The Effect of EPS and Dividend Payout Ratio on Stock Prices: A Study of PSX Listed Non-Financial Firms

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Abstract: Earnings per share and dividend payout ratio are amongst the most prominent ratios in financial world. This research aims to find out the impact they have on the share prices. The scope of research is limited to 50 non-financial companies listed on Pakistan Stock Exchange (PSX). Panel regression model is used and the time length of the 5 years is set. The results show that 60 times out of 100 Earnings Per Share (EPS) explains the share price. Whereas dividend payout ratio has detrimental to no effect on the dependent variable. This being said the model developed through the financial data analysis is also not strong enough. One of the reasons for such results can be the inefficient ecosystem of PSX. The investors usually make decisions based on sentimental factors and not taking in account the company specific factors.

Keywords: EPS, dividend payout ratio, share price, PSX, stock exchange, non-financial firms

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INTRODUCTION

Growing competition and changing customer expectations have restructured the notion of measurability and evaluation. Previously theorists focused intensely on simple financial metrics to understand the financial and operational condition of a firm. However, the advancing time saw an incremental shift in evaluation techniques. At present, the caliber at which businesses are measured has shifted drastically. Researchers and theorists now evaluate businesses in light of multiple operational and financial metrics. Ratio analysis constitutes one of the key instruments that firms utilize to understand the firm’s operational ability. Furthermore, ratio analysis serves a multipurpose guide that helps understand a firm’s condition in the short- and long-term. At present, the report aims to conduct an extensive assessment of two ratios, namely, EPS and Dividend Payout Ratio.

EPS refer to the profits generated by a firm on a unit share. An extensive analysis highlights a keen interest of researchers in EPS, given that it serves as a financial guide for a firm’s profitability, which in turn reflects the firm’s operational activities. The intertwined web of networks in an organization incurs an influence on organizational aspects (Fatima, Majeed, & Saeed, 2017; Talamati & Pangemanan, 2015). Similarly, EPS also incurs an influence on organizational activities. Keeping in mind the basic definition of EPS, logic informs that firms with a higher EPS show higher productivity, profitability, and market price per share. Jain and Bajaj (2017) support this assessment by claiming that firms with higher EPS stimulate a sense of trust in the investors, reflecting good organizational productivity, profitability, and steady operational activity (Jain & Bajaj, 2017; Zia, Saeed, & Khan, 2018). Nalurita (2019) informs that EPS is one of the most appealing financial metrics to investors since it demonstrates the firm’s ability to profit on every unit share. The researcher further quotes that the interest of investors in a particular metric is a direct consequence

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of the fact that higher EPS indicates higher dividend payment since it generates more profits (Ali, Ahmad, & Saeed, 2018; Nalurita, 2019).

The second ratio of interest, i.e., the Dividend Payout Ratio, represents the returns on investment in company stock. Research signifies that researchers and theorists have focused on the Dividend Payout Ratio’s role in influencing organizational activities (Iqbal, Abbas, & Aziz, 2016). As mentioned in the previous case, the intertwined and interconnected network of organizational operations demands that the points of influence be identified. Researchers have studied all organizational aspects, such as the Dividend Payout Ratio. Iftikhar, Raja, and Sehran (2017) emphasize that the close association between shares and dividend plays an integral role in structuring organizational aspects. The researcher highlights that delayed dividend payments reflect poorly about organizational aspects, which affect the firm’s future share movements and investor behavior (Iftikhar et al., 2017; F. A. Jam, Singh, Ng, Aziz, et al., 2018). As mentioned before, the dividend payout ratio holds a profound impact on organizational aspects. Sharif, Adnan, and Jan (2015) highlight that dividend payout ratio influences the rate of return (dividend), duration, and “arbitrage pricing along with information effect” (F. Jam et al., 2014; T. I. Khan, Kaewsaeng-on, & Saeed, 2019; Sharif et al., 2015) Like EPS, the Dividend Payout Ratio plays an integral role in emphasizing the financial condition of a firm. Sharif et al. (2015) highlight that the Dividend Payout Ratio is indicative of the short-term cash flow of a firm. K. I. Khan (2012) highlights that the Dividend Payout Ratio of a firm is indicative of the earnings of a firm, which is one of the biggest financial metrics that pinpoint the profitability of a firm (Burki, Khan, & Saeed, 2020; K. I. Khan, 2012).

