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The influence of accounting measures on market performance

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Abstract
The aim of this research is to analyze standard accounting measures and assess the extent of their influence on commonly used market performance-based indicators, namely earnings per share and market price, of the Gulf Pharmaceutical Industries Corporation operating in the UAE. Several statistical analyses were conducted such as descriptive analysis, coefficient of variation, correlation and regression analyses. According to coefficient of variation analysis, a moderate level of instability and variability over the years was witnessed across all three accounting measures. Furthermore, a high level of instability and variability was seen with regards to the market price. In addition, correlation analysis reveals that accounting-based profitability measures are strongly & positively linked to performance on the earnings per share measure. On the other hand, a negative relationship was observed between stock price and return on revenue. Furthermore, a moderately weak relationship was found between stock price and the remaining profitability measures. Moreover, regression analyses indicate that profitability focused accounting measurements similarly influenced the earnings per share and bit yielded no influence on stock price due to the random changes of the stock price over the eight years, indicating the susceptibility of stock prices to investor speculation.

Keywords: Accounting measures, market measures, earnings per share, market price, financial performance

Introduction
Accounting measures, by design, set out to record the performance of the firm's previous financial year by relying solely on the information that can be extracted from the company's income statement and balance sheet. This information is, for the most part, credible, accurate, and publicly available and thus can be highly depended upon when making an informed evaluation of regarding a business's performance. Indeed, all of these qualities lead to accounting ratios to enjoy great popularity among analysts and investors. Accountants and financial analysts commonly use ratio analysis to assess performance by comparing the present year's performance with that of previous years in order to evaluate the how a firm's financial situation is trending, namely whether they are witnessing a period of growth or alternately, a period of decline. In short, accounting indicators allow analysts to make a year-by-year comparative analysis of a company's financial performance against either its past performance, or alternatively, how a company's performance lines up with the performance of industry peers. This supplementary way of assessing performance compares the indicator performance with that of the industry benchmark, determined by measuring the average performance of companies within the same industry. This industry-based comparison has the added benefit of adding some isolation from macroeconomic factors that all industry players may be experiencing. For example, a period of significant losses across the industry may prevent misplaced conclusions from being reached regarding the management of a single entity when a wider economic contraction, and not company strategy, is to blame. However, accounting based measures, can also support the profit maximization goals of the firm by highlighting when and where a more efficient use of capital resources needs to take place. Perhaps the most important measures that can be used to evaluate the performance of business organizations are return on assets, return on equity and return on revenue. Market derived measures, in contrast, are sometimes seen as a viable answer to the perceived drawbacks of accounting-based performance indicators.

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Market based measures, because they reflect dynamic market expectations, are seen as delivering a more real-time, up to date appraisal of a company's financial standing and where investors see the company heading in the future. While accounting data remains relatively static, news within the marketplace travels fast, and can quickly change bulls into bears and vice-versa. Furthermore, unlike accounting-based measures, market data, by virtue of its generation by the marketplace, is seen as relatively void of the accounting manipulation tactics that various firms have been criticized for in the past. Naturally, firms maintain a vested interest in remaining attractive to investors, thus both accounting and market-based indicators are not without their respective risks and must be seen as complementary approaches to firm evaluation. However, investors, of which profitability is of primary importance, are thus interested in knowing which firm offers the most shareholder value. This is where the widely used market-based indicator, earnings per share, truly shines. The earnings per share indicator is one of the most commonly consulted and relied upon tools for determining the profitability of a company. Consequently, the earnings per share indicator enjoys widespread popularity as a reliable gauge of whether or not an investor should acquire shares in a given company or whether they should move on to other, more lucrative opportunities available in the marketplace. A strong pattern of upward growth in a firm's EPS may indicate that the company is becoming increasingly profitable and presents an attractive investment opportunity with considerable returns in the form of dividends. Stock price is one key indicator of market performance that supplements the earnings per share indicator. It is a product of the relationship between supply and demand offers key insight into how the market values a particular investment. A gloomy widespread outlook on a company's profitability may cause would be investors to shy away from a given share purchase and cause downward pressure on the company's share price. Indeed, these fluctuations can provide a comprehensive picture on the markets changing perception of a company's value over time.

Literature Review

Alashi (2022) [1] studies the effect of accounting measurement on the stock price for ten manufacturing companies listed in Palestine exchange for the period of 2015 to 2020. His methodology was to assess the effect of earnings per share, current ratio, debt to equity ratio, and cash flow ratio on stock price. The result of his regression analysis showed that the variables used have no significant effect on stock price.

