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The effect of accounting and market indicators on the firm value

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Abstract
The aim of this research is to analyze both accounting and market performance indicators and study their impact on the firm value of EMAAR Properties PJSC Corporation operating in UAE. Several statistical analyses were conducted such as descriptive analysis, coefficient of variation, correlation and regression analyses. Based on the coefficient of variation, the results of analysis show high instability and variability over the years. In addition, correlation analysis reveals that accounting-based profitability indicators have are strongly & positively tied to associated performance on the market value to book value indicator. Both earnings per share and price earnings ratio have either negative or weak relationship with other indicators. Moreover, regression analyses indicate that market value to book value indicator is the most determinant indicator on the firm value.

Keywords: Accounting measures, market measures, firm value, financial performance

1. Introduction
In essence, accounting-based measurements such as return on assets (ROI), return on equity (ROE) and return on revenue seek to accurately depict a firms past or present financial performance. Although accounting-based measures of financial performance remain regarded for their high degree of validity and as such remain commonplace as reflectors of firm performance, they are not without their shortcomings. Some of the perceived shortcomings of accounting-based measures include a potential for unethical manipulation by actors such as the firms themselves and even external auditors seeking to misrepresent a firms financial standing in order to appear more attractive to would be investors. In addition, the past oriented nature of accounting-based measures may not necessarily decide future performance. Market-based indicators are seen as the markets answer to these perceived shortcomings. Indeed, these market-based performance measures are characterized by their stronger reliance on stock market valuations of financial firms using measurements such stock price, earnings per share and market to book value ratio. Both approaches to the question of financial performance carry their respective set of drawbacks. For example, a startup currently experiencing significant growing pains but on the way to strong financial performance may potentially raise false alarms about the long-term viability of the firm if accounting-based performance indicators are to be the primary and sole source of consultation. An additional examination of market-based indicators, on the other hand, may lead to an acknowledgment of the firm's poor past performance but paint a vastly different and more complete picture regarding the firm's future potential. It is, after all, future performance and not a firms' financial past that takes overwhelming precedent among shareholders. In summary, both accounting based indicators and market-based indicators have been demonstrated to be of great importance to analysts and as such neither approach should be seen as a replacement for the other. Rather, each set of financial indicators attempt to mitigate some of the potential risks and drawbacks associated with the other approach, ultimately serving a useful purpose in every decision-makers arsenal. In short, these two approaches to financial analysis are united by their common goal of providing stakeholders with the ability to make informed decisions based on accurate and useful information about the firm. It is this value to stakeholders that forms their nexus. As a unique component of the financial analyst's tool-set, the market to book value ratio is a synergy of these two

complementary approaches. The market to book value ratio is utilized to determine a company's financial current market worth (as reflected in its stock price) in comparison to its book value (represented as Assets-Liabilities).

2. Literature Review

Alajlani (2019) [1] analyzes the relationship between market performance and accounting performance measures using the data of 49 companies listed on Amman Stock Exchange for the period of 2008-2016. Three regression models have been used to assess the impact of financial performance measures on firm value (Tobin Q). His findings show that accounting performance measures had a significant positive relationship with the firm value.

Ghani *et al* (2023) [2] conduct an empirical investigation to determine the factors that affect the firm value of Malaysian Plantation Sector using a sample of 30 companies for the period of 2005-2019. The results of their regression analysis indicate that firm size, sales value, leverage, liquidity and return on assets were the primary determinants of a corporation's value, while earnings per share was insignificant in determining the firm value.

Obeidat and Darkal (2018) [4] analyze the effect of both accounting and economic measures of performance on the share market value of manufacturing firms. They divided the measures into two groups. The first group consisted of accounting-based measures, while the second group was derived of economic measures of performance. They collected the data related to manufacturing companies listed at the Abu Dhabi Stock Exchange over the period of 2014-2016. Descriptive analysis, correlation and regression analyses were conducted in order to investigate both the nature and extent of the relationship between a wide variety of measures and firm value. They found that the market share value reflected both accounting and economic based measures of performance. Furthermore, economic measures were found to have a greater influence on the share market value than accounting measures.

Li (2013) [3] compares and examines the relationship between accounting and market measures among eight Asian emerging markets over the years 2005-2010. Using regression analysis, the author found that the Q ratio was strongly & positively related to both ROA and ROE accounting ratios. Conversely, a meaningful relationship was not detected between the Q ratio and net interest and dividend income/average total earning assets.

