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The Impact of Asset Allocation Strategies on the Investment Portfolio: A Study in the Iraq Stock Exchange(

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Abstract : This research attempts to achieve the main objective of the study, which is to measure the impact of asset allocation strategies on investment portfolio performance, taking into account risk and return indicators This research aims to develop appropriate solutions to the research problem, which revolves around the need to understand the impact of asset allocation strategies on returns and risks in the Iraq Stock Exchange It is noted that previous studies that focused on developed markets, such as the United States, did not address the unique issues that arise in the context of emerging markets, such as Iraq Furthermore, there is a significant lack of research on the impact of various strategies on improving investment portfolio performance. In order to answer the main research questions, a set of hypotheses was developed for the research, which are: The first main hypothesis: There is a statistically significant relationship between the dimensions of the stock value and the dimensions of the stock's return and risk. and the second main hypothesis: There is a significant effect of the stock value indicators on the stock's return and risk indicators. These variables were applied in the study community represented by the Iraq Stock Exchange, which is the main supporter of securities trading in Iraq This market includes companies that issue stocks as well as financial institutions that facilitate investment for investors The research focuses on studying the impact of asset allocation strategies on the performance of the investment portfolio within this market Given the number of companies listed on the Iraq Stock Exchange a sample of (39) banks representing the Iraqi private banking sector will be selected This is sufficient to represent all the different sectors of the Iraqi market, including large, medium, and small banks The aim is to provide a diverse range of sizes and provide a comprehensive result. The research reached important conclusions, including that the analysis of a fixed-mix stock strategy involves analyzing stocks that are considered a very risky investment in the short term due to their volatility Shares of large-cap companies may collectively experience losses approximately every three years Sometimes, the losses can be significant However, investors often tolerate volatility in stock returns over the long term, typically rewarded with strong positive returns. In light of this, it was possible to develop a set of appropriate recommendations and proposals that serve the research's main goals and objectives, including those stocks are vulnerable to falling below their fair or real value, which may expose investors to capital losses, so it is necessary to sell and dispose of them when their real value falls below their market value.

Keywords: Asset Allocation Strategies, Investment Portfolio, Return, Risk, Capital Market, Stocks.

INTRODUCTION: The investment portfolio is one of the most prominent financial instruments that seeks to achieve an ideal balance between returns and risks, through which investors aim to achieve their investment goals with the lowest possible level of risk. In light of the changing global financial environment characterized by economic fluctuations and geopolitical turmoil, it has become necessary to adopt Effective asset management strategies Reports issued by global financial institutions such as Morgan Stanley and Bank of America show that investors who rely on robust asset allocation strategies have been able to achieve stability in their returns, even during times of major financial crises such as the Corona pandemic. The importance of asset allocation strategies is evident as a main methodology for diversifying risks and maximizing returns, making it a major focus in the field of financial management. This study aims to analyze the impact of asset allocation strategies on the performance of the investment portfolio, relying on multiple financial indicators, leading to increased returns and reduced risks. Therefore, the study attempts to answer the main question: What is the impact of asset allocation strategies on the performance of the

investment portfolio in the Iraqi private banking sector in Iraq Stock Exchange during the financial period (2019-2023)? Through this study, a theoretical framework and practical analysis will be presented to measure investment performance using real data covering the financial period from (2019) to (2023). The study will rely on advanced mathematical, statistical and financial models to analyze the data, with a focus on using techniques such as regression analysis and risk-adjusted return tests. The study will include a critical review of the most prominent previous literature related to asset allocation, with a focus on the challenges and opportunities facing emerging markets and their impact on investment strategies.

Section One: Scientific Research Methodology

1- Study Problem:

The problem with the study stems from the need to understand the impact of asset allocation strategies on returns and risks in the Iraqi Stock Exchange, as it is noted that previous studies that focused on developed markets, such as the United States, did not address the unique issues that arise in the context of emerging markets, such as Iraq. There is also a significant lack of research regarding the impact of different strategies on improving the performance of the investment portfolio. Therefore, the study attempts to answer the main question: What is the impact of asset allocation strategies on the performance of the investment portfolio according to the return and risk indicators in the Iraq Stock Exchange during the financial period (2019-2023)? In order to address this problem and cover all its aspects, the following sub-questions were asked:

a- To what extent do asset allocation strategies affect the risks and returns in the investment portfolio compared to other strategies?

b- How do asset allocation strategies affect enhancing stock investment performance in the market?

c- Does the effectiveness of asset allocation strategies differ depending on changes in stock price levels, whether market or real, in the Iraq Stock Exchange?

2- The Importance of the Study:

a- Expanding Academic Knowledge: The study increases understanding of the impact of asset allocation strategies on the performance of financial portfolios in the Iraq Stock Exchange.

b- Bridging the Research Gap: Helps bridge the research gap related to the use of asset allocation strategies in emerging markets such as Iraq.

c- Increasing Market Efficiency: This facilitates improving the performance of the Iraq Stock Exchange by helping investors follow more effective investment strategies.

3- Study Objective:

a- Comparing the effectiveness of asset allocation in enhancing the performance of the investment portfolio.

b- Studying the impact of financial changes on the effectiveness of stock allocation strategies in the Iraq Stock Exchange.

c- Studying the effectiveness of asset diversification in reducing risks and balancing return and risk in investment portfolios.

4- Study Hypothesis:

a- The First Main Hypothesis: There is a statistically significant relationship between the dimensions of stock value and the dimensions of return and risk for the stock.

b- The Second Main Hypothesis: There is a significant impact of stock value indicators on stock return and risk indicators.

5- Study Sample:

Given the number of companies listed on the Iraq Stock Exchange, a sample will be selected, represented by the Iraqi private banking sector consisting of (39) banks, which is sufficient to represent all the different sectors in the Iraqi market. The selection will include large, medium and small-sized companies, and aims to provide a variety of sizes. And provide a comprehensive result.

Section Two: The Theoretical Aspect of the Research

1- Concept of Asset Allocation Strategies: Strategy is defined as the means through which long-term goals are reached that achieve the main objectives of the organization and the appropriate means to achieve them while adapting between internal and external environmental changes (Abis, 2023:18). As for the financial strategy, it is defined as the comprehensive strategy that is based on maximizing the financial value of the company and achieving a balance between assets and liabilities while maintaining sufficient cash flow for the company Its goal is to use financial resources in a way that improves the competitive situation as well as enhances the financial performance of the

company In general, the financial strategy includes directions and objectives related to the financial aspect of the company that you want to achieve in the medium or long term It has been shown through financial decisions that strategy is important and has an impact on the profitability of the financial institution (Hayat & Habiba, 2023:18). As for the concept of asset allocation as the process of dividing the investment portfolio into multiple asset classes, the general idea is to move from the security level to the portfolio level It should be noted that this program does not depend only on the opportunity to invest in different asset classes (such as stocks, bonds, and real estate), but rather on finding a group of investments that behave differently in the market Sound diversification remains a key feature of modern portfolio theory (Dziwok, 2014:124). In general, asset allocation strategies are necessary to guide investors in creating their portfolios in order to achieve a balance between risk and return, according to their financial goals and ability to bear risks and investments Many well-established methods of asset allocation have gained great popularity in the investment community, and each of them has its own principles and its unique methods, these strategies include conservative scheduling, balanced scheduling, aggressive scheduling, and life cycle financing Each strategy has a distinctive approach to dealing with the inherent trade-offs between risk and potential return that vary depending on the financial characteristics and objectives of investors (Majka, 2024:6).

2- Importance of Asset Allocation Strategies: The asset allocation strategy is considered the most important in managing the investment portfolio, and there are a set of important and basic decisions in formulating the strategy, which are as follows (Bakir, 2008:32):

a- Focus on the weights assigned to each category.

b- Identifying the assets in which the investment portfolio funds are invested.

c- Choosing securities or any type of assets through which the investment portfolio is installed.

d- In light of the weights specified in investment policies, the scope of asset allocation is determined, i.e. the upper and lower limits.

