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The Possibility of Constructing an Investment Portfolio Using Sharpe and Jensen Indicators: Evidence from a Sample of Investment Companies in the Iraq Stock Exchange

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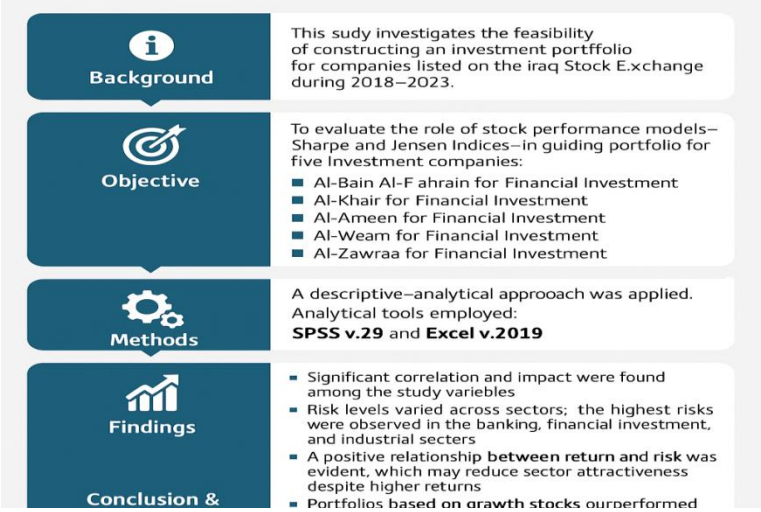
Abstract : The purpose of the present study is to examine the feasibility of constructing an investment portfolio using the Sharpe and Jensen indices for a sample of investment companies listed on the Iraq Stock Exchange during the period (2018–2023). The study focused on five companies: Al-Bain Al-Nahrain for Financial Investment, Al-Khair for Financial Investment, Al-Ameen for Financial Investment, Al-Weam for Financial Investment, and Al-Zawraa for Financial Investment. A descriptive-analytical approach was employed to establish the study variables. To achieve the research objectives, which centered on addressing the formulated problem expressed in the question: What is the role of company stock performance evaluation models in constructing investment portfolios for Investment Companies and companies listed on the Iraq Stock Exchange during the period (2018–2023)?, the study relied on two essential performance evaluation measures, namely the Sharpe Index and the Jensen Index, to guide portfolio construction. Accordingly, two analytical software packages were utilized (SPSS v.29 and Excel v.2019) to derive the required results. The findings revealed a significant correlation and impact among the study variables. Based on these results, it was concluded that risk levels vary substantially across sectors, with the highest risk observed in the banking, financial investment, and industrial sectors. This indicates that the increase in return rates was accompanied by a rise in overall risk levels within these sectors, and such a positive relationship may reduce their attractiveness despite the potential for above-average returns. The study provided several recommendations, foremost of which was the need to benefit from its results in constructing investment portfolios based on growth stocks, which investors may choose to purchase by employing one of the stock evaluation indices. The empirical evidence confirmed that portfolios built on growth features outperformed the overall market portfolio.

Keywords: Company stock performance evaluation models; Investment portfolio; Iraq Stock Exchange.

INTRODUCTION:

Graphical Abstract



1. Introduction

The importance of stock performance evaluation models has grown significantly in the world of investments, as these models serve as essential tools that enable investors to make informed decisions about constructing their portfolios. In light of dynamic economic conditions and the challenges faced by financial markets, it becomes crucial to understand performance evaluation mechanisms and their impact on returns and risks. The Iraq Stock Exchange (ISX) stands as one of the key financial markets in the country, reflecting a range of challenges and opportunities that necessitate the use of effective evaluation models. Between 2018 and 2023, the Iraqi market witnessed substantial changes in the investment environment, highlighting the need for an applied study that focuses on stock performance evaluation models. Performance evaluation models provide a framework through which investors can analyze the financial and historical data of stocks, thereby facilitating the identification of appropriate assets to include in investment portfolios. Various models are employed for this purpose, each with distinct strengths and limitations that must be assessed within the context of the Iraqi market. By examining these models, it becomes possible to understand how economic, political, and social factors influence stock performance, ultimately guiding investment strategies with greater efficiency. Accordingly, the significance of this study lies in addressing knowledge gaps related to stock evaluation in the Iraqi market, as many previous studies have overlooked emerging markets. Investigating the role of performance evaluation models in portfolio construction within the Iraqi context can yield valuable insights for both investors and policymakers. Through an analysis of the financial data of listed companies, the study aims to identify patterns and trends that influence returns and risks, thereby enhancing the ability of investors to make well-informed investment decisions.

Part One: Research Methodology

1.1 Research Problem

The Iraq Stock Exchange represents one of the emerging markets that has experienced notable developments in recent years, rendering it an attractive environment for investors. Investing in such markets requires effective evaluation models that can assess stock performance and guide investment decisions. Stock performance evaluation models play a vital role in identifying suitable stocks to be incorporated into portfolios, directly influencing associated returns and risks. However, given the increasing economic and political challenges facing Iraq, there is a pressing need for a deeper understanding of how these models affect investment decisions. Multiple approaches and models are available for stock performance evaluation, including the Expected Return Model, the Capital Asset Pricing Model (CAPM), and other frameworks such as the Return on Equity Model. These models require rigorous analysis of financial and historical stock data, which may pose difficulties in the Iraqi market due to the limited availability of precise and updated company records. Consequently, investors must evaluate the suitability of these models to their investment objectives and assess their adaptability to local conditions.