Rockmore and Jones (1996) [5] examine the relationship between business investment strategies and firm performance measures using return on investment as an accounting measure and earnings per share as a market-based measure. A survey method was used to obtain necessary information from operating heads of manufacturing and services related firms regarding their performance on both ROI (Return on investments) and EPS (Earnings Per share) indicators as well as a summary of each firm's business investment strategy. The sample consisted of 130 units. Their findings suggest that some firm performance measures may be more informative than others depending on the overall business investment strategy of the company. Specifically, they believe that in tandem use of both accounting and market-based measures may provide a more thorough and useful evaluation of relatively less risky profit-oriented investment strategy. In contrast, the authors found that ROI was most appropriate use-case for evaluating the performance of firms seeking a turn-around or share-increasing business investment strategy.

3. Research Methodology

The primary data source for the collection of financial data for the years 2002 to 2009 was the National bank of Abu Dhabi's annual publication known as the Local Shares Directory.

To achieve the aim of this research, the researcher uses several types of statistical analyses. Firstly, coefficient of variation was employed in order to measure the variability and stability level of each of the accounting and market indicators. A high ratio of a coefficient indicates a high level of instability and variability of the variable over the period in question. Secondly**,** Pearson correlation coefficient was used to measure the strength and direction of the relationship between the two variables. The value of the coefficient ranges between -1 and 1. A coefficient of -1 indicates a perfect negative relationship between two variables, while the value of 1indicates a perfect positive relationship between these two variables. Finally, linear regression analysis was applied in three separate instances. In the first instance linear regression analysis was applied in order to measure the impact of market value to book value and return on assets on the firm value, while the second use dealt with evaluating the effect of return on revenue and market value to book value on the firm value. Finally, multi regression analysis was then used to assess the effect of return on equity and market value to book value indicators on the firm value.

4. Descriptive Analysis

Table 1 shows the descriptive analysis of accounting, market financial indicators firm value.

1. **Return on Revenue:** This indicator represents the profit generated by sales revenue. A high ratio indicates a high level of profitability. As shown in table 1, the minimum ratio detected was 1.55% related to the year of 2008, while the maximum ratio observed was 56.56% which is related to the year 2005. The average ratio of the period studied was calculated to be 29.06%. The coefficient of variation is 67.45% which indicates a higher level of variability and instability of this indicator over the eight years studied.
2. **Return on Assets:** This indicator represents the percentage of income derived from using assets. A high ratio indicates a firm's efficient & resourceful utilization of their assets. The minimum ratio observed was 0.25% during the 2008 business year, while the highest ratio observed is 15.25% related to 2006. The average ratio over the eight years is 8.67%. The coefficient of variation is 67.59%, indicating a high level of variability over the years.
3. **Return on Equity:** This indicator represents a firm's net income divided by shareholders equity. It is a means of gauging a company's profitability and the degree to which it makes efficient use of its assets to generate a profit. A higher ratio may motivate investors to invest more money since it indicates a firm's high profit generating abilities. The minimum ratio observed

0.59% occurred in 2008, while the highest ratio is 21.20% which related to the year 2006. The average ratio over the eight years is 12.79%. As with the case of return on assets and return on assets, the coefficient of variation of return on equity was similarly high, standing at 68.65%, indicating a high level of fluctuation around the mean.

4. **Earnings per Share:** This indicator is the AED (Arab Emirates Dirham) amount earned on a share of stock during a year. It measures the overall performance. It can be calculated by dividing the income by common shares outstanding. A high ratio indicator a high profitability per share. The minimum ratio discovered was AED 0.03 related to 2008, while the highest ratio is AED 2.55 which is related to the year of 2003. The average ratio over the eight years is 1.14 AED. Mirroring the results of the previous indicators, the coefficient of variation was also high, standing at 68.42%. Owing to high fluctuation in income over the years.
5. **Price Earnings Ratio:** This indicator expresses the multiple that the market places on a firm's earnings per share. It can be computed by dividing current market price per share by earnings per share. A high ratio indicates that investors believe that a firm's future earnings potential is good, they may be willing to pay a higher price for the stock. The minimum ratio is 9.87 times is related to 2003, while the maximum ratio is 83.14 times. The average ratio over the eight years is 31.24 times. The coefficient of variation is 93.79% which indicates the existence of high fluctuation around the mean.
6. **Market value to book value:** This indicator can be calculated by dividing the market price per share by the book value per share. A ratio of less than 1 could indicate that the stock is under-valued by the market, while a ratio over 1 could be interpreted as the stock being over-valued by stock market participants. The minimum value is 0.49 times related to 2008, while the maximum value is 5.23 which relates to the 2005 business year. The average ratio over the eight-year study period was calculated to be 2.27. The coefficient of variation for this market indicator was similarly high at 76.55% indicating the effect of the market fundamentals on performance.
7. **Firm Value:** Tobin Q technique is used to measure the firm value by implementing the following formula:

Tobin Q = Market capitalization + Total liabilities / Total assets

The minimum value of Tobin Q indicator is 1.25 while the maximum value observed was 4.36. The coefficient of variation was a moderately 66.14%, owing to the considerable impact of both accounting and market indicators on company value.

Table 1: Descriptive analysis of accounting and market indicators

Year	Accounting Indicators			Market Indicators			Firm Value
	Return on Revenue%	Return on Assets%	Return on Equity%	Earnings Per Share (AED)	Price Earnings Ratio (times)	Market Value to Book Value (times)	
2002	38.74	7.79	9.02	1.95	11.66	1.05	1.05
2003	18.18	7.37	10.10	2.55	9.87	1.00	1.00
2004	31.62	12.79	21.00	0.64	19.59	4.11	2.90
2005	56.56	14.68	18.50	0.82	28.30	5.23	4.36
2006	45.38	15.25	21.20	1.05	11.66	2.47	2.13
2007	36.58	10.72	20.73	1.07	13.89	2.88	1.96
2008	1.55	0.25	0.59	0.03	83.14	0.49	0.78
2009	3.89	0.51	1.14	1.00	71.83	0.82	0.92
Descriptive Analysis							
Mean	29.06	8.67	12.79	1.14	31.24	2.27	1.89
Standard Deviation	19.60	5.86	8.78	0.78	29.30	1.73	1.25
Coefficient of Variation	67.45	67.59	68.65	68.42	93.79	76.55	66.14
Minimum	1.55	0.25	0.59	0.03	9.87	0.49	0.78
Maximum	56.56	15.25	21.20	2.55	83.14	5.23	4.36

5. Correlation Analysis

Table 2. Shows the extent of the relationship between accounting indicators, market indicators and firm value. As indicated below, the three accounting indicators were strongly connected, with a correlation coefficient of 0.922 between return on revenue and return on assets, followed by 0.827 between return on revenue and return on equity. The degree of correlation between return on assets and return on equity was also very high, standing at a value of 0.956. In addition, a negative relationship was found between the three market indicators, Earnings per share, price earnings ratio and market value to book value indicator. This may be due to the effect of several micro and macroeconomics factors on these indicators. Moreover, return on revenue, return on assets and return on equity were all moderately tied to both market value to book value and firm value as reflected in the fact that all correlation coefficients scored above 0.70, in contrast to the relationship with the earnings per share and price earnings ratios, which was found to be either weak or negative. Furthermore, both the earnings per share and price earnings ratio were negatively associated with both market value to book value and firm value indicators. Finally, firm value indicator was moderately tied to the return on revenue, return on assets and return on equity indicators where the value of the coefficient consistently scored above 0.70. A high positive relationship

between firm value and the market value to book value was found, as expressed by the coefficient of 0.982. Firm value was found to have a negative relationship with the earnings per share and price earnings ratio indicators.

Table 2: Correlation Coefficient

	Accounting Indicators			Market Indicators			Firm Value
Indicator	**Return on Revenue**	**Return on Assets**	**Return on Equity**	**Earnings Per Share**	**Price Earnings Ratio**	**Market Value to Book Value**	**Firm Value**
Return on Revenue	1.00	0.922	0.827	0.135	- 0.738	0.765	0.770
Return on Assets	0.922	1.00	0.956	0.101	- 0.793	0.810	0.781
Return on Equity	0.827	0.956	1.00	0.023	- 0.772	0.801	0.723
Earnings Per Share	0.135	0.101	0.023	1.00	- 0.622	- 0.268	- 0.278
Price Earnings Ratio	-0.738	-0.793	-0.772	- 0.622	1.00	- 0.408	- 0.339
Market value to book value	0.765	0.810	0.801	- 0.268	- 0.408	1.00	0.982
Firm Value	0.770	0.781	0.723	- 0.278	- 0.339	0.982	1

