The Effect of Market Valuation Measures on Stock Price: An Empirical Investigation on Jordanian Banks

Lina Hani Warrad
Accounting Department
Applied Science Private University
Amman, Jordan

Abstract

The recognition of vital sectors in the stock exchange and the identification of the dynamic variables affecting stock prices occupy an important position in the growth and development of the stock exchange. They also play an important role in dynamic issues of securities exchanges. The estimation of market valuation indicators and their impact on stock price is expected to help in true deal, and these result in closing the deal price of stocks to their normal prices. Actually, constancy will occur in a capital market when pricing equilibrium is formed in a market of capital, and it just happens with practical use of good and rational methods manner to price share. (Nazemi M., 2012) This study attempted to determine the effect of major market valuation measures on Jordanian banks' stock prices during the period of 2008–2014; the study applied correlation and multi-regression methods to test its hypotheses. The independent variables for the study are earnings per share (EPS), dividend per share (DPS), book value per share, price/earnings ratio (P/E), dividend yield, market/book ratio and stock turnover ratio; the dependent variable is the stock price. The results of the study show that market valuation measures have a significant effect on banks' stock prices. Dividends per share (DPS), book value per share and dividend yield also had a significant effect on stock price, while there was no significant effect caused by EPS, P/E, market/book ratio or stock turnover ratio.

Keywords: Stock price, earnings per share (EPS), dividends per share (DPS), book value per share, price/earnings ratio (P/E), dividend yield, market/book ratio, stock turnover ratio, Amman Stock Exchange (ASE).

1. Introduction

The investors aim to maximise their wealth through returns on their investments. Stock returns are considered one of the most substantial factors used to determine the best investment. Thus, investors usually depend on stock returns and risk to make informed investing decisions. Necessary information can be either internal or external. Vital internal information is included in a company's financial reports, while external information can be found in the stock market. (Emamgholipour, M. et al., 2013)

When investing in stocks, investors should take into consideration various factors when they wish to liquidate assets to stocks. Thus, investors aim to gain returns and information about the future amount of companies' stock returns. One of the most familiar tools of financial information analysis used to obtain financial ratios is the financial reports which supply a lot of information on the internal position of a company. (Namazi M. et al., 2006) The purpose of any earnings yardstick is to accomplish possible clarity of meaning, comparability between one company and another company or one year with previous years, and the attributability of profits to equity shares. An earnings per share (EPS), in the same manner, ensures that all these objectives are achieved. (ACCA, 2007/2008, pp. 355) Another serious financial statistic that is remarkable for investors and financial analysts is the dividend per share, which shows the portion of income for the year that is ready for distribution to shareholders that has been paid or suggested, and what portion will be retained in the business to finance future growth. (ACCA, 2007/2008, pp. 390) Also, in order to determine the level of integrity associated with each individual share after all debts are paid accordingly; the company uses book value per measure. (http://www.investopedia.com)
The third important financial statistic is the price/earnings ratio (P/E); many analysts still believe that low P/E stocks are more desirable than high P/E stocks. In fact, low P/E stocks have generally been positive-alpha investments using the Capital Asset Pricing Model (CAPM) as a return benchmark.

An active market supporter would discount this path record, however, disputing that such a simple rule could not really produce abnormal returns and that the CAPM may not be a good benchmark for returns in this situation. (Bodie et al., 2013, pp. 462). The fourth important financial statistic for investors and financial analysts is the dividend yield, which is the return a shareholder is currently expecting on the shares of a company. (ACCA, 2007/2008, pp. 390)

The market-to-book ratio is the market price of a company's common stock divided by its book value – that is, shareholders' equity per share. Some analysts believe the stock of a firm with a low market/book ratio to be a secured investment, viewing the book value as a floor backing for the market price. The analysts perhaps view book value as the level below which the market price will not decrease because the firm always has the choice to liquidate, or sell, its assets for their book value. (Bodie et al., 2013, pp. 461).

Building on the previous discussion, the current study tries to investigate whether market ratios affected the stock price of the banks listed on the Amman Stock Exchange (ASE) during the years 2008–2014.