Furthermore, investors in the Iraqi market must consider the economic, social, and political factors that significantly impact stock performance. Market fluctuations caused by security and political instability may lead to sudden shifts in stock prices, necessitating the use of flexible evaluation models that can adapt to such volatility. Therefore, investigating the role of stock performance evaluation models in this context provides valuable insights into how investment strategies can be improved within the Iraqi market.

Furthermore, the research problem highlights the importance of understanding the relationship between stock performance and the associated risks. Investment strategies built upon inaccurate models may result in significant losses; therefore, examining the interplay between performance and risk can assist investors in making more informed decisions. By analyzing the historical performance of stocks in Iraq, it becomes possible to identify patterns and trends that may influence future returns, thereby enhancing the effectiveness of portfolio construction strategies. Based on this premise, the research problem can be articulated in the following key question: What is the role of stock performance evaluation models in constructing investment portfolios for Investment Companies and companies listed on the Iraq Stock Exchange during the period 2018–2023?

To address this question, the following sub-questions must be considered:

What is the impact of stock performance evaluation models on portfolio construction in the Iraq Stock Exchange?

How can portfolio construction strategies be improved through the use of performance evaluation models?

How can the relationship between risk and return be analyzed within the framework of stock performance evaluation models?

What factors influence the accuracy of stock performance evaluation models in the Iraqi market?

What are the future directions for stock performance evaluation in the Iraq Stock Exchange?

Which models are most commonly utilized by investors in the Iraqi market?

Research Objectives

This study aims to analyze the role of stock performance evaluation models in improving portfolio construction strategies through an applied study in the Iraq Stock Exchange. The core objective is to understand how investors employ performance evaluation models to identify the most suitable stocks for inclusion in their portfolios, thereby enhancing their ability to achieve higher returns while reducing investment risks in a volatile market environment. Additionally, the study seeks to identify the factors that influence the effectiveness of these models, enabling investors to make more informed decisions. It also aims to evaluate the effectiveness of different performance evaluation models used in the Iraqi market during the specified period. This requires analyzing multiple models such as the Expected Return Model and the Capital Asset Pricing Model (CAPM), with the goal of determining which model provides the most reliable outcomes in the Iraqi context. The results of this analysis will allow the researchers to present recommendations to relevant stakeholders regarding the most effective model for evaluating company stock performance. Finally, the study endeavors to raise both academic and practical awareness of the importance of performance evaluation models in emerging markets such as the Iraq Stock Exchange. By presenting precise findings and valuable insights, the research aspires to inspire scholars and practitioners in finance to pursue further studies and applications that could enhance investment efficiency in such markets. This, in turn, contributes to building a solid knowledge base that supports market development and strengthens investor confidence in the Iraqi investment environment.

The study also seeks to achieve the following subsidiary objectives:

1- To examine the influence of stock performance evaluation models on portfolio construction in the Iraq Stock Exchange.
2- To measure how portfolio construction strategies can be improved through performance evaluation models.
3- To assess the extent to which the sample companies provide opportunities for analyzing the relationship between risk and return within stock performance evaluation frameworks.
4- To identify the factors that affect the accuracy of stock performance evaluation models in the Iraqi market.
5- To explore future trends in stock performance evaluation in the Iraq Stock Exchange.
6- To identify the models most commonly employed by investors in the Iraqi market.

Research Significance

The significance of this study lies in its comprehensive perspective on how stock performance evaluation models can be used to enhance investment strategies in the Iraq Stock Exchange. Since stock performance analysis is a fundamental component of sound investment decisions, assessing the effectiveness of these models can improve investors' understanding of how to capitalize on market opportunities. Moreover, this study sheds light on the challenges faced by investors in an unstable economic environment, thereby enabling them to base their decisions on more accurate and reliable information.

The research significance can be articulated as follows:

1. Significance for Institutions

This study is of particular importance to financial institutions and investors in the Iraq Stock Exchange, as it deepens their understanding of the role of performance evaluation models in making informed investment decisions. Employing effective evaluation models can assist institutions in improving their strategies, thereby achieving higher returns while minimizing investment risks. Furthermore, the findings of this study will provide institutions with practical tools for analyzing stock performance accurately, enhancing their competitiveness in the market. By improving investment efficiency, institutions will also be able to attract more investors and strengthen confidence in the Iraqi market.

2. Significance for Society

The study contributes to raising financial literacy among individuals and investors, enabling them to make better investment choices. Increasing awareness of the importance of performance evaluation models helps foster a healthy investment culture, where individuals become more aware of the risks and returns associated with investment activities. Improved individual investment performance can, in turn, stimulate local economic growth, as greater investment in local projects and companies creates job opportunities and enhances living standards. This ultimately supports financial and social stability within the community.

3. Significance for Researchers

The study offers a valuable contribution to the academic literature on performance evaluation in emerging markets. It highlights the unique challenges faced by markets such as Iraq's and introduces new analytical models and mechanisms that can serve as a reference for future research. The study also opens the door for subsequent research projects building upon its findings and recommendations, thereby advancing scholars' understanding of how to improve the effectiveness of performance evaluation models in diverse contexts. As such, the study contributes to

academic knowledge development and helps researchers explore new dimensions in the fields of finance and economics.

