015). Price arbitrage, impact of information, and the duration effect all may have the potential to cause a negative connection

(Khanqah and Ebrati, 2011). Further it is inferred that TATR, NPM, ROA, PS, DPR have a positive but insignificant effect, whereas EY, ROCE and CR have an insignificant negative effect.

Table 9 Cluster robust standard error test results

Variables	*β-coefficient*	*Standard error*	*t-value*	*Significance level*
EPS	16.437	4.802	3.420**	0.001
PB	143.778	34.445	4.170**	0.000
EY	–34.645	20.753	–1.670	0.100
BVPS	3.534	0.833	4.240**	0.000
TATR	136.904	191.032	0.720	0.476
NPM	0.008	0.012	0.690	0.494
Size	–28.001	13.353	–2.097*	0.043
ROA	256.738	527.428	0.490	0.628
PS	0.002	0.002	1.000	0.503
ROCE	–3.311	7.616	–0.430	0.665
CR	–0.513	0.893	–0.570	0.567
DPS	10.910	3.593	3.040**	0.003
DPR	0.350	0.730	0.480	0.634
DY	–0.142	0.034	–4.176**	0.000
RONW	–15.094	6.542	–2.307*	0.047
Constant	–1,258.496	668.535	–1.880	0.064
R^2		0.841		
F (14, 65) value		143.910**		

Note: significance at **0.01, *0.05 level.

5 Conclusions, implications, limitations and future research

The main objective of this study is to know the significance and impact of financial variables on determining the equity share price of companies listed in the BSE 100 Index. Panel data includes time series of 14 years from the financial years 2005–2006 to 2018–2019 with a cross-section of 65 companies. In panel data regression, OLS model was found to be inappropriate as data was not poolable. Hausman test revealed that among fixed effect and random effect, the fixed effect is appropriate to see the impact, but when panel data assumptions were checked, it was found that assumptions were violated, which were corrected by cluster robust standard error test. The results revealed that among 16 financial variables EPS, PB, BVPS, and DPS have significant positive impacts on the market price of equity shares. In contrast, the size of the firm, RONW and DY have shown a significant negative impact.

5.1 Implications

This study offers information to fund managers, institutional investors, brokers, and retail investors of the stock market, as well as major implications for managing businesses whose shares are traded on the secondary market. First, the company's management will put a lot more effort into developing policies that will improve the financial variable in their financial statement, which will significantly impact equity share pricing. The organisation will benefit from an increase in the market value of its stocks as a result. Secondly, the study's findings will help shareholders to identify the major, company-specific financial variables that affect the value of equity shares so that they can base investment decisions on how well these factors are performing. When creating equity share investment portfolios for their clients and organisations, brokers, fund managers, and investors can also anticipate the essential financial indicators and their impact.

5.2 Limitations and future research

Although this study has important implications for the organisations' stakeholders, it still has some limitations that could be used as a source of future research. The current study is limited to financial indicators, whereas plenty of indicators are there which may derive the equity share price. Further, the companies listed in S&P BSE 100 Index have only been taken into consideration; however, future researchers can examine the CNX Nifty 100 Index in conjunction with other financial indicators or does a comparative study by taking into account both indices. For comparison analysis, researchers might look at global indexes. The macroeconomic factors that may have an impact on the market price of shares can be analysed (Kumar et al., 2020) in addition to the microeconomic data that are taken into account in the current contribution. Apart from fundamental factors, factors related to technical analysis (Mishra and Dehuri, 2012), and the business cycle (Shyu and Hsia, 2008) can also are taken into consideration in the Indian context.

References

Al-Deehani, T.M. (2005) 'The determinants of stock prices in the Kuwait stock exchange: an extreme bound analysis', *Investment Management and Financial Innovations*, Vol. 2, No. 3, pp.16–24.

Ali, M.B. and Chowdhury, T.A. (2010) 'Effect of dividend on stock price in emerging stock market: a study on the listed private commercial banks in DSE', *International Journal of Economics and Finance*, Vol. 2, No. 4, pp.52–64, https://doi.org/10.5539/ijef.v2n4p52.

Al-Malkawi, H.A.N., Al-Shiab, M.S. and Pillai, R. (2018) 'The impact of company fundamentals on common stock prices: evidence from MENA region', *The Business and Management Review*, pp.9–10, University of Oxford.

