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Profitability measures and their impact on interpreting changes in market value added (MVA): Evidence from pharmaceutical and chemical companies

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Abstract: Investors and company managements often rely on traditional performance evaluation indicators, such as return on equity, return on assets, and other financial ratios, to explain changes in a company's market value added (MVA). However, the effectiveness of these traditional measures in explaining market value fluctuations remains uncertain. This research aims to investigate the impact of various profitability measures, namely return on equity, gross profit margin, operating profit margin, and return on assets, on explaining changes in the MVA of pharmaceutical and chemical companies listed on the Amman Stock Exchange. To achieve the study's objectives, we analyzed the published financial statements of a sample consisting of 14 industrial companies out of a total of 53 companies listed on the Amman Stock Exchange during the period from 2008 to 2022. Relevant financial indicators were extracted from these statements to serve the purposes of the study. Correlation coefficients were employed to measure the extent to which the independent variables (profitability measures) could interpret changes in the dependent variable (MVA). One of the most significant findings of the study is that three dimensions of profitability measures have a statistically significant impact on explaining changes in the MVA of pharmaceutical and chemical companies listed on the Amman Stock Exchange, albeit to varying degrees. This suggests that traditional profitability measures still play a crucial role in influencing market perceptions of a company's value, despite the potential limitations of these measures in capturing the full scope of a company's performance and potential.

Keywords: profitability; market value added; industrial companies; chemical companies; Amman Stock Exchange

1. Introduction

Performance evaluation is a vital process for corporate success, enabling the identification of areas that require improvement. Therefore, it is essential to define the requirements for optimal assessment and focus on appropriate metrics associated with measurement frameworks. By doing so, the determinants of successes or failures can be identified. Various value-centered performance appraisal methodologies have emerged to address the limitations inherent in traditional profit-oriented financial analyses. These value-based approaches are believed to encourage managerial actions

that enhance net worth creation (Sujata, 2020).

The concept of market value added (MVA) has attracted research attention due to economists' emphasis on increasing stock market capitalization as a means of promoting economic growth (Kadar and Rikumahu, 2018). Previous studies have suggested an underlying relationship between firm valuation and incremental value addition, as corporate worth increases with productivity improvements and stock market appreciation (Alqudah et al., 2023). However, conventional profitability ratios used in accounting evaluations have proven inadequate in explaining the dynamics that govern share price and market capitalization fluctuations (Nakhaei, 2016). The emergence of modern financial performance metrics based on corporate and shareholder wealth creation has raised questions about the explanatory power of accounting profit figures during appraisals, given the lack of consistency in reporting standards (Al Houl et al., 2023; Omneya et al., 2021).

Significant debates exist in the accounting literature regarding the ability of traditional metrics to explain variations in ownership and enterprise value within capital markets. This is attributed to the alignment of these benchmarks with managerial priorities rather than investor interests (Sahara, 2018). While profitability indicators may partially underscore stock valuation changes through consensus among stakeholders on profit as the primary measure of corporate welfare (Alshehadeh et al., 2022b), they have been heavily criticized for their inadequacies, leading to the adoption of enhanced parameters for determining fair asset valuation. MVA is a crucial barometer for investors as it reflects a company's ability to enhance ownership worth and creditor enrichment (Sujata, 2020). Companies with positive MVA indicate their capacity to increase ownership value, while negative values signify capital attrition (Rio and Viviana, 2020). Therefore, this metric deserves consideration during performance analyses to assess growth potential, although it should not be used in isolation (Ramana, 2005).

Presently, MVA is widely recognized as an economic indicator of the magnitude of ownership capital and debt capacity improvements (Kumar and Sharma, 2011). It has gained popularity for quantifying corporate valuation dynamics from holistic financing viewpoints that encompass both equity and liabilities (Sahara, 2018). Its application allows companies to demonstrate their competence in generating current and prospective gains. By explaining company value and return fluctuations better than traditional profit-centric markers (Omneya et al., 2021), this index represents the primary means of measuring shareholder prosperity enhancements. The overarching objective of financial activities is to increase profitability and investor wealth through prudent resource allocation (Al-Zaqeba et al., 2022). Profitability is a crucial indicator of a company's ability to effectively utilize its resources, including investments, operations, and financial assets, to generate positive returns relative to its available capital (St-Hilaire and Boisselier, 2018). This study primarily aims to investigate the influence of various profitability metrics on explaining fluctuations in the MVA of pharmaceutical and chemical companies listed on the Amman Stock Exchange (ASE) in Jordan.

