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The Effect Of Added Market Value On Stock Pricing Efficiency According To The Sharpe Model

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Abstract:

The main objective of the research is to study the effect of added market value on the efficiency of stock prices according to the Sharpe model for pricing corporate stocks, according to what emerged from the literature review at the theoretical level, including previous studies, and to deduce its trends associated with the power of interpretation predicted by the research hypotheses in their content related to the impact of value. Added market value to the efficiency of stock prices of the companies studied at the level of the industrial sector in the Iraqi Stock Exchange. A sample was tested using a purposive sampling method that included (13) thirteen industrial companies contributing to the Iraqi Stock Exchange out of (21) twenty-one industrial companies. Over the time horizon of the research, which is (13) thirteen years (2010-2022), then the variables were measured and analyzed at the financial and statistical levels, described and interpreted using the double data method (panel data) to show the impact of the time series, as well as using description and inference tools. Statisticians, including measures of central tendency and dispersion in relation to the results of statistical description, correlation and regression as far as interpretation and inference are concerned, and after conducting mathematical analyzes of the studied company data and testing the research hypothesis in the selected sample, a number of results were reached, including the effect of the added market value owned by the companies Directly with the company's stock prices according to the use of the Sharpe model for stock pricing, and companies that have an added market value have high stock prices as a result of their possession of a high market value and thus a distinctive position among other competitors. Also, companies that have an added market value achieve large profits, and it is Then the research came out with a number of recommendations, paying attention to the availability and measurement of the added market value of Iraqi industrial companies contributing to the Iraqi stock market, which contributes to maximizing the companies' stock prices. The research also came up with a number of future studies that require other designs in the way of scientific investigation and an attempt to improve the theory. .

Paper type: Research paper

Keywords: Added market value, stock pricing efficiency.

1. Introduction:

For a long time, profit maximization was the main goal of corporate management, but such a goal demonstrated a series of restrictions, for example, focusing on a short period of time instead of the medium and long period, and relationships with customers, suppliers, and employees. Therefore, the focus was on another goal, which is maximizing the company's value and wealth. Contributors. In order to create value a company must generate revenues large enough to cover operating expenses, and ensure...the compensation the Suitable for invested capital. The added market value MVA (Market Value Added) is an indicator Serve to know ability The company aims to create added value, and the development of this indicator is closely linked to the development of the share price, which is also affected by each of the quantifiable financial indicators .And it is consideredMarket value added is one of the most accurate approaches or models at the present time to measure the performance of companies and the stock Iraqi -t on the variation in the efficiency of pricing shares in jointextent of its impac industrial companies, which are listed in the Iraq Stock Exchange, provided that pricing .efficiency is measured through the Sharpe ratioSharpe. Thus, improving their performance, as the precise pricing of shares of industrial companies is a measure for making decisions and the performance of companies, and through it, investors infer the decision-making and differentiation in purchasing the shares of a particular company and the extent of its success or not.

This research includes four sections, The first section includes the research problem Its goals and importance As for the second section It includes the theoretical side Search As for the third section Guaranteed Scientific aspect Search The last section included the most important results and recommendations reached Search for it.

1.1 Literature review

There are many studies that dealt with market value added and stock pricing efficiency. This part of the research included some of those studies as follows: The aimed Saeid ,et al (2012) to test the strength of the relationship between the adjusted economic value added and compare it with the economic value added and traditional measures in explaining the change in market value added as a dependent variable, in the Iranian financial market during the period (2005-2010). Simple and multiple linear regression were used to test the relationship. It was concluded that the adjusted economic value added is superior to the rest of the variables, including the economic value added, in explaining the change in market value added.

Muhammad Ismail (2014) published reaseach aimed to compare economic value added and traditional measures of performance in interpreting market value added for a sample that included 35 institutions listed on the Karachi Stock Exchange, during the period 2010-2011. The multiple linear regression method was used, and it was concluded that there was no statistically significant relationship between value Economic value added and market value added. The results also indicate that the rate of return on equity is superior to the rest of the variables.

Conducted a Study by Rami and Nahil (2016) Through this study, the researcher sought to determine the indicator most closely related to the market value added by comparing the economic value added and the rate of return on equity. The study included 13 Jordanian commercial banks during the period 200-2013 and to achieve the goal The study relied on cross-sectional time series data Panal Data The results obtained indicated that there is a statistically significant relationship between the added market value and the rate of return on equity, as well as the added economic value, but the added economic value has a greater ability to explain the added market value.

Ali, et al, (2018) aimed to test the relationship of return on assets, return on equity and economic value added to market value added. The study sample represented 13 institutions listed on the financial market in Istanbul that are active in the field of automated and technological media during the period 2004-2015. Models were used (Panel Data) to test the relationship, and the results obtained showed that there is a negative relationship with statistical significance between the economic value added and the market value added, while there is no relationship with statistical significance for both the return on assets and the return on equity with the market value added.

Hassan (2022) The aimed to measure the effect of the added market value on evaluating the performance of some companies listed on the Iraq Stock Exchange. It was tested using fixed effects and simple linear regression. The study concluded that the banks in the research sample were not interested in the added market value, as well as a weak interest of the bank in evaluation indicators. Traditional performance represented by return on equity and return on investment.

Raymond (2023) research aimed to study the impact of the added market value on the leading stock index weighted with free float shares of the Damascus Stock Exchange. To achieve the research goal, the hypothesis data was selected through cross-sectional data package statistics, and the research results were reached using the fixed effects model. The results showed that there is a significant inverse effect of the added market value criterion on the blue-chip index, which is weighted with free float shares of banks.