Al-Shubiri, F.N. (2010) 'Analysis the determinants of market stock price movements: an empirical study of Jordanian commercial banks', *International Journal of Business & Management*, Vol. 5, No. 10, pp.137–147.

Anshika (2017) 'Micro-economic factors affecting stock returns: an empirical study of S&P BSE BANKEX companies', *Indian Journal of Economics and Development*, Vol. 5, No. 2, pp.1–6.

Arkan, T. (2016) 'The importance of financial ratios in predicting stock price trends: a case study in emerging markets', *Zeszyty Naukowe Uniwersytetu Szczecińskiego Finanse Rynki Finansowe Ubezpieczenia*, Vol. 79, No. 1, pp.13–26, https://doi.org/10.18276/frfu.2016.79-01.

Avdalovic, S.N. and Milenkovic, I. (2017) 'Impact of macroeconomic variables on the stock performance of select companies in manufacturing industry', *International Journal of Economic Research*, Vol. 14, No. 8, pp.321–328.

Balkrishnan, T. (1984) 'Determinants of equity prices in India', *Management Accountant*, Vol. 19, No. 12, pp.728–730.

Ball, R. and Brown, P. (1968) 'An empirical of accounting income numbers', *Journal of Accounting Research*, Vol. 6, No. 2, pp.159–178.

Banz, R.W. (1981) 'The relationship between return and market value of common stocks', *Journal of Financial Economics*, Vol. 9, No. 1, pp.3–l8.

Barbee, W.C., Mukherji, S. and Raines, G.A. (1996) 'Do the sales-price and debt equity ratios explain stock returns better than the book-to-market value of equity ratio and firm size?', *Financial Analysts Journal*, Vol. 52, No. 2, pp.56–60.

Basu, S. (1977) 'Investment performance of common stocks in relation to their price-earnings ratios: a test of the efficient market hypothesis', *The Journal of Finance*, Vol. 32, No. 3, pp.663–682.

Basu, S. (1983) 'The relationship between earnings' yield, market value and return for NYSE common stocks', *Journal of Financial Economics*, Vol. 12, No. 1, pp.129–156.

Beaver, W.H. (1968) 'The information content of annual earnings announcements', *Journal of Accounting Research*, Vol. 6, pp.67–92.

Bhandari, L.C. (1988) 'Debt/equity ratio and expected common stock returns', *Journal of Finance*, Vol. 43, No. 2, pp.507–528.

Bhatia, M. and Mulenga, M.J. (2019) 'Do accounting numbers have any relation with stock prices? A case of public and private sector banks of India', *Theoretical Economics Letters*, Vol. 9. No. 5, pp.1682–1698, https://doi.org/10.4236/tel.2019.95107.

Bhole, L.M. (1980) 'Retained earnings, dividends and share prices of Indian joint-stock companies', *Economic and Political Weekly*, Vol. 15, No. 35, pp.93–100.

Brown, P., Kleidon, A. and Marsh, T. (1983) 'New evidence on the nature of size-related anomalies in stock prices', *Journal of Financial Economics*, Vol. 12, No. 1, pp.33–56.

BSE India (2019) 'Factsheet' [online' https://www.bseindia.com/downloads1/ spbsesectordiversificationconsultation5222019.pdf (accessed on 9 July 2019).

Chan, L., Hamao, Y. and Lakonishok, J. (1991) 'Fundamentals and stock returns in Japan', *The Journal of Finance*, Vol. 46, No. 5, pp.1739–1764.

Chen, A. and Tu, H.E. (2002) 'The determinants for stock returns in emerging markets: the case of Taiwan', *Studies in Economics and Finance*, Vol. 20, No. 2, pp.58–77.

Chughtai, R.A., Azeem, A., Amara, and Ali, S. (2013) 'Determining the impact of dividends, earnings, invested capital and retained earnings on stock prices in Pakistan: an empirical study', *International Journal of Financial Management*, Vol. 4, No. 1, pp.74–81.

Collins, J. (1957) 'How to study the behavior of bank stocks', *The Analysts Journal*, Vol. 13, No. 2, pp.109–113.

Cook, T.J. and Rozeff, M.S. (1984) 'Size and earning price ratio anomalies: one effect or two?', *Journal of Finance and Quantitative Analysis*, Vol. 19, No. 4, 449–466.