Problem statement and research questions

The accounting paradigm's focus on profits as the sole criterion for performance measurement and evaluation has limited financial reporting objectives primarily to meeting investor and stakeholder information requirements regarding corporate short-term profit maximization efforts (Al-Omari et al., 2024). However, these traditional metrics have become insufficient due to their emphasis on outcomes without explaining contributing factors, thereby lacking usefulness for assessing value creation initiatives (Nugroho, 2018). Significant debate exists in the accounting literature concerning the optimal measures for explaining business performance and the drivers of shareholder and creditor wealth fluctuations (Elrefae et al., 2024). Conflicting and controversial results have emerged from relevant studies, with some demonstrating the superiority of economic value added (EVA) and MVA over traditional accounting parameters in explaining ownership capital and debt capacity variations. In contrast, other analyses refute these findings, attributing greater explanatory power for performance changes and positive cash flow generation to profit-based accounting ratios (Alshehadeh et al., 2022b).

Undeniably, traditional corporate evaluation approaches based on accounting profit metrics such as return on assets (ROA), return on equity (ROE), and earnings per share have faced multifaceted criticisms due to their susceptibility to distortions arising from executives' preferred calculation methodologies and reporting policies (Nakhaei, 2016). To overcome these deficiencies, particularly the manipulability of accounting processes and outcomes by managerial authorities in determining beneficial information flow and standards (Ehrhardt and Brigham, 2017), a review of these indicators is necessary. More accurate tools based on non-traditional techniques, such as the MVA index, which is considered superior for quantifying and benchmarking dynamics in shareholder and investor wealth (Alipour, 2015), are urgently needed. Given the significance of profitability in assessing a company's financial performance, this study seeks to address the following overarching research question:

To what extent do profitability measures influence the interpretation of changes in the MVA of pharmaceutical and chemical companies listed on the ASE?

To further explore this central question, the study proposes the following sub-questions:

- How does ROE affect the interpretation of MVA fluctuations in pharmaceutical and chemical companies listed on the ASE?
- What is the relationship between ROA and the explanation of MVA variations in pharmaceutical and chemical companies listed on the ASE?
- In what ways does gross profit margin (GPM) impact the understanding of MVA changes in pharmaceutical and chemical companies listed on the ASE?
- To what degree does operating profit margin (OPM) influence the interpretation of MVA transformations in pharmaceutical and chemical companies listed on the ASE?

2. Literature review

2.1. Market value added (MVA)

MVA is considered one of the most common modern evaluation methods, especially after traditional performance measures have become less effective in evaluating the financial and accounting performance of companies in light of the modern industrial environment. This has made it necessary to use new indicators that suit the development in the industrial environment and enable companies to follow their performance with the aim of indicating the amount of change in shareholders' wealth (Mona et al., 2023). MVA is a measure of financial performance that evaluates the value a company creates for its shareholders from the perspective of the market and not from the perspective of the company (Saputra and Zulkifli, 2022). It goes beyond traditional accounting measures and takes into account the market's perception of the company's value (Esakkiammal and Kasturi, 2023).

The primary purpose of any for-profit company is to enhance the wealth of its shareholders, and this enhancement becomes clear by comparing the company's market value with its invested capital (Yudhistira et al., 2023). If the result of the comparison is positive, it means that investors' expectations about the company's future performance will be one of continuous and strong growth. In this case, the MVA is positive, which is reflected in the value of the company's shares and the trading volume of its shares. If the comparison result is negative, it means that the market's expectations about the company's performance contain potential risks and that there are potential concerns about the continuity of achieving positive flows in the future (Al-Omari et al., 2024).

Thus, the MVA provides a compass for executives who seek to make investment decisions through which they demonstrate their use of the company's available resources efficiently and effectively in a way that achieves the drawn-up plans for achieving acceptable profitability rates that would maximize the wealth of shareholders and lenders and maximize the company's market value (Philip et al., 2022). The market value is the result of the company's performance and the success of its strategies, and it is the basic element on the basis of which the company's performance is evaluated and the stated goals that have been achieved are stated (Philip et al., 2022). The importance of the market value is highlighted as it is one of the most important values from the point of view of investors. It reflects the economic value of shareholders' rights and helps financial management determine the value of the company and maximize its wealth by increasing the market value of its shares. Therefore, the market value of the share is the best measure of the company's value (Mona et al., 2023).