Altahtamouni and Alslehat (2014) [2] assess the impact of accounting indicators on market share price, stock return and market value to book value. Their data is related to Jordanian Banks for the years 2002 to 2011. To test their hypotheses, they used Pearson correlation and regression analysis. The result of their research analysis reveals that all accounting indicators and current growth have a positive impact on the market share price and market value to book value. Asif et al. (2016) [3] analyze the impact of earnings per share, book value per share, capital employed per share and net operating cash flow per share on stock price. Their data sample was taken from KSE 30-Index of Pakistan Stock Exchange for the period of 2006 to 2013. Regression analysis was used to measure the impact of accounting information on share price. Their finding reveals that accounting information have significant influence on share price.

Farooq and Masood (2016) [4] measure the nature of association between financial leverage and value of cement firms in Pakistan using data of 19 KSE companies listed in Karachi stock exchange during 2008-2012. They used fixed effect and random effect techniques to measure the degree of association. The findings showed that financial leverage has positive and statistically significant relation with firm's value. Moreover, firm value has negative association with two control variables, firm size and asset tangibility.

Kramaric et al. (2021) [5] tested the determination of corporate performance of all non-financial companies listed on the Zagreb Stock Exchange for the years 2015-2019. They consider return on assets as an accounting measurement and Tobin Q as a market measurement. The potential determent variables used are inventory management, productivity, current assets ratio, quick ratio and size which have been calculated on the basis of total assets and sales. Static panel analysis has been employed. Their result of analysis reveals that size variable is the main effect on corporate performance.

Madushan E, Bogamuwa M (2021) [6] analyze the impact of return on assets and earnings per share on market price. Data used for 68 financial companies listed in Colombo Stock Exchange for the period of 2016 to 2020. Correlation and regression analyses were used. The results of their correlation analysis showed a negative relationship between return on assets and stock price. Moreover, the analysis of regression revealed significant negative impact of return on assets on stock price. The regression analysis also showed significant impact of earnings per share on stock price.

Sihombing et al. (2023) [7] analyze the impact of current asset ratio, return on equity and capital structure indicators on the price to book value indicator. The authors used secondary data for 23 firms in Indonesia, using panel data analysis. Their findings showed that current assets ratio and return on equity do not have a significant impact on price to book value indicator. In addition, the debt to total assets ratio and reference coal price (moderating variable) significantly affects price to book value indicator.

Research Methodology

To analyze the effect of accounting measures on each of earnings per share and market price, secondary data for the years 2002 to 2009 was extracted from the National bank of Abu Dhabi's annual publication officially titled as the Local Shares Directory. The research consists of three parts and is structured as follows. Firstly, with the goal of analyzing the level of stability and variability within each measure, coefficient of variation will be applied by dividing standard deviation by the mean of each measure. A higher coefficient signals a greater level of variability and instability of the measure. This analysis will be followed by a Pearson correlation coefficient, a method widely used in order to examine the nature of the relationship between each two measures under examination. The value of the correlation coefficient lies between the -1 and 1 range, where -1 indicates the existence of a perfect negative relationship between any two variables, while a value of 1 is to be interpreted as the existence of a perfect positive relationship between two variables. Finally, six linear regression analyses will be undertaken in order to precisely measure the predictive ability of each variable on the outcome of secondary dependent variables. This type of analysis possesses a great degree of usefulness as it allows

for a precise measurement of the strength of the relationship between response and explanatory variables. In a broad sense, if additional variables fail to yield any influence on the response variables, a complete predictive model can then be created that wholly explains, and thus perfectly fits, the outcome of the response variables.

Descriptive Analysis
Table one shows the analysis of the five variables of the eight years
1. **Return on Revenue:** This measurement indicates a percentage of the revenue generated by sales. It is calculated by dividing net income on sales revenue. The higher the ratio means a more revenue is generated by sales. The mean of the data is 17.40% while the standard deviation is 6.68%. The coefficient of variation is 38.39%. The minimum value of this measure is 11.54% which related to 2002, while the maximum value is 30.67% which is related to the year of 2007.
2. **Return on Assets:** This measurement shows the efficiency of using the business assets to generate income. A higher ratio indicates more efficient in using the assets of business organization. It is calculated by dividing net income by total assets. The mean of this measure is 8.46% and the standard deviation is 2.58%. The coefficient of variation is 30.50%. The minimum value is 5.90% which is related to 2006, while the maximum value is 13.33% related to the year of 2007.

3. **Return on Equity:** This measurement shows the rate return realized by the shareholders on their investments. A higher rate means that a business firm is efficient in using owners' equity. It is calculated by dividing net income over shareholder's equity. The mean of this measure is 11.04% and the standard deviation is 3.35%. The coefficient of variation is 30.34%. The minimum value is 7.63% which is related to 2006, while the maximum value is 16.87% is related to the year of 2007.
4. **Earnings per Share:** This measures the profitability of outstanding share over the year. A high EPS indicate a profitability and the possibility of paying dividends to the shareholders. The mean of this measure is AED 0.21 and the standard deviation is AED 0.07. The coefficient of variation is 33.33%. The minimum value is AED 0.13 which is related to the year 2006, while the maximum value is AED 0.34 which is related to year of 2007.
5. **Market price:** This indicator shows the market price of the share over the eight years. A high market price indicates the willingness of investors in buying the stock. The mean of this measure is AED 2.72. The standard deviation is AED 1.25. The coefficient of variation is 46% which the highest coefficient among the variables used in this study. The minimum value is AED 1.23 which is related to the year 2008, while the maximum value is AED 4.67 which is related to the year 2005.