Das, N. and Pattanayak, K.J. (2009) 'Analysis of fundamental factors affecting the market price of shares constituting the Indian index: a study of SENSEX', *International Journal of Accounting and Finance*, Vol. 1, No. 3, pp.323–355.

Dhatt, S.M., Kim, H.Y. and Mukherji, S. (1999) 'Relations between stock returns and fundamental variables: evidence from a segmented market', *Asia- Pacific Financial Markets*, Vol. 6, No. 3, pp.221–233.

Dhole, M. (2017) 'Review paper on fundamental and technical analysis', *Elixir Financial Management*, Vol. 103, No. 2, pp.45524–45525.

Dimitropoulos, P.E., and Asteriou, D. (2009) 'The value relevance of financial statements and their impact on stock prices: evidence from Greece', *Managerial Auditing Journal*, Vol. 24, No. 3, pp.248–265, https://doi.org/10.1108/02686900910941131.

Divya, K.H. and Rao, D.S. (2015) 'A study on determinants of equity share prices of companies listed in BSE sensex', *International Journal of Economic Research*, Vol. 12, No. 5, pp.2093–2107.

Ebrahimi, M. and Chadegani, A.A. (2011) 'The Relationship between earning, dividend, stock price and stock return: evidence from Iranian companies', *International Conference on Humanities, Society and Culture*, Vol. 20, pp.318–323.

Ernest, O. and Oscar, M.C. (2014) 'The Comparative study of value relevance of financial information in the Nigeria banking and petroleum sectors oshodin', *Journal of Business Studies Quarterly*, Vol. 6, No.1, pp.42–54.

Fama, E.F. and French, K.R. (1992) 'The cross-section of expected stock returns', *Journal of Finance*, Vol. 47, No. 2, pp.427–465.

Fama, E.F. and French, K.R. (1995) 'Size and book-to-market factors in earnings and returns', *Journal of Finance*, Vol. 50, No. 1, pp.131–155.

Fama, E.F. and French, K.R. (1996) 'Multifactor explanations of asset pricing anomalies', *Journal of Finance*, Vol. 51, No. 1, pp.55–84.

Ferson, W. and Harvey, C.R. (1994) *An Exploratory Investigation of the Fundamental Determinants of National Equity Market Returns*, University of Chicago Press, ISBN: 0-226-26001-1 [online] http://www.nber.org/chapters/c6272 (accessed 25 January 2019).

Gaganis, C., Liadaki, A., Doumpos, M. and Zopounidis, C. (2009) 'Estimating and analyzing the efficiency and productivity of bank branches: evidence from Greece', *Managerial Finance*, Vol. 35, No. 2, pp.202–218, https://doi.org/10.1108/03074350910923518.

Gallizo, J.L. and Salvador, M. (2006) 'Share prices and accounting variables: a hierarchical Bayesian analysis', *Review of Accounting and Finance*, Vol. 5, No. 3, pp.268–278, https://doi.org/10.1108/14757700610686813.

Geetha, E. and Swaaminathan, M.T. (2015) 'A Study on the factors influencing stock price a comparative study of automobile and information technology industries stocks in India', *International Journal of Current Research and Academic Review*, Vol. 3, No. 3, pp.97–109.

Ghauri, K.M.S. (2014) 'Determinants of changes in share prices in banking sector of Pakistan', *Journal of Economic and Administrative Sciences*, Vol. 30, No. 2, pp.121–130.

Gill, A., Biger, N. and Mathur, N. (2012) 'Determinants of equity share prices evidence from American firms', *International Research Journal of Finance and Economics*, Vol. 9, No. 90, pp.176–192.

Goyal, A.K. and Gupta, A. (2019) 'Financial determinants of stock prices: a study of Bombay stock exchange', *International Journal of Advance and Innovative Research*, Vol. 6, No. 2, pp.107–112.

Greene, W.H. (2000) *Econometric Analysis*, pp.559–560, Prentice Hall International, NJ.

Gujarati, D. (2011) *Econometrics by Example*, Palgrave Macmillan, New York.

Gyawali, B. (2022) 'Factors influencing the stock price of Nepalese commercial banks', *Patan Prospective Journal*, Vol. 2, No. 1, pp.18–26.

Haque, S. and Faruquee, M. (2013) 'Impact of fundamental factors on stock price: a case based approach on pharmaceutical companies listed with Dhaka Stock Exchange', *International Journal of Business and Management Invention*, Vol. 2, No. 9, pp.34–41.