MVA is a crucial measure for assessing changes in shareholder wealth from a market perspective rather than a cost perspective (Nufazil, 2016). MVA represents the difference between the total market capitalization and the net book value of capital assets (Ramana, 2005). The aggregate market price of a company's stock over a specified period reflects market efficiency and trading performance (Rio and Viviana, 2020) and is thus relied upon by analysts, appraisers, and financial observers as an indicator of operational competence and transparent stock exchange dealings (Alipour,

2015).

As an economic model for determining fluctuations in ownership and creditor wealth, MVA plays a vital role in informing decision-makers, shareholders, and investors, stimulating stock trading activities (Kumar and Sharma, 2011) and influencing corporate market valuations (Alsmadi et al., 2020). However, unlike EVA, MVA simply measures wealth variations rather than serving as a direct performance metric, with larger publicly traded firms being the primary adopters (Nugroho, 2018). By quantifying the overall value accumulated over time (Nufazil, 2016), MVA signifies the ability of leadership to expand shareholder and lender capital (Rio and Viviana, 2020).

Positive MVA indicates increased investor wealth through corporate activities that generate returns exceeding capital costs, signaling efficient resource allocation. This leads to higher market valuations compared to invested capital, favorably positioning the company for potential backers (Johan, 2019). Conversely, negative MVA suggests shareholder value erosion from suboptimal investments, with market valuations lagging behind invested capital to the detriment of investor interests (Ramana, 2005).

As MVA encapsulates managerial and operational success in leveraging contributed capital to maximum effect, positive values indicate upward asset value trajectories, while negative scores signify failure to expand market value and wealth diminution (Al-Tamimi et al., 2023; Nugroho, 2018).

While maximizing market value is a crucial goal for many companies, it may face several challenges. Some argue that the primary objective of a company should be to satisfy shareholders rather than solely focusing on generating wealth for them. According to Mona et al. (2023), good management must strive to satisfy shareholders by consistently providing them with periodic profits and returns. However, this perspective may overlook the importance of long-term value creation and the role of market value in attracting investors and ensuring the company's future growth.

Another challenge in maximizing market value lies in the difficulty of estimating expected profit flows and the associated risks. Al-Omari et al. (2024) point out that attempting to estimate the risks related to these flows can complicate the process of analysis and decision-making in practical reality. This complexity arises from the inherent uncertainty in predicting future market conditions, consumer behavior, and other factors that may impact the company's profitability.

Despite these challenges, maximizing market value remains a critical goal for companies seeking to attract investors, secure funding for growth, and maintain a strong position in their industry. By carefully analyzing market trends, assessing risks, and making strategic decisions, management can work towards maximizing market value while also ensuring shareholder satisfaction through consistent profits and returns.

Several key factors affect MVA, which can be summarized as follows (Alipour, 2015):

1) Growth rates in revenues, net operating profit, and invested capital. For MVA to be positive, these growth rates must exceed the cost of invested capital.
2) Productivity of invested capital. As this productivity increases, under stable or decreasing invested capital, MVA increases, especially with a decrease or

stability in the cost of capital.

3)   The minimum required profit margin to create additional wealth for shareholders.

A company's market value is determined by a combination of internal factors, external factors, and non-financial factors (Mona et al., 2023; Saputra and Zulkifli, 2022; Yudhistira et al., 2023).

Internal factors are those that the company has control over and can manage through rational decision-making by its management. These factors include the company's history, size of resources, trading volume of its shares on stock exchanges, expected cash flows, and the discount rate. By effectively managing these internal factors, a company can positively influence its market value.

On the other hand, external factors are those that the company has no control over, as they are not directly related to the company itself. These factors include monetary inflation rates, interest rates (whether high or low), economic conditions that the country may face, and relevant legislation and laws. Although the company cannot control these external factors, it is essential to consider their impact on the company's market value.

Non-financial factors also play a role in determining a company's market value. These factors include price manipulation operations and unauthorized trading, which can cause significant problems in the industrial sector as a whole. Such non-financial factors can have a detrimental effect on a company's market value and the overall market sentiment.

When calculating the MVA indicator, it is generally assumed that the value of long-term debt remains unchanged and is equivalent to its book value. As a result, the market value is determined by calculating the difference between the equity's market value and its corresponding book value (Oudat et al., 2020). This calculation provides a measure of the company's ability to create value for its shareholders (Alzoubi et al., 2024).