3- Types of Asset Allocation Strategies:

a- Fixed Mix Strategy of Stocks: Rebalancing a portfolio using a fixed ratio strategy, or a more general strategy of holding a fixed mix of assets, leads to a higher growth rate of wealth than a buy-and-hold strategy in markets that have a fixed price, and there is no agreement on the legitimacy of fixed returns This makes some sense, Because any discussion of inexpensive assets based on the concept of long-term return is like falling victim to the gambler's fallacy This simple lack of intuition regarding the financial viability of fixed ratio strategies in markets that have a fixed return rather than a price (Evstigneev & Hoppe, 2009:50).

b- Investment Options Strategy and Risk Tolerance: Investors can manage market risk through strategies such as hedging or adjusting their asset allocation to match market conditions The borrower will default on his obligations, resulting in financial losses for the lender or investor This type of risk is particularly relevant for fixed income securities such as Bonds (Majka, 2024:2).

c- Fixed Investment Portfolio Ratio Strategy for Banks: The bank attempts to formulate strategies that are compatible with the general objectives and expected conditions These strategies are as broad as possible with regard to the three basic principles of investment, which are security, liquidity, and profitability The importance of these factors or principles is determined through the strategies drawn, which requires explaining the most important foundations on which the strategies are based It is a diversification strategy for the investment portfolio (Al-Karawi, 2005:4).

d- Stock Purchase and Holding Strategy: A buy-and-hold strategy is a passive investment approach and a very conservative tactic in which investors buy stocks and hold them for a long time regardless of market fluctuations This strategy also suggests that investors who hold their investments for a long time are likely to achieve higher returns The rationale for buying and holding these stocks is Achieving reasonable long-term returns despite price fluctuations over short periods In addition, This strategy involves less frequent trading of stocks when compared to other strategies (Abdoun & Hasan, 2023:80).

4- Investment Portfolio Concept: In its linguistic origin, the word (wallet) goes back to the triple root (hafs), which indicates preservation or protection, and it is said "to preserve something," from which the name wallet came as a container used to store money, papers, and other valuables from this meaning, the term moved to the financial field to be used in referring to a group of financial assets owned by an individual or institution with the aim of achieving profits or investment returns (Jones, 2014:3). It is known as the investment portfolio However, they are different assets that can be invested in or combined together Sometimes they are cash assets (such as stocks, bonds, and treasury bills) or physical assets (such as commodities, gold, and real estate), and they usually consist of both (Al-Yara, 2023:125). As he knew it (Melicher & Norton, 2017:358) It is a group of financial assets or investments, and although many consider investments to be financial assets such as stocks, bonds, and certificates of deposit, they can also include real assets such as gold, diamonds, works of art, agricultural lands, and buildings Residential. It can also be explained as an interactive group of securities represented by stocks and bonds, and these securities can be purchased in order to maximize your profits (Qadir, 2022:28).

5- The Importance of the Investment Portfolio: Paying attention to the investment portfolio increases the possibility of investment and provides additional funds to individuals and institutions, as well as developing the most effective way to exploit these additional funds for different companies. The investment portfolio is considered one of the distinctive features that make it different from other financial instruments, as follows (Ebadi & Abd, 2024:73-74):

a- Reducing the risks associated with an investment portfolio through diversification when one or more assets fail to achieve the expected return.

b- As a result of the money raised to invest in various financial instruments, they have the ability to buy things.

c- Its ability to buy and sell large quantities of goods as a result of its integrated purchasing power, which enables it to purchase goods at lower prices.

d- Contributing to encouraging long- and medium-term investment according to careful studies.

e- Financing small and medium enterprises.

f- Stimulating stock market movement by attracting small savers, purchasing a mix of securities traded in the market and stimulating movement, and offering various investment tools that suit the investor's circumstances.

6- Types of Investment Portfolio: The investment portfolio to be formed depends on the investor's priorities and goals, as there are multiple factors that affect the composition and degree of diversification of the assets that make up the investment portfolio, including age, income, nature of the economic system, social security, social responsibilities, investor health, spending habits, and avoidance Risk (Al-Khuzai, 2019:23). Many researchers have identified different types of investment portfolios using the general investment classification framework, which are as follows:

a- Income Portfolio: This portfolio is designed to achieve maximum returns, whether from joint investment flows or from price variation To achieve this, managing this portfolio is concerned with the largest investment size and the fastest time However, controversy differs about the relationship between return and risk In this case, managers' behavior mixes hedging and risk These managers are supposed not to exaggerate their reactions to uncertain situations, otherwise the negative effects will be reflected in their positions (Marouf, 2009:27).

b- Growth Portfolio: It is a portfolio that includes stocks that witness a constant increase in profits over time These are stocks of companies that achieve increasing profits and seek to maintain the growth of both assets and returns Here, the growth rate is the basic criterion for selecting instruments and moving them in the available markets, then evaluating the ability of managers As a result, Portfolio management not only increases the investment base, but also seeks to protect instruments from financial market fluctuations, and as a result, It is characterized by strategic hedging and anticipating the most profitable scenarios Through these two characteristics, it is possible to protect the components of the portfolio from being affected by investment instruments, and work to increase the size of all these components or add a new component Ultimately, to ensure a large degree of expected growth, the growth portfolio must be compatible with the portfolio Income, but with security and certainty (Mubarak, 2016:67).

c- The Combination Portfolio: It is a portfolio that combines high-income, albeit low-risk, assets with other high-growth, risky assets as a result, the portfolio manager combines the advantages of one type of portfolio with the risks of another, with the aim of protecting capital while achieving a specific income (Jaber, 2005:278).

7- Investment Portfolio Theories:

a- Traditional Portfolio Theory: The emergence of traditional portfolio theory (TPT) began in the early twentieth century, and had a major impact on the financial world until the publication of Markowitz's article on "Portfolio Selection" in (1952) In traditional portfolio theory, risk allocation is based on diversification, and the purpose is to purchase a portfolio containing A large number of financial assets derived from different economic sectors, according to the old saying (Do not put all your eggs in one basket) (Al-Amiri, 2010:70).

b- Modern Portfolio Theory: Originally developed by (Harry Markowitz) modern portfolio theory (MPT) assumed that the majority of investors want to be careful when investing and want to reduce their risk as much as possible in order to get the greatest possible return and have a higher return-to-risk ratio MPT states that it is not enough Assess the expected risk and return of a particular stock rather than investing in a single stock An investor who commits to multiple stocks can enjoy the benefits of diversification and reduced volatility of the overall portfolio (Markowitz, 1959:34) (Kristian et al, 2006:12).

c- Post Modern Portfolio Theory: Postmodern portfolio theory (PMPT) states that each investor has a different minimum desired return and has set it as a target for the minimum desired return, which is the investor's target rate of return, for example the rate of return as a personal guide for the investor in evaluating the results achieved, the investor should Avoid a negative outcome if it is not achieved, and the combined return accepted by the investor serves as a personal measure of the investor's success The option to choose the minimum desirable return increases the specificity of postmodern portfolio theory for individual investors compared to modern portfolio theory (Rom & Fergusn, 1993:27).

8- Returns and Risks of the Investment Portfolio:

a- The Concept of Return: It is defined as the total profits resulting from investments over limited periods of time (Gitman, 2000:237). It can also be said that it is the profit that results from bartering a specific commodity or through investments, work, etc (Webster, 2003:1216). The return is also called the difference between the initial value of the investment and its final value over a certain period of time (Feibel, 2003:17).

b- Types of Return:

1- Benefits: If the financial investments are derived from borrowed funds such as bonds, the bondholder is a lender to the company that issued the bond, the value of the loan is the value of the bond, and the bond gives its holders the right to receive the agreed-upon interest from the company that issued the bonds.

2- Allocation of Profits: If these investments are merely equity in assets such as shares, the shareholder is part of the company that issued the share and is therefore its owner and his rights are part of shareholders' equity.

3- Capital Profits: These profits are derived from the sale of financial assets, and if the shareholder or bondholder can sell the stock for more than the amount, he originally purchased it for, the difference is considered a capital gain (Ramadan, 2007:293).

c- The Concept of Risk: Risk is viewed as the state of uncertainty about future events that is determined by a certain degree of probability, that is, it is a state of chaos and fluctuation in the value of returns or the ratio of invested capital to return (Alwan, 2009:61). It is also referred to as the chance of an undesirable event occurring (Ehrhardt & Brigham, 2011:220). It can be defined as the possibility of exposure to damage or loss to the investor as a result of uncertainty (Saifi, 2009:72).

d- Types of Risk:

1- Systematic Risk: These risks are known as general risks or standard risks, and they are derived from factors that affect the market in general, and their impact is not limited to a specific financial instrument, a specific sector, or a specific stock These factors are usually related to economic, political, and social issues such as general strikes, recessions, inflation, interest rates, war, and political takeover All investments depend on these factors, but to different degrees (Shaqiri et al., 2012:47).