4. Research Hypotheses

The study is based on several key hypotheses:

Main Hypothesis 1: The construction of an investment portfolio using the Sharpe Index for the investment sector is difficult.Main Hypothesis 2: The construction of an investment portfolio using the Jensen Index for the investment sector is difficult.

5. Research Population and Sample

The research population comprises all companies and Investment Companies listed on the Iraq Stock Exchange, while the study sample was limited to five investment companies during the financial period (2018–2023). These companies are: Al-Bain Al-Nahrain for Financial Investment, Al-Khair for Financial Investment, Al-Ameen for Financial Investment, Al-Weam for Financial Investment, and Al-Zawraa for Financial Investment.

The selection of these Investment Companies and companies was guided by the following considerations:

1- Sectoral diversity: The sample represents banking, industrial, and investment sectors that reflect general economic activity. This diversity allows the study of performance evaluation models across different industries and sectors, thereby facilitating an understanding of how to construct a balanced investment portfolio.

2- Availability of accurate financial data: Investment Companies, industrial, and investment companies typically maintain reliable and systematic financial records. This availability facilitates the application of performance evaluation models and provides historical performance and return data, thus improving the accuracy of the employed models.

3- Economic significance: These institutions play a pivotal role in the local economy by generating employment opportunities and stimulating economic growth. Evaluating their performance is therefore vital to understanding their broader economic impact, which underscores the importance of the study.

4- Assessment of model applicability: Examining Investment Companies and industrial as well as investment companies contributes to evaluating the effectiveness of performance models in dynamic environments, thereby helping to determine their suitability in different contexts. This provides valuable insights into how investment strategies may be improved.

5- Risk-return analysis: The selected sample enables an in-depth examination of the relationship between risks and returns, as risk levels vary across different activities. This strengthens the ability to use performance evaluation models to reduce risks while maximizing potential returns in portfolio construction.

Part Two: Theoretical Framework

1. The Concept of Performance Evaluation

Performance evaluation represents one of the fundamental components of successful investment, as it enables investors and portfolio managers to make informed decisions based on actual data. This process involves several steps, including measuring investment returns, identifying the risks associated with the investment, and comparing performance against established objectives and industry benchmarks. Among the common tools used in performance evaluation are performance indices such as the risk-adjusted return ratio and the Sharpe ratio. These measures help investors understand how a portfolio achieves its returns relative to the potential risks. Continuous evaluation also allows investors to adjust their investment strategies based on observed outcomes. Therefore, evaluation is not merely concerned with assessing past results but also serves as a motivational process for continuous improvement and development. In general, scientific principles emphasize the importance of discipline and objective analysis in making investment decisions, which enhances investors' ability to achieve their financial objectives effectively (Shahid, 2007:1). Jordan and Jr. (2008) noted that all investors naturally and rationally have an interest in assessing the success of their investments. This concern is an integral part of the investment process, whether the investor manages the portfolio independently or relies on professionals. Investment management thus requires constant awareness and continuous evaluation, as investors seek to understand how market conditions, asset performance, and management strategies affect potential returns. This makes performance evaluation a crucial subject in the investment world. There are multiple approaches to measure and analyze performance, such as relative measures (e.g., Return on Investment, Compound Annual Growth Rate, among others). Attention to investment performance not only contributes to developing more effective investment strategies but also enhances transparency and accountability in asset management. This, in turn, provides opportunities for the continuous improvement of investment performance. Accordingly, performance evaluation is an essential tool that assists investors in making sound decisions that support the achievement of their financial goals (Jordan & Jr., 2008:414). Levy and Post (2005) argued that many investors mistakenly regard performance measurement and performance evaluation as synonymous. This perception is inaccurate because performance measurement is only one component of the broader and more complex evaluation

process. Measurement is a relatively straightforward task that involves calculating the returns and risks of a portfolio. In contrast, evaluation encompasses the more comprehensive task of situating these results within the context of the portfolio's investment objectives. For this reason, performance measurement represents the first step in the performance evaluation process. It is also a critical stage, given the value it provides and the accurate information it requires about rates of return. Therefore, understanding how to calculate portfolio returns is fundamental to initiating the performance evaluation process.

2. Determinants of Performance Evaluation

When evaluating the performance of investment portfolios, a number of key factors must be taken into account by investors or portfolio managers. These factors play a pivotal role in determining the future reliability of performance evaluation (Al-Amiri, 2012: 432–433):

a. Level of Risk:

Investment activity inherently involves both return and risk, which are often described as two sides of the same coin. Both must be evaluated when making rational investment decisions. Without accurate information on risk, performance evaluation remains incomplete and unreliable, as returns alone cannot serve as a sufficient basis for evaluation among several investment alternatives. Since investors naturally prefer higher returns with lower risk, accurate evaluation depends primarily on the joint consideration of risk and return, particularly because portfolios are constructed in line with investors' preferences and objectives.

b. Time Horizons:

The time frame is crucial in performance evaluation because many variables and indicators fluctuate over time, as does the timing of entry into financial markets. One of the primary tasks of portfolio managers is the periodic review of portfolios. Consequently, performance evaluation must be time-weighted, and the metric used for this purpose is the time-weighted rate of return.

c. Appropriate Benchmarks:

Performance evaluation should be based on a relevant benchmark, preferably a benchmark portfolio. Benchmarks enable investors to conduct meaningful comparisons, and evaluation is typically carried out against the most appropriate reference standard.

d. Management Skills:

Another important determinant of portfolio performance is the management strategy itself. This includes diversification policy, control of cash flows by portfolio managers, and the monitoring of changes in returns and risks. It also extends to factors related to the standards employed in preparing financial reports and the methods used in applying models to derive financial indicators. These standards must be consistent in order to enhance the accuracy of comparisons and to identify both strengths and weaknesses in portfolio performance.