6. The Effect of accounting and market measures on the firm value

Here, the research examines the effect of accounting and market measures on the firm value. Three multiple regression analyses have been conducted as shown in table 3. The coefficient of determination (R-squared) states the proportion of a dependent variable, firm value that is predictable by using two independent variables. A minimum score is zero indicates that the independent variables cannot predictive ability on the value of the dependent variable. A maximum score of one indicates that the independent variables perfectly predict the value of the dependent variable. The analyses show that adjusted (R-squared) remained consistently high throughout the analyses. In addition, the output of the three analyses show three models of regression analysis have a significant F-Test at 5% which conclusively supports the view that the regression model adequately fits the dataset.

Finally, we used the regression coefficient to quantify how a unit change in each of independent variables causes a corresponding effect on the dependent variable. The first analysis was carried out in order to assess the impact of return on assets and market value to book value indicator on the firm value. The analysis showed that the return on assets indicator has a negative effect on firm value, as represented by the coefficient of -0.04, in contrast the market value to book value indicator yielded a positive impact on the firm value with a coefficient of 1.02. The second model shows the joint effects of the return on revenue and market value to book value indicators on the firm value indicator. The analysis indicates that return on revenue had positive impact, with a coefficient of 0.04. The Market value to book value coefficient of 0.95 highlighted the even stronger correlation that market to book value had with firm value. The third model of multi regression shows the effect that the return on equity and market value to book value indicators had on firm value. A negative effect of return on equity on firm value was supported by the – 0.18 coefficient. Meanwhile, the effect of market value to book value was shown to be positive, as expressed by the regression coefficient of 1.12.

Table 3: Regression Analysis

Model	Coefficient	Adjusted R-Squared	F-Test	Significant
Effect of return on assets and market value to book value on the firm value	Return on Assets beta is - 0.04 Market value to book value beta is 1.02	0.95	67.88	0.000
Effect of return on revenue and market value to book value on the firm value	Return on Revenue beta is 0.04 Market value to book value beta is 0.95	0.95	68.29	0.000
Effect of return on equity and market value to book value on the firm value	Return on equity beta is – 0.18 Market value to book value beta is 1.12	0.96	97.40	0.000

7. Conclusion

The aim of this research paper has been to assess the effect of accounting indicators and market indicators on the value of EMAAR Properties Corporation. The coefficient of variation analysis indicates a high level of variability and instability for all indicators over the eight years, particularly spanning the height of the financial crisis 2008-2009 which affected both types of indicators. Based on the correlation coefficient analysis, the three accounting indicators all commonly showed significant levels of interconnectedness. In addition, analyses of the relationship between the three market indicators supported the existence of negative relationship between each of the three variables. One possible explanation is the effect of various extraneous variables such as environmental factors on market performance. Moreover, the weak and negative relationships between earnings per share, price earnings ratio and the three accounting-based variables may be due to the false assumption that the price earnings ratio must remain constant. On the other hand, the three accounting indicators are nevertheless affected by the adoption of sometimes conflicting business strategies in response to the firm's financial position. Businesses may often go through varying stages as a going concern where growth, survival and market share maintenance may be prioritized at different times. Finally, the results of the three regression analyses indicate that market value to book value indicator is the most influential factor in determining firm value.

8. References

1. Alajlani SE. Establishing the Relation between Market-Based Performance measure and Accounting Performance Measure, Research Journal of Finance and Accounting. 2019;10(20):43-49.
2. Ghani RA, Samah ARA, Baharuddin NS, Ahmad Z. Determinants of Firm Value as Measured by the Tobin's Q: A Case of Malaysian Plantation Sector. International Journal of Academic Research in Accounting, Finance and Management Sciences. 2023;13(2):420-432.
3. Li Li. Market-Based vs Accounting-Based Performance of Banks in Asian Emerging Markets, Asian Journal of Business Research, Special Issue; c2013. p. 14-31.
4. Obeidat MI, Darkal N. Accounting versus Economic Based Measures of Performance and the Share Market Value: The Evidence of the Industrial Firms at Abu Dhabi Stock Exchange, Transactions Business and Economics. 2018;15:363-374.
5. Rockmore BW, Jones FF. Business Investment Strategy and Firm Performance: A Comparative Examination of Accounting and Market-Based Measures, Managerial Finance. 1996;22(8):44-56.