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Equity Valuation Multiples and Stock Returns: Evidence from Malaysian Listed Firms

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Abstract

Valuation of equity has been an important integral aspect of investment decision. Investment analyst value stocks for investors who wish to buy or sell their stocks. One of the ways of valuing equity is through the use of Equity Valuation Multiples (EVMs). In spite the practical application of valuation multiples by investment analysts not much empirical work is conducted on the use of these multiples to predict stock returns. This research investigated the influence of equity valuation multiples on stock returns of firms in Malaysia. The study used data from 233 randomly selected listed firms in Malaysia. The study covered the period of 2008 to 2013. The result reveals a significant positive relationship between price-earnings, price-book value, price-sales, price-cash flow valuation multiples and the stock returns. The implication of positive relationship between the explained and the four explanatory variables implies that the P/E, P/B, P/S, and P/C multiples are significantly and positively related to stock returns. The low R^2 implied that, stock returns are not only explained by EVMs but by combination of several variables.

Keywords: Equity value multiples, price-earnings, price-book, price-cash flow, price-sales, stock returns, Malaysia

1. INTRODUCTION

Equity is an important source of company financing, companies are finance either by equity, debt or combination of the two. Equity is considered as the residual value of stock held by ordinary shareholders after the deduction of all liabilities. On the other hand, Valuation multiples are used to express the value of all stakeholders' entitlements on the assets and cash flow of the business. Thus, valuation multiple expresses the value of this due comparative to an indicator that applies to shareholders and other stakeholders, such as earnings (the residual after minority shareholders, creditors, and other non-equity claimants). Valuation multiples are divided into two basic types; (i) enterprise or entity valuation multiples and (ii) equity valuation multiples (Schreiner, 2007). Enterprise multiples are multiples used to express the value of the entire enterprise and all entitlements of the business. While the equity valuation multiples (EVM) represent the summary methods, which inform about the market's opinion of a firm's market valuation of equity holders right compared to its competitors (Penman, 2006). EVMs includes price-earnings PE, price-book value PB, price-sales PS, price-cash flow PCF multiples (Sehgal &Pandey 2010). However, prior literatures on the equity valuation multiples and prediction of stock returns presents mixed results suggesting further investigation. Similarly, valuation multiples are practically used by investment analysts to assess the performance of company stocks in terms of likely future share appreciation, yet not much empirical research is conducted on the influence of EVMs on stock returns. Also, most of the literatures on EVMs are from the developed markets, not much is

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known in developing markets. To the best knowledge of the researchers, the influence of equity valuation multiples and stock return is not explored in Malaysia. In this regard, this study filled literature gap by looking at Malaysian firms providing literature and practical contributions.

2. PRIOR LITERATURES

2.1 Price to Earnings Multiple and Stock Return

The study conducted by Pandey (2013) and Yilmaz (2008) reveals that PE has a positive correlation with future return of sampled companies. The model further suggests that various combinations of variables are associated with firm's future profitability. PE multiple provides the best forecast of price returns compared to other market multiples price to book value multiple, price to cash flow multiple and price to sales multiple. On the other hand, the study of Beaver and Morse (1978) report that, price to earnings multiple associate negatively with growth in earnings growth in the early period of the securities formation. The studies produced mixed findings suggesting need for further research. Therefore, this study proposed the following hypothesis:
H1: price to earnings multiple has a positive relationship with stock returns of Malaysian firms.

2.2 Price to Book Value Multiple and Stock Return

Book value of company is one of the important value driver that is used to calculate price to book value multiple. The study of Aras and Yilmaz (2008), reveals that, market to book multiple played a significant role in stocks return prediction. Companies that experience periodic result returns are on the average smaller companies in relations of assets, yearly returns, and firm market book value of stock (Easterday & Sen, 2015). There is no significant relationship price to book value to stock returns (Pourmohammad, Kheradyar, & Ghahremani, 2015). The argument on whether PB value multiple can predict stock return is inconclusive, therefore, the following hypotheses is formulated:
H2: Price to book value multiple has a positive relationship with stock return of Malaysian firms

2.3 Price to Cash Flow and Stock Returns

The research of Chen, Da, and Zhao (2013) used direct cash flow forecasts to predict asset pricing, evidence of the study show that stock returns of firms have a significant relationship with cash. Similarly, Brown, Fazzari, and Petersen (2009) reported a significant impact of cash flow and outside equity for young companies, but not in mature companies. However, In the study of Stauropoulos, Antonios and Panagiotis (2012), the results obtained from the study reveals that price to cash flow multiples (P/C) has no average significant value in predicting average stock price. This study therefore formulated the following hypothesis:
H3: Price to cash flow multiple has a positive relationship with stock return of Malaysian firms