Approaches to Portfolio Performance Evaluation

The approaches to evaluating the performance of investment portfolios are diverse and have been discussed by several scholars (Levy & Post, 2005:764; Maginn et al., 2007:720–730):

1. Risk-Adjusted Performance Measures

Several theories address the measurement of realized returns in light of a given level of risk. These theories achieve the trade-off between return and risk by employing measures known as risk-adjusted performance measures. Generally, these measures are based on asset pricing theories such as the Capital Asset Pricing Model (CAPM) or the Arbitrage Pricing Theory (APT). Among the most prominent indices are the Sharpe Index, the Treynor Index, and the Jensen Index. Each of these indices is built upon different assumptions regarding the most appropriate method for measuring and adjusting risk (Levy & Post, 2005:764).

2. Benchmark Portfolio Approach

The benchmark portfolio is considered one of the simplest and most widely used approaches for assessing portfolio performance. It relies on comparing the return achieved by the evaluated portfolio with that of a benchmark portfolio or a general market index (Maginn et al., 2007:721). The benchmark portfolio is defined as a combination of standard reference indices designed to match the investment style of the invested funds. Various benchmark indices can be employed, such as the Standard & Poor's 500 (S&P 500), Russell Index, and Wilshire Index. Thus, the benchmark portfolio approach constitutes a blend of these indices (Levy & Post, 2005:765). According to Webster's Dictionary, a benchmark is "a standard or reference point for judging quality or value" (Maginn et al., 2007:721).

3. Standardized Comparison Criteria

Benchmark portfolios that employ passive investment strategies (index-tracking strategies) are not always appropriate measures of competitive performance, especially when compared with indices such as the S&P 500, if the portfolio under evaluation contains large positions in small-cap companies. This discrepancy in firm capitalization can lead to divergent results. Therefore, it is preferable to compare portfolios with others that are similar in terms of security

composition and the capitalization of issuing companies. This approach is known as standardized comparison criteria (Levy & Post, 2005:766).

Portfolio Performance Measurement Indicators

Measuring portfolio performance requires indicators that help rank portfolios based on their investment performance, taking into account both return and risk. Among the most widely used indicators is the Sharpe Ratio (Bacon, 2004:37).

The Sharpe Ratio (SHARPE)

The Sharpe Ratio is a performance evaluation tool used to assess investment portfolios. It is calculated by dividing the excess return (the expected return of the portfolio minus the risk-free rate) by the portfolio's total risk (measured by the standard deviation). Portfolios are then ranked from best to worst based on this ratio, with higher values indicating superior performance (Al-Amiri, 2013:483). Bodie et al. (2008:125) further explained that the index is computed by dividing the portfolio's excess return over a specific period by the standard deviation of returns during that period. In other words, the numerator represents the cumulative portfolio return compared to risk-free investment alternatives. Avoiding risk implies that investors are willing to accept a lower reward, expressed as the expected return on their portfolio, in exchange for a sufficient reduction in risk (as measured by the standard deviation of portfolio returns). The statistic most commonly used to rank portfolios in terms of this risk-return trade-off is the Sharpe Ratio.

$$S_i = \frac{Rp - Rf}{\sigma_i} \qquad (1)$$

Where:

$\mathbf{S_i}$ = Sharpe Ratio

$\mathbf{R_p}$ = Portfolio return

$\mathbf{R_f}$ = Risk-free rate

$\boldsymbol{\sigma_i}$ = Standard deviation of portfolio returns

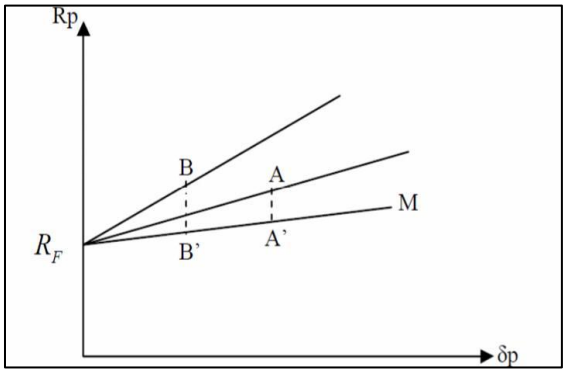


Figure (3): Graphical Representation of Performance According to the Sharpe Model

Sharpe and Jensen Measures in Portfolio Construction

Sharpe Ratio and Capital Market Line

From Figure (3), it can be stated that (Grandin, 2010: 142):

- The Sharpe ratio is represented by the slope of the following lines: (ARF), (BRF), and (MRF).
- The performance of portfolio (A) is superior to that of portfolio (A-), which represents a combination of current asset portfolios and the market portfolio, noting that their risk levels are equal (dA = dA').
- The performance of portfolio (B) is better than that of portfolio (B-), which represents a combination of risk-free assets and the market portfolio, while their risk levels remain similar.