1. *Previous Studies*

The relationship between a firm's dividends and its stock price was investigated by Majanga, B. (2015). The investigation was applied to the Malawi stock exchange for thirteen local companies from 2008 to 2014. The correlation analysis used stock price as the independent variable, and dividends, retention ratio, profit after tax, earnings per share and return on equity as the dependent variables. The results showed a strong positive relationship between stock price and dividends.

The relationship and influence of earning per share (EPS) and return on asset (ROA) on stock prices was empirically examined in a study conducted by Wiwi, I. et al. (2015),the panel data methods was applied, also the study used the opportunity sampling. The results showed that the EPS and ROA had a simultaneously significant effect and positive relationship to the stock price. EPS alone showed a significant effect on stock price, whereas ROA did not.

The impact and the relationship between dividend payments and the share price was studied by Botchwey, E. (2014) and applied to listed companies on the Ghana Stock Exchange (GSE). The study used a questionnaire as a primary source of data, while the secondary data consisted of information on dividend policy derived from journals and the internet. The study results showed that dividend payments had a positive impact on share price.

The effect of dividend policy decisions on stock price as applied on the Dhaka Stock Exchange was presented by Al Masum A. (2014). The study applied a panel data approach to thirty listed banks for the period of 2007–2011. The analysis was conducted to express the connection between dividends and stock prices after controlling for variables such as EPS and return on equity (ROE). The results showed that the retention ratio has a positive relation to stock prices and significantly expresses the differences in the market prices of shares, while the dividend yield and net had a negative, insignificant relation to stock prices. The dividend policy had a significant positive impact on stock price. The evidence on how EPS affects share price movement was investigated by Khan T., et al. (2014) in a study that was applied to 22 scheduled banks and analysed the year-end data of 110 firm. The results revealed that EPS had no influence on the stock price movements. In other words, share price does not move as fast as the earnings per share.

The influence of different factors on the market price of shares was studied by Haque, S. et al. (2013). Two stages of analysis were applied to 14 listed pharmaceutical companies listed on the Dhaka Stock Exchange (DSE) from 2005 to 2011. The first stage discovered the relationship between the market price of the stocks and the companies' EPS, dividend per share (DPS), ROE, ROA and the fixed asset to total asset ratio (FA/TA). The second stage compared the market price of stocks to the net asset value (NAV) as an ideal value of stock. The study showed that the market price is very insensitive to the previously discussed factors, and the current market price is highly overvalued compared to the NAV.

The effect of a change in dividends on stock price behaviour was presented in a study by Khan, M. (2012), which was applied to four different industries for the period 2004–2009. The time series and pivot graphs were plotted from data that was collected regarding dividend payments and stock prices. The results showed that a change in the dividends affected the stock price of all the sample companies.

The correlation results indicated a strong positive or negative relationship between stock prices and dividends per share. It is evident that most of the stock prices have a negative correlation with dividends per share. The effect of current ratio, ROE, ROA and EPS on the stock price was investigated by Maskun, A. (2012). This study used a stratified random sampling method and analysis of a double linear method on data collected from the financial statements of Go-Public Food and Beverages Company on the Indonesian Stock Exchange (BEI) for the period 2006–2010. The results showed that ROE did not influence the stock price, while ROA and EPS did.

The effect of dividend announcements on stock prices was researched and applied by Khan, K. (2012) in twenty-nine chemical and pharmaceutical companies in Pakistan listed on the Karachi Stock Exchange (KSE) for the period 2001–2010. The panel data was used to interpret the connection between dividends and stock prices after controlling for variables such as EPS, net profit and ROE. The results revealed that stock dividend, EPS and net profit have a significant positive relation to stock prices and significantly explain the differences, while the retention ratio and ROE have a negative, insignificant relationship to stock prices.

3. *Hypotheses*

With a view to determining the effect of market valuation measures expressed by EPS, DPS, book value per share, P/E, dividend yield, market/book ratio, and stock turnover ratio on the stock price of Jordanian banks for the study duration, the researchers will test the following hypotheses:

First Main Hypothesis

H_{01}: Market valuation measures have no significant effect on banks' stock prices.