2.2. Profitability and its indicators

Companies strive to achieve objectives that ensure their viability by securing an adequate market share to support efficient and sustainable operations. Profitability is a crucial aim that underpins these outcomes (Al-Shahadah et al., 2023). As a fundamental financial pillar, profitability enables credibility, competitiveness, and investor appeal while facilitating current and prospective positive cash flow generation at optimal expense (Rahaman et al., 2018). All for-profit entities consider profitability an essential priority for survival (Al Omari et al., 2017). Furthermore, by measuring the ratio between income and the required investment, profitability signifies managerial competence in resource allocation (Alshehadeh et al., 2022a).

In essence, profitability encapsulates the net impact of policies and decisions, reflecting operational effectiveness (Alshehadeh and Al-Khawaja, 2022). As Ehrhardt and Brigham (2017) explain, robust profitability indicates financial stability and effective coordination of corporate activities in generating present and future returns on investment. Since profitability reflects a company's internal income generation capabilities, shareholders heavily rely on profit analysis to assess the potential for dividend issuance, while creditors use such information to evaluate debt repayment

potential (Amirpour and Mohammad, 2015). Thus, current and expected profitability serves as a vital indicator of financial performance.

From another perspective, by quantifying returns on available capital and assets, profitability interprets the optimality of resource exploitation (Alshehadeh et al., 2024). It reflects the capability to produce positive cash flows exceeding expenses and satisfying key stakeholders (Alshehadeh et al., 2022a). Ultimately, robust profitability encapsulates the propensity for profit maximization and, by extension, the sustainability of operations and the pursuit of corporate goals. It serves as both a gauge of efficiency and a harbinger of endurance.

Multiple profitability benchmarks enable the assessment of corporate financial management effectiveness (Akgun et al., 2018; Ross et al., 2016):

1) ROA gauges the capability to harness invested resources toward income generation, measuring asset productivity regardless of capital structure (Alshehadeh et al., 2022a). Thus, in addition to external stakeholders, this metric holds significance for leadership by quantifying revenue creation prowess from available assets, with higher values signifying greater capital efficiency and profit maximization (Gibson, 2016).

2) ROE is a widely employed parameter for determining shareholder returns on furnished equity. By evaluating net income against owner investments, this delineates managerial aptitude in allocating contributed capital (Kadar and Rikumahu, 2018). While higher ROE suggests effective utilization, disproportionate reliance on external funding could indicate associated risk despite muted asset returns (Rahaman et al., 2018).

3) GPM appraises competence in optimizing cost factors involved in core operations to expand income (Rahaman et al., 2018). By quantifying gross profit as a percentage of turnover, GPM interprets the influence of expense constituents on bottom-line margins before incurring losses (St-Hilaire and Boisselier, 2018).

4) OPM isolates returns strictly from essential activities, delineating operating efficiency without external variables like financing and taxation (Alshehadeh, 2021; Omneya et al., 2021). As leadership exerts direct control over internal environments alone, reviewing pertinent trends forms an integral component of performance evaluations and oversight mechanisms (Gitman and Zutter, 2015).

3. Methods

3.1. Study population and data collection

The study population comprises 53 Jordanian industrial companies listed on the ASE. A purposive sample of 14 companies operating in the pharmaceutical and chemical industry was selected (Jebril et al., 2024). This sample was chosen due to the homogeneity of their activities, which is not available in the rest of the sector to achieve a statistically representative sample size. Additionally, these companies had complete primary data and financial reports from 2008 to 2022 and did not experience stock trading interruptions during the study period.

3.2. Data collection and analysis methods

The research methodology involved analyzing data from the annual financial statements issued by the sample companies between 2008 and 2022. The data were categorized according to the study variables and examined using various statistical techniques, including arithmetic means, standard deviations, and simple and multiple regression analyses. The primary objective was to test the study hypotheses, answer the research questions, and draw conclusions by investigating the relationships between variables and the underlying mechanisms driving the observed phenomena within the sample companies over the specified time period.

3.3. Analysis method

In the statistical analysis, multiple and simple linear regression models were employed. The significance of each independent variable was assessed by comparing its p-value with the level of significance (α), set at 0.05 for a 95% confidence level. The decision rule followed the conventional approach: If the *p*-value is less than α (*p*-value $< \alpha$), the null hypothesis is rejected in favor of the alternative hypothesis, indicating a statistically significant effect of the independent variable on the dependent variable. If the *p*-value is greater than or equal to α (*p*-value $\geq \alpha$), the null hypothesis cannot be rejected, suggesting no statistically significant effect of the independent variable on the dependent variable.