The selection of an investment portfolio with stronger performance indicates managerial efficiency. A portfolio manager may choose between 'B' and 'A'; however, according to the Sharpe ratio, portfolio 'B' is preferred, as the difference between (B–B) is greater than that between (A–A). In other words, the Sharpe ratio of portfolio 'B' is higher than that of portfolio 'A'. When a manager evaluates a portfolio, it may be necessary to compare its Sharpe ratio with that of the market index. If the portfolio's ratio is higher than the market index, it indicates that the portfolio's performance exceeds that of the market.

Ultimately, (Grandin, 2010: 142) concluded that any portfolio lying on the Capital Market Line (CML) has a Sharpe ratio equal to that of the market. Furthermore, any portfolio above the CML indicates a Sharpe ratio greater than that of the market portfolio.

Jensen's Measure (Jensen's Alpha)

Jensen's measure is a tool used to evaluate portfolio performance in relation to the level of risk undertaken. It was developed by Michael C. Jensen and is based on the Capital Asset Pricing Model (CAPM). The purpose of this

measure is to assess the actual performance of a portfolio by calculating the excess return achieved after controlling for risk:
- If $\alpha > 0$: the portfolio outperformed expectations, indicating superior performance.
- If $\alpha < 0$: the portfolio underperformed, indicating weak performance.
- If $\alpha = 0$: the portfolio achieved returns equal to those expected given the risks undertaken.

Applications: Jensen's alpha is widely applied in evaluating the performance of investment funds and portfolio managers, as it reflects actual results rather than potential returns (Al-Rawi, 2009: 395–397).
Formula according to Al-Hamdouni (2011: 322) and Al-Hannawi et al. (2019: 84):

$$Rp = Rf + \beta p\ (Rm - Rf)$$

Jensen's alpha (Brentani, 2004: 52):

$$\alpha = Rp - Rf - \beta p\ (Rm - Rf)$$

Where:
α = Portfolio's abnormal return (Alpha)
Rp = Portfolio return
βp = Portfolio beta (systematic risk)
Rf = Risk-free return
Rm = Market return

Relationship Between Portfolio Construction and Sharpe & Jensen Indicators

The investment portfolio is a key tool for achieving financial objectives. One of the primary factors in portfolio construction is stock performance evaluation (Cao et al., 2021: 847). Performance evaluation models play a critical role in guiding investment decisions and enhancing portfolio efficiency (Olorunnimbe & Viktor, 2023: 2060). In other words, stock evaluation models are vital in decision-making, as they assist investors in assessing financial assets, estimating potential returns, and understanding associated risks (Cheng et al., 2021: 3100). Given the rapid changes in financial markets, constructing the optimal portfolio requires multi-strategy approaches and deep knowledge of the factors affecting asset performance (Gunawan, 2024: 133).

Furthermore, performance evaluation models direct investors toward stocks aligned with their strategies, thereby helping to determine the returns needed to compensate for associated risks (Alsanousi et al., 2024: 260). Diversification is considered essential, allowing investors to reduce risks by selecting a variety of stocks (Zaimovic et al., 2021: 553). Poor performance in certain stocks can thus be offset by strong performance in others (Blitz & Swinkels, 2023: 1695).

Additionally, evaluation models establish a link between data analysis and sound investment decision-making (Alsanousi et al., 2024: 261). By analyzing historical and fundamental data, these models help investors understand risks and potential returns (Olayinka, 2022: 55). Integrating them into portfolio construction strategies enables investors to balance risks and returns, leading to improved financial outcomes (Purwanto, 2024: 132).

Part Three: Empirical Analysis

1. Performance Evaluation Indicators for Portfolio Construction

Sharpe Ratio

The Sharpe ratio measures portfolio risk premium relative to total risk, expressed as standard deviation. It does not differentiate between systematic and unsystematic risks. The higher the ratio, the better the portfolio's performance. The Sharpe ratio is commonly used to compare portfolios with similar objectives and constraints, such as equity-only or bond-only portfolios (Abdel Qader, 2010: 22).
Formula:

$$\textbf{Sharpe Ratio} = (Ri - Rf) / \sigma p$$

• Between the Rivers for Financial Investment

Between the Rivers for Financial Investment's Sharpe Ratio (SR) indicates positive investment performance, strengthening its position in the investment sector. The portfolio's share return is 15%, significantly higher than the risk-free return of 5.4%. This difference reflects the company's ability to provide attractive returns to investors. The standard deviation, which reaches 36.7%, indicates a moderate level of volatility in returns, indicating some risks associated with the company's investments. However, the Sharpe Ratio value of 0.262 shows that the achieved returns justify the risks taken, reflecting good portfolio management efficiency. A positive Sharpe Ratio (SR) indicates that the company is capable of achieving returns that exceed the risk-free return per unit of risk, making it an attractive option for investors. This good performance is likely the result of effective investment management and portfolio diversification strategies. In order to maintain this positive performance, the management of Bin Al-Nahrain Financial Investment Company requires continued evaluation of its investment strategies, with a focus on effective risk management. Improving operational efficiency and expanding the scope of investments can also contribute to enhancing returns and reducing volatility, supporting the company's sustainable future growth.