1.2 Research problem :

In the era of intense competition, whether at the global or local level, companies have become more interested in the added market value of the company, as managers believe that a greater added market value achieves higher returns, but Taking a certain amount of risk is greater .what Affect Added market value Positively in its ability to efficiently price shares Companies, And Pricing companies' shares generates many obstacles, as incorrect pricing will lead to making an incorrect decision in pricing shares and thus will affect the company's profitability and value in the financial market. It came from Stock Exchange Which I don't pay much attention to Added market value .to that She came The following sub-questions To :

- what extent do industrial companies care about added market value?
- How is the added market value of Iraqi industrial companies calculated?
- How efficient is the pricing of shares for Iraqi industrial joint-stock companies according to the Sharpe model?
- What is the effect of added market value on stock pricing efficiency?

1.3. Research aims The research objectives are the following points:

- 1) Calculating the added market value of industrial companies.
- 2) Identify the extent to which the level of added market value affects the efficiency of stock pricing.
- 3) pricing according to the Sharpe model Identify the reality of efficient stock.

2. Analysis tools And the roads Used in the search:

2.1. Model search: To clarify the relationship between the research variables based on the research problem that was presented clarification Its scientific objectives have been drawn up and the hypothetical diagram has been drawn up As shown in Figure (1):

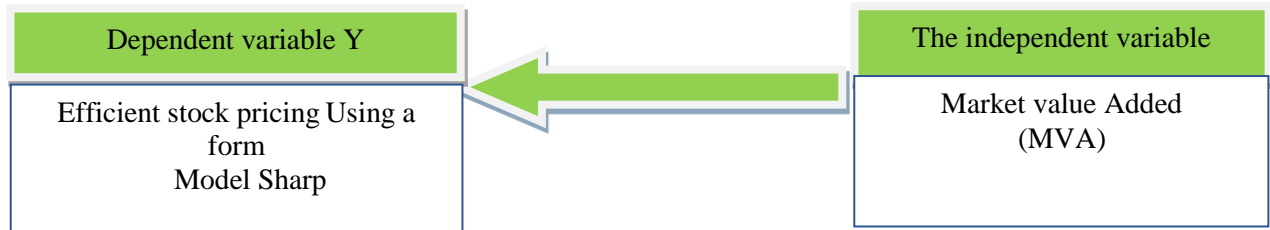


Figure 1: Default search form

Source: Prepared by the researcher.

2.2. Research assumes:

Ho: no There is a statistically significant effect of the added market value on the efficiency of stock pricing according to the Sharpe model

H₁ :There is a statistically significant effect of the added market value on the efficiency of stock pricing according to the Sharpe model.

2.3. Data collection tools :

The analysis steps were divided into statistical description and hypothesis testing, which required the use of a number of mathematical models in the analysis, measurement and testing stages, in addition to the use of ready-made programs shown in Table No. (1):

Table 1: Ready-made programs used in the analysis

T	Ready-made programs	recruitment
1	Excel 2016	Quantitative measurements - mathematical models
2	Views 12	Qardiyat test based on paired data

Source: Table prepared by the researcher

2.4. Statistical analysis methods:

To achieve the research objectives and test its hypotheses, a variety of statistical methodologies were used. Excel 2016 and Eviews 12 were used The steps were as follows:

- account Actual stock return.
- Calculate expected return.
- Calculate the standard deviation of the actual return.
- Sharpe index calculation.
- Model testing.

2.5The research community and its sample :

1- Research community : Iraqi industrial companies contributing to the Iraq Stock Exchange.

2- The research sample: The sample consisted of:(13) joint-stock industrial companies for a period of (13) years (2010-2022).

2.6.Added market value :

2.6.1.ConceptAdded market value:

Represents the added market value MVA The difference between the company's market value (debt and equity) and the capital deposited by lenders and shareholders over a certain period of time in the form of loans, retained earnings, and paid-up capital (Raman,2005: 3The added market value is defined as the cumulative measure of returns on contributed capital (Eharbar,1999: 20-24),The market value model focuses on the difference between the company's value in the market and shareholders' ownership rights, and that these measures mostly depend on accounting and financial principles and foundations, such as market value, book value, and intangible value (Kazim, 2014: 194).An increase in the added market value indicates the possibility of an increase in the company's market value, and a decrease in it indicates an expectation of a decrease in its market value and a decline in its profits (Thenmozhi,2000: 83),In other words, if the added market value is positive, then investors

believe that the value of the company's market capital is greater than the value of the invested capital, which means that the company has created wealth for its shareholders, but if the added market value is negative, then investors believe that the value of the market capital is less. of the value of the invested capital, and thus an increase in the added market value represents an increase in the wealth that the company creates (Al-Naimi, 2012: 74). It is the added market value MVA measure of the difference between the amount of cash contributed by investors (Cash in (And the size of what he gets as a result of selling at today's prices) Cash out If the added market value is positive, this means that the company has increased the value of its deposited capital, and therefore value is generated for shareholders and their rights are maximized (Griffith, 2006: 75-78) The total number of unpaid shares multiplied by the share price here represents the market value of the company. The added market value has several characteristics, which are as follows: (Hassan, 2014: 53-54).

1- Time orientation It is a measure of market value added MVA It is the result of completely historical activity and is an easy way to obtain the current estimate for a company that deals with public financial markets or for those companies that have recently issued financial statements.

2- System dynamics :The added market value is a measure of the value of the stock, which is the difference between the company's market valuation and its book value in a specific time zone, and there is no rate of change or flow element. Comparing the added market value at the end of two different time periods can result in the average change in the added market value between these two. The two time periods.

3- Causal direction :Although it can be said that the added market value MVA It provides an accumulated measure of the added value of human activity, but it does not appear that there is field evidence to link the added market value MVA For any basic reason, in addition to the existence of an agreement indirectly, the market value is added MVA It is a reason for the increased (added) value that accrues to the shareholder.