Among the key identified ratios, the current report aims to study EPS and Dividend Payout Ratio as the chosen ratios to study the impact they incur on the stock price of a company. In an attempt to understand the impact of both the ratios, the report will study the impact of each ratio on the stock prices of listed firms (firms listed in the stock market) individually.

**LITERATURE REVIEW**

A systematic assessment of prior literature on a research subject is conducted in the form of a literature review. A literature review allows the researcher to highlight the existing knowledge previously explored by researchers on a subject matter. The said discussion sets a foundation for further assessment. The literature review guides the researcher about the potential pathway; it is prudent to assume to test the validity and credibility of the assumed hypothesis.

The introductory section highlights that the interconnectivity between EPS and ER Stock Prices and Dividend Payout Ratio and Stock Prices will be studied individually. Following this assessment, the current research has conducted a thematic analysis:

**EPS**

The introductory chapter defined EPS as the profits generated by a firm on a unit share. A formal rendition of this notion is defined as profit generated by a company for every outstanding common share it issues. Research identifies that EPS is calculated by finding the ratio between a company’s profit and its outstanding common share (Jain & Bajaj, 2017; Nadeem, Saeed, & Gul, 2020). The ratio may be simple in composition; however, researchers and theorists have found its interconnectivity with many organizational aspects. Talamati and Pangemanan (2015) emphasize that EPS indirectly indicate the profitability of a firm. Hunjra, Chani, Irfan, Ijaz, and Farooq (2014) explore EPS, defining that it influences and is influenced by many factors.

**Dividend Payout Ratio**

A Dividend Payout Ratio refers to the percentage of returns distributed by a firm to each shareholder. The Dividend Payout Ratio is highly indicative of the care exercised by the management of a firm in keeping the shareholders satisfied. Iftikhar et al. (2017) highlight that the Dividend Payout Ratio demonstrates the investor’s return on investment. A higher dividend payout ratio indicates better and higher returns for the shareholders, which is an appealing situation for investors (F. A. Jam, Mehmood, & Ahmad, 2013; Iftikhar et al., 2017; Ullah et al., 2021). K. I. Khan (2012) found a positive and direct connection between higher Dividend Payout Ratio and lesser risk, more maturity, and higher profitability.
Stock Prices

Stock Prices refer to the price of the common and preferred shares issued by a firm. The firm’s value, the current global conditions, the nature of operations of the firm, the product/services extended by the firm, and many factors contribute towards the stock prices. The prices of all the financial instruments of a company such as shares, stock, and other derivatives all count within the stock prices of a firm (J. Khan, Saeed, Ali, & Nisar, 2021; Ifikhar et al., 2017; Shahbaz, Sherafatian-Jahromi, Malik, Shabbir, & Jam, 2016). Being an imperative part of the organizational culture, stock prices are influenced and are influenced by many factors. For instance, Hunjra et al. (2014) have evaluated a range of macroeconomic factors such as EPS, Dividend Policy, Profit of a firm, Return on Investment, and Return on Equity influence the stock prices of a company (K. I. Khan, 2012). Furthermore, Nalurita (2019) highlights that Price-Earning-Ratio and Price to Book Ratio also constitute factors that influence the stock prices. In the line of this assessment, researchers demonstrated an interest in the extent of influence of each factor on stock price (Gul, Ali, & Saeed, 2021; S. Khan, Jam, Shahbaz, & Mamun, 2018; Nalurita, 2019).