• Al-Khair Financial Investment Company's

Sharpe Ratio results indicate unsatisfactory investment performance. The portfolio's stock return is -0.2%, meaning the company is incurring losses compared to a risk-free return of 5.4%. This negative difference demonstrates that the company's investments are not generating sufficient returns to justify the risks taken by investors. The standard deviation, which reaches 7%, indicates a low level of volatility in returns, meaning the risks associated with the investment are not significant. However, the negative Sharpe Ratio value, -0.800, reflects inefficient portfolio management, as the negative returns do not justify the risks taken. These results require the company's management to conduct a comprehensive review of its investment strategies. Focus should be placed on analyzing the reasons behind the decline in returns and developing new strategies to improve performance. This may include reevaluating the assets in the portfolio or reducing the risks associated with current investments. To maintain its stability, it is essential that the company take concrete steps to improve its performance, such as enhancing operational efficiency and implementing more effective investment strategies. Improving risk management will be crucial to attracting future investments and achieving positive results that contribute to the company's sustainable growth.

• Al-Amin Financial Investment

Al-Amin Financial Investment's Sharpe Index results indicate moderate investment performance. The portfolio's stock return is 8.8%, higher than the risk-free return of 5.4%. This positive difference demonstrates the company's ability to generate attractive returns for investors. The standard deviation, which reaches 52.7%, indicates a high level of volatility in returns, meaning there are significant risks associated with the company's investments. However, the Sharpe Index value of 0.065 shows that the achieved returns do not fully justify the risks taken, indicating the need to improve portfolio management. This means that a positive Sharpe Ratio reflects the company's ability to achieve returns that exceed the risk-free return, while a low value indicates room for improvement. This moderate performance is likely the result of ineffective investment strategies or insufficient portfolio diversification. To maintain improved performance, Al-Amin Financial Investment's management needs to focus on better risk management strategies and asset diversification to achieve a better balance between returns and risks. Operational efficiency can also be enhanced and market analysis can be conducted more deeply to improve future returns. Implementing these strategies could help raise the Sharpe Ratio, enhancing the company's attractiveness to investors.

• Al-Weam Financial Investment

Al-Weam Financial Investment's Sharpe Ratio results yielded average investment performance. The portfolio's share return is 7.8%, higher than the risk-free return of 5.4%. This positive difference reflects the company's ability to achieve good returns for investors, but below the high level. The standard deviation of 44.4% indicates a moderate level of volatility in returns, indicating some risk associated with investments. However, the Sharpe Ratio (SR) value of 0.054 shows that the achieved returns do not fully justify the risks taken, highlighting the need for improved portfolio management. A positive SR value reflects the company's ability to achieve returns that exceed the risk-free return, while a low value indicates inefficient risk management. This performance is likely the result of ineffective investment strategies or a lack of diversification. To maintain improved performance, Al Weam Financial Investment's management must focus on developing better risk management strategies and diversifying the portfolio to achieve a balance between returns and risks. Operational efficiency and deeper market analysis are also required to improve future returns. Implementing these strategies may help raise the SR, enhancing the company's attractiveness to investors and contributing to more positive results in the future.

• Al-Zawraa Financial Investment

Al-Zawraa Financial Investment's Sharpe Ratio results indicate poor and unsatisfactory investment performance. The portfolio's share return is -3.5%, meaning the company is incurring losses compared to a risk-free return of 5.4%. This negative difference highlights the company's inability to provide positive returns to investors. The standard deviation, which reaches 11.5%, indicates a low level of volatility in returns, meaning the risks associated with the investment are not significant. However, the negative Sharpe Ratio value, -0.774, reflects inefficient portfolio management, as the negative returns do not justify the risks taken.

These results require the company's management to comprehensively review its investment strategies. It is essential to analyze the reasons behind the low returns, such as poor asset performance or an inability to adapt to market conditions. The company should focus on reevaluating its portfolio and developing new strategies to improve performance. To achieve better results, Al-Zawraa Financial Investment's management is required to enhance operational efficiency, improve risk management, and implement more effective investment strategies. These steps can help improve performance and increase the company's attractiveness to investors, contributing to restoring confidence and achieving positive results in the future.

Table (1): Sharpe Index of the Companies Under Study (2018–2023)

Company	σp	Sharpe Ratio
Bain Al-Nahrain for Financial	0.367	0.262

Investment		
Al-Khair for Financial Investment	0.070	-0.800
Al-Ameen for Financial Investment	0.527	0.065
Al-Wiam for Financial Investment	0.444	0.054
Al-Zawraa for Financial Investment	0.115	-0.774

3- Jensen Index

This model is based on identifying the difference between two quantities of return. The first represents the difference between the average portfolio return and the average risk-free return, which is termed the excess return. The second is represented by the product of the beta coefficient and the difference between the average market return and the average risk-free return, referred to as the market risk premium. The model is expressed through the following equation (Al-Shabib, 2012: 323):

Where:

$$\alpha = [\, E(r_p) - r_f \,] - [\, E\,(r_m) - r_f \,] \times ß$$

α = Alpha coefficient
Ri = Return on the stock
Rf = Risk-free return
Rm = Market portfolio return (market index)
β = Portfolio bet

• Bayn Al-Nahrain Financial Investment

Bayn Al-Nahrain Financial Investment's Jensen Index was 0.015, indicating good investment performance. A positive value indicates that the company has achieved returns that exceed the stock's returns based on the risks it has assumed. This good performance may be the result of effective portfolio management and investment diversification strategies. This success reflects the company's ability to adapt to market conditions and achieve positive results. To enhance this performance, it is recommended to deepen the technical and fundamental analysis of invested assets, which may lead to improved future returns and increase the company's attractiveness to investors.