2.6.2 The importance of market value added (MVA):The market value added index represents a measure of nodiseaseunless Real economic change in Yeh Shows how efficient and effective it is for me Using previously available resource sun lessF circuit And it reflects the situation of AFor a company Mustaq with out And it works to The comparison between the Companies (Hassan, 2021: 10).And it can be donetogelding AH The amount of market value added in the f ollowing points:

1) MVA index represent smarket value added Animport an ttool to measure the value added by the company, which helps in crease the well-being of shareholders. (2018:80Wahab and All,)

2) Since it is the primarygoal of a company To create a smuch wealth as possible foran importantissue, increasing the market value added(MVA) represents a measure of increasing wealth creation by the company. (Tan et al,2011).

3) MVA index is considered a measure of a company's external performance because it is the most reliable tool for knowing the company's performance in the market and is used in planning the company's future performance.(Al-Naimi, 2012:74)

4) The MVA index not. Notonlyreflects shareholders' wealth,but also shows the financial market's assessment of the net present value of the company, as it is considered the final measure of the value that was wastedor generated by the company.(Al-Zubaidi, 2004: 261-262)

2.6.3. Market value added models: Market value added consists of several models, including the following: (Alwan, 2018 :255).

1) Market to book value: This model is based on calculating the difference between the company's market value and its book value. The rationale for this model is that the market value represents the true value of the company (tangible assets and intellectual capital).

2) The market value allocated to the investor This method is based on taking the real value, the market value, which means the tangible capital + the intellectual capital of the company, and dividing it and allocating it to its components (tangible capital and intangible capital).

2.6.4. Method of calculating the added market value (MVA):The added market value index is an important measure of the company's external performance, as it is used by shareholders and those dealing with the company to determine the potential and evaluate its performance to create added value for shareholders (Hassan, 2021: 11). The added market value measure focuses on the difference between the book value of the company's assets and its market value. Or the difference between the organization's market value and stock ownership rights, (Bahri, 2012: 17)

Market value added = Market value of the company's property - Book value of the company's property

The company's market value is calculated by multiplying the share's trading price in the financial market by the number of issued shares, and the book value is expressed by the value of the property rights recorded in the company's accounting records (Jaddoa, 2016: 347). Or the market value may be measured by collecting the market value of the property rights themselves with the average book value of net capital, subtracting from it the average book value of property rights during the fiscal year (Ismail, 2016: 152).

2.6.5. The most important criticisms directed at this model are as follows:(Omar Wahooda, 2017, p. 7)

- * Some companies do not deal with public markets or securities markets and therefore have no market value and it is not easy to determine their intellectual capital.
- * Using stock prices in the financial market as a basis for calculating the company's market value to determine its intellectual capital is not practical due to the fluctuation of stock prices up or down.

2.7. Efficient stock pricing:

Stock price is the price that consists of the interaction of sellers and buyers of stocks based on their expectations of the company's profits. The stock price that occurs at the latest in one trading day or what can be called the closing price. Stock prices consist of the process of supply and demand that occurs in the stock market. Ascension is determined And A decline in the prices of stocks traded on the stock exchange due to market forces. If the market sees that the company issuing shares is in good condition, the company's stock price will usually rise, while if the company is rated as low by the market, the company's stock price will fall. For this reason, investors need information regarding the composition of the stock price when making buying or selling decisions. Stocks. (Mustikowati, 2011: 62), And In the world of finance and investment, the movement of stock prices and the fluctuation of their market value is an important issue. Stock prices or the capital value of stocks in the stock market fluctuate due to changes in many factors, the most important of which are:

1) The financial and commercial situation of the company issuing the shares: If the company's financial position improves and the value of its assets increases and its sales increase, which is reflected in the form of increased profits, then the demand for the shares issued or issued by this company will increase on the stock exchange, leading to an increase in the prices of its shares in the market. The opposite happens when the financial and commercial center is exposed to problems, the value of its assets decreases, and its market share decreases. (Abdel Qader, 2010: 151)

2) Market value of shares: The market value of a share is the price at which it is traded in the stock market, which is characterized by volatility and instability from time to time. The market value of a share is determined in light of the general economic conditions and the performance of the economic unit (AlShuri, 2017: 450) Traditional financial performance evaluation criteria have the ability to explain the change that occurs in the market value of shares, so using these criteria as a whole will be useful in explaining the change in the market value of shares (Mohammed, 2018: 590).

3) Realized profits and profit distribution: One of the basic determinants of the stock price is the company's interest, so the financial analyst recommends buying stocks whose profits are expected to increase, and selling stocks whose profits are likely to decrease. The stock price depends on the degree of confidence of traders in the stock more than its reliance on benefit, which means that the degree of confidence or lack of confidence in stocks drives the price to fall or rise regardless of the material benefits. The increase in total profits throughout the fiscal year over the total expenses and consumptions during the same year is the generation of income in joint-stock companies and, as a result, affects the value of the stock positively (Al-Rubaie, 2021: 46).

4) The state of supply and demand for the stock in the financial market: Stock prices in the market are determined according to the function of supply and demand, meaning that there is a strong relationship between the price of the stock and the volume of demand for it. The higher the volume of demand for stocks, the higher the price of these stocks and vice versa (Al-Shouri, 2017: 460)

5) The economic situation in the country: The stocks issued by companies belong to certain countries that achieve a high and stable growth rate of the gross national product, and enjoy stability in stock prices and the absence of risks surrounding these stocks, which leads to an increase in demand for the stocks of these countries and thus the rise in its stock prices compared to other countries where the above is not achieved (Abdel Qader, 2010: 151).