Hausman, J.A. (1978) 'Specification tests in econometrics', *Econometrica*, Vol. 46, No. 6, pp.1251–1271, ISSN 0012-9682, JSTOR 1913827, doi: 10.2307/1913827, hdl: 1721.1/64309.

Hui, E.C., Yu, A. and Lam, R. (2010) 'The impact of an announcement of land acquisition in auctions on real estate firms' stock return in Hong Kong', *Property Management*, Vol. 28 No. 1, pp.18–32, http://dx.doi.org/10.1108/02637471011017154.

In'airat, M.H.S. (2018) 'The effect of internal and external factors on stock market prices – evidence from Saudi Arabia, *The Business and Management Review*, Vol. 9, No. 3, pp.9–10.

Irfan, M. and Tanwar, S. (2017) 'Fundamental determinants of share price in india: a comparative study of shariah and non-shariah compliant companies', *Pacific Business Review International*, Vol. 9, No. 8, pp.58–67.

Jaffe, J., Keim, D.B. and Westerfield, R. (1989) 'Earnings yields, market values, and stock returns', *The Journal of Finance*, Vol. 44, No. 1, pp.135–148, https://doi.org/10.1111/j.1540-6261.1989.tb02408.x.

Johnson, R. and Soenen, L. (2003) 'Indicator of successful companies', *European Management Journal*, Vol. 21, No. 3, pp.364–369.

Kai, K.D. and Rahman, I.B.A. (2018) 'The impact of financial indicators towards stock returns of finance companies listed on Bursa Malaysia', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 8, No.3, pp.128–14.

Kalunda, E.C. and Haryati, S. (2012) 'Determinants of stock prices in Dhaka Stock Exchange (DSE)', *European Journal of Developing Country Studies*, Vol. 13, No. 1, pp.13–22.

Khan, N.M. and Amanullah (2012) 'Determinants of share prices at Karachi Stock Exchange', *International Journal of Business and Management Studies*, Vol. 4, No. 1, pp.111–120.

Khanna, M. (2014) 'Value relevance of accounting information: an empirical study of selected Indian firms', *International Journal of Scientific and Research Publications*, Vol. 4, No. 10, pp.1–6.

Khanqah, T.V. and Ebrati, R.M. (2011) 'Studying the dividend policy and share price volatility: Iran evidence', *International Journal of Finance, Accounting and Economics Studies*, Vol. 1, No. 4, pp.11–26.

Kheradyar, S., Ibrahim, I. and Nor, F.M. (2011) 'Stock return predictability with financial ratios', *International Journal of Trade, Economics and Finance*, Vol. 2, No. 5, pp.391–396, https://doi.org/10.7763/ijtef.2011.v2.137.

Kumar, P. (2017) 'Impact of earning per share and price earning ratio on market of share: a study on auto sector in India', *International Journal of Research - Granthaalayah*, Vol. 5, No. 2, pp.113–118, https://doi.org/10.5281/zenodo.345456.

Kumar, V., Prakash, B., Srivastava, A. and Rajput, N. (2020) 'Macroeconomic determinants and stock market volatility: evidences from Indian stock market', *International Journal of Advanced Science and Technology*, Vol. 29, No. 12s, pp.1390–1417.

Kurniawan, A. (2021) 'Analysis of the effect of return on asset, debt to equity ratio, and total asset turnover on share return', *Journal of Industrial Engineering & Management Research*, Vol. 2, No. 1, pp.64–72.

Lam, K.S.K. (2002) 'The relationship between size, book-to-market equity ratio, earnings-price ratio, and return for the Hong Kong stock market', *Global Finance Journal*, Vol. 13, No. 2, pp.163–179, https://doi.org/10.1016/S1044-0283(02)00049-2.

Levis, M. (1985) 'Are small firms big performers?', *Investment Analyst*, Vol. 76, No. 4, pp.21–27.

Liu, J. and Liu, C. (2007) 'Value relevance of accounting information in different stock market segments: the case of Chinese A-, B-, and H-shares, *Journal of International Accounting Research*, Vol. 6, No. 2, pp.55–81.

Malhotra, N. and Tandon, K. (2013) 'Determinants of stock prices: empirical evidence from NSE 100 companies', *International Journal of Research in Management & Technology*, Vol. 3, No. 3, pp.86–95.