The Influence of EPS on Stock Prices of a firm

As mentioned in the previous section, interest in the influence of multiple micro- and macroeconomic factors on the stock price is very high. Over time, researchers have studied the influence of EPS on the stock prices. Hunjra et al. (2014) have conducted an extensive assessment of the role of multiple macroeconomic factors on the stock prices of more than 60 firms listed on the PSX of Pakistan. Companies operating in the Food and Personal Care, Sugar, Chemical, and Energy industries were evaluated throughout 2006 and 2011 (Hunjra et al., 2014). The use of the Least Square Regression Model helped understand the extent to which a change in all the independent factors influenced the companies’ stock prices. The regression equation demonstrated a clear set of results, which informed that an incremental increase in the EPS has a profound and positive impact on the stock prices of the firm (Hunjra et al., 2014; S. Khan, Shahbaz, & Jam, 2019). That is, firms with a unit increase in the EPS value observed a 6.14 unit increase in the firm’s stock prices. The findings of Hunjra et al. (2014) show that firms that generate more profit on a unit share observe higher stock prices since the value of the firm increase.

Sharif et al. (2015) explained the interconnection between EPS and stock prices by drawing a route map of the relationship. The researchers explained that companies with strong financial and operational performance perform actively in the business market, reflecting on the company’s revenue and profit (Farid et al., 2021; Sharif et al., 2015). A higher profit of the company as a result of robust strategies and operations is reflected in the EPS of the firm, which is calculated by finding the ratio between the firm’s profit and outstanding shares. Sharif et al. (2015) further informed that the exceptional performance of a firm, which reflects in the EPS appeal to the investors, which strive to invest in firms with higher revenue/profit generation, which in turn influences the stock prices of the firm (Sharif et al., 2015; Ilyasova, F., & Jam, 2019). On the other hand, T. R. Khan, Islam, Choudhury, and Adnan (2014) have conducted an extensive assessment of the interconnectivity between EPS and the stock price movement of more than twenty banks listed in the Dhaka Stock Exchange. The stock prices of banks were studied for over five years. The quarterly data of the banks helped understand the interconnectivity between the stock prices and EPS. Surprisingly, T. R. Khan et al. (2014) found no conclusive evidence to support the relationship between EPS and Stock Prices of the twenty-two banks. The researchers thereby informed that many other macroeconomic factors incur a highly profound impact on the stock prices, following which the influence of EPS (individually) is not as profound (T. R. Khan et al., 2014).

Sharif et al. (2015) not only drew a guide map of interrelatedness between EPS and stock prices. The researchers conducted an extensive assessment of forty-five non-financial firms listed across the PSX-100 index. An evaluation of the twelve-year data (between 2001 and 2012) found conclusive evidence, which supported the guide map drawn by the researchers (Sharif et al., 2015). The researcher’s evidence that an increase in EPS has a positive and direct relationship with the firm’s stock prices. That is, firms with lower EPS have lower stock prices, whereas firms with higher EPS had higher stock prices comparatively (N. Ain, Vaia, DeLone, & Waheed, 2019; Sharif et al., 2015).

Jain and Bajaj (2017) also assessed a similar nature. The researchers focused solely on the role of EPS and the influence it incurs on the stock prices of the chosen firms. The researchers evaluated five firms listed in the National Stock Exchange of India in an attempt to study the interconnectivity between the dependent and independent variables. Jain and Bajaj (2017) evacuated firms in different industries to understand the multivariate effect of EPS. A correlation and regression analysis demonstrated conclusive evidence, which suggests a positive correlation between EPS and stock prices (Hamid, Jam, & Mehmood, 2019; Jain & Bajaj, 2017; N. U. Ain, Kaur, & Waheed, 2016). An increase in
EPS results in higher stock prices following the fact that the firms generated more income. Furthermore, a lower EPS also results in lower stock prices.

Talamati and Pangemanan (2015) conducted a similar set of research on the Indonesian Stock Exchange to understand whether the stock price movement demonstrated by the Indonesian firms depict a similar behavior as the stock price behavior demonstrated by firms across most countries (Pakistan, India, Bangladesh). Talamati and Pangemanan (2015) used five firms listed on the Indonesian Stock Exchange. Extensive assessment through the correlation coefficient and the coefficient of determination informed that the EPS of the listed companies incur a positive and direct impact on the stock prices of the firms (Talamati & Pangemanan, 2015; Waheed, Kaur, Ain, & Hussain, 2016). The researchers further concluded that the banks operating in the Indonesian Stock Exchange need to pay due attention to the EPS to increase the stock price movement.