Stock prices play a vital role which keeps changing due to changes in the market. Therefore, this technology helps in knowing the profitability of companies before making investment decisions (Kumar, 2022:4144). Evaluating stocks, discovering defects in their pricing, and then buying or selling them according to the reality of the situation contributes to enhancing the efficiency of financial markets and correcting the defect in the pricing of the security (Abdul Hakim and Hassan, 2010: 60). Investors are keen to think about profitability through the relationship between profits and the elements that contributed to achieving them in order for the investor to remain in the company (Flayyih and others, 2017: 1380). Stock prices reflect the future performance of companies. The demand for shares of companies that have promising investment opportunities increases, which raises the market value of shares. Efficiency means that share prices in the market respond quickly to new information that can affect the share price. Therefore, the market value of a share reflects... The real value from which the return is generated (Samak, 2006: 8). It has been discovered that when corporate returns are high, managers and investors sell a large number of stock options (Flayyih and Khiari, 2022:7). Use the Sharpe Model to evaluate the efficiency of a portfolio's investment performance William Sharpe introduced this measure in 1966, which is the ratio that measures the portfolio return in excess of the risk-free rate of return, and is also called the risk premium. (Al-Khafaji, 2021:7) Sharpe's measurement focuses more on the total risk (standard deviation), as this method is based on evaluating portfolios that will provide more opportunities (return) from each unit of risk. (Ferdinan, 2022: 563) This model indicates the efficiency of the portfolio's performance, which can be measured by comparing the portfolio's performance with the capital's market line. If the portfolio's performance is higher than the market line, the performance is good, but if it is equal to the market line, the performance is acceptable, and if it is lower than the market line, then the performance is unacceptable (Jaddoa and other, 2019: 521) It is calculated according to the following equation:

$$S = \frac{\bar{R} - R_f}{\sigma} \quad (1)$$

Since:

S: Sharpe scale

R: The expected rate of return on investment

R_f : The risk-free rate of return

σ: The standard deviation of the actual return

It is clear from the previous mathematical equation that the Sharpe ratio measures the level of efficiency of performance of the investment portfolio (stocks) in terms of its ability to earn an additional return over the risk-free rate of return, which is generally known as the interest rate on treasure transfers or the interest rate on savings deposits. In addition, the presence of the standard deviation in the denominator of the ratio indicates that the overall risk of the portfolio has been taken into account, and the higher the result, the better the performance of the investment portfolio (Mikael and Al-Mahmoud, 2022: 950).

3. Data analysis:

3.1. Description of sample characteristics: This paragraph explains the characteristics of the Iraqi industrial companies listed in the Iraq Stock Exchange, which were chosen as a sample for the research according to the characteristics that represent them, which are all of (capital, assets, market value, revenues), during the research years (2010-2022), which amount to (13)Thirteen years, and the following is the description of these companies as shown in the table(2) which shows the results of a quantitative description of the characteristics of the Iraqi industrial companies in the research sample.

Table 2: Results of a quantitative description of the characteristics of the Iraqi industrial companies in the research sample

T	Company	capital	the findings	Market value	Revenues
1	Modern sewing	1,115,384,615	2,156,663,368	4,827,461,538	820,444,776
2	Iraqi Carpets and Furniture	500,000,000	3,328,771,103	3,727,307,692	1,536,266,294
3	Al-Kindi for the production of veterinary vaccines	5,063,076,923	5,869,642,649	8,320,446,154	1,679,922,831
4	Al Mansour Pharmaceutical Industries	6,491,354,398	7,623,337,699	8,253,144,109	1,674,012,840
5	Production of ready-made clothes	1,518,384,961	4,169,950,107	14,463,975,692	9,958,230,312
6	Baghdad for packaging materials industry	934,615,385	933,702,736	2,160,000,000	112,531,483
7	Baghdad for soft drinks	156,384,923,077	309,753,406,294	456,471,323,076	319,245,449,608
8	Iraqi Dates Manufacturing and Marketing Company	16,730,769,231	22,846,843,285	20,734,786,982	5,678,526,358
9	Chemical and plastic industries	14,019,230,769	10,172,796,456	20,543,509,615	3,794,430,544
10	National Metallurgical and Bicycle Industries	5,000,000,000	4,078,699,612	11,600,000,000	1,396,134,768
11	Al Hilal Industrial	12,375,000,000	3,594,853,434	7,643,961,538	1,311,810,305
12	Iraqi Engineering Works	2,221,153,846	1,495,476,808	2,425,384,615	556,861,319
13	Modern chemical industries	257,307,692	8,582,480,059	9,753,029,586	2,208,200,571
	Average	17,123,938,531	29,585,124,893	43,917,256,200	26,920,986,308

Source: Bulletins of the Iraq Stock Exchange

3.2.Descriptive analysis:

3.2.1. Statistical description at the aggregate level of data:

This analysis includes describing the research variables according to their cross-sectional time data (paired data) in a frame that includes (13 companies x 13 observations = 189 observations), as the table shows (3)Results of descriptive statistics for the two research variables. By looking at the table, an increase in the value of the arithmetic mean for the value ratio appears Added market It reached (0.0769) compared to the rest of the variables, and the lowest value of the standard deviation reached (0.1939) for the value of the ratio Added market These results reflect the presence of less dispersion and fluctuation in the ratioAdded market valueFor the Iraqi industrial companies studied.

Table 3: Descriptive statistics for research variables

Variables	Variable type	Views	Arithmetic mean	standard deviation	Term
Added market value	independent	189	0.0769	0.1939	0.88
Sharpe index	continued	189	0.3021-	0.3929	1.923

Source: Prepared by the researcher based on the program's outputs EViews 12

3.2.2. Statistical description at the company level:

1) **Rate the value Added market** :Table shows(4) Results of descriptive statistics for the value ratio Added market It is represented by the arithmetic mean, the standard deviation, and the coefficient of variation or variance at the level of each company in the research sample. It appears from the table that the highest value of the arithmetic mean (0.725) is in the Baghdad Packaging Materials Manufacturing Company, compared to the lowest value of (0.004) in the Al-Hilal Industrial Company, and with regard to the standard deviation. Or the standard value ratio Added market And shown in table (4)Also, it is clear that it ranges between its highest value (0.15558787) in the Baghdad Packaging Materials Company, which achieved the highest arithmetic mean among the companies studied, and this value indicates less dispersion in the value Added market During the research period, on the other hand, the lowest value of the standard deviation reached (0.00278092) in the Modern Chemical Industries Company, which indicates the very limited dispersion in the value Added market It has and continues to have close results during the research period, while for the rest of the companies, their standard deviations were determined between these two values.