2.4 Price to Sales and Stock Returns

Stauropoulos et al (2012) investigated the five multiples, the results reveals that, all the multiples estimated the stock value sound enough averagely and their value of significance level submits that, on the average equity value multiples do not misprice the prices of stocks. According to Barbee, Mukherji and Raines (1996), sales ratio is more reliable in explaining stock return. However, Goh (2011) reveals that price to sales multiple is the poorest valuation technique compared to other equity valuation models, similarly it is statistically poorer compared to all multiples. Due to conflicting findings on the ability of the price to sales multiple to predict stock returns, the current study proposed the following hypothesis:
H4: Price to sales multiple has a positive relationship with stock return of Malaysian firms

3. METHODOLOGY

The study used secondary data from the published financial statements of the sampled firms in Malaysia. The data are extracted from Thompson and Reuter's data stream for the period of six (6) years (2008-2013). The population of the study consists of publicly listed companies in Malaysia and 233 drawn from the all the sectors at random based on variables information availability. It is important to note that, the selection of the 233 firms is based on the availability of data for all the valuation multiples. The objective limiting the sample is to avoid excessive missing data. Random effects model was used to estimate the regression equation after conducting Hausman test.

3.1 Variable Definition and Measurement

Table 1. Variable definition of equity value multiples construct

EVM Variables	**Measurements**
Price to earnings (PE)	Price per share divided by earnings per share
Price to book value (PB)	Price per share divided by book value per share
Price to cash flow (PC)	Price per share divided by cash flow from operation per share
Price to sales (PS)	Price per share divided by gross revenue/sales per share
Stock return (SR)	Company stock price

3.2 Model Specification

To produce the regression model, we deduce from Feltham & Ohlson, 1995) and modified to answer our research problem.

$$SR_{it} = \beta_0 + \beta_1 PE_{it} + \beta_2 PB_{it} + \beta_3 PC_{it} + \beta_4 PS_{it} + \varepsilon_{it}$$

Where: SR is the stock return for every firm over time, β_0 = constant, β_1 = parameter of the explanatory variables, it = combination of times series and cross sectional data for the sample firms and ε = error term to take care of variables that are not captured in the model

4. RESULTS AND DISCUSSIONS

The descriptive statistic, correlation matrix and multiple regression results are presented below.

Table 4.1 Descriptive statistics

Variable	Mean	Std.Dev.	Min	Max
SR	0.086	1.284	3.506	6.085
PE	1.382	1.347	2.525	7.504
PB	0.449	1.292	-2.040	5.124
PC	0.561	1.393	3.101	4.634
PS	1.326	1.459	3.506	7.471

Note: variables are reduced to three (3) decimal places

Table 4.1 above displays the mean (average) for each of the explained and the explanatory variables, their minimum and maximum values and the standard deviation (SD) statistics (normality test). On the overall, the level of dispersion for all the variable is low suggesting that the variables are closely clustered around the average (mean) implying their reliability. The next subsection presents result of the correlation matrix.

Table 4.2 Correlation Matrix Results

Variable	P	PE	PB	PC	PS
P	1.0000				
PE	0.2213***	1.0000			
PB	0.1867**	-0.5069	1.0000		
PC	0.2678***	0.2954	-0.3157	1.0000	
PS	0.2235 ***	-0.5130	0.3262	-0.2907	1.0000

Note: significant level at ***1% and **5% respectively

A cross checks of the correlation matrix above, revealed that, the four explanatory variables have positive correlation with stock price. However, the correlation is not perfect with the dependent variable (stock price) since all their values have less than 50% correlations. This means that, the problem of multicolinearity is absent in the model.

Table 4.3 Regression Results

Variable	Coeff	T-value	Probability
PE	0.5172***	4.04	0.00
PB	0.3231**	2.20	0.02
PC	0.3588***	2.46	0.01
PS	1.1996***	8.45	0.00
Cons	0.7458***	2.80	0.01
R square	0.2037		
Prob Chi	0.000		

Note: significant level at ***1% and **5% respectively

The result as presented above indicated that, PE multiple has positive coefficient of 0.5172 suggesting that if price to earnings multiple increase by one unit stock price is expected to increase by 0.52 Malaysian Ringgits (MYR). PE is positive and significance at 1% level. This provide an evidence to support the study hypothesis

that PE multiple has a positive relationship with stock price of Malaysian firms. This result conform with study of Aras and Yilmaz (2008) and contradicts the study of Shahed, Barker, & Clubb (2008). Similarly, table 4.3 above, shows that, price to book value has a positive coefficient of 0.32 suggesting that where PB increase by one unit then stock price will increase by 0.32 Malaysian Ringgits (MYR). The probability of PB is positive and significant at 5% indicating that increase in PB leads to increase in stock price of Malaysian firms. The result supported the hypothesis which predicts that price to book has a positive relationship to stock price is supported. The result conform with the findings of Ittner and Larcker (2001). In addition, price to cash flow has a coefficient of 0.35 suggesting one unit increase in PC multiple stock price will increase by 0.35 Malaysian ringgit (MYR).