• Al-Khair Financial Investment

Al-Khair Financial Investment's Jensen Index was 0.000, indicating poor investment performance. The value reflects that the achieved returns were lower than the stock's returns, indicating inefficient investment management. These results may be attributed to market challenges or weak investment strategies. This means that the company needs to conduct a comprehensive review of its strategies, focusing on improving risk management and deeper market analysis. These steps may help restore confidence and increase future returns.

• Al-Amin Financial Investment

Al-Amin Financial Investment's Jensen Index reached (-0.001), indicating unsatisfactory investment performance. A negative value indicates that the company has not achieved shareholder returns, reflecting a lack of efficiency in its investment strategies. These results may be the result of market volatility or poor portfolio management. To improve performance, the company must strengthen its risk management strategies and develop more effective investment plans. This requires a focus on innovation and in-depth market analysis, which can improve returns and restore investor confidence.

• Al Weam Financial Investment

Al Weam Financial Investment's Jensen Index is 0.009, indicating moderate investment performance. A positive value reflects the company's ability to achieve returns that exceed share returns, but the difference is not significant. These results may be the result of good investment strategies, but there is room for improvement. It is important for the company to focus on enhancing the efficiency of portfolio management and asset diversification to achieve a better balance between returns and risks. This ensures that improved marketing strategies and financial analysis can contribute to achieving greater positive results in the future.

• Al Zawra Financial Investment

Al Zawra Financial Investment recorded a Jensen Index of -0.002, indicating poor investment performance. A negative value indicates that the company has been unable to achieve share returns, reflecting inefficient portfolio management. These results are likely the result of market volatility or ineffective investment strategies. This means that the company needs to reevaluate its strategies and focus on improving risk management and developing more effective investment strategies. Taking concrete steps towards improving performance can help restore confidence and increase returns in the future.

Table (2): Jensen Index for the Companies under Study (2018–2023)

Company	¯RP-Rf	Rm	Rf Rm-	β	α
Bain Al-Nahrain for Financial Investment	0.096	0.069	-0.015	0.135	**0.015**
Al-Khair for Financial Investment	-0.056	0.018	0.036	0.005	**0.000**
Al-Ameen for Financial Investment	0.034	0.017	0.037	0.278	**-0.001**
Al-Wiam for Financial Investment	0.024	0.076	-0.022	0.197	**0.009**

Al-Zawraa for Financial Investment	-0.089	0.024	0.030	0.013	**-0.002**

Second: Description and Analysis of Stock Indicators

1- Sharpe Index

Table (3) shows that the portfolio performance was high in (Iraqi Carpets and Furniture, Bank of Baghdad, Canadian Veterinary Vaccines, Mesopotamia for Financial Investment, Baghdad Soft Drinks, Iraqi Dates Manufacturing, Al-Mansour Pharmaceutical Industries, Al-Amin for Financial Investment, Al-Weam for Financial Investment), according to the Sharpe scale during the study years (2018-2023), all of which are positive and the reason for this can be attributed to the fact that the portfolio return rate was positive and higher than the risk-free return rate during the study period. Therefore, the portfolio management should have worked on diversifying the portfolio components to avoid losses incurred as a result of the high risks as well as the low return rate compared to the risk-free rate and the market portfolio return rate. The rest of the companies had low Sharpe scores during the study years, as all the results were negative. This can be attributed to the fact that the portfolio's rate of return was negative and less than the risk-free rate of return during the study period. This decline is due to the fact that the portfolio's rate of return is less than the risk-free rate of return (RF). The low value of the standard deviation (σ) of the portfolio also had an impact on the increase in the negative value.

2- Jensen Index

The results in Table (3) show that the performance of the investment portfolios of the companies (Iraqi Carpets and Furniture, Bank of Baghdad, Al-Mansour Pharmaceutical Industries, Baghdad Soft Drinks, Mean River Financial Investment, Iraqi Dates Manufacturing Company, Al-Weam Financial Investment Company, and Canadian Veterinary Vaccines) achieved the best results according to the Jensen Index. This can be attributed to the improvement in the portfolio's rate of return, as well as the impact of each (Ri), (β), and (Rm) on it. The remaining companies performed poorly according to the Jensen Index, which means that the portfolio's performance is poor, due to the decline in the portfolio's rate of return, as well as the impact of each (Ri), (β), and (Rm).

Table (3): Portfolio Performance Indicators (2018–2023)

Company	Sharpe Index	Jensen Index
Bain Al-Nahrain for Financial Investment	0.262	0.015
Al-Khair for Financial Investment	-0.800	0.000
Al-Ameen for Financial Investment	0.065	-0.001
Al-Wiam for Financial Investment	0.054	0.009
Al-Zawraa for Financial Investment	-0.774	-0.002

Third: Construction of the Investment Portfolio

Table (4) shows the results and outputs of building the investment portfolio for the investment sector in light of two companies represented by (Al-Amin for Financial Investment, and Al-Weam for Financial Investment), as follows:

Table (4): Construction of the Investment Portfolio for the Financial Investment Sector

Company	Symbol	(Ri–Rf)/β	Ci	Zi	Wi
Al-Ameen for Financial Investment	VAMF	0.021	0.003	34.294	0.211
Al-Wiam for Financial Investment	VWIF	0.015	0.004	56.117	0.345

The results show that companies differ in their risk levels based on cut-off rates, with Al-Weam Financial Investment Company having the highest cut-off rate (0.345), indicating that it is more exposed to risk, while Al-Amin Financial Investment Company represents less risk, which reflects a preference for a more balanced distribution strategy or directing greater investment towards companies with lower risks to achieve security and stability.