Table 4: Descriptive statistics for the value ratio Added market

T	Company	Arithmetic mean	standard deviation	Coefficient of variation
1	Modern sewing	0.010	0.00332988	2.882849
2	Modern chemical industries	0.009	0.00278092	3.134203
3	Iraqi Carpets and Furniture	0.020	0.01653962	1.224543
4	Al-Kindi for the production of veterinary vaccines	0.015	0.01076257	1.399573
5	Al Mansour Pharmaceutical Industries	0.036	0.02026627	1.778379
6	Production of ready-made clothes	0.010	0.01794777	0.56043
7	Baghdad for packaging materials industry	0.725	0.15558787	4.659122
8	Baghdad for soft drinks	0.050	0.03369294	1.487558
9	Iraqi Dates Manufacturing and Marketing Company	0.055	0.05432871	1.007241
10	Chemical and plastic industries	0.021	0.01956912	1.09603
11	National Metallurgical and Bicycle Industries	0.024	0.02488115	0.976911
12	Al Hilal Industrial	0.004	0.00652865	0.605236
13	Iraqi Engineering Works	0.021	0.00791651	2.629551

Source: Prepared by the researcher based on the program outputs Excel 2016

As the table shows (4)The results of the coefficients of variation for each of the companies studied. The variation appears where the highest percentage was (4.659122) in the Baghdad Packaging Materials Manufacturing Company compared to the lowest percentage of (0.56043) in the ready-made clothing production company, as it is natural for this percentage to decrease in a company due to the decrease in the standard deviation compared to its arithmetic mean, and that the coefficient of variation ratio reflects the fluctuation and dispersion in the value Added market For the companies in the research sample, the higher the percentage indicates greater dispersion, while the lower this percentage indicates less dispersion of the data.

2) **Efficient stock pricing According to a model mustache Sharpe Model:** longer model mustache A measure of change The efficiency of stock pricing, as shown in the table (5) Results of descriptive statistics for thismodelThe value of the arithmetic mean for this indicator was determined between its upper limit (-0.138) in the Modern Sewing Company versus the lowest value of the arithmetic mean of (-0.417) in the Chemical and Plastic Industries Company. As for the rest of the companies, their arithmetic mean values ranged between the upper and lower limits, as is evident. The highest value of the standard deviation was (0.554) in the Chemical and Plastic Industries Company, compared to the lowest value of the standard deviation (0.276) in the Modern Sewing Company. The rest of the standard deviation values for the companies were determined between these two values.

Table 5: Descriptive statistics for model mustache Shape Model

T	Company	Arithmetic mean	standard deviation
1	Modern sewing	-0.138	0.276
2	Modern chemical industries	-0.389	0.374
3	Iraqi Carpets and Furniture	-0.350	0.451
4	Al-Kindi for the production of veterinary vaccines	-0.333	0.363
5	Al Mansour Pharmaceutical Industries	-0.159	0.375
6	Production of ready-made clothes	-0.415	0.401
7	Baghdad for packaging materials industry	-0.211	0.337
8	Baghdad for soft drinks	-0.230	0.266
9	Iraqi Dates Manufacturing and Marketing Company	-0.264	0.357
10	Chemical and plastic industries	-0.417	0.554
11	National Metallurgical and Bicycle Industries	-0.321	0.366
12	Al Hilal Industrial	-0.400	0.501
13	Iraqi Engineering Works	-0.301	0.433