The probability of PC is positive and significance at 1% suggesting PC has significant positive relationship with stock returns. The result suggests that our hypothesis which predicts a positive relationship between price to sales and stock price is supported. The result conform with the study of Brown et al (2009) and contradict Stauropoulos, et al (2012). Lastly, table 4.3 above has shown that, price to sales has a coefficient of 1.19 indicating a one unit increase in price to sale multiple stock prices will have an increase of 1.19 Malaysian ringgit (MYR). The probability is positive and significance at 1% level suggesting that, the hypothesis predicting a positive association between price to sales and stock price is supported. The result support the findings of Stauropoulos et al (2012) and contradicts the study of Elkjaer et al (2009). On the overall, the R-squared is 0.2% suggesting that 20% of the variation in the explained variable is explained by the four explanatory variables, while 80% is explained by other factors. This is possible as there are many other factors that explained stock returns. The four explanatory variables collectively explained stock return at 1% level of significance.

5. CONCLUDING REMARK

From the discussion above, equity value multiples are positively and significantly related to stock returns of firms in Malaysia. Price to earnings, price to book value, price to sale and price to cash flow are positively correlated with stock returns of the sample firms. This implies that, investors of highly price and low price stocks can use the equity valuation multiples to predict stock price of Malaysian firms. Thus, the research concludes that combination of all the equity value multiples have significant impact in predicting stock due the positive nature of their combine relationship. In addition to combined positive effect, individually multiples are capable of predicting stock returns of Malaysian firms. The study therefore, recommends that investment analyst's sellers and buyers of stock to use the equity valuation multiples to predict stock returns of Malaysian.

6. IMPLICATION AND LIMITATION OF THE STUDY

The study provides additional insight on the significance of valuation multiples and stock returns prediction of Malaysian firms. The results suggest that the four equity valuation multiples can be use collective and individually to predict stock returns. However, the study could not make a generalization on the other valuation multiples particularly the enterprise valuation multiples.

REFERENCES

Antonios, S., Ioannis, S., & Panagiotis, A. (2012). Equity Valuation with the Use of Multiples. *American Journal of Applied Sciences*, *9*, 60–65.

Aras, G., & Yilmaz, M. K. (2008). Price-earnings ratio, dividend yield, and market-to-book ratio to predict return on stock market: Evidence from the emerging markets. *Journal of Global Business and Technology*, *4*, 18–31.

Barbee, W. C., Mukherji, S., & Raines, G. A. (1996). Do Sales-Price and Debt-Equity Explain Stock Returns Better than Book-Market and Firm Size ? *Financial Anaiysts Joumal*, *March/Apri*, 56–61.

Beaver, W., & Morse, D. (1978). What Determines Price-Earnings Ratios? *Financial Analysts Journal*, *34*(4), 65–76. doi:10.2469/faj.v34.n4.65

Brown, J. R., Fazzari, S. M., & Petersen, B. C. (2009). Financing External Innovation and Growth : Cash Flow , Equity , and the 1990s R & D Boom. *The Journal of Finance*, *64*(1), 151–185.

Chen, L., Da, Z., & Zhao, X. (2013). What Drives Stock Price Movements? *Review of Financial Studies*, *26*(4), 841–876. doi:10.1093/rfs/hht005

Easterday, K. E., & Sen, P. K. (2015). Is the January effect rational? Insights from the accounting valuation model. *The Quarterly Review of Economics and Finance*, 1–18. doi:10.1016/j.qref.2015.05.001

Elkjaer, T., Damgaard, J., & Kumah, E. O. (2009). *Valuation of Unlisted Direct Investment Equity*. *IMF Working Papers* (Vol. 09). doi:10.5089/9781451873894.001

Fairfield, P. M. (1994). P / E , P / B and the Present Value of Future Dividends. *Financial Anaiysts Journal*, *JULY*(August), 23–32.

Feltham, G. A., & Ohlson, J. A. (1995). Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research*, *11*, 756–779.

Goh, C. F. (2011). *Equity valuation using multiples: An empirical study on plantation sector*. *A thesis, University of Gothenburg*. University of Gothenburg.

Ittner, C. D., & Larcker, D. F. (2001). Assessing empirical research in managerial accounting: a value-based management. *Journal of*

Accounting and Economics, *32*, 349–410.
Pandey, A. (2013). Investment in Indian sectors: price multiple perspective. *Management Case*, *17*, 169–173. doi:10.1177/0972262912484993
Penman, S. H. (2006). Valuation, capital budgeting, and value-based management. *Journal of Applied Corporate Finance*, *18*, 1–10.
Pourmohammad, N., Kheradyar, S., & Ghahremani, H. (2015). A study into the effect of income dispersion and stock pricing on companies listed on the Tehran Stock Exchange. *International Journal of Review in Life Sciences*, *5*(9), 499–508.
Schreiner, A. (2007). *Equity valuation using multiples: An empirical investigation*. University of St.Gallen Graduate-Austria.
Sehgal, S., & Pandey, A. (2010). Equity valuation using price multiples: evidence from India. *Asian Academy of Management Journal of Accounting and Finance*, *6*, 89–108.
Shahed, I., Barker, R., & Clubb, C. (2008). The use of valuation models by UK investment analysts. *European Accounting Review*, *17*, 503–535.