The effect of effective portfolio management on commercial bank profitability. Case study on Iraqi commercial banks in the Iraqi securities market for the period 2018-2020.

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Abstract: This research aims to investigate the impact of the effectiveness of investment portfolios on the profitability of listed commercial banks in the Iraq Securities Market. In order to achieve this goal, data were collected for the sample study of the Iraqi Commercial Bank during the period 2018-2020. The data have been compiled through the financial disclosures of the sample study banks. In contrast, the independent variables of return and risk of investment portfolios were measured. Multiple regression was used to test the relationship between independent and following variables, and the Spss program was relied upon for data analysis. The study results showed no statistical effect at the indicative level $\alpha \leq 0.05$ on a portfolio's return and risk on return on investment and equity.

Introduction:

Activities to invest in commercial banks occupy a key place and are important in various countries because they play an important role in achieving economic stability and raising the rates of development that have a positive impact on the overall stability of the State in which investment seemed to take a deep and significant role in project financing, this has a positive impact on the economy and in a way that maximizes the use of banks' financial resources in the long term. and, therefore, commercial banks are a critical means of achieving sustainable growth, it was in this spirit that the idea of portfolios, which are a significant factor and tool in the world of investment, emerged in order to achieve the highest possible return at the lowest risk. Monitoring capital movements and obtaining information is the basis on which the right investment decision is made and hence it is necessary to pay attention to measuring the efficiency of the investment portfolios of commercial banks by examining the fundamental aspects that enable them to achieve an investment portfolio of commercial banks, This is

what we seek to study by revealing the impact of effective investment portfolio management on commercial banks' profitability on the Iraqi securities market during the period 2018-2020 This study is designed to clarify the concept of the investment portfolio, its types and the successful steps in managing the investment portfolio, as well as the concept of profitability and the application of the descriptive statistical method to the study variables in order to reach the conclusions and recommendations.

The problem of study: Efficient portfolio management can make a significant contribution to increasing the profitability of commercial banks. The problem of this study is to analyze the predominance of the investment portfolio on the profitability of banks.

The importance of the study: Investment portfolios have a significant role in maximising commercial banks' profitability on the one hand. On the other hand, they assemble and diversify investment instruments in various forms and reduce investment risks. Therefore, the importance of the study in the process of analysing and evaluating the effectiveness of portfolio management can be illustrated as it plays a potential role in strengthening the mechanism of banks operating in the economy.

Objectives of the study:

The objectives of the study can be explained as follows:

- 1- explain the importance of investment portfolios as one of the largest assets of commercial banks.
- 2- to analyse the impact of effective portfolio management on the profitability of the bank.

The hypothesis of the study:

The study was based on a main hypothesis:

There is a statistical impact at the indicative level $\alpha \leq 0.05$ on the effectiveness of the investment portfolio on the profitability of commercial banks in Iraq's securities market.

One of the main hypotheses can be derived from the following subhypotheses: First sub-hypothesis: There is an indicative statistical impact $\alpha \leq 0.05$ of the return and risk of the investment portfolio on the return on investment.

Second sub-hypothesis: There is a statistical impact at the indicative level α 0.05 of the return and risk of the investment portfolio on the return on equity.

Limitation's study:

- Time limits: This study will be conducted for the period 2018-2020.
- Limited access to data: This study will