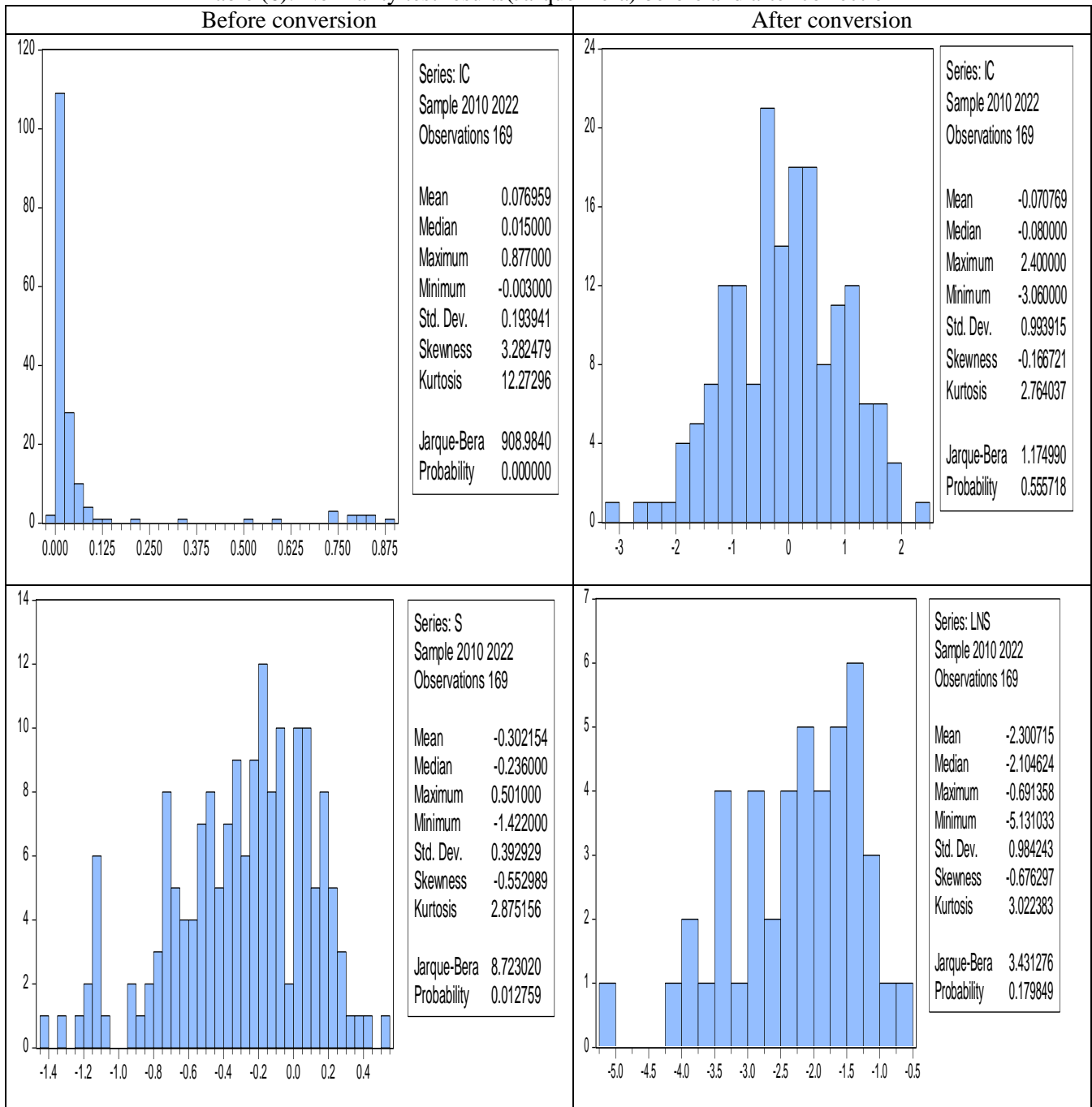
Source: Prepared by the researcher based on program outputs Excel 2016

3.2.3. Testing research hypotheses:

Testing the hypothesis between added market value and stock pricing efficiency according to the Sharpe model:

The first step: Testing for normal distribution of the research variables: The data was tested for normal distribution using the Jarek test-pera (Jarque-Bera) according to the following two hypotheses: H_0 : (null hypothesis) : The data series for the research variables is normally distributed. H_1 : (Alternative hypothesis): The data series for the research variables is not normally distributed. Through the test results shown in Table (6), it was shown that the data is not distributed normally. Therefore, the natural logarithm transformation method was used for the data, and then the normal distribution of the research variables was retested. It is noted that all variables follow the normal distribution because the value is 0.05.> Probability Table (6) shows the results of the Jarque-Bera normality test (Jarque-Bera) before and after correcting the research variables.

Table (6): Normality test results(Jarque-Bera) before and after correction



Sucking DrR: Prepared by the researcher based on the results of the program's outputsEViews-12

The second step: Cross-sectional stationary time series test (test Fisher-ADF): Before analyzing the cross-sectional time series models (fixed effects model and random effects model), the stationarity of the cross-sectional series must be studied (unit root study) for the research variables. There are several tests, but the most common and used is the updated Dickey-Fuller test (Fisher-ADF), and Table (7) shows the results of the chain static test for the research variables-a test (Fisher-ADF) in the presence of a constant term and a time vector Individual Intercept & TREND.

Table 7: Static test results Strings for search variables - test (Fisher-ADF)

Variables		Test results Fisher-ADF	
Added market value (independent variable)	At the level Level	Test statistics	32.4725
		Moral level P-Value	0.1780**
	At the first difference First Difference	Test statistics	43.0447
		Moral level P-Value	0.0191**
Sharpe index (dependent variable)	at level Level	Test statistics	48.2315
		Moral level P-Value	0.0051**

Source: Prepared by the researcher based on the results of the program's outputs EViews-12

**Significance level 5%

Table (7) indicates that the cross-sectional time series is stationary (no unit root) when a test is performed Fisher-ADF In the presence of a fixed term and a time vector Individual Intercept & Trend We note from the results of Table (7) that the cross-sectional time series in the Sharpe index is stationary Sharpe Model At zero level That is, in the sense of the stability of these series. Therefore, we reject the null hypothesis of the existence of a unit root and accept the alternative hypothesis of the absence of a unit root (stationarity of the cross-sectional time series) because the value is $0.05 < P\text{-Value}$ The stationarity of the cross-sectional time series (absence of unit root) is achieved at the first difference First Difference Regarding the independent variable (added market value), this indicates rejection of the null hypothesis and acceptance of the alternative hypothesis, and thus all studied variables can be considered static.

The third step: Model analysis of cross-sectional time series (FEM; REM): Implementing this step was accompanied by estimating the coefficients of each of the fixed effects models Fixed Effect And random effects Random Effect The analysis was done using paired data (Panel data Table (8) shows the estimated relationship between the market value added ratio as an explanatory variable and the efficiency of stock pricing in light of the Sharpe model. Sharpe Model As a response variable:

Table 8: Test results based on the Sharpe model

Dependent variable: Sharpe model Sharpe Model			
Period: 1-13		T=13	N=13
		Total views = 13 x 13 = 189 views	
explanatory variable		Fixed effects model	Random coefficients model
Added market value	Parameter value	4.3483	2.441716
	value calculated	2.984363	2.222799
	P-value	0.0033	0.0276
Fixed limit Constant	Parameter value	0.357550-	0.312242-
	value calculated	8.245277-	6.312097-
	P-value	0.0000	0.0000
The coefficient of determination ² R		0.252197	0.028736
Value Durbin-Watson		1.983028	1.883561
Value F-statistic calculated		1.929071	4.940835
Model probability Probability		0.00880	0.027572

Source: Prepared by the researcher with credit On the results of the program outcomes EViews-12 **Significance level 5%

The fourth step: Choosing between two cross-sectional time series models (test Housman)

After analyzing the cross-sectional time series models (fixed effects model and random effects model) in the previous step, the Hausman test must be performed (**Houseman Test**) To compare between these two models, and through the following two hypotheses, the most appropriate one is determined:

Ho: (null hypothesis)The random effects model is the most appropriate.