Sub Hypothesis

H_{11}: Earnings per share (EPS) has no significant effect on banks' stock prices.
H_{12}: Dividends per share (DPS) has no significant effect on banks' stock prices.
H_{13}: Book value per share has no significant effect on banks' stock prices.
H_{14}: Price/earnings ratio (P/E) has no significant effect on banks' stock prices.
H_{15}: Dividend yield has no significant effect on banks' stock prices.
H_{16}: Market/book ratio has no significant effect on banks' stock prices.
H_{17}: Stock turnover ratio has no significant effect on banks' stock prices.

4. *Research Methodology*

The main objective of this empirical study, which was applied to the data of all listed Jordanian banks, is to discuss the effect of market valuation measures on stock price for the period of 2008–2014. The researcher has used a quantitative approach in order to examine the effect of market valuation measures on stock price. In addition, the study intends to find the strength of the relationship between the variables discussed previously. Thus, the study will use the Statistical Package for Social Sciences (SPSS v. 20) and correlation and multi-regression analysis to test its hypotheses.

4.1. *The Research Sample*

The study relied on the financial reports for 13 Jordanian banks listed on the ASE during the period of 2008–2014.

4.2. Variables of the Study

4.2.1. Dependent Variable – Stock Price

Stock price: The cost of purchasing a security on an exchange. (http//:www.investorwords.com) The researcher calculated the stock price in this study by calculating the daily, weekly, monthly and yearly averages because of the short study duration, which ranges about six years, from 2008 to 2014.

4.2.2. Independent Variables – Earnings per Share (EPS), Dividends per Share (DPS), Book Value per Share, Price/Earnings Ratio (P/E), Dividend Yield, Market/Book Ratio, Stock Turnover Ratio.

Earnings per Share (EPS): This is possibly the most heavily depended upon performance measure used by investors. EPS declares the amount of current period earnings that can be associated with a single share of a corporation's common stock. (Gleim I, CMA Review, 2015)

Income available to common shareholders (IACS)
Weighted average number of common stock outstanding

Dividends per Share (DPS): This is the amount of dividends the shareholders receive on a per-share basis. **(**http://www.investopedia.com)

Total dividends paid out over a period - any special dividends
Shares outstanding

Book Value per Share: The amount of net assets attributable to the common shareholders per share outstanding. **(**Gleim I, CMA Review, 2015)

Total equity - liquidation value for preferred equity
Common shares outstanding

Price/Earnings Ratio (P/E): A high P/E ratio reflects the stock market's positive assessment of the firm's earning quality and stability. It measures how much an investor must spend to "buy" a dollar of earnings. **(**Gleim I, CMA Review, 2015)

Market price per share
Diluted earnings per share

Dividend Yield: This indicates the dividend payments each year proportional to their stock price. **(**http://www.investopedia.com.)

Dividend per share
Market price per share   **(**Gleim I, CMA Review, 2015)

Market/Book Ratio: A high market/book ratio reflects the stock market's positive assessment of the firm's asset management. It measures how much an investor must spend to "own" a dollar of assets. **(**Gleim I, CMA Review, 2015)

Market price per share
Book value per share

Stock Turnover Ratio: Stock turnover is a financial efficiency ratio calculated as follows: (http://www.tutor2u.net).
Cost of sales
Average stock held

5. *Data Analysis and Results*

To accomplish the study purposes, the data were checked for normality using the Shapiro-Wilk test, which was normally distributed.