Martani, D., Mulyono and Khairurizka, R. (2009) 'The effect of financial ratios, firm size, and cash flow from operating activities in the interim report to the stock return', *Chinese Business Review*, Vol. 8, No. 6, pp.44–55.

Martinez, I. (2003) 'The Impact of firm-specific attributes on the relevance in earnings and cashflows: a nonlinear relationship between stock returns and accounting numbers', *Review of Accounting and Finance*, Vol. 2, No. 1, pp.16–39.

Matthew, M.O., Enekwe, C.I. and Mike, A. (2014) 'Effect of dividend payment on the market price of shares: a study of quoted firms in Nigeria', *IOSR Journal of Economics and Finance*, Vol. 5, No. 4, pp.49–62.

Mishkin, F.S. and Eakins, S.G. (2009) *Financial Markets and Institutions*, p.20, Pearson Publication, New Delhi.

Mishra, P. and Dehuri, S. (2012) 'Potential indicators for stock index prediction: a perspective', *International Journal of Electronic Finance*, Vol. 6, No. 2, pp.157–183.

Mohanty, P. (2002) 'Evidence of size effect on stock returns in India', *Vikalpa*, Vol. 27, No. 3, pp.27–38, https://doi.org/10.1177/0256090920020304.

Muhammad, S. and Ali, G. (2018) 'The relationship between fundamental analysis and stock returns based on the panel data analysis: evidence from Karachi Stock Exchange (KSE)', *Research Journal of Finance and Accounting*, Vol. 9, No. 3, pp.84–96.

Musthafa, S.L. and Jahfer, D.A. (2013) 'Value relevance of accounting information: evidence from Sri Lanka', *Conference Paper*, pp.21–30 [online] https://www.researchgate.net/publication/282217632 (accessed 6 October 2019).

Namahoot, K.S. and Jantasri, V. (2021) 'Forecasting the stock exchange of Thailand using data mining techniques', *International Journal of Electronic Finance*, Vol. 10, No. 4, pp.211–231.

Nirmala, S.P., Sanju, S.P. and Ramachandran, M. (2011) 'Determinants of share prices in India', *Journal of Emerging Trends in Economics and Management Sciences*, Vol. 2, No. 2, pp.124–130.

Ou, J. and Penman, S. (1989) 'Financial statement analysis and the prediction of stock returns', *Journal of Accounting and Economics*, Vol. 11, No. 4, pp.295–329.

Ozlen, S. (2014) 'The effect of company fundamentals on stock values', *European Researcher*, Vol. 71, No. 3, pp.595–602.

Pallathadka, H. (2020) 'Impact of fundamental factors on the share price movement of Indian IT stocks', *European Journal of Molecular & Clinical Medicine*, Vol. 7, No. 6, pp.3213–3221.

Pandey, I.M. (2001) 'The expected stock returns of Malaysian firms: a panel data analysis', *SSRN Electronic Journal*, pp.1–15, https://doi.org/10.2139/ssrn.299913.

Patell, J.M. (1976) 'Corporate forecasts of earnings per share and stock price behavior: empirical test', *Journal of Accounting Research*, Vol. 14, No. 2, pp.246–276, https://doi.org/10.2307/2490543.

Peavy, J.W. and Goodman, D.A. (1983) 'The significance of P/Es for portfolio returns', *Journal of Portfolio Management*, Vol. 9, No. 2, pp.43–47.

Pirie, S. and Smith, M. (2008) 'Stock prices and accounting information: evidence from Malaysia', *Asian Review of Accounting*, Vol. 16, No. 2, pp.109–133.

Rajhans, R.K. and Kaur, K. (2013) 'Financial determinants of firm's value: evidence from Indian firms', *ZENITH International Journal of Business Economics & Management Research*, Vol. 3, No. 5, pp.70–76.

Rao, B. and Suryanarayana, A. (2018) 'The empirical estimation of equity share prices of companies listed and trading in Bombay stock', *Journal of Management Research and Analysis*, Vol. 5, No. 2, pp.20–32.

Reinganum, M.R. (1981) 'Misspecification of capital asset pricing: empirical anomalies based on earnings yields and market values', *Journal of Financial Economics*, Vol. 9, No. 1, pp.19–46.