H₁: (alternative hypothesis)The fixed effects model is the best fit.

The Hausman test was calculated (**Houseman Test**) Using a program EViews-12 Table (9) shows the test results Housman Between the value of intellectual capital and the efficiency of stock pricing according to the Sharpe model.

Table 9: shows the test results Housman Between the market value added ratio and the Sharpe model

Test summary	Chi-sq statistic	Chi-sq. d. f	P-value
Cross-Section random	3.967295	1	0.0464

Source: Prepared by the researcher based on the results of the program's outputs EViews-12

It is clear from Table (9) that the calculated chi-square value is high² (When I reached) 3.967295) It is larger than the Chi Square tabulation, which is estimated at (3.84) at the degree of freedom K=1 The significance level is 5%, so we reject the null hypothesis and accept the alternative hypothesis, which suggests the validity of the fixed effects model between the market value added ratio and the Sharpe index. This result is expected due to the method of selecting the sample using the purposive sampling method.

Step five Testing the suitability of the model in light of the normal distribution of the estimation residuals (test Jarque-Bera):

After selecting the appropriate model based on the previous step (test Housman), and the Fixed effects model (FEM) Fixed Effect Model The suitability of the residuals to the fixed effects model must be examined using a test (Jarque-Bera) to ensure that the residual series is normally distributed, and then conduct a test White To verify the stability of the estimated residuals over time and that the model does not suffer from the problem of autocorrelation, Table (10) shows the results of testing the residuals between the ratio of market value added and stock pricing efficiency represented by the Sharpe index..

Table 10: Results of testing the residuals of the estimate between market value added and the Sharpe model

the test	a test Jarque-Bera		a test White	
	Jarque-Bera	Probability	Chi-sq statistic	Probability
Test value	1.505	0.471	0.183	0.1913

Source: Prepared by the researcher based on the results of the program's outputs EViews-12

We note from Table (10) that the series of residuals is normally distributed because 0.05 > Probability Through testing Jarque-Bera We also note that the probability value of the test White reater than 5%, and the calculated chi-square value² (0.183) is less than the chi-square value at the degree of freedom K=2 The significance level is 5% and the estimate is (5.99), so we accept the null hypothesis, which states that the residuals of the estimate are stable over time and that the model does not suffer from the problem of autocorrelation between the residuals.

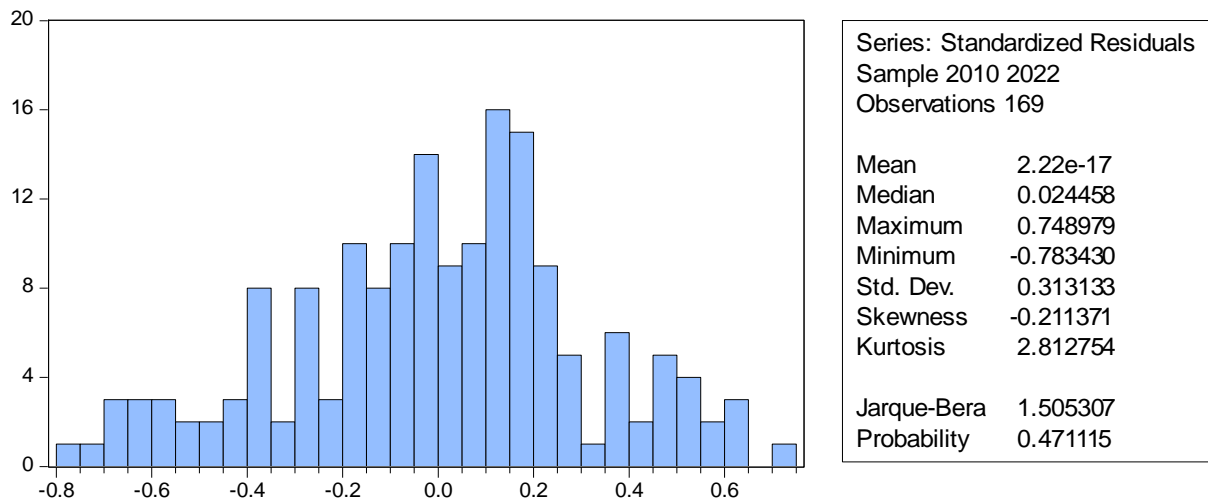


Figure 2: shows the results of testing the residuals between market value and the Sharpe model (the residuals are normally distributed)

Step six: Analyzing the results of estimating the test model:

After ensuring that the appropriate model is the fixed effects model and verifying the suitability of the model for the residuals in light of the test Jarque-Bera And test White Table (11) shows the results of estimating the test model.