3.4. Study variables

The independent variable is represented by profitability measures, including:
- ROA = (Net Income after Taxes + (Interest Expense × (1 − Tax Rate)))/Average Total Assets (Al-Omari et al., 2024; Gibson, 2016).
- ROE = Net Income after Taxes/Average Total Equity (Gitman and Zutter, 2015; Gibson, 2016).
- GPM = Gross Profit/Net Sales (Gibson, 2016).
- OPM = Operating Profit before Interest and Taxes/Net Sales (Gibson, 2016).

The dependent variable represented by MVA is calculated according to the following equation (Nugroho, 2018; Sujata, 2020):
- MVA = (Number of Shares × Share Price) − (Total Equity + Total Debt)

The control variables represented in both company size, measured by the natural logarithm of total assets, and financial leverage, measured by Long-Term Debt/Total Assets (Lamerikx, 2012).

3.5. Study model

The aggregate model for testing multiple regressions is formed by the following equation:

$$\text{MVA}_{jt} = \beta_o + \beta_1 \text{GPM}_{it} + \beta_2 \text{OPM}_{it} + \beta_3 \text{ROA}_{it} + \beta_4 \text{ROE}_{it} + \beta_7 \text{SC}_{it} + \beta_8 \text{LR}_{it} + \varepsilon_{it}$$

where: ε_{it}: Random Error; β: Regression Coefficients; β_o: Constant part of the regression equation; GPM: Gross Profit Margin; ROE: Return on Equity; OPM: Operating Profit Margin; ROA: Return on Assets; SC: Company Size; LR: Financial Leverage.

4. Results

The following **Table 1** displays the results of the descriptive analysis of the values of the variables in the model that was adopted to test the effect between the dependent and independent study variables:

Table 1. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
GPM	210	0.014	0.821	0.641	0.1143	1.579	0.132	3.267	0.342
OPM	210	0.024	0.943	7.216	0.4230	7.564	0.132	22.440	0.342
ROA	210	0.026	5.797	4.013	0.8531	9.564	0.132	21.257	0.342
ROE	210	0..017	3.543	2.481	0.7256	0.423	0.132	13.521	0.342
MVA	210	0.073	8.216	6.204	1.7162	0.568	0.132	27.102	0.342
SC	210	14.60	27.56	22.456	1.9710	0.075	0.132	11.246	0.342
LR	210	0.0476	7.419	6.407	0.2703	0.127	0.132	52.563	0.342
Valid *N* (listwise)	210								

From **Table 1**, the arithmetic mean and standard deviation were determined, and the normal distribution was analyzed for all study variables. We note that all arithmetic averages were within acceptable ranges. The profitability indicators, such as OPM, exhibited satisfactory levels, indicating the efficiency of the operating activities of pharmaceutical and chemical companies. The OPM index ranked first among profitability indicators. Furthermore, the arithmetic averages for the MVA index demonstrated a high percentage, signifying the financial stability of these companies and mitigating their exposure to financial distress. The arithmetic mean of firm size, represented by the natural logarithm, was approximately 22.456, indicating substantial asset size characterized by stability and growth, which enhances their ability to generate positive cash flows in the future. Additionally, **Table 1** shows that all study variables exhibit a normal distribution, which is a desirable property for statistical analysis and inference.

To rigorously assess the veracity of this study main hypothesis, the correlation coefficient was computed between the various facets of profitability and their aptitude for explicating fluctuations in the MVA of pharmaceutical and chemical companies listed on the ASE. As shown in **Table 2**, the absolute correlation coefficient between the various dimensions of profitability and their capacity to elucidate variations in MVA was found to be 0.317, achieving statistical significance at the $\alpha < 0.05$ threshold. This finding points to a noteworthy relationship and impact between these variables, implying that as the magnitude of the profitability dimensions increases, their influence on explicating fluctuations in MVA for the listed pharmaceutical and chemical enterprises also intensifies. The coefficient of determination ($R^2 = 0.211$) suggests that the profitability metrics were responsible for accounting for approximately 21.1% of the observed variability in MVA. Furthermore, the *F*-value for all independent variables attained statistical significance at the $\alpha < 0.05$ level and surpassed the tabular *F*-value. This outcome furnishes evidence in support of the

alternative hypothesis, asserting the presence of a statistically significant effect, at the $0.05 \geq \alpha$ level, of the profitability dimensions on the MVA of pharmaceutical and chemical companies listed on the ASE.