5.1 Descriptive Data Analysis

This paper employed the central tendency measures of standard deviation and the lowest and highest values to characterise and clarify the data. These measures were applied because of their frequent use in previous studies. The following table shows the results of the above-mentioned measures for all study variables:

Table 1: Measures of Central Tendency

Variable (2008–2014)	Minimum	Maximum	Mean	Standard Deviation
Stock price	.88	22.63	3.183	3.306
EPS	-.02	1.24	.265	.229
DPS	.00	.35	.105	.090
Book value per share	1.05	7.41	2.350	1.606
P/E	-68.47	47.59	12.703	11.805
Dividend yield	.00	10.25	3.727	2.848
Market/Book value	.01	2.30	1.042	.470
Stock turnover ratio	.03	88.89	8.102	13.319

The table above displays the conclusions of the descriptive data analysis for the study period of 2008–2014. It appeared that stock price mean was JD3.183 for Jordanian banks, and the minimum stock price for the same period was 0.88 JD. Aside from the stock price, the standard deviation was 3.306. The cause for this result could be related to the global crisis that may have influenced stock prices during the specified interval. In addition, the highest value of EPS was 1.24. The mean EPS was 0.265, and the standard deviation of EPS was 0.229, all for the study period of 2008 to 2014.

Furthermore, the table shows that the highest value of DPS was 0.35, and the mean DPS was 0.105, with a standard deviation of 0.090. The mean book value per share was 2.350, and the standard deviation of book value per share was 1.606. Moreover, the highest value of P/E was 47.59, while the minimum value was -68.47. The mean P/E during the study period was 12.703, with a standard deviation of 11.805.

During the study term, the highest dividend yield was 10.25, and the mean dividend yield was 3.727 with a standard deviation of 2.848. The mean market/book value was 1.042, and the minimum market/book value was 0.01. Finally, the highest stock turnover ratio was 88.89, while the mean stock turnover ratio was 8.102, with a standard deviation of 13.319.

5.2 Correlations between Variables

Based on Jordanian banks' data during the period of 2008–2014, the researcher has used a Spearman correlation test to discover the relationships among study indicators. The conclusions of this test are as follows:

Table 2: Correlations between Variables

		EPS	DPS	Book value per share	P/E	Dividend yield	Market/Book value	Turnover ratio
EPS	Pearson Correlation	1						
	Sig. (2-tailed)							
DPS	Pearson Correlation	.392**	1					
	Sig. (2-tailed)	.000						
Book value per share	Pearson Correlation	.451**	.742**	1				
	Sig. (2-tailed)	.000	.000					
P/E	Pearson Correlation	.270**	.109	.189	1			
	Sig. (2-tailed)	.010	.302	.073				
Dividend yield	Pearson Correlation	-.074	.462**	.006	-.194	1		
	Sig. (2-tailed)	.488	.000	.958	.065			
Market/Book value	Pearson Correlation	-.035	.158	-.287**	.131	-.034	1	
	Sig. (2-tailed)	.740	.136	.006	.215	.750		
Stock turnover ratio	Pearson Correlation	-.114	-.173	-.072	-.043	-.085	-.033	1
	Sig. (2-tailed)	.283	.101	.495	.686	.424	.756	

In relation to P-Values in the Spearman correlation test presented in the above table, there is a positive correlation (high correlation) between DPS and book value per share (0.742), and it is below the significance threshold of $P = 0.05$. Moreover, there is a positive correlation (high correlation) between EPS and book value per share, which it is also below the significance threshold of $P = 0.05$. Finally, there is a significant correlation between DPS and dividend yield (0.462) and between book value per share and market/book value (-0.287).

5.3 Hypotheses Testing

After using Multi-Regression the results appeared were according to following hypotheses:

H01: Market valuation measures have no significant effect on banks' stock prices.
H11: Earnings per share (EPS) has no significant effect on banks' stock prices.
H12: Dividends per share (DPS) has no significant effect on banks' stock prices.
H13: Book value per share has no significant effect on banks' stock prices.
H14: Price/earnings ratio (P/E) has no significant effect on banks' stock prices.

H15: Dividend yield has no significant effect on banks' stock prices.
H16: Market/book ratio has no significant effect on banks' stock prices.
H17: Stock turnover ratio has no significant effect on banks' stock prices.

This study examines the effect of market valuation measures on Jordanian banks' stock prices during the period of 2008–2014. The next table displays the results of a multi-regression test to realise the objective of the study.