Table (5): Portfolio Results for the Financial Investment Sector

Indicators	Results
Portfolio Return	0.105
Standard Deviation	0.039
Portfolio Beta	1.31
Systematic Risk	0.000741
Unsystematic Risk	0.000432
Total Risk	0.00028
Coefficient of Variation	0.370

Fourth: Testing the Study Hypotheses

H1: Difficulty in Building an Investment Portfolio Using the Sharpe Index for the Investment Sector

The results of Table (5) show a significant correlation between the Sharpe Index and the investment portfolio, with a strength of (0.170). This means that using the Sharpe Index as a tool for evaluating investment performance helps understand how a portfolio achieves market-beating returns.
The results of Table (5) indicate that increasing the sample's interest in evaluating the performance of corporate stocks using the Sharpe Index leads to an improvement in the investment portfolio by (0.224), with a standard error of (0.047) and a critical value higher than (1.96) of (4.766). This means that enhancing investors' interest in evaluating stock performance using the Sharpe Index significantly contributes to improving the performance of the investment portfolio.
The results also indicate that evaluating the performance of corporate stocks using the Sharpe Index contributed to explaining (0.029) of the squared variance in the investment portfolio, while the remaining value falls outside the study's boundaries.

Table (5) Results of the impact of evaluating the performance of companies' stocks using the Sharpe index in the investment portfolio of the investment sector

Path			Standard Weight	standard Error	Critical Value	R	R^2	P
Sharpe Index	--->	Investment Portfolio	0.224	0.047	4.766	0.170	0.029	***

H2: The difficulty of constructing an investment portfolio using the Jensen index for the investment sector.
The results of Table (6) show a significant correlation between the Jensen index and the investment portfolio, with a strength of (0.183). This means that using the Jensen index as a tool for evaluating investment performance helps understand how a portfolio achieves market-beating returns.
The results of Table (6) indicate that increasing the sample's interest in evaluating the performance of corporate stocks using the Jensen index leads to an improvement in the investment portfolio by (0.424), with a standard error of (0.068) and a critical value higher than (1.96) of (6.235). This means that enhancing investors' interest in evaluating stock performance using the Jensen index contributes significantly to improving the performance of the investment portfolio.
The results also indicate that evaluating the performance of corporate stocks using the Jensen index contributed to explaining (0.003) of the squared variance in the investment portfolio, while the remaining value falls outside the study's limits.

Table (6) Results of the impact of evaluating the performance of companies' stocks using the Jensen index in the investment portfolio of the investment sector

Path			Standard Weight	standard Error	Critical Value	R	R^2	P
Jensen Index	--->	Investment Portfolio	0.424	0.068	6.235	0.183	0.003	***

Part Four: Conclusions and Recommendations

First: Conclusions

1. Risk levels vary significantly across sectors, with the highest risks observed in the banking, financial investment, and industrial sectors. This indicates that the increase in return rates was accompanied by higher overall risk levels in these sectors. Such a positive correlation may ultimately reduce the attractiveness of these sectors in achieving above-average returns.
2. The rates of return for the shares of the companies under study varied within a range between (-0.035) and (1.150). The Iraqi Company for Carpets and Furnishings achieved a high rate compared with the rate recorded by Al-Zawraa Company for Financial Investment. This disparity may be attributed to the sensitivity of each stock's return, the specific circumstances of each company, or a combination of these factors.
3. The industrial sector was distinguished by achieving the highest average stock return, surpassing the overall market average, with an additional return of (0.35). It was followed by the banking sector (0.11) and then the investment sector (0.06).
4. In terms of performance measures, the highest Sharpe ratio value was recorded by the investment portfolio, whereas the lowest value was observed in the portfolio constructed based on the Treynor index.
5. Upon reviewing the reports of the companies included in the study sample, no evidence was found indicating that the firms relied on any of the performance evaluation indicators—such as the Treynor, Sharpe, or Jensen indices—adopted in the present study.
6. The results reveal that the performance of the investment companies' portfolio was unacceptably low, primarily due to poor portfolio management and the inability to effectively utilize available resources

Second: Recommendations

1. It is essential to utilize the findings of this study in constructing investment portfolios based on growth stocks that investors intend to purchase, employing one of the performance measurement indicators for such stocks. The empirical results have demonstrated that portfolios built on growth characteristics outperform the market portfolio.
2. Investors should balance their selected investment instruments in terms of return and risk, in accordance with sound principles and proper financial rules.
3. The current study, along with similar studies conducted in the Iraqi Stock Exchange, should be disseminated on the exchange's official website to enhance investor awareness and attract both domestic and foreign investments.
4. Greater attention should be devoted to the application and comparison of portfolio performance evaluation measures, with emphasis on adopting the most effective indicators. This would facilitate continuous monitoring of portfolio performance, identification of weaknesses, and adjustment based on the outcomes of each measure.
5. Companies are encouraged to increase their investments in stocks of firms with relatively stable and favorable returns, as this contributes to enhancing the portfolio's market value, improving its profitability, and ultimately raising performance standards.
6. The stock market should ensure the provision of necessary information concerning investment portfolios and the companies comprising them on a regular and systematic basis. Such information is of significant importance for conducting scientific research, identifying strengths and weaknesses in these portfolios, and fostering advancements in financial investment. Additionally, the Securities Commission should issue relevant legislation and regulatory measures to support these objectives

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