Table 2. Summary of multiple regression testing for profitability dimensions and MVA interpretation.

Dependent variable	Correlation coefficient R	Coefficient of determination R^2	Adjusted R squared	Independent variables	Standard error of the estimate	F-value	P-value
MVA	0.317	0.211	0.079	GPM	17,632,145.12	12.423	0.000
				OPM	17,253,476.23	7.418	0.002
				ROA	17,923,146.72	5.249	0.001
				ROE	17,013,864.34	1.654	0.004

Testing of sub-hypotheses

To evaluate the sub-hypotheses, correlation coefficients were computed between each profitability dimension measure and MVA for the listed pharmaceutical and chemical companies. The analysis of **Table 3** reveals that GPM emerged as the most salient metric in elucidating variations in MVA. The absolute correlation coefficient between these two variables was found to be 0.308, achieving statistical significance at the $\alpha < 0.05$ threshold. This finding suggests a noteworthy relationship and impact, whereby an increase in GPM is associated with a concomitant rise in MVA for the pharmaceutical and chemical enterprises under examination. The $R^2 = 0.095$ indicates that GPM was responsible for explicating approximately 9.5% of the observed variability in MVA. Moreover, the F-value of 17.368, which attained statistical significance at the $\alpha < 0.05$ level, furnishes evidence in favor of the alternative hypothesis, asserting the presence of a statistically significant influence of GPM on the MVA of pharmaceutical and chemical firms listed on the ASE.

Table 3. Linear regression analysis summary: Independent variables and the dependent variable.

Dependent variable	Correlation coefficient (R)	Coefficient of determination (R^2)	Adjusted coefficient of determination	Independent variables	Standard error of the estimate	F-value	P-value
MVA	0.308	0.095	0.089	GPM	17,091,951.37	17.368	0.000
	0.229	0.053	0.047	OPM	17,485,520.15	9.206	0.003
	0.222	0.049	0.043	ROA	17,517,264.37	8.572	0.004
	0.035	0.001	−0.005	ROE	17,952,949.17	0.202	0.654
	0.018	0.173	0.038	SC	12,346,861.33	4.140	0.000
	0.037	0.082	0.085	LR	12,542,304.51	5.701	0.001

Additionally, **Table 3** presents the absolute correlation coefficients between OPM and MVA, which stood at 0.229, demonstrating statistical significance at the α level of 0.05 or greater. This result indicates a noticeable connection between OPM and MVA, suggesting that an upward trend in OPM correlates with a corresponding increase in MVA for the pharmaceutical and chemical firms listed on the ASE. The $R^2 = 0.053$ implies that OPM explains roughly 5.3% of the fluctuations observed in MVA. Furthermore, the statistically significant F-value of 9.206 at the α level of less than 0.05 reinforces the alternative hypothesis, confirming a significant effect of OPM on

the MVA of these companies.

Moreover, **Table 3** shows the absolute correlation coefficient between ROA and MVA, which was calculated at 0.222, achieving statistical significance at the α level of 0.05 or greater. This outcome suggests a notable relationship between the variables, indicating that an increase in ROA corresponds with a rise in MVA for the listed pharmaceutical and chemical firms. The $R^2 = 0.049$ suggests that ROA accounts for approximately 4.9% of the variance observed in MVA. The statistically significant *F*-value of 8.572 at the *α* level of less than 0.05 provides further evidence supporting the alternative hypothesis, indicating a significant effect of ROA on the MVA of these companies.

However, **Table 3** also reveals the absolute correlation coefficient between ROE and MVA, which was calculated at 0.035, failing to achieve statistical significance at the *α* level of less than 0.05. Although this finding suggests a connection between the variables, with increases in ROE linked to rises in MVA, the $R^2 = 0.001$ indicates that ROE explains only 0.1% of the variance observed in MVA. The non-significant *F*-value of 0.202 at the *α* level of less than 0.05 aligns with the null hypothesis, indicating the absence of a statistically significant effect of ROE on the MVA of pharmaceutical and chemical firms listed on the ASE. Finally, **Table 3** highlights a notably positive influence of Company Size and Financial Leverage on variations in MVA for the companies under study, reaching significance levels below 0.05%.