Robbetze, de Villiers, Harmse, et al. (2017) emphasize that EPS serves as a strong indicator of the firm’s risk, performance, profitability, and success. The researchers further contribute to this argument by informing investors that they make decisions about investments by assessing the risk and profitability metrics of a business. The underlying reason for this interest is that investors seek higher returns from their investments and conduct an assessment beforehand to ensure that they do not lose their investment. The extensive assessment on the part of Robbetze et al. (2017) successfully resulted in the extraction of data from forty companies listed in the Johannesburg Stock Exchange. The researchers evaluated the companies’ stock price movement between 2005 and 2013. A correlation coefficient, coefficient of determination, Adjusted R Square interpretation, and Students t-test was used to understand how stock prices and EPS of the forty firms were intertwined (Robbetze et al., 2017). The assessment disclosed a positive interrelationship between the variables. To understand the extent of influence, the researchers studied the impact of the basic, headline, and diluted EPS. The interconnectivity between the three kinds of EPS and stock prices were studied independently to disclose which kind of EPS had the most profound impact on the stock price movement (Robbetze et al., 2017). An extensive assessment informed that headline EPS incurs the least change in stock prices.

On the other hand, basic EPS was found to be the best influencer of all the kinds of EPS (Robbetze et al., 2017). Furthermore, the dilute EPS had a comparatively moderate effect on the stock price of a firm. Therefore, Robbetze et al. (2017) concluded that firms with an intent to increase their stock price must focus on basic EPS. However, the best strategy would be to focus on dilute and basic EPS.

Kalama (2013) strived to find the interrelationship between the equity share prices and EPS of firms listed in the Nairobi Stock Exchange. The researcher conducted a meticulous assessment of forty-two firms listed on the Nairobi Stock Exchange. The EPS and stock price movement of the firms were assessed between 2007 and 2012 (Kalama, 2013). Research in the form of multiple linear regression found that the EPS of the companies listed in the Nairobi Stock Exchange incurred a profound and positive influence on the firms’ stock prices, thus conforming to multiple types of research conducted over time (Kalama, 2013). K. I. Khan (2012) conducted an extensive assessment of twenty-five companies listed on the PSX. The results extended by the Fixed and Random Effect Model rebuked the general assessment on the association between stock prices and EPS. The findings by K. I. Khan (2012) conformed to the results extended by T. R. Khan et al. (2014).

Impact of Dividend Payout Ratio and Stock Prices

The current section aims to highlight the literature quoted by researchers over time on the second explanatory variable of interest i.e., the Dividend Payout Ratio and Stock Prices. As mentioned before, the Dividend Payout Ratio represents the dividend paid out by a firm to its shareholders from the annual profits. Iftikhar et al. (2017) highlight that a firm’s dividend policy plays an integral role in the strategic decision-making process of a firm. The researchers emphasize that firms require funds to manage their daily activities. The said daily activities require funds to operate successfully.

Furthermore, firms use internal and external funds to raise the necessary capital for daily transactions. Fahn, Merlo, and Wamser (2019) claim that firms use equity and debts to raise the necessary capital. The equity assumes the form of shares and stocks, whereby the investors invest in the firm in exchange for partial ownership of the firm (Fahn et al., 2019). Iftikhar et al. (2017) highlight that a sensible dividend policy creates a favorable outcome for the firms, following which the shareholders are either interested and satisfied (if the dividend is high) or dissatisfied (if the dividend is low). K. I. Khan (2012) claims that the dividend policy becomes one of the key financial strategies in the investment decision-making process, following which a firm can earn capital (K. I. Khan, 2012).
Dividend Payout Ratio, or rather the dividend, is one of the most vital components of the Dividend Policy. Research identifies that it incurs a profound impact on the stock prices of the firms. Researchers have been particularly interested in understanding if the stock prices are influenced by the dividend paid to the shareholder. Common logic suggests that the shareholders (initially the investors) prefer to invest in stocks and shares that give out high returns. Kalama (2013) evaluated more than forty firms operating in the Nairobi Stock Exchange to understand the interconnectivity between the Dividend Payout Ratio and the Stock Prices. The researcher used multiple linear regression to study this relationship. The results revealed no significant and discernible relationship between the Dividend Payout Ratio and the stock price movement (Kalama, 2013).