Table 3: Testing Hypothesis

Model	Adjusted R Square	F	Sig.	Decision
H01	.732	36.185	.000	Accepted
Model	**Beta**	**T**	**Sig.**	
(Constant)		-.237	.813	
H11	-.029	-.453	.652	Rejected
H12	.436	2.108	.038	Accepted
H13	.510	2.777	.007	Accepted
H14	.087	1.463	.147	Rejected
H15	-.295	-2.650	.010	Accepted
H16	.038	.363	.717	Rejected
H17	.074	1.307	.195	Rejected

The above table shows that the market valuation measures' correlation with Jordanian banks' stock price is .868, and the significance level for this hypothesis (0.000) is less than the required significance level (0.05); therefore, the null hypothesis (H01) is rejected. Moreover, the Adjusted R^2 value of the full model regression is 0.732. As a result, there is a significant effect of market valuation measures on Jordanian banks' stock prices for the period from 2008 to 2014.

The table also suggests that there is a significant effect of DPS, book value per share and dividend yield on Jordanian banks' stock prices. This is because the significance level for these hypotheses is lower than the level of significance (0.05), so the null hypotheses for the H12, H13 and H15 models are rejected. The beta values for these models (H12, H13 and H15) are 0.436; 0.510; and -0.295, respectively.

Finally, the above table shows that there is no significant effect of EPS, P/E, market/book ratio or stock turnover ratio on Jordanian banks' stock prices. This is because the significance level of these hypotheses is greater than the significance level (0.05), hence null hypotheses for H12, H13, and H15 models is accepted.

6. Conclusion

The next table displays the results of study's hypotheses tests.

Table 4: Conclusion

Hypothesis	Result
H01: Market valuation measures have no significant effect on banks' stock prices.	Null hypothesis is rejected.
H11: Earnings per share (EPS) has no significant effect on banks' stock prices.	Null hypothesis is accepted.
H12: Dividends per share (DPS) has no significant effect on banks' stock prices.	Null hypothesis is rejected.
H13: Book value per share has no significant effect on banks' stock prices.	Null hypothesis is rejected.
H14: Price/earnings ratio (P/E) has no significant effect on banks' stock prices.	Null hypothesis is accepted.
H15: Dividend yield has no significant effect on banks' stock prices.	Null hypothesis is rejected.
H16: Market/book ratio has no significant effect on banks' stock prices.	Null hypothesis is accepted.
H17: Stock turnover ratio has no significant effect on banks' stock prices.	Null hypothesis is accepted.

Common stockholders expect to be rewarded through periodic cash dividends and an increasing, or at least not declining, stock value. Like current owners, prospective owners and security analysts frequently estimate the firm's value. Investors purchase the stock when they believe that it is undervalued, when its true value is greater than its market price. They sell the stock when they feel that it is overvalued, when its market price is greater than its true value. (Gitman L. 2009) The study revealed that market valuation measures had an important impact on banks' stock prices; the study concluded that there is no significant effect of earnings per share on a bank's stock price.

These results agree with Khan, T. et al. (2014) and disagree with Wiwi, I. et al. (2015), Maskun, A. (2012) and Khan, K. (2012). Dividends per share had a significant effect on banks' stock prices, which agrees with Majanga, B. (2015) and Botchwey, E. (2014), while disagreeing with Khan, M. (2012). Book value per share had a significant effect on a bank's stock price, there was no significant effect of price/earnings ratio on a bank's stock price, and there is a significant effect of dividend yield on a bank's stock price; these results disagree with Masum, A.'s (2014) study. There was no significant effect of market/book ratio or stock turnover ratio on banks' stock prices. Other variables were used by the researcher to distinguish this study from the previous studies in the same area.