5. Discussion

The MVA is the most important and true indicator in knowing the external performance of companies, which is considered a means to attract current and prospective investors because it indicates that those in charge of these companies possess good governance in employing resources that achieve higher cash flows and affect the trading volume of their shares. It also does not only reflect wealth. Shareholders, but it also reflects the financial market's assessment of the net present value of the company as a whole, in addition to being considered a fundamental measure that summarizes the company's administrative performance and shows the extent of its success in employing its resources in order to achieve maximum rates of profitability that will increase the wealth of shareholders and lenders.

The MVA (AMV) index has gained prominence as an external gauge for determining transformations in corporate worth and sustainability, encompassing comprehensive financing expenses spanning both capital structures. By quantifying value generation, this metric offers a more holistic economic perspective on equity dynamics compared to purely accounting-based measures. Consequently, this study aims to delineate the extent of profitability metric influences in shaping and elucidating AMV trajectory shifts. Such insights hold immense significance for leadership, shareholders and investors in strategizing current and prospective positions regarding retention or divestment of company stock. The results indicate no statistically significant bearing of ROE in interpreting AMV fluctuations for the companies under examination, consistent with past analyses by Kadar and Rikumahu (2018) and Nakhaei (2016) which found no correspondence with equity prices. However, these findings contradict select previous studies such as Alipour (2015) and

Sujata (2020) which associated market values more closely with conventional financial ratios rather than AMV parameters.

Additionally, GPM exhibited a statistically significant effect on explaining AMV variations. These observations align with earlier research by Akgun et al. (2018) and Nakhaei (2016) arguing that traditional indicators alone cannot effectively capture wealth dynamics, necessitating modern benchmarks like AMV to provide clearer performance insights enabling leadership to better gauge value creation.

The study also demonstrates a significant impact of OPM on elucidating AMV fluctuations, echoed by Akgun et al. (2018) and Alipour (2015) who affirmed profit margin relevance in interpreting incremental market value changes. Similarly, ROA (ROA) was found to meaningfully influence AMV, consistent with Akgun et al. (2018), Alipour (2015), and Amirpour and Mohammad (2015) regarding the superiority of AMV over other parameters in explaining equity pricing behavior.

6. Conclusion

The MVA has a set of features that distinguish it and that make it the most important indicators used in measuring the external performance of companies. This measure is used today by those interested in the economics of these companies, including investors and financial analysts, to indicate the amount of change in shareholders' wealth through the management of their assets, liabilities and capital, as The MVA is superior to other measures in determining the future value of cash inflows, as it represents the cost of capital and shareholders' equity invested in the company. The MVA also reflects the extent of companies' ability to allocate resources and analyze stock returns using the MVA, as the allocation of funds that can be controlled can be controlled. Achieving significant net cash flow and higher stock returns, all of which would contribute to increasing current and prospective shareholders' wealth.

The results of this study showed that achieving acceptable rates of profitability with its various indicators plays an influential role in achieving the rates of change in the MVA of the companies under study, as achieving acceptable rates of profitability enables companies to maintain their continuity and survival, strengthen their financial position, and increase equity wealth. Its ownership, enhancing its solvency, and liquidity, which increases its ability to confront the risks and obligations it faces.

Based on the previous results, we call on pharmaceutical and chemical companies listed on the Amman Stock Exchange to pay more attention to the MVA index so that the methods for its preparation are unified so that it is included among the indicators approved by the Amman Stock Exchange alongside traditional performance indicators, for investors and financial analysts to rely on when making decisions. related to the purchase and sale of company shares, and calling on companies to apply the MVA index to internal investment decisions and to link it to their incentive system because of this indicator's ability to demonstrate the elements of current and future value creation in a clearer and more comprehensive manner than traditional performance indicators, in addition to adopting the MVA as one of the indicators. The basic foundations when developing future plans to invest funds that achieve the largest possible amount of profits within an acceptable degree of liquidity and relatively low

risks in order to maximize the final net profit to the maximum extent possible and in a way that will lead to an increase in the fair value of the company's shares itself.

Author contributions: Conceptualization, ARA; methodology, ARA and LFAM; software, SE; validation, SE, and ARA; formal analysis, HMH; investigation, LFAM; resources, HAA and ARA; writing—original draft preparation, ARA; writing—review and editing, SE and HAA; project administration, ARA. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

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