Sharif et al. (2015) also evaluated the association between the Dividend Payout Ratio and the stock price movement of forty-five non-financial firms listed in the PSX. The use of pooled regression and Hausman’s test helped study the association. The results disclosed information in support of the Bird in hand theory, which suggests that a higher Dividend Payout Ratio extended by a firm demonstrates the firm’s profitability and attracts the investors since they get higher returns from their investments (Sharif et al., 2015). As such, a positive correlation was found between the variables.

As mentioned at the start of this section, Iftikhar et al. (2017) evaluated the Dividend Policy and Dividend Payout Ratio’s importance to understand if the assessment was extended by logic and a bird in the hand theory are supported by factual evidence. The researcher has assessed the dividend payout ratio extended by five banks listed in PSX. The banks’ dividend payout ratio and the corresponding changes in the stock prices were evaluated over ten years, i.e., from 2005 to 2014. Extensive quantitative assessment in the form of correlation and regression analysis informed that the dividend payout ratio has a positive impact on firms’ stock prices (Iftikhar et al., 2017). A specific assessment informed that a unit increase in the Dividend Payout Ratio (i.e., an increase of one Pakistani rupee) resulted in an approximately 19.39 unit increase in the stock price (Iftikhar et al., 2017). The research informs that an increase in the dividend extended by a firm had a positive impact on the stock prices.

K. I. Khan (2012) studied a sample of twenty-five companies listed on the PSX. The researcher limited the research’s extent by studying firms operating in the pharmaceutical and chemical industry of Pakistan (K. I. Khan, 2012). Like Iftikhar et al. (2017); K. I. Khan (2012) evaluated the stock price movements and the Dividend Payout Ratio of the chosen firms for ten years, i.e., from 2001 to 2010 (K. I. Khan, 2012). The Fixed and Random Effect Model helped find conclusive results, which informed the lack of any significant relationship between Dividend Payout Ratio and stock prices.

Iqbal et al. (2016) also evaluated data on Pakistani companies between 2001 and 2014 to understand the association between dividend payout ratio and stock prices of firms. The researchers conducted an extensive assessment to understand the association of capital gains and dividends of a firm by enlisting the Econometric Model. An extensive analysis of fourteen years’ worth of data of companies listed in the PSX informed that the Dividend Payout Ratio of firms is positively correlated with firms’ stock prices. The assessment conducted on most firms indicates that firms must pay an intense focus on the dividend policy, whereby the dividend must be planned to satisfy the company’s investors. Assuming this pathway is the best course for a firm since it returns to the company and benefits the company itself (Iqbal et al., 2016).

Hunjra et al. (2014) studied multiple macroeconomic factors related to the stock price of sixty-three firms listed on the PSX. The assessment had an underlying objective to understand if the dividend payout ratio extended through the dividend policy of a firm is associated with a sharp increase or decrease in the stock prices (Hunjra et al., 2014). An Ordinary Least Square Regression informed that the Dividend Payout Ratio of the companies listed in the PSX has a profound impact on the stock prices (Hunjra et al., 2014). To be specific, the data accumulated from sixty-three firms informed that a unit increase in the Dividend Payout Ratio (by a Pakistani rupee) would result in an 11.1 unit increase in the stock prices of the companies.