7. Acknowledgement

References

Al Masum, A. (2014), "Dividend Policy and Its Impact on Stock Price – A Study on Commercial Banks Listed in Dhaka Stock Exchange", *Global Disclosure of Economics and Business*, Volume 3, No. 1. http://publicationslist.org/data/gdeb/ref-10/GDEB_5th_Issue_1.pdf

Botchwey E. (2014), "The Impact of Dividend Payment on Share Price of Some Selected   Listed Companies on the Ghana Stock Exchange*", International Journal of Humanities and Social Science Vol. 4, No. 9(1). http://www.ijhssnet.com/journals/Vol_4_No_9_1_July_2014/21.pdf*

Emamgholipour M., Pouraghajan A., Tabari N., Haghparast M., Shirsavar A. (2013), "The Effects of Performance Evaluation Market Ratioson the Stock Return: Evidence from the Tehran Stock Exchange", *International Research Journal of Applied and Basic Sciences,* Vol, 4 (3): 696-703. http://irjabs.com/files_site/paperlist/r_734_130328111041.pdf

Haque S., 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*, Volume 2 Issue 9. http://www.ijbmi.org/papers/Vol(2)9/Version-1/G0291034041.pdf

Idawati W. Wahyudi, A. (2015), "Effect of Earning Per Shares (EPS) and Return on Assets (ROA) Against Share Price on Coal Mining Company Listed in Indonesia Stock Exchange", *Journal of Resources Developme nt and Management*, Vol.7. http://www.iiste.org/Journals/index.php/JRDM/article/viewFile/21754/21882

Khan K. (2012), "Effect of Dividends on Stock Prices– A Case of Chemical and Pharmaceutical Industry of Pakistan", *International Conference on Business Management*, 2(5): 141-148. http://article.sapub.org/10.5923.j.mm.20120205.02.html

Khan M. (2012), "The Effects of Dividends on Stock Prices in Pakistan", *International Journal of Marketing and Technology*, Vol. 2, No. 5, May 2012, 231-251. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2177237

Khan T., Choudhury T., Adnan A. (2014), "How Earning Per Share (EPS) Affects on Share Price and FirmValue", *European Journal of Business and Management*, Vol.6, No.17. http://www.iiste.org/Journals/index.php/EJBM/article/viewFile/13572/13841

Majanga B. (2015), "The Dividend Effect on Stock Price-An Empirical Analysis of Malawi Listed Companies", *Accounting and Finance Research*, Vol. 4, No. 3. http://www.google.jo/url?url=http://www.sciedu.ca/journal/index.php/afr/article/download/7385/4565

Maskun, A. (2012), "The Effect of Current Ratio, Return on Equity, Return on Asset, Earning Per share to the price of the stock of Go-Public Food and Beverages Company in Indonesian Stock Exchange", *International Journal of Academic Research*; Nov 2012, Vol. 4 Issue 6, p134.

Namazi M, Rostami N. (2006). "The survey of the relationship between financial ratios and stock returns rate of companies listed in Tehran Stock Exchange", *Review of Accounting and Auditing*, 13(2): 105-127.http://irjabs.com/files_site/paperlist/r_734_130328111041.pdf

12. Nazemi M. (2012) "The Effects Review of Earning Per Share and Dividend Per Share on the Manufacturing Companies Stock Price Changes in Compare with Accepted Non-Manufacturing Companies in the Tehran Stock Exchange",

Other Resources

1. Bodie, Kane, and Marcus (2013), Essentials of Investments, McGraw Hill.
2. Financial Reporting (International), ACCA, Paper F7, 2007/2008.
3. Gitman L. (2009), Principles of Managerial Finance, twelfth edition, Pearson.
4. Gleim I., Flesher D. (2015), Financial Reporting, Planning, Performance, and Control, CMA Review.

Internet

1. http://www.investopedia.com/ask/answers/032515/what-difference-between-earnings-share-and-dividends-share.asp, 14/3/206, 5:23
2. http://www.investopedia.com/terms/d/dividendyield.asp, 14/3/2016, 5:41
3. http://www.tutor2u.net/business/reference/stock-turnover, 14/3/2016, 5:59
4. http://www.investorwords.com/8702/stock_price.html, 18/3/2016, 11:57
5. http://www.investopedia.com/terms/b/bookvaluepercommon.asp, 22/3/2016, 5:38