Ruhani, F. and Junoh, M.Z.M. (2022) 'Are stock market returns affected by financial market variables? evidence from Bursa Malaysia by panel generalized method of moments', *International Journal of Ethics and Systems*, https://doi.org/10.1108/IJOES-11-2021-0201.

Shafana, M., Rimziya, F.A. and Jariya, I.A. (2013) 'Relationship between stock returns and firm size, and book-to-market equity: empirical evidence from selected companies listed on Milanka price index in Colombo Stock Exchange', *Journal of Emerging Trends in Economics and Management Sciences*, Vol. 4, No. 2, pp.217–225.

Sharif, T., Purohit, H. and Pillai, R. (2015) 'Analysis of factors affecting share prices: the case of Bahrain Stock Exchange', *International Journal of Economics and Finance*, Vol. 7, No. 3, pp.207–216.

Sharma, S. (2011) 'Determinants of equity share prices in India', *Researchers World: Journal of Arts, Science & Commerce*, Vol. 2, No. 4, pp.51–60.

Sharma, S., Bhardwaj, I. and Kishore, K. (2022) 'Capturing the impact of accounting and regulatory variables on stock prices of banks – an empirical study of Indian banks in panel data modeling', *Asian Journal of Accounting Research*, https://doi.org/10.1108/AJAR-11-2020-0110.

Shyu, Y-W. and Hsia, K. (2008) 'Does stock market volatility with regime shifts signal the business cycle in Taiwan?', *International Journal of Electronic Finance*, Vol. 2, No. 4, pp.433–450.

Singh, B. and Sharma, S. (2006) 'Determinants of equity share prices in Indian corporate sector – an empirical study', *The ICFAI Journal of Applied Finance*, Vol. 12, No. 4, pp.21–38.

Srinivasan, P. (2012) 'Determinants of equity share prices in India: a panel data approach', *The Romanian Economic Journal*, Vol. 15, No. 46, pp.205–228.

Sukesti, F., Ghozali, I., Almasyhari, A.K., and Nurcahyono, N. (2021) 'Factors affecting the stock price: the role of firm performance'. *Journal of Asian Finance, Economics and Business*, Vol. 8, No. 2, pp.165–173.

Sukhija, S. (2014) 'Fundamental determinants affecting equity share prices of BSE-200 companies in India', *European Journal of Business and Management*, Vol. 6, No. 31, 160–170.

Suresh, A.S. (2013) 'A Study on fundamental and technical analysis', *International Journal of Marketing, Financial Services & Management Research*, Vol. 2, No. 5, pp.44–59.

Teixeira, N., Silva, M., Silva, R.V.D., Pereira, L. and Silva, S.V.D. (2023) 'CAPM model applied to the Portuguese stock market', *International Journal of Electronic Finance*, Vol. 12, No. 1, pp.55–63, https://doi.org/10.1504/IJEF.2023.10049900.

Tsoukalas, D. and Sil, S. (1999) 'The determinants of stock prices: evidence from the United Kingdom stock market', *Management Research News*, Vol. 22, No. 5, pp.1–14.

Wangui, M., Mbugua, J.K., Kiano, E.K., Mbugua, S.N. and Kariuki, J.N. (2015) 'Micro-economic factors influencing quantity of stock demanded by retail investors in the Kenyan stock market: a case of Nyeri District, Central Province: Kenya', *Journal of Economics and Sustainable Development*, Vol. 6, No. 15, pp.9–16.

Witkowska, M. (2006) *Fundamentals and Stock Returns on the Warsaw Stock Exchange: The Application of Panel Data Models*, Working paper, No. 4, Warsaw School of Economics.

Wong, K.A. and Lye, M.S. (1990) 'Market values, earnings' yields and stock returns: evidence from Singapore', *Journal of Banking and Finance*, Vol. 14, No. 2, pp.311–326, https://doi.org/10.1016/0378-4266(90)90052-4.

Zahir, M.A. and Khanna, Y. (1982) 'Determinants of stock prices in India', *The Chartered Accountant*, Vol. 30, No. 8, pp.521–523.

Zulkifli, M., Basaruddin Shah, B., Norzaidi, M.D. and Chong, S.C. (2008) 'Portfolio diversification: the role of information technology in future investment decision-making', *International Journal of Electronic Finance*, Vol. 2, No. 4, pp.451–468.