Al Qudah, Yusuf, et al. (2015) also assessed the companies listed in the Jordanian Stock Exchange. The Correlation Analysis and Multiple Regression Analysis was used as the methodological tool of choice to understand if the dividend policy and the stock prices of the companies chosen firms had any connection (Al Qudah et al., 2015). An extensive assessment of the data and the use of Correlation Analysis and Multiple Regression Analysis informed that a higher Dividend Payout Ratio results in higher and stable stock prices.
Theoretical Framework

![Diagram of Theoretical Framework]

Figure 1 Theoretical Framework

Sources of Information

This study will require secondary data and this data will be collected from the annual reports provided by the companies on their websites, PSX and State Bank Of Pakistan and any other website containing the information.

Data & Population

This study will be conducted on the basis of secondary data. Panel data comprising of 6 years (2013-2018) of the 250 companies listed on the PSX that are non-financial. Population comprise of all the non-financial firms listed on PSX.

Research Objectives

- To find out if there is any effect of EPS on stock prices?
- To find out if there is any effect of Dividend payout ratio on stock prices?

Research Hypothesis

H1: There is effect of EPS on stock prices.
H2: There is effect of Dividend payout ratio on stock prices.

RESEARCH ANALYSIS

Model

\[ S = a + b_1 \text{EPS} + b_2 \text{DPR} \]

S = stock price
A = constant
EPS = Earning per share
DPR = Dividend payout ratio
B = coefficients

Panel Regression

To check effect of EPS and Dividend payout ratio on stock prices, yearly data of 250 non-financial companies listed on PSX for 6 years from 2013-2018 is used.

Table 1 MODEL SUMMARY

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.607a</td>
<td>.368</td>
<td>.367</td>
<td>701.93175</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Dividend Payout, EPS
Table 1 tells the value of R-square which clearly elaborates that how much change can be seen in dependent variable due to the independent variable. In this case that is 36.8% which is very low.

Table 2 PANEL REGRESSION ANALYSIS RESULTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>107.241</td>
<td>18.862</td>
<td>5.685</td>
<td>.000</td>
</tr>
<tr>
<td>EPS</td>
<td>10313.914</td>
<td>348.628</td>
<td>.607</td>
<td>29.584</td>
</tr>
<tr>
<td>Dividend Payout</td>
<td>-.488</td>
<td>3.600</td>
<td>-.003</td>
<td>-.136</td>
</tr>
</tbody>
</table>

Table 2 gives us the results of Panel Regression analysis. The Sig. column represents that whether the change in share price because of EPS and DPR is either significant or not. The EPS has a significant impact on Share price as its sig value is “0.000” which is less than “0.005”. On the other hand DPR does not has a significant impact on Share price as its sig value is “0.892” which is higher than “0.005”.

The results also show that the standardized co-efficient beta value which means that how many times an independent variable explains the dependent variable. Value of EPS standardized co-efficient beta is 0.607 which means that 60 times out of 100 EPS explains the share price. Whereas dividend payout ratio has negative to no effect on the dependent variable. This being said the model developed through the financial data analysis is also not strong enough.

CONCLUSION

By conducting this research we have tried to do the analysis to find out that whether the technical factors (EPS, DPR) have some effect on the share prices. Yearly data was collected for all variables ranging from 2013-2018. We applied panel regression analysis to observe the relationship among independent variables and the dependent variable. The results revealed that EPS has a significant impact on share prices, whereas DPR had a not significant impact on share prices. We suggest that the investors must analyse the patterns of macro economic variables and forecastings of the exchange rate and GDP before they invest in PSX.”

Future prospects for this research can be by taking more factors affecting stock prices (more technical factors but also sentimental factors because Pakistan market is an inefficient market), by taking financial companies listed on PSX data as well and also by increasing the sample size of the data i.e., Taking more than 250 companies, either take more than 250 non-financial or by taking 250 companies but both financial and non-financial companies.

Also this domain has a lot of potential for research as market is inefficient so that it cannot fully predict the factors affecting stock prices because in Pakistan, stock market is greatly influenced by sentimental factors and environmental factors.

REFERENCES