2- Unsystematic Risk: Know that they are the specific risks that fall on a specific company, and these specific risks are not affected by the market as a whole, but rather depend on the company's management, and the most effective way to avoid these specific risks is to diversify your investments and distribute capital across a large number of different securities (Al-Momani, 2008:81).

3- Total Risk: It is the total risk associated with the cash flows of investments, which results from an increase in the probability of the return spreading beyond its expected value, and this includes systemic and non-systematic risks (Al Shabib, 2009:133).

9- Investment Portfolio Construction Models:

a- Capital Asset Pricing Model:

1- Model Essentials: Published by (William F. Sharpe) published a research paper entitled "Capital Asset Prices: The Theory of Market Equilibrium Under Risk Conditions" in one of the American financial newspapers in the year (1964) This model was derived from the behavior of the investor who fears risk, and it also highlighted the proportional relationship between risk and the expected return for each security in the market (Sharpe, 1964:425-427). As a result, it represents the basic theory that combines risk and return associated with all assets (Gitman & Zutter, 2015:381).

2- Model Equation: The capital asset pricing model revolves around the market portfolio, which is the portfolio that includes all risky assets, and the required return can be determined through the equation of the capital asset pricing model as follows: the total return of the portfolio minus the risk-free rate plus the risk premium (portfolio return minus Risk-free rate) multiplied by (β), which is the degree to which the portfolio is affected by market changes The equation also means that the market benefits venture investors (Schulmerich et al, 2015:112). The mathematical formula for the model equation is (Wahyuny & Gunarsih, 2020:25):

$$RRR = R_F + (R_m - R_F)\beta \dots\dots\dots\dots\dots (1)$$

Whereas:

RRR: Required rate of return

R_F: Risk-free rate of return

R_m: market return

β: beta

b- Cutting Limit Model:

1- Model Essentials: It is a procedure used by Elton et al.in grading stocks in order to choose the most suitable portfolio Stock grading is based on the ratio of incremental return to beta, or the Treynor Scale of Stock and Portfolio Performance, which was developed by Jack Treynor in (1965) and is used to classify portfolios based on risk The

Treynor scale is similar to Sharp's scale, which is why both use the excess return of the risk scale in order to evaluate investments within a portfolio However, there is a difference between the two The Sharpe scale is based on the standard deviation, while the Trainor Beta scale is used for systemic risk (Akkar, 2016:14). The cut-off model relies on two methods to create the optimal portfolio The first approach relies on the Treynor index as a means of evaluating the composition of financial assets and selecting or excluding them, while the second approach to the model relies on the Sharpe index in order to create the optimal portfolio (Al-Tamimi, 2017:59).

2- Model Equation: In this model, the attributes of all securities that are considered suitable for inclusion in the best portfolio are determined These attributes include the additional gain of the securities, their systematic risk (estimated by beta), and their irregular risk (estimated by variance) for any level of market variance The attributes of each are determined Security by using the mathematical formula of the model equation is (Kamal, 2012:34) (Mary & Rathika, 2015:92):

$$C_i = \frac{\sigma^2_{Rm}\,\Sigma\frac{(R_i - R_f)\beta}{\sigma^2_{ej}}}{1 + \sigma^2_{Rm}\,\Sigma\left[\frac{\beta^2}{\sigma^2_{ej}}\right]} \dots\dots\dots\dots\dots (2)$$

Whereas:

C_i: Cut-off limit

R_i: return per share

R_f: risk-free rate of return

β: beta

$\sigma^2_{(Rm)}$: Market index variance

$\sigma^2_{(ej)}$: Variation of an uncorrelated security with a market index (Unsystematic risk)

10- Investment Portfolio Performance Measurement and Evaluation Indicators:

a- Sharpe Index: It is the indicator named after its inventor (William F. Sharpe) in (1961) it is the first index to combine return and risk in order to obtain a single index that is adjusted according to risk (Travers, 2004:86). It is sometimes also referred to as a measure (reward volatility) because its composition is derived from the excess return compared to the total unit risk (Maringer, 2005:42-43). It can be calculated by the following equation (Lee et al, 1990:196):

$$\text{Sharpe Index} = \frac{R_p - R_f}{\sigma_p} \dots\dots\dots\dots\dots (3)$$

Whereas:

R_p: The return of the portfolio to be evaluated

R_f: risk-free rate of return

σ_p: the standard deviation of the portfolio to be evaluated

b- Treynor Index: The Sharpe index is similar to the Treynor index, which belongs to its inventor (Jack Treynor) At the same time, it is similar to the Sharpe index in that it uses the same data except for the denominator data, which relies on the beta coefficient to measure systematic risks (Travers, 2004:88). It can be calculated by the following equation (Ruttiens, 2013:279):

$$\text{Treynor Index} = \frac{R_p - R_f}{\beta_p} \dots\dots\dots\dots\dots (4)$$

Whereas:

R_p: The return of the portfolio to be evaluated

R_f: risk-free rate of return

β_p: the beta coefficient of the portfolio to be evaluated

Section Three: The Applied Aspect of Research

1- Analyze Asset Allocation Strategies:

a- Analysis of the Fixed Mix Strategy of Stocks: Among the main groups of asset allocation strategies is the strategy of a fixed mix of stocks and the return achieved on them, as stocks have always been characterized by the highest risk and highest return, and they also have the highest growth potential, and are considered the most difficult types of assets in the investment portfolio, and despite the success of stocks in many cases, they are not Always successful, stocks are a very risky investment in the near term due to their volatility Losses in shares of companies with a combined large market capitalization may occur approximately every three years, and losses may sometimes be large However, investors often tolerate fluctuations in stock returns over the long term, as they are usually rewarded with

strong positive returns، As mentioned previously, the actual return resulting from investing in common stocks is known as the realized return, and the stock rate of return is represented as a percentage and is often annual, based on the following equation that shows the percentage change in the investor's wealth at the end of the period (the closing price of the stock) compared to its starting price (opening price) (Al-Amiri, 1995:180):

$$RRR = \frac{v_0 - v_1}{v_0} \dots\dots\dots\dots\dots (5)$$

Whereas:

RRR: Required return per share

v_0: The opening price of the stock at the beginning of the term

v_1: The closing price in the subsequent period

To know the level of performance in the banks included in the research, it is possible to calculate their returns by calculating the annual rate of return, as is clear from Table No. (2), which was originally based on Table No. (1), which includes an analysis of stock prices, i.e., Opening prices and closing prices. It is clear from Table No. (2) the rate of return per share for the banks in the research sample for the period (2019-2023) operating in the various economic sectors, and that the average portfolio reached (0.26), and this rate exceeded the following banks: United, Elaph Islamic, Baghdad, Zain Al-Iraq, with averages of (0.55, 0.32, 0.56, 0.51) respectively, and the rest of the banks in the investment portfolio decreased from it، It is also noted from the aforementioned table that the values of the standard deviation were close to each other, which reflects a state of relative stability and non-dispersion, and on this basis it is possible to maintain a fixed mix of these banks within this portfolio, which includes the banks that achieve the highest returns within a longer period of time.

Table No. (1): Shows the average stock prices of the local banks included in the research for the period (2019-2023) (dinars)

No	Bank	2019	2020	2021	2022	2023	Average	Standard Deviation
1	Iraqi Commercial	0.45	0.44	0.62	0.5	0.6	0.52	0.084
2	Baghdad	0.3	0.41	1.03	1.37	1.39	0.9	0.519
3	Islamic	0.39	0.38	0.5	0.45	0.49	0.44	0.055
4	Middle East	0.11	0.12	0.2	0.14	0.19	0.15	0.041
5	Iraqi Investment	0.27	0.23	0.3	0.28	0.29	0.27	0.027
6	Iraqi National	0.62	0.92	1.23	1.1	1.14	1	0.241
7	Sumer Commercial	0.51	0.4	0.38	0.19	0.29	0.35	0.121
8	Babylon	0.11	0.07	0.1	0.07	0.11	0.09	0.02
9	Gulf Commercial	0.14	0.14	0.15	0.16	0.17	0.15	0.013
10	Mosul	0.16	0.13	0.15	0.21	0.22	0.17	0.039
11	North	0.11	0.9	0.9	0.07	0.8	0.56	0.428
12	Kurdistan	1.09	1.1	1.25	1.03	1.1	1.11	0.081
13	Ashur International	0.24	0.28	0.44	0.4	0.43	0.36	0.092
14	Al-Mansour	0.68	0.57	0.51	0.62	0.63	0.6	0.065
15	United	0.07	0.8	0.11	0.6	0.7	0.46	0.342
16	Elaph Islamic	0.19	0.3	0.44	0.53	0.54	0.4	0.152
17	National Islamic	1	0.8	1	1.08	1.09	0.99	0.117
18	Across Iraq	0.7	0.7	1	1.34	1.35	1.02	0.323
19	Cihan Islamic	2.52	2.29	2.29	2.29	2.3	2.34	0.102
20	Arab Islamic	1	1	1.08	1	1.04	1.02	0.036
21	Zain Al-Iraq	0.37	0.37	1	1.34	1.36	0.89	0.494
22	Noor Al-Iraq	1	1	0.34	0.34	0.35	0.61	0.36
23	International Islamic	1.96	1.7	1	1.75	1.8	1.64	0.372
24	Islamic World	1	1	1.7	1	1.07	1.15	0.307
25	Development	0.81	0.81	0.81	0.81	0.81	0.81	0
26	Islamic Holding	1	0.24	0.24	0.24	0.24	0.39	0.34
27	Erbil	0.25	0.11	0.11	0.11	0.11	0.14	0.063
28	Al-Thiqa Islamic	0.35	0.35	0.35	0.65	0.66	0.47	0.167
29	South Islamic	1	1	1	1	1	1	0
30	Region Commercial	1	1	1	1	1	1	0
31	Iraqi Credit	0.43	0.41	0.38	0.36	0.37	0.39	0.029
32	Dar Al-Salam	0.13	0.13	0.13	0.13	0.13	0.13	0
33	Economy	0.43	0.43	0.43	0.43	0.43	0.43	0
34	Iraqi Union	0.29	0.29	0.29	0.29	0.29	0.29	0
35	Dijlah & Furat	0.25	0.25	0.25	0.25	0.25	0.25	0
36	Al-Ataa Islamic	0.24	0.14	0.17	0.23	0.24	0.2	0.046
37	Asia Iraq	1.1	1.08	1	1	1	1.04	0.05
38	Al-Qurtas	1	1	1	1	1	1	0
39	Al-Tayf	1.2	1	1	1	1	1.04	0.089
Average		51.09	51.11	51.17	51.21	51.27	0.66	0.47

Source: Prepared by the researcher based on official bulletins issued by the Iraqi banking sector for the period (2019 - 2023).

According to the above, it was possible to analyze the fixed mix strategy of stocks for the local banks included in the research, as shown in the following table:

Table No. (2): Shows an analysis of the fixed mix of stocks strategy for the local banks included in the research

No	Bank	2019	2020	2021	2022	2023	Average	Standard Deviation
1	Iraqi Commercial	-	- 0.02	0.41	- 0.2	0.2	0.098	0.26
2	Baghdad	-	0.367	1.51	0.33	0.01	0.554	0.66
3	Islamic	-	- 0.03	0.32	- 0.1	0.09	0.07	0.18
4	Middle East	-	0.091	0.67	- 0.3	0.36	0.205	0.41
5	Iraqi Investment	-	- 0.15	0.3	- 0.1	0.04	0.023	0.2
6	Iraqi National	-	0.484	0.34	- 0.1	0.04	0.191	0.27
7	Sumer Commercial	-	- 0.22	- 0.05	- 0.5	0.53	- 0.06	0.43
8	Babylon	-	- 0.36	0.43	- 0.3	0.57	0.085	0.48
9	Gulf Commercial	-	0	0.07	0.07	0.06	0.05	0.03
10	Mosul	-	- 0.19	0.15	0.4	0.05	0.103	0.24
11	North	-	0.182	0	- 0.9	0.4	- 0.08	0.52
12	Kurdistan	-	0.009	0.14	- 0.2	0.07	0.005	0.13
13	Ashur International	-	0.167	0.57	- 0.1	0.07	0.177	0.28
14	Al-Mansour	-	- 0.16	- 0.11	0.22	0.02	- 0.008	0.17
15	United	-	0.43	- 0.86	0.45	0.17	0.048	0.13
16	Elaph Islamic	-	0.579	0.47	0.2	0.02	0.317	0.25
17	National Islamic	-	- 0.2	0.25	0.08	0.01	0.035	0.19
18	Across Iraq	-	0	0.43	0.34	0.01	0.195	0.22
19	Cihan Islamic	-	- 0.09	0	0	0	- 0.023	0.05
20	Arab Islamic	-	0	0.08	- 0.1	0.04	0.005	0.07
21	Zain Al-Iraq	-	0	1.7	0.34	0.01	0.513	0.81
22	Noor Al-Iraq	-	0	- 0.66	0	0.03	- 0.158	0.34
23	International Islamic	-	- 0.13	- 0.41	0.75	0.03	0.06	0.5
24	Islamic World	-	0	0.7	- 0.4	0.07	0.093	0.46
25	Development	-	0	0	0	0	0	0
26	Islamic Holding	-	- 0.76	0	0	0	- 0.19	0.38
27	Erbil	-	- 0.56	0	0	0	- 0.14	0.28
28	Al-Thiqa Islamic	-	0	0	0.86	0.02	0.22	0.43
29	South Islamic	-	0	0	0	0	0	0
30	Region Commercial	-	0	0	0	0	0	0
31	Iraqi Credit	-	- 0.05	- 0.07	- 0.1	0.03	- 0.048	0.04
32	Dar Al-Salam	-	0	0	0	0	0	0
33	Economy	-	0	0	0	0	0	0
34	Iraqi Union	-	0	0	0	0	0	0
35	Dijlah & Furat	-	0	0	0	0	0	0
36	Al-Ataa Islamic	-	- 0.42	0.21	0.35	0.04	0.045	0.33
37	Asia Iraq	-	- 0.02	- 0.07	0	0	- 0.023	0.04
38	Al-Qurtas	-	0	0	0	0	0	0
39	Al-Tayf	-	- 0.17	0	0	0	0.098	0.08
Average		-	- 0.03	0.2	0.03	0.08	0.1	0.08

Source: Prepared by the researcher based on data from the banks included in the research.

b- Analysis of Investment Options Strategy and Risk Tolerance: This strategy can be analyzed through risks of all kinds, systemic, irregular, and total, and at their various scales, as well as by analyzing the Required Rate of Return (RRR), which represents the minimum rate of return that the investor is expected to obtain when investing his money in common stocks According to the Capital Asset Pricing Model (CAPM), this return is calculated by subtracting the Risk Premium (Rm), which is an additional return to compensate investors for the financial market risk rate, from the Risk Free Rate (Rf), which is the rate of return on government investments such as treasury transfers or fixed interest rates on savings (Horne, 1998:72). as shown in Equation No. (1), The common stock risk premium is determined by the beta factor (β), which estimates the level of systemic risk of the stock, and given its dependence on external environmental factors that the bank cannot control, such as technological and political changes, the research must calculate the beta factor, which measures systemic risk, that is, the risks that the bank cannot get rid of، or diversify it, and Table No. (3) explains this, and shows that the correlation coefficient between the returns of the banks participating in the study, From this we note that the correlation coefficient between the returns of the banks included in the research and the market returns came at average levels exceeding (0.50) for all banks, but it did not reach (0.70) The reason for the low correlation coefficient is due to the fact that the market returns were for a portfolio that included banks with different specializations and not for the banking industry market، The pure market in which these banks operate Because the portfolio included banks operating in different and diverse specializations with uncorrelated diversification, and this makes it a systemic risk Low In this case, the correlation indicates that choosing

a group of banks that are disproportionate to each other due to large differences in the nature of their work leads to a high level of unsystematic and diversifiable risks, which are linked to the internal environment of the bank and subject to the powers of its governing management, and as a result we see that these risks It has increased relatively for all banks without exception While systemic risks (which are risks that cannot be diversified and are not subject to the authority of management) have decreased significantly and are now almost negative, this indicates that the activity of these banks was closely linked to analyzing the external environment and addressing risks that would have a very small harmful impact on them, Given that these banks are among the largest and most prominent banks in the banking industry and have great power and influence on the competitive market and its external factors, Because of all this, these banks were able to operate with very low risks, as evidenced by the overall risk indicators, which came at a rate close to zero, and after calculating the beta factor for the systemic risk of the business and the resulting irregular and total risk, which equals their sum, it became possible to calculate the required rate of return, which represents The lowest return required by shareholders on their investments It is clear from Table No. (3) itself the required rate of return, which was calculated through the aforementioned equation, and regarding the risk-free return (Rf), which represents one of the inputs to this equation, it was possible to determine it through the rate of return of fixed bank accounts, which amounts to (0.08) From calculating the required rate of return, it becomes clear that this return averaged (0.0615)، Accordingly, the required rate of return is at the highest at Sumer Commercial Bank at (0.1161) and at the lowest at Islamic World Bank at (0.0432) As for the level of total risk, it was at its maximum at Zain Al-Iraq Bank at (0.66) and at its lowest at Al-Tayf Bank at (0.01), and on this basis, when applying this strategy through the extent of risk acceptance and tolerance, Some are willing to take risks within an adventurous policy, unlike others who are unwilling to take risks and tend toward conservative fiscal policy.

Table No. (3) Shows an analysis of the investment options strategy and risk tolerance of the local banks included in the research

No	Bank	Average	Standard Deviation (ó)	Correlation (r)	Beta (β)	Systemic Risk R_{me} = $(\beta)^2 \times (ó)^2$	Total Risk $(ó)^2$	Unsystematic Risk Total - Systematic	Required Rate of Return
1	Iraqi Commercial	0.1	0.26	0.55	0.56	0.02	0.07	0.0464	0.0504
2	Baghdad	0.56	0.66	0.53	0.65	0.18	0.44	0.25156	0.0585
3	Islamic	0.07	0.18	0.65	0.63	0.01	0.03	0.01954	0.0567
4	Middle East	0.2	0.41	0.48	1.14	0.22	0.17	0.0504	0.1026
5	Iraqi Investment	0.03	0.2	0.65	0.76	0.02	0.04	0.0169	0.0684
6	Iraqi National	0.19	0.27	0.67	0.54	0.02	0.07	0.05164	0.0486
7	Sumer Commercial	0.1	0.43	0.69	1.29	0.31	0.18	0.1228	0.1161
8	Babylon	0.08	0.48	0.76	0.67	0.1	0.23	0.12697	0.0603
9	Gulf Commercial	0.05	0.03	0.56	0.68	0	0	0.00048	0.0612
10	Mosul	0.1	0.24	0.68	0.67	0.03	0.06	0.03174	0.0603
11	North	0.17	0.52	0.65	0.58	0.3	0.5	0.2202	0.0522
12	Kurdistan	0.01	0.13	0.54	0.59	0.01	0.02	0.01102	0.0531
13	Ashur International	0.18	0.28	0.65	0.63	0.03	0.08	0.04728	0.0567
14	Al-Mansour	0.14	0.17	0.56	0.58	0.01	0.03	0.01918	0.0522
15	United	0.55	0.13	0.66	0.67	0.8	0.3	0.5032	0.0603
16	Elaph Islamic	0.32	0.25	0.55	0.76	0.04	0.06	0.0264	0.0684
17	National Islamic	0.03	0.19	0.64	0.56	0.01	0.04	0.02478	0.0504
18	Across Iraq	0.19	0.22	0.55	0.58	0.02	0.05	0.03212	0.0522
19	Cihan Islamic	0.04	0.05	0.65	0.76	0	0	0.00106	0.0684
20	Arab Islamic	0.01	0.07	0.45	0.77	0	0	0.00199	0.0693
21	Zain Al-Iraq	0.51	0.81	0.49	0.57	0.21	0.66	0.44293	0.0513
22	Noor Al-Iraq	0.2	0.34	0.52	0.67	0.05	0.12	0.06371	0.0603
23	International Islamic	0.06	0.5	0.51	0.75	0.14	0.25	0.10938	0.0675
24	Islamic World	0.09	0.46	0.53	0.48	0.05	0.21	0.16285	0.0432
25	Development	0	0	0	0.67	0	0	0	0.0603
26	Islamic Holding	0.2	0.38	0.35	0.66	0.06	0.14	0.0815	0.0594
27	Erbil	0.1	0.28	0.32	0.68	0.04	0.08	0.04215	0.0612
28	Al-Thiqa Islamic	0.22	0.43	0.37	0.59	0.06	0.18	0.12054	0.0531
29	South Islamic	0	0	0.56	0.67	0	0	0	0.0603
30	Region	0	0	0.43	0.65	0	0	0	0.0585

	Commercial								
31	**Iraqi Credit**	0.14	0.04	0.1	0.77	0	0	0.00065	0.0693
32	**Dar Al-Salam**	0	0	0.44	0.69	0	0	0	0.0621
33	**Economy**	0	0	0.45	0.65	0	0	0	0.0585
34	**Iraqi Union**	0	0	0.51	0.67	0	0	0	0.0603
35	**Dijlah & Furat**	0	0	0.45	0.87	0	0	0	0.0783
36	**Al-Ataa Islamic**	0.05	0.33	0.64	0.65	0.05	0.11	0.06289	0.0585
37	**Asia Iraq**	0.02	0.04	0.33	0.57	0	0	0.00108	0.0513
38	**Al-Qurtas**	0	0	0.45	0.76	0	0	0	0.0684
39	**Al-Tayf**	0.04	0.08	0.33	0.56	0	0.01	0.00439	0.0504
Market Index		0.07	0.23	0.51	0.68	0.07	0.11	0.06917	0.0615

Source: Prepared by the researcher based on data from the banks included in the research.

2- Investment Portfolio Analysis:

a- Building an Optimal Portfolio at the Macro Banking Level: According to the Simple Ranking model, with the shadow of not allowing short selling or allowing short selling, which was chosen because there are negative and positive values in the field of evaluating common stocks relative to their fair (real) values, and on this basis, the Treynor ratio was calculated for the banking stocks in the research sample, as in Table No. (4)، The optimal portfolio of common stocks was built based on the results of the statistical analysis in the previous table, and by using the Simple Ranking model to extract the optimal weights for the optimal portfolio through the market index model and according to the following steps:

Step 1: Arrange the stocks from top to bottom through the Traynor index (Ri-Rf)/β, and each stock has a research sample as in column (1).

Step 2: Extract the sum of the Treynor index cumulatively ∑(Ri-Rf)/β.

Step 3: Put the results of the second step in column (2).

Step 4: Calculate the formula (Ri-Rf)/β/σ^2ei for each stock as shown in column (3).

Step 5: The values of column (3) were cumulatively collected and the results were placed in column (4).

Step 6: This step involved calculating β^2/σ^2ei as given in column (5).

Step 7: Summing the indicator values in step six cumulatively as in column (6).

Step 8: This step was concerned with calculating the Cut off-Rate, as shown in Equation No. (2), The results have been placed in column (7) The purpose of this is to compare the column values shown in column (7) with column (1) If the results in the cut-off limit (Ci) in column (7) for a particular stock are less than the values in column (1) then This stock will be among the components of the portfolio, and we note from the table that the value (Ci) for banks: Gulf Commercial, Cihan Islamic, Development, South Islamic, Region Commercial, Iraqi Credit, Dar Al-Salam, Economy, Iraqi Union, Dijlah & Furat, Asia Iraq, Al-Qurtas were lower than the Trainor index, which means they joined the portfolio, unlike the rest of the other banks that achieved negative Trainor values، Which means it is out of the portfolio because it is larger than the Trainor index.

Step 9: The optimal cut-off limit (C*) in column (8) is located in front of the last arrow included in the optimal portfolio, and through the optimal cut-off limit, the value of (Z) in column (11) was calculated through the equation:

$$Z_i = \frac{\beta_i}{\sigma^2_{ei}}\left[\frac{(R_i - R_f)}{\beta} - C_i\right] \dots\dots\dots\dots\dots (6)$$

Whereas:

Z_i: The value of the stock's return in the portfolio

β_i: beta

σ^2_{ei}: Contrast

R_i: return per share

R_f: risk-free rate of return

C_i: Cut-off limit

Step 10: The optimal weight for each share of the shares included in the optimal portfolio composition was calculated by first summing the (Z) values of the nominated shares, then finding the optimal investment ratios for each share by dividing the (Z) values of each share by the sum of the (Z) values.

Based on the above, the optimal portfolio consists of shares of the aforementioned banks, unlike the remaining banks. According to the above, the relative weights of the shares included in building the optimal portfolio vary in the proportions allocated to investment, meaning that the investor wishing to build the optimal portfolio, during the research period, should allocate part of his money in the bank shares that carry the highest index, and distribute the remaining investment amount among the bank shares. remaining included in the portfolio.

Table No. (4) Shows the optimal total investment portfolio allowing short selling

No	Bank	(Ri-Rf)/β	∑(Ri-Rf)/β	(Ri-Rf)/β/σ^2_{ei}	∑(Ri-Rf)/β/σ^2_{ei}	β^2/σ^2_{ei}	$\sum(\beta^2/\sigma^2_{ei})$	Ci	C*	(Ri-Rf)/β-C*	β/σ^2_{ei}	Zi	Wi
1	Iraqi Commercial	0.036	0.758	0.51	0.51	4.48	4.48	0.276	0.044	- 0.01	8	0.244	0.068
2	Baghdad	0.738	0.864	1.678	2.188	0.96	5.44	1.627	1.152	- 0.41	1.48	- 0.06	
3	Islamic	- 0.016	0.798	- 0.529	2.717	13.23	18.67	0.261	0.055	- 0.04	21	0.281	0.079
4	Middle East	0.105	1.001	0.619	3.336	7.645	26.32	0.502	0.403	- 0.3	6.71	0.302	0.085
5	Iraqi Investment	- 0.066	0.862	- 1.645	4.981	14.44	40.76	0.387	0.369	- 0.3	19	0.885	0.249
6	Iraqi National	0.204	0.862	2.91	7.891	4.166	44.92	1.721	1.463	- 1.26	7.71	0.11	0.031
7	Sumer Commercial	- 0.14	0.818	- 0.775	8.666	9.245	54.17	0.943	1.221	- 1.08	7.17	- 0.22	
8	Babylon	0.01	0.848	0.01	8.676	1.952	56.12	3.278	0.064	- 0.05	2.91	- 0.03	
9	Gulf Commercial	- 0.044	1.003	0	8.676	0	56.12	9.676	0	0.044	0	0	
10	Mosul	0.03	0.884	0.498	9.174	7.482	63.6	1.199	0.269	- 0.24	11.2	0.067	0.018
11	North	0.155	1.043	0.31	9.484	0.673	64.27	6.267	0.654	- 0.5	1.16	- 0.47	
12	Kurdistan	- 0.119	0.664	- 5.932	15.42	17.41	81.68	0.892	1.848	- 1.73	29.5	1.663	0.468
13	Ashur International	0.159	1.365	1.984	17.4	4.961	86.64	3.087	2.435	- 2.28	7.88	- 1.18	
14	Al-Mansour	- 0.379	1.681	- 12.64	30.04	11.21	97.85	2.542	10.8	- 10.4	19.3	- 3.49	
15	United	0.701	1.592	2.338	32.38	1.496	99.35	13.37	14.02	- 13.3	2.23	- 12.5	
16	Elaph Islamic	0.316	1.781	5.263	37.64	9.627	109	3.636	11.06	- 10.7	12.7	- 7.05	
17	National Islamic	- 0.089	1.623	- 2.232	39.87	7.84	116.8	4.623	3.226	- 3.14	14	- 1.98	
18	Across Iraq	0.19	1.532	3.793	43.67	6.728	123.5	5.78	7.389	- 7.2	11.6	- 5.19	
19	Cihan Islamic	- 0.158	2.287	0	43.67	0	123.5	44.67	0	0.158	0	0	
20	Arab Islamic	- 0.091	1.869	0	43.67	0	123.5	44.67	0	0.091	0	0	
21	Zain Al-Iraq	0.754	1.842	1.143	44.81	0.492	124	30.7	11.39	- 10.6	0.86	- 10.7	
22	Noor Al-Iraq	- 0.418	1.863	- 3.483	48.29	3.741	127.8	10.4	16.26	- 15.8	5.58	- 13.9	
23	International Islamic	- 0.027	1.744	- 0.107	48.4	2.25	130	15.2	0.923	- 0.9	3	- 0.84	
24	Islamic World	0.021	1.319	0.099	48.5	1.097	131.1	23.61	0.544	- 0.52	2.29	- 0.5	
25	Development	- 0.119	1.055	0	48.5	0	131.1	49.5	0	0.119	0	0	
26	Islamic Holding	- 0.424	1.292	- 3.03	51.53	3.111	134.2	12.78	16.85	- 16.4	4.71	- 14.9	
27	Erbil	- 0.265	1.173	- 3.309	54.84	5.78	140	8.236	12.62	- 12.4	8.5	- 10.4	
28	Al-Thiqa Islamic	0.237	1.05	1.318	56.16	1.934	142	19.48	8.93	- 8.69	3.28	- 8.15	
29	South Islamic	- 0.119	0.764	0	56.16	0	142	57.16	0	0.119	0	0	
30	Region Commercial	- 0.123	0.648	0	56.16	0	142	57.16	0	0.123	0	0	
31	Iraqi Credit	- 0.286	0.525	0	56.16	0	142	57.16	0	0.286	0	0	
32	Dar Al-Salam	- 0.116	0.405	0	56.16	0	142	57.16	0	0.116	0	0	
33	Economy	- 0.123	0.313	0	56.16	0	142	57.16	0	0.123	0	0	
34	Iraqi Union	- 0.119	0.267	0	56.16	0	142	57.16	0	0.119	0	0	
35	Dijlah & Furat	- 0.092	0.092	0	56.16	0	142	57.16	0	0.092	0	0	
36	Al-Ataa Islamic	- 0.046	0.01	- 0.42	56.58	3.841	145.8	11.89	2.102	- 2.06	5.91	- 1.83	

37	**Asia Iraq**	-0.175	0.23	0	56.58	0	145.8	57.58	0	0.175	0	0	
38	**Al-Qurtas**	-0.105	0.037	0	56.58	0	145.8	57.58	0	0.105	0	0	
39	**Al-Tayf**	-0.214	0.758	- 21.43	78.01	31.36	177.2	2.442	16.39	- 16.2	56	- 4.4	0.068
Market Index		0.265	0.864	2.406	80.41	4.204	181.4	15.64	17.43	- 17.2	6.18	- 15.8	1

Source: Prepared by the researcher based on data from the banks included in the research.

b- Building an Optimal Portfolio According to the Simple Ranking Model while Allowing Short Selling: According to Linter's definition, local financial markets allow short selling, which is useful for the purpose of showing the differences between the returns and risks of the optimal portfolio under allowing and not allowing short selling،When building the optimal portfolio under short selling, the investor introduces negative weights into the portfolio (short position) and raises the weights Positive (long position) to more than (100%) so that the weight of the portfolio is equal to one This is done by selling stocks that are expected to perform poorly (short selling) and then investing the proceeds of the short selling in purchasing stocks with a high expected return، The optimal portfolio of common shares of the banks in the research sample was built based on the results of the statistical analysis in Table No. (5)، and through the use of the (Simple Ranking) model and in light of allowing short selling in extracting the optimal weights for the optimal portfolio through the Sharp market index model that Calculated in previous tables، The procedures used to calculate the optimal portfolio when a short sale is allowed are closely related to the procedures in the event that a short sale is not allowed, and the Trainor (Ri-Rf)/β is calculated exactly as in the previous case, and the cut-off rate for stocks (C*) has a different meaning as well as a different procedure، For calculation, When short selling is allowed, all shares will be held either for a long period, sold short, or both, and then all shares will enter the optimal portfolio, and all shares will affect the cut-off rate، According to the equation No. (2), Which represents the cutting rate، But the numerator and denominator in this equation are now summed over all stocks, and because of the new cut-off rate (C*), (Zi) changes and must be calculated again for all stocks, and a positive value indicates that the stock will be held for a long time, i.e. take a long-term position, and indicates A negative value indicates that it will be sold short, thus the effect of (C*) changes and stocks with a Ternier ratio higher than (C*) are kept but stocks with a Ternier ratio lower than (C*) are now sold short (Elton et al, 2014:185-186). The next stage, after arranging the stocks according to a descending Trenor ratio, is to calculate (Ci) for all the banks in the research sample, and then we extract the optimal cut-off rate of (-0.0009), through which this stage is completed by determining the weights of the optimal portfolio combination under the shadow of allowing short selling, as in Table No. (5)، The final stage of building the optimal investment portfolio in light of not allowing short selling is determining and calculating the weights of the optimal portfolio shares for the banks in the research sample, through which the relative weight of the shares is extracted and in light of the aforementioned Linter definition، From Table No. (5), according to Linter's definition, the investor must take a long-term position (buy) the shares of the banks in the research sample, which have a positive value of (Zi), and take a short-term position, i.e.a short (sell) of the shares of the banks in the research sample, which have a value Negative, these banks were identified in the previous two tables The weights of bank stocks involved in building the optimal portfolio in light of allowing short selling are shown in Table No. (5)، According to this definition, short selling is considered a use of funds for the investor, but the investor receives a risk-free rate on the funds invested in short selling, and this translates into the following restriction:

$\sum|xi| = 1 \dots \dots \dots \dots \dots (7)$

The appropriate way to determine proportions is as follows:

$xi = zi \div \sum|zi| \dots \dots \dots \dots \dots (8)$

According to the results, an optimal investment portfolio can be built using the Sharp model, which is based on the single-index market model with the shadow of allowing short selling.

Table No. (5) Shows the optimal investment portfolio in light of allowing and not allowing short selling

No	Financial Indicators	Market Portfolio	Portfolio when Short Selling is not Allowed	Portfolio when Short Selling is Allowed
1	**RP**	0.43	0.03	0.03
2	**RF**	0.08	0.08	0.08
3	**Systemic Risk**	0.07	0.002	0.03
4	**Unsystematic Risk**	0.06917	0.006	0.004
5	**Total Risk**	0.11	0.1	0.12
6	**σ^2**	0.1	0.11	0.9
7	**Sharpe**	0.765	0.13	0.12

Source: Prepared by the researcher based on the financial indicators in the previous tables.

For the purpose of demonstrating the extent to which financial assets (stocks) and their valuations affect less or more than their real or fair values in the returns and risks of the banks that make up the investment portfolio or both cases, it

is necessary to examine the extent of the impact of the three cases on the returns and risks of the investment portfolios, as shown in Table No. (6)، The following:

Table No. (6) Shows the optimal investment portfolio in light of allowing and not allowing short selling, according to the total portfolio shares, shares valued at fair (real) values more than the market value, and shares valued at fair (real) values less than the market value

The first portfolio: The total investment portfolio at the level of shares of all banks included in the research					
No	**Bank**	**Wi**	**Return**	**Risk**	**Notes**
1	Iraqi Commercial	0.021	0.1	0.26	
2	Baghdad	0.118	0.56	0.66	
3	Islamic	0.015	0.07	0.18	
4	Middle East	0.042	0.2	0.41	
5	Iraqi Investment	0.006	0.03	0.2	
6	Iraqi National	0.04	0.19	0.27	
7	Sumer Commercial	0.021	0.1	0.43	
8	Babylon	0.017	0.08	0.48	
9	Gulf Commercial	0.011	0.05	0.03	
10	Mosul	0.021	0.1	0.24	
11	North	0.036	0.17	0.52	
12	Kurdistan	0.002	0.01	0.13	
13	Ashur International	0.038	0.18	0.28	
14	Al-Mansour	0.029	0.14	0.17	
15	United	0.116	0.55	0.13	
16	Elaph Islamic	0.067	0.32	0.25	
17	National Islamic	0.006	0.03	0.19	
18	Across Iraq	0.04	0.19	0.22	
19	Cihan Islamic	0.008	0.04	0.05	
20	Arab Islamic	0.002	0.01	0.07	
21	Zain Al-Iraq	0.107	0.51	0.81	
22	Noor Al-Iraq	0.042	0.2	0.34	
23	International Islamic	0.013	0.06	0.5	
24	Islamic World	0.019	0.09	0.46	
25	Development	0	0	0	
26	Islamic Holding	0.042	0.2	0.38	
27	Erbil	0.021	0.1	0.28	
28	Al-Thiqa Islamic	0.046	0.22	0.43	
29	South Islamic	0	0	0	
30	Region Commercial	0	0	0	
31	Iraqi Credit	0.029	0.14	0.04	
32	Dar Al-Salam	0	0	0	
33	Economy	0	0	0	
34	Iraqi Union	0	0	0	
35	Dijlah & Furat	0	0	0	
36	Al-Ataa Islamic	0.011	0.05	0.33	
37	Asia Iraq	0.004	0.02	0.04	
38	Al-Qurtas	0	0	0	
39	Al-Tayf	0.008	0.04	0.08	
Market Index		1	0.26	0.13	
The second portfolio: The optimal investment portfolio in light of allowing the short sale of banks with shares valued at fair (real) values more than the market value					
No	**Bank**	**Wi**	**Return**	**Risk**	**Notes**
1	Iraqi Commercial	0.2	0.1	0.26	The Optimal Portfolio Represents
2	Islamic	0.14	0.07	0.18	
3	Middle East	0.4	0.2	0.41	
4	Iraqi Investment	0.06	0.03	0.2	
5	Mosul	0.2	0.1	0.24	
Portfolio Return and Risk		1	0.07	0.002	
The third portfolio: The optimal investment portfolio in light of allowing the short sale of banks with shares valued at fair (real) values less than the market value					
No	**Bank**	**Wi**	**Return**	**Risk**	**Notes**
1	Iraqi National	0.5	0.19	0.27	
2	Kurdistan	0.5	0.01	0.13	
Portfolio Return and Risk		1	0.05	0.002	

Source: Prepared by the researcher based on data from the banks included in the research.

We note from Table No. (6)، that there are three portfolios according to the evaluation of the ordinary shares of the banks included in the research, and the first portfolio represented the total investment portfolio at the level of the

shares of all the banks included in the research, in which the return reached (0.26)، and with a risk of (0.13)، The second investment portfolio, which represents the optimal investment portfolio in light of allowing the short sale of banks with shares valued at market values less than the fair (real) value, in which the return reached (0.07)، and with a risk of (0.002), and the third investment portfolio, which represents the investment portfolio Optimal in light of allowing short sales to banks with shares valued at market values at more than the fair (real) value, in which the return reached (0.05)، and with a risk of (0.002)، On this basis, the optimal investment portfolio (the second), in light of allowing short sales to banks with shares valued at market values less than the fair (real) value, in which the return reached (0.07)، and with a risk of (0.002), is the best portfolio and it represents the optimal portfolio to achieve a return greater than other returns، For the portfolio with the lowest level of risk.

3- Testing Hypotheses and Determining Results:

a- The First Main Hypothesis: There is a statistically significant relationship between the dimensions of stock value and the dimensions of return and risk for the stock, and the following sub-hypotheses branch out from it:

1- The First Sub-Hypothesis: There is a statistically significant relationship between the fair value of a stock and the variables of return and risk of the stock.

Below are the most important final results reached by the research according to statistical analysis regarding the test The first sub-hypothesis، As shown in Table No. (7).

Table No. (7) Shows the correlation between the fair value of a stock and the variables of return and risk of the stock

No	Y_1 , Y_4 / X_1	Earnings Per Share	Systemic Risk	Unsystematic Risk	Total Risk	Table (t) Value	
1	Correlation Coefficient (r)	0.252	0.594	0.564	0.202	(1%)	(5%)
2	Calculated (t) Value	0.857	0.883	0.747	- 0.09	2.457	1.697
3	Result (Decision)	There is no positive and significantly significant relationship for (1%) and (5%)	There is no positive and significantly significant relationship for (1%) and (5%)	There is no positive and significantly significant relationship for (1%) and (5%)	There is no positive and significantly significant relationship for (1%) and (5%)	Degree of Confidence	
						99%	95%

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results presented in Table No. (7)، that there is no correlation between the fair value of the stock variable (X1)، and the approved variables: return achieved per share (Y1), systemic risk (Y2), unsystematic risk (Y3), and total risk (Y4)، according to correlation coefficients (r).

Based on the above, we conclude that the first sub-hypothesis is rejected from the first main hypothesis of the research.

2- The Second Sub-Hypothesis: There is a statistically significant relationship between the market value of a stock and the variables of return and risk of the stock.

Below are the most important final results reached by the research according to statistical analysis regarding the test The Second sub-hypothesis، As shown in Table No. (8).

Table No. (8) Shows the correlation between the market value of the stock and the variables of return and risk of the stock

No	Y_1 , Y_4 / X_2	Earnings Per Share	Systemic Risk	Unsystematic Risk	Total Risk	Table (t) Value	
1	Correlation Coefficient (r)	0.475	0.311	0.038	0.32	(1%)	(5%)
2	Calculated (t) Value	3.255	3.021	2.749	3.542	2.457	1.697
3	Result (Decision)	There is a positive and significantly significant relationship for (1%) and (5%)	There is a positive and significantly significant relationship for (1%) and (5%)	There is a positive and significantly significant relationship for (1%) and (5%)	There is a positive and significantly significant relationship for (1%) and (5%)	Degree of Confidence	
						99%	95%

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results presented in Table No. (8)، that there is a correlation between the market value variable for the stock (X2)، and the approved variables: return achieved per share (Y1), systemic risk (Y2), unsystematic risk (Y3), and total risk (Y4)، according to correlation coefficients (r).

Based on the above, we conclude that the second sub-hypothesis is accepted from the first main hypothesis of the research.

b- The Second Main Hypothesis: There is a significant impact of stock value indicators on stock return and risk indicators, and the following sub-hypotheses branch out from them:

1- The First Sub-Hypothesis: There is a significant impact of stock value indicators on the return achieved per share.

Below are the most important final results reached by the research according to statistical analysis regarding the test The first sub-hypothesis، As shown in Table No. (9).

Table No. (9) shows the variance analysis method (Anova) to measure the impact of stock value on the return achieved per share

No	Model	Degrees of Freedom	Sum of Squares	Mean Squares	Calculated (F) Value	Table (F) Value		Result (Decision)
1	Decline	4	3.83	0.958	7.26	4.18	At (1%)	There is a significant effect at the significance level (1%) and (5%)
2	Experimental Error	25	3.288	0.132		2.76	At (5%)	
3	Total	29	7.118					

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results of the variance analysis table included in Table No. (9) that the calculated (F) value of (7.26) is greater than the table (F) value of (4.18) under the significance level (1%), and it is also greater than the table (F) value of (2.76) under the significance level (5%), and with two degrees of freedom (4, 25).

Which indicates the acceptance of the first sub-hypothesis from the second main hypothesis of the research.

2- The Second Sub-Hypothesis: There is a significant impact of stock value indices on systemic risk.

Below are the most important final results reached by the research according to statistical analysis regarding the test The Second sub-hypothesis، As shown in Table No. (10).

Table No. (10) shows the analysis of variance (Anova) method to measure the impact of stock value on systemic risk

No	Model	Degrees of Freedom	Sum of Squares	Mean Squares	Calculated (F) Value	Table (F) Value		Result (Decision)
1	Decline	4	2.976	0.744	9.07	4.18	At (1%)	There is a significant effect at the significance level (1%) and (5%)
2	Experimental Error	25	2.051	0.082		2.76	At (5%)	
3	Total	29	5.027					

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results of the variance analysis table included in Table No. (10) that the calculated (F) value of (9.07) is greater than the tabular (F) value of (4.18) under the significance level (1%), and it is also greater than the tabular (F) value of (2.76) under the significance level (5%), and with two degrees of freedom (4, 25).

This indicates the acceptance of the second sub-hypothesis of the second main hypothesis of the research.

3- The Third Sub-Hypothesis: There is a significant effect of stock value indices on unsystematic risk.

Below are the most important final results reached by the research according to statistical analysis regarding the test The Third sub-hypothesis، As shown in Table No. (11).

Table No. (11) shows the analysis of variance (Anova) method to measure the impact of stock value on unsystematic risk

No	Model	Degrees of Freedom	Sum of Squares	Mean Squares	Calculated (F) Value	Table (F) Value		Result (Decision)
1	Decline	4	1.523	0.381	3.53	4.18	At (1%)	There is a significant effect at the significance level (5%)
2	Experimental Error	25	2.707	0.108		2.76	At (5%)	
3	Total	29	4.23					

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results of the variance analysis table included in Table No. (11) that the calculated (F) value, which is (3.53), is greater than the tabular (F) value, which is (2.76) under the significance level (5%), and with two degrees of freedom (4, 25).

This indicates the acceptance of the third sub-hypothesis of the second main hypothesis of the research.

4- The Fourth Sub-Hypothesis: There is a significant effect of stock value indicators on total risk.

Below are the most important final results reached by the research according to statistical analysis regarding the test The Fourth sub-hypothesis، As shown in Table No. (12).

Table No. (12) shows the analysis of variance (Anova) method to measure the impact of stock value on total risk

No	Model	Degrees of Freedom	Sum of Squares	Mean Squares	Calculated (F) Value	Table (F) Value		Result (Decision)
1	Decline	4	1.088	0.272	1.81	4.18	At (1%)	There is no significant effect at the significance level (5%)
2	Experimental Error	25	3.746	0.15		2.76	At (5%)	
3	Total	29	4.834					

Source: Prepared by the researcher according to the results of the electronic calculator using the SPSS-22 program.

It is clear from the results of the variance analysis table included in Table No. (12) that the calculated (F) value, which is (1.81), is smaller than the tabular (F) value, which is (2.76) under the significance level (5%), and with two degrees of freedom (4, 25).

Which indicates the rejection of the fourth sub-hypothesis of the second main hypothesis of the research.

He must accept the second main hypothesis of the research, and this is consistent with previous reference studies regarding raising the value of the stock leads to an increase in the return and risk of the stock in general, and differs from the results of other studies that disagree with this opinion.

Section Four: Conclusions and Recommendations

A- Conclusions: Through its applied aspect, the research reached a number of results, and in light of them, it was possible to reach a set of conclusions that serve the research objectives, according to the following:

1- The fixed mix strategy analysis is through analyzing stocks that are considered a very risky investment in the near term due to their volatility, as losses may occur in the shares of companies with a large market value combined approximately every three years, and the losses may be large at times, however Investors often tolerate fluctuations in stock returns over the long term, as they are usually rewarded with strong positive returns.

2- The rate of return per share for the banks in the research sample for the period (2019-2023) operating in the various economic sectors had an average portfolio of (0.26), and this rate exceeded the banks: United, Elaph Islamic, Baghdad, Zain Al-Iraq, with averages of (0.55, 0.32, 0.56, 0.51).respectively, and the rest of the banks in the investment portfolio decreased from it The stock return rates in (2020) with an average overall portfolio reached (0.41) followed by (2022) with an average portfolio reached (0.33) followed by (2021) with an average of (0.17).

3- The strategy of investment options and risk tolerance is mainly focused on determining the extent of risk tolerance of its regular, irregular and total types and its various measures, as well as through analyzing the Required Rate of Return (RRR), which represents the minimum rate of return that the investor is expected to obtain when investing his money in common stocks.

4- The correlation coefficient between the returns of the banks included in the research and the market returns came at average levels exceeding (0.50) for all banks, but it did not reach (0.70) which is the average rate، The reason for the low correlation coefficient is due to the fact that the market returns were for a portfolio that included banks with different specializations and not for the industry market، Pure banking in which these banks operate, because the portfolio included banks operating in different and diverse specializations with unrelated diversification.

5- The research finds that, according to Leinter's definition, the investor must take a long-term position (buy) the shares of the sample banks, which have a positive value of (Zi), and take a short-term position, i.e., short (sell) the shares of the sample banks, which have a negative value.

6- The optimal investment portfolio, in light of allowing short sales to banks with shares denominated at market values less than the fair value and in which the return reached (0.07) and with a risk of (0.002), is the best portfolio and it represents the optimal portfolio to achieve a return that exceeds the other returns of the portfolio and with the lowest level of risk.

B- Recommendations: The research and scientific need calls for supporting the practical aspect of the study and the results drawn from it with a set of recommendations, which can be identified as follows:

1- Since stocks are vulnerable to falling below their fair or real value, which may expose investors to capital losses, it is necessary to sell and dispose of them when their real value falls below their market value.
2- The need to maintain market stability by imposing a price limit regulation that prevents prices from deviating from their starting point by a specific percentage, in order to prevent what is called a market bubble, which, according to rumors, may lead to financial disasters and misinformation, in addition to providing some protection for investors and speculators.
3- Establishing a satellite station to provide a public broadcast of trading sessions and analysis of stock prices traded in the Iraqi financial market.

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