Table 11: Results of estimating the test model using the fixed effects model

Period: 1-13		T=13	N=13	Total views = 13 x 13 = 189 views
explanatory variable		Fixed effects model		
Added market value	Parameter value	4.3483		
	value calculated	2.984363		
	P-value	0.0033		
Fixed limit Constant	Parameter value	0.357550-		
	value calculated	8.245277-		
	P-value	0.0000		
The coefficient of determination ² R		0.252197		
Value Durbin-Watson		1.983028		
Value F-statistic calculated		1.929071		
Model probability Probability		0.00880		
Modern sewing		0.242997		
Modern chemical industries		0.063649		
Iraqi Carpets and Furniture		0.079932-		
Al-Kindi for the production of veterinary vaccines		0.041755-		
Al Mansour Pharmaceutical Industries		0.040879		
Production of ready-made clothes		0.103297		
Baghdad for packaging materials industry		0.138663		
Baghdad for soft drinks		0.124898-		
Iraqi Dates Manufacturing and Marketing Company		0.161067-		
Chemical and plastic industries		0.057337-		
National Metallurgical and Bicycle Industries		0.148098-		
Al Hilal Industrial		0.038926		
Iraqi Engineering Works		0.015334-		

Source: Prepared by the researcher based on the results of the program's outputs EViews-12

3.2. Discuss the results :

Hypothesis Alternative H_1 :The added market value has a statistically significant effect on the efficiency of stock pricing according to the Sharpe model Sharpe For the industrial companies studied.

➤ Hypothesis test results:

1. There is an effect between the market value added ratio and the Sharpe model Sharpe Model Because the sign of the estimated parameter (percentage of market value added) is positive and significant.
2. The explanatory power of the estimated model is acceptable, as the value of the coefficient of determination reached (0.252197) $R^2= (25.21\%)$ of the change that occurs in the Sharpe index Sharpe Model It is due to the change in the added market value, while the rest of the percentage is due to other explanatory variables outside the research model.
3. The results indicate the significance of the model as a whole, as the probability value of the test reached F-statistic(0.00880) which is less than 5%, so it indicates the significance of the model statistically.
4. The results indicated that the value of the explanatory variable parameter (percentage of market value added) was (4.3483(At a significant level)0.0033) It is smaller than the 5% significance level, as it indicates that an increase in the market value added ratio by one unit will lead to an increase in the Sharpe index ratio.Sharpe Model By an amount(4.3483).
5. The results show significance at the fixed limit of the significance level of 5%, as it reached the significance level (0.0000).
6. That value Durbin-Watson reached (1.983028) and lies outside the two limits of the value Durbin Watson tabular, as the minimum reached (1.739(The upper limit is (1.763) when $N=189$ The level ofsignificance is 5%, as whenever the result is close to 2 or higher, it indicates that there is no problem of autocorrelation of errors.
7. The fixed effects model equation is written as follows:

Sharpe = constant term value + parameter value of intellectual capital + random error

4. Conclusions:

- 1) Disclosing the level of availability of added market value in Iraqi industrial joint-stock companies enhances the confidence of traders in the financial market.
- 2) The prices of companies' shares are directly affected by the extent of the market value added in industrial companies, according to the Sharpe model.
- 3) The added market value is one of the most important sources of providing competitive advantage for industrial companies, which contributes to maximizing the company's stock prices.

Authors Declaration:

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, Which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved By The Local Ethical Committee in The University.

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تأثير القيمة السوقية المضافة على كفاءة اسعار الاسهم وفق نموذج شارب

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مستخلص البحث

الهدف الرئيسي من البحث هو دراسة تأثير القيمة السوقية المضافة على كفاءة اسعار الاسهم وفق نموذج شارب لتسعير الاسهم الشركات بحسب ما تمخضت عنه مراجعة الأدبيات على مستوى النظري ، بما فيها الدراسات السابقة ، واستنباط اتجاهاتها المرفقة بقوة التفسير التي تنبأت بها فرضيات البحث في مضمونها المرتبط بتأثير القيمة السوقية المضافة على كفاءة اسعار الاسهم للشركات المدروسة على مستوى القطاع الصناعي في السوق العراقي للاوراق المالية ، جرى اختبار عينة بأسلوب المعاينة القصدية (العمدية) ضمننت (13) ثلاث عشر شركة صناعية مساهمة في سوق العراق للاوراق المالية من اصل (21) احدى وعشرون شركة صناعية على مدار الأفق الزمني للبحث والبالغ (13) ثلاث عشر سنة (2010-2022) ، ومن ثم تم قياس المتغيرات وتحليلها على المستويين المالي والأحصائي ، وصفاً وتفسيرياً باستعمال اسلوب البيانات المزدوجة (Panel Data) لبيان تأثير السلسلة الزمنية ، فضلا عن استعمال الادوات الوصف والاستدلال الاحصائيين بما فيها من مقاييس النزعة المركزية والتشتت بالنسبة الى نتائج الوصف الأحصائي ، والارتباط والانحدار قدر تعلق الأمر بالتفسير والاستدلال ، وبعد اجراء التحليلات الرياضية لبيانات الشركة المدروسة واختبار فرضية البحث في عينة المختارة ، تم الوصول الى عدد من النتائج منها تؤثر القيمة السوقية المضافة التي تملكها الشركات بشكل طرديا مع اسعار الاسهم الشركة وفق استخدام نموذج شارب لتسعير الاسهم، وان الشركات التي تمتلك قيمة سوقية مضافة تكون اسعار اسهمها مرتفعة نتيجة امتلاكها للقيمة السوقية العالية وبالتالي مكانة مميزه من بين المنافسين الاخرين ، كما ان الشركات التي تمتلك قيمة سوقية مضافة تحقق ارباح كبيرة، ومن ثم خرج البحث بعدد من التوصيات الاهتمام بمدى توافر وقياس القيمة السوقية المضافة للشركات الصناعية العراقية المساهمة في سوق العراق للاوراق المالية مما يسهم ذلك عن تعظيم اسعار الاسهم الشركات ، كما توصل البحث الى عدد من الدراسات المستقبلية التي تتطلب تصاميم اخرى في طريق التحقيق العلمي ومحاولة تحسين النظرية.

نوع البحث: ورقة بحثية.

المصطلحات الرئيسية للبحث: القيمة السوقية المضافة، كفاءة اسعار الاسهم.

*البحث مستل من رسالة ماجستير