Table 1: Descriptive Analysis

Year	Accounting Indicators			Market Indicator	
	Return on Revenue %	Return on Assets %	Return on Equity %	Earnings per Share	Market Price
2002	11.54	6.55	8.42	0.14	1.95
2003	12.75	7.67	10.48	0.19	3.92
2004	13.29	8.15	10.14	0.19	3.87
2005	21.46	11.39	15.51	0.30	4.67
2006	12.03	5.90	7.63	0.13	1.89
2007	30.67	13.33	16.87	0.34	2.37
2008	21.41	8.01	10.44	0.21	1.23
2009	16.08	6.71	8.85	0.18	1.83
Mean	17.40	8.46	11.04	0.21	2.72
Standard Deviation	6.68	2.58	3.35	0.07	1.25
Coefficient of Variation	38.39%	30.50%	30.34%	33.33%	46%
Minimum	11.54	5.90	7.63	0.13	1.23
Maximum	30.67	13.33	16.87	0.34	4.67

Correlation Analysis
Table 2 shows the relationship analysis of the three accounting indicators and earnings per share. Return on revenue has strong relationship with return on assets with coefficient 0.888, return on equity 0.867 and earnings per share 0.913. In addition, return on assets found to have strong relation with return on equity with coefficient 0.992

and earnings per share coefficient 0.985, while return on equity relation with earnings per is highest among other two indicators with coefficient 0.989. The market price has a negative relation with return on revenue -0.049 and moderately week relation with return on assets 0.337, return on equity 0.431, and earnings per share 0.356.

Table 2: Correlation Analysis

Indicator	Accounting Indicators			Market Indicator	
	Return on Revenue	Return on Assets	Return on Equity	Earnings per Share	Market Price
Return on Revenue	1.000	0.888	0.867	0.913	-0.049
Return on Assets	0.888	1.000	0.992	0.985	0.337
Return on Equity	0.867	0.992	1.000	0.989	0.431
Earnings per Share	0.913	0.985	0.989	1.000	0.356
Market Price	-0.049	0.377	0.431	0.356	1.000

Regression Analysis

Table 3 shows the result of six analyses. The first analysis shows the influence of return on revenue on earnings per share. The R-squared is 0.83 showing that 83% of the change in earning per share can be explained by return on revenue. For the second model, the changes in earning per share is affected by 97% by return on assets, while the effect percentage of return on equity on earnings per share is 98%. The three types of regression analyses are statistically significant at 5% level with F-test value 30.16 and its significant 0.002 for the return on revenue model, and 201.87 with significant 0.000 for the return on assets model, and 276.08 and its significant 0.000 for the return on equity model. Moreover, based on regression coefficient, return on revenue positively affects the earning per share by 0.91 and both return on assets and return on equity have same affects by 0.99. Furthermore, the results of the three linear regression analyses related to study the effect of accounting measures on stock price indicate insignificant F-Test at 5% level.

Table 3: Regression Analysis

Model	Coefficient	R-Squared	F-Test	Significant
Influence of return on revenue on earnings per share	Return on revenue beta is 0.91	0.83	30.16	0.002
Influence of return on assets on earnings per share	Return on assets beta is 0.99	0.97	201.87	0.000
Influence of return on equity on earnings per share	Return on equity beta is 0.99	0.98	276.08	0.000
Influence of Return on revenue on market price	Return on revenue beta is -0.05	0.00	0.01	0.908
Influence of Return on assets on market price	Return on assets beta is 0.38	0.14	1.00	0.357
Influence of return on equity on market price	Return on equity beta is 0.43	0.19	1.37	0.287

Conclusion

The aim of this research paper has been to assess the influence of accounting measures on each of earnings per share and market price per share of Gulf Pharmaceutical Industries Corporation. The coefficient of variation analysis indicates a medium level of variability and instability for all profitability measures 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 measures all commonly showed elevated levels of connectivity. In addition, analyses of the relationship between the three accounting measures supported the existence of a strong link between each of the three variables and the earnings per share measure. Finally, the results of the first three regression analyses indicate that profitability measures are influenced the earnings per share measure. Moreover, the coefficient of variation for market price has the highest variability and instability among the measures used in this study. The correlation analysis indicates either negative or moderately weak relation between stock price and the four profitability measures. The final three regression analyses reveal an absence of significance regarding the final three models. These three data models all exhibit random and unpredictable movement in the stock price over the eight years studied, pointing to industry exposure to the profound effects of external macroeconomically factors taking place at the time.

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