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ANALYSIS OF RETURN AND RISK ACCORDING IN THE INVESTMENT PORTFOLIO STYLE: AN ANALYTICAL STUDY OF A SAMPLE OF IRAQI BANKS IN THE IRAQI STOCK EXCHANGE FOR THE PERIOD (2016-2020)

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Abstract:

The aim of the current research is to measure the effect of the investment portfolio method in maximizing returns and reducing risks for banks by attracting investments in the Iraqi stock market, and the aim of the research is to how to manage the investment portfolio of private Iraqi commercial banks (Bank of Baghdad, Investment Bank, Commercial Bank, Sumer Bank) in the Iraqi Stock Exchange in a way that achieves the highest return and the least risk. Statistical methods were used such as the variance rate, standard deviation, and beta coefficient in measuring the return and risk of stocks to analyze the data. The research reached a set of conclusions, the most important of which was the fluctuation of the achieved return for stocks and the achieved return. market during the study period, as well as the change in risk for bank stocks during the study period.

Keywords: return, risk, investment portfolio, Iraq Stock Exchange.

INTRODUCTION

The investment process is linked to the future, which results in risks, as obtaining results (returns) that are greater or less than what was expected, and these results are due to several factors: changes in price levels, which affect the estimation of costs, and studying risk represents an important element in determining the return (returns). of investment, as the investor seeks to act wisely as he chooses to invest in the financial asset that brings him the greatest return and the least risk. The successful investment strategy also depends on sound investment decisions taken after the process of evaluating the investment portfolio, and this process in turn depends on two important factors: return and risk. In addition, the investment portfolio in banks has great importance in maximizing returns and reducing risks, especially after the emergence of financial crises. The reason is also the concentration of investment in the real estate sector, the decline in prices, and the exposure of some banks to collapse, so the role of the portfolio came in diversifying investments and not concentrating in one aspect in order to maximize Returns and reducing risks to a certain minimum level. Returns and risks are among the important issues in modern banking in the field of evaluating the work of banks, the level of liquidity, the sources of the bank's funds, the areas of employment for them, the returns expected to be achieved, and the degree of risks that may accompany these returns.

First Section: The Scientific Methodology Of Research

First: Research Problem

Today, the world is witnessing acceleration at all levels, which has led to the openness of institutions to securities markets, as the latter plays an important role in the process of economic and social development. Therefore, investors direct their money towards investing in stocks, bonds, and other securities, despite the fact that the investor achieves returns because it entails There are multiple risks that vary in degree, and the banking sector depends on many investments as a result of the financial and investment development in the financial markets. The difference in stock management methodology in forming the investment portfolio and measuring the return and risks in financial investments is the reason for forming the optimal investment portfolio in a way that achieves the greatest return and the least risk

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in Banks listed on the Iraqi Stock Exchange. In light of this, we pose the following question: How do the risks and expected returns of the investment portfolio affect Iraqi banks?

Second:- Research Objectives

The research objectives are as follows:-

1- The objectives of the study are justified in addressing the issue of return and risk and studying the relationship between them in light of the investment portfolio method.

2- Calculating the coefficient of systematic risk and unsystematic risk for the investment portfolio in the Iraqi Stock Exchange.

3- Identify the effect of the change in the value of risks on the expected rate of return of the investment portfolio.

Third: The Importance Of Research

1- Focus on the issue of return and risk, which is the foundation on which any investment is based.

2- Educating the investor by testing the best combination of the investment portfolio and highlighting the strengths and weaknesses of the investments.

3- The banking sector is considered the most invested among other sectors in the market, so the formation of the investment portfolio in the banking sector is important.

Fourth:- Research limitations

The spatial limits of the research are represented by the Iraqi banks (Bank of Baghdad, Investment Bank, Commercial Bank, Sumer Bank), while the temporal limits of the research are the extended period (2016-2020).

SECOND SECTION: THE THEORETICAL LITERATURE ON RISK, RETURN, AND THE INVESTMENT PORTFOLIO

First: Concept Of Risk

Risk is defined as the state of uncertainty that may be encountered in the future and the results and events that occur (Buttimer et al., 2008). There are several different concepts in which risk was explained by specialists in this field. In the field of financial management, it is the change in the actual flows that were achieved from the expected flows that were planned (Goldberg & Mahmoud, 2013), while in the banking field, risk is the exposure of the bank to unlikely and unexpected losses. Expected and unplanned, which lead to the fluctuation of the expected return in the investment process and results that have negative effects that affect the achievement of the bank's goals that it seeks to achieve (Abramov et al., 2015).

Risk is defined as the negative expectation expected at the end of any investment, meaning that the actual achieved return will be less than the expected and planned return in the bank's objectives (Tabak et al., 2011). Risk can be defined by (Gitman) as the difference in results and the promise of matching. Expected returns, along with actual returns, and the possibility of financial losses or a change in the return expected to be obtained in certain assets (Fifield et al., 2020).

Second: Types Of Risk

A- Unsystematic Risk: It is the risk that afflicts a bank or a company and that is independent in itself from economic activity, which includes a strike by bank employees from work as well as poor administrative organization. Therefore, this risk is independent and has no impact on the arrow (Galema et al., 2008). As these risks are called individual risks because they affect a financial asset or a group of assets, therefore, these risks can be controlled by the bank's management (Hoffmann & Post, 2017).

B- Systematic Risk: (SystematicRisk) which is the market risk that the bank cannot control and cannot predict or expect to occur, and therefore cannot be reduced or minimized through diversification in investments (Maneemaroj et al., 2021). Since these risks affect the majority of financial assets directly and systematically, whether in a large or small percentage, and the risk has a large and widespread impact on the financial market, it is therefore called market risk (Abramov et al., 2015).There are several ways to measure risk, including:-

-Variance: It is one of the most important statistical measures used to measure the dispersion of the expected value outcome. In other words, it is the weighted sum of the deviations of the expected return. The statistical measure can be calculated through the mathematical equation (Kilic et al., 2022):-

$$\sigma_i^2 = \sum_{t=1}^{n} \frac{(Rit - \overline{Ri})^2}{N-1}$$

-Beta coefficient: (Beta coefficient): The beta coefficient is one of the measures used to measure systemic risks, as the beta coefficient measures the fluctuation that indicates or expresses the risks. That is, the beta coefficient

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measures the extent of the bank's stock's volatility when the index rises and falls. The beta coefficient can be calculated. Beta through the mathematical equation (Maneemaroj et al., 2021):

$$\frac{Cov\ (\ Ri, Rm\ )}{\sigma^2\ Rm}$$

Third: Concept Of Return

The return is considered the ultimate goal for any investor, whether an individual, a company, or an investment fund. If the return is known in some investments, such as treasury bonds and guaranteed bonds (Dewan, 2015, Ren&), it is unknown and guaranteed for others, and the investment entails facing a risk that varies into several. Types, both return and risk can be measured using some tools (Chang, 2016). The return is the basic indicator on which the investment analysis in ordinary stocks is based, and in light of this, these stocks are arranged and a comparison is made between them (Dasman, 2021). Therefore, we find that there is a great and continuous effort on the part of the bank's financial management in how to optimally use the available financial resources with the aim of achieving the best appropriate return at the lowest possible degree of risk (Hundal et al., 2019). The return is a basic and important goal for the bank's survival and continuity and is a sign It is a good indicator that investors look forward to and a good indicator that creditors care about when dealing with the bank. In addition, it is considered an important tool for measuring the efficiency of the optimal use of funds, and it is also the reward that the investor seeks to obtain during a certain period (Yıldırım et al., 2022).

Fourth: Types Of Returns

1- Realized Rate of Return

The annual rate of return achieved on investment is the actual rate of return achieved by the bank's operational activity, i.e. its investment of funds in various fields, and it is calculated through the data that appears in the annual income statement and the financial position statement, i.e. the annual budget (Cotter & Salvador, 2022). The actual return achieved can be expressed through the following formula:

$$Rj = \frac{ct+pt-(pt-1)}{pt-1}.$$

2- Expected Rate Of Return

It is the expected return achieved by the financial instruments that are within the investment portfolio, and it is expressed by the rate, meaning the expected return is the arithmetic mean of the actual achieved weighted return (Schneider, 2019). The expected rate can be calculated according to the following equation:

$$R = \frac{\sum R\ j}{N}$$

3-Required Rate Of Return:

The required return is considered the lowest return that the investor gets in exchange for bearing the risks that cannot be reduced by diversification. This means systemic risk, that is, the higher the risks, the higher the required return on the money invested in the bank's assets (Ghandi et al. 2017). The required rate of return can be expressed through the following formula:

$$R_t = \frac{P_V - P_A + D_t}{P_A}$$

Fifth: Concept Of The Investment Portfolio

It is all the real and financial assets an individual owns (Spuchľakova et al., 2015). The goal of owning this portfolio is to increase its market value and achieve optimal employment of the funds represented by these assets (Dubinskas & Urbšienė, 2017). By financial assets, we mean stocks, bonds, and derivatives of various types, as well as acceptances, warrants, commercial papers, and other financial instruments (Šoja, 2019). As for real assets, we mean real estate, precious metals, commodities, and everything directed for the purpose of investment and making profits and not for the purpose of recreational use and conspicuous consumption (Wahyudi et al., 2020). Of course, owning securities such as stocks and bonds is considered an important part of any investment portfolio, whether For ordinary individuals or specialized investment institutions (Vo et al., 2019).

Sixth: Objectives Of The Investment Portfolio

1- Preserving the investor's original capital: Preserving the original capital is a basic and important goal for survival in the market, that is, the investor's risk cannot include the original capital, and the capital cannot be exposed to any type of risk under the pretext of speculation (Saborido et al. (2016), and capital here does not mean the money with which he started establishing the investment, but rather includes the purchasing power that this money represents (Borovička, 2020).

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2- Liquidity and marketability: The components of the investment portfolio must be securities that can be sold and marketed quickly and easily when the need for financial liquidity arises without the investor being exposed to significant risks (Seetharaman et al., 2017).
3- Growth in capital: It means the expansion and development of capital, and this goal is considered one of the indicators of the success of the investor's investment process (Goli et al., 2019).
4- Most banks use the investment portfolio as an important source to provide liquidity, especially in the stage of financial hardship, for the purpose of providing liquidity and reducing risks (Gong et al., 2021).
5- Types of investment portfolios: Diversifying investment portfolios in their components that are developed according to the number and nature of investors' goals in order to achieve those goals with high precision through appropriate investment tools that serve the interests of investors (Patrick & French, 2023).

THIRD SECTION: THE APPLIED FRAMEWORK FOR THE RESEARCH

First: - Sample and limitations of the study: The research population consists of commercial banks (Commercial Bank of Iraq, Middle East Bank, Iraqi Investment Bank, Bank of Baghdad) listed on the Iraqi Stock Exchange for the period from (2016-2020).

Second: Analysis of the returns and risks of the Iraqi securities market for a sample of private commercial banks

1-Bank of Baghdad

The time series for the Bank of Baghdad shares represents the annual investment data with this tool for the period from (2016-2020). We note from Table (1) that the price of these shares in the market during the study period is in a state of high fluctuation, as the price of the Bank of Baghdad shares was at the beginning of the year (2016). The value of (0.910) dinars, then the share price reached (0.300) dinars at the end of the year (2020), which indicates the state of fluctuation in the value of this investment tool, which indicates that there was an increase in the price of the Bank of Baghdad shares during the years of the study.

Table (1) Annual trend of stock prices of the Bank of Baghdad

year	Open price	Closing price	Value change
2016	1.170	0.910	-0.06
2017	0.910	0.610	-0.06
2018	0.610	0.620	-0.08
2019	0.620	0.460	-0.15
2020	0.460	0.300	-0.02
Men	0.754	0.58	-0.074
S.D	0.20		

2- Investment Bank

The time series for Investment Bank shares represents the annual investment data with this tool for the period from (2016-2020). We note from Table (2) that the price of these shares in the market during the study period is in a state of high fluctuation, as the price of Investment Bank shares was at the beginning of the year (2016). (0.600) dinars, then the share price at the end of the year (2020) reached (0.240) dinars, which indicates the state of fluctuation in the value of this investment tool, which indicates that there was an increase in the price of the investment bank's shares during the years of the study.

Table (2) Annual trend of investment bank stock prices

year	Open price	Closing price	Value change
2016	0.680	0.600	-0.08
2017	0.600	0.420	-0.18
2018	0.420	0.470	0.05
2019	0.470	0.240	-0.23
2020	0.240	0.240	0
Men	0.482	0.394	-0.088
S.D	0.14		

3- Commercial Bank

The time series for Commercial Bank shares represents the annual data for investment in this tool for the period from (2016-2020). We note from Table (3) that the price of these shares in the market during the

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study period is in a state of high fluctuation, as the price of Commercial Bank shares was at the beginning of the year (2016). (0.480) dinars, then the share price at the end of the year (2020) reached (0.450) dinars, which indicates the state of fluctuation in the value of this investment tool, which indicates that there was an increase in the price of the Commercial Bank's shares during the years of the study.

Table (3) Annual trend of Commercial Bank stock prices

year	Open price	Closing price	Value change
2016	0.410	0.480	0.07
2017	0.480	0.490	0.01
2018	0.490	0.440	-0.05
2019	0.440	0.460	0.02
2020	0.460	0.450	-0.01
Men	0.456	0.464	0.008
S.D	0.02		

4-Sumer Bank

The time series for Sumer Bank shares represents the annual investment data in this tool for the period from (2016-2020). We note from Table (4) that the price of these shares in the market during the study period is in a state of high fluctuation, as the price of Sumer Bank shares was at the beginning of the year (2016). (0.900) dinars, then the share price at the end of the year (2020) reached (0.510) dinars, which indicates the state of fluctuation in the value of this investment tool, which indicates that there was an increase in the price of Sumer Bank shares during the years of study.

Table (4) Annual trend of Sumer Bank stock prices

year	Open price	Closing price	Value change
2016	0.900	0.900	0
2017	0.900	0.900	0
2018	0.900	0.630	-0.27
2019	0.630	0.510	-0.12
2020	0.510	0.510	0
Men	0.768	0.69	-0.078
S.D	0.18		

Fourth: Measuring dividends for bank shares in the study sample

The results shown in Table (5) reflect the state of fluctuation in the profit distribution ratios of the banks in the study sample (2016-2020) My agencies: -

Table (5) Dividend distributions for sample shares for the period(2016-2020)

year	Bank of Baghdad	Investment Bank	Commercial Bank	Sumer Bank
2016	1.04	0.7	2.5	1.3
2017	1.12	0.78	1.05	1.5
2018	1.2	1.1	1.2	1.53
2019	1.28	1.5	1.6	1.58
2020	1.36	1.9	1.75	1.7

Fifth: Calculating the portfolio return

To calculate the portfolio return based on previous data, the following law must be applied:

$$R_t = \frac{P_V - P_A + D_t}{P_A}$$

A- Bank of Baghdad

We find that the returns on shares of the Bank of Baghdad for the year 2016 amounted to (0.649), and thus the rest of the returns are calculated for the years of the study, as it is noted from Table (6) regarding the return of shares of the Bank of Baghdad that it was unstable between achieving gains and achieving losses, according to the ratios mentioned in the table.

Table (6) Bank of Baghdad stock returns for the period(2016-2020)

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year	Pv	PA	Dt	Rt
2016	1.17	0.91	1.04	0.649
2017	0.91	0.61	1.12	1.063
2018	0.61	0.62	1.2	1.922
2019	0.62	0.46	1.28	4.724
2020	0.46	0.3	1.36	4.211

B- Investment Bank

We find that the returns on the Investment Bank's shares for the year 2016 amounted to (1.222), and thus the rest of the returns for the years of the study are calculated. It is noted from Table (7) regarding the returns on the shares of the Investment Bank that they were unstable between achieving gains and achieving losses, according to the ratios mentioned in the table.

Table (7) Returns on Investment Bank shares for the period(2016-2020)

year	Pv	PA	Dt	Rt
2016	0.68	0.6	0.7	1.222
2017	0.6	0.42	0.78	11.686
2018	0.42	0.47	1.1	-0.760
2019	0.47	0.24	1.5	1.690
2020	0.24	0.24	1.9	2.382

T- Commercial Bank

We find that the returns on Commercial Bank shares for the year 2016 amounted to (1.660), and thus the rest of the returns for the years of the study are calculated. It is noted from Table (8) regarding the returns on Commercial Bank shares that they were unstable between achieving gains and achieving losses, according to the ratios mentioned in the table.

Table (8) Commercial Bank stock returns for the period(2016-2020)

year	Pv	PA	Dt	Rt
2016	0.41	0.48	2.5	1.660
2017	0.48	0.49	1.05	0.064
2018	0.49	0.44	1.2	4.964
2019	0.44	0.46	1.6	3.383
2020	0.46	0.45	1.75	4.304

D- Sumer Bank

We find that the returns on shares of Sumer Bank for the year 2016 amounted to (0.173), and thus the rest of the returns are calculated for the years of the study. It is noted from Table (9) regarding the stock returns of Sumer Bank that it was unstable between achieving gains and achieving losses, according to the ratios mentioned in the table.

Table (9) Sumer Bank stock returns for the period (2016-2020)

year	Pv	PA	Dt	Rt
2016	0.9	0.9	1.3	0.173
2017	0.9	0.9	1.5	-0.716
2018	0.9	0.63	1.53	1.157
2019	0.63	0.51	1.58	0.379
2020	0.51	0.51	1.7	0.600

Sixth: Measuring portfolio risks

The stock risks in each financial portfolio are calculated using the standard deviation according to the following law:-

$$\sigma_i = \sqrt{\frac{\sum_{i=1}^{N}(R_i - \overline{R})^2}{N}}$$

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1- Risks of Bank of Baghdad shares

The risk value for Bank of Baghdad shares for the period from (2016 - 2020) was equal to (3.82), which indicates the presence of high risks for investing in this financial instrument, and that the highest risk rate was in the year (2019), and the lowest risk rate was in the year 2017. The results are shown in Table (10).

Table (10) Risks of Bank of Baghdad shares

year	Ri	$\bar{R}$	(Ri- $\bar{R}$)	(Ri- $\bar{R}$)^2	σi
2016	0.649	1.473	-0.824	0.679	3.82
2017	1.063	1.473	-0.41	0.168	
2018	1.922	1.473	0.449	0.202	
2019	4.724	1.473	3.251	10.569	
2020	4.211	1.473	2.738	7.497	

2- Risks of investment bank shares

The risk value for Investment Bank shares for the period from (2016 - 2020) was equal to (21.15), which indicates the presence of high risks for investing in this financial instrument, and that the highest risk rate was in the year (2017), and the lowest risk rate was in the year 2019, The results are shown in Table (11).

Table (11) Risks of Investment Bank Shares

year	Ri	$\bar{R}$	(Ri- $\bar{R}$)	(Ri- $\bar{R}$)^2	σi
2016	1.222	1.747	-0.525	0.276	21.15
2017	11.686	1.747	9.939	98.784	
2018	-0.760	1.747	-2.507	6.285	
2019	1.690	1.747	-0.057	0.003	
2020	2.382	1.747	0.635	0.403	

3- Risks of commercial bank shares

The risk value for Commercial Bank shares for the period from (2016 - 2020) was equal to (4.31), which indicates the presence of high risks for investing in this financial instrument, and that the highest risk rate was in the year (2018), and the lowest risk rate was in the year 2016. The results are shown in Table (12).

Table (12) Risks of Commercial Bank Shares

year	Ri	$\bar{R}$	(Ri- $\bar{R}$)	(Ri- $\bar{R}$)^2	σi
2016	1.660	1.823	-0.163	0.027	4.31
2017	0.064	1.823	-1.759	3.094	
2018	4.964	1.823	3.141	9.866	
2019	3.383	1.823	1.56	2.434	
2020	4.304	1.823	2.481	6.155	

4- Risks of Sumer Bank shares

The risk value for Sumer Bank shares for the period from (2016 - 2020) was equal to (0.38), which indicates the presence of high risks for investing in this financial instrument, and that the highest risk rate was in the year (2017), and the lowest risk rate was in the year 2019. The results are shown in Table (13).

Table (13) Risks of Sumer Bank shares

year	Ri	$\bar{R}$	(Ri- $\bar{R}$)	(Ri- $\bar{R}$)^2	σi
2016	0.173	0.395	-0.222	0.049	0.38
2017	-0.716	0.395	-1.111	1.234	
2018	1.157	0.395	0.762	0.581	

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2019	0.379	0.395	-0.016	0.000	
2020	0.600	0.395	0.205	0.042	

CONCLUSIONS

Low annual rates of returns for banks, which was reflected in the common stock portfolio to appear. In addition, the majority of banks did not have irregular returns that enhance the achieved rates of return, which was reflected in the achieved rates of return. Therefore, most of the average returns were approximately equal, and this means that the banks face a measured risk. The coefficient of variation is almost the same. The results of the analysis showed that using the risk-adjusted return measure in comparing the performance of common stock portfolios is better than using return and risk separately because this measure takes into account risk and return together.

The results of the analysis of the Iraqi Stock Exchange showed that the reference portfolio or the market portfolio has a positive rate. This means that the economic and investment activity in the Iraqi Stock Exchange is on the rise and from the point of view of technical analysis it is considered an emerging market. The results of the analysis of the banks listed on the Iraqi Stock Exchange showed The performance of these banks was fairly good, as the banks in the study sample achieved positive returns, and this indicates the progressive performance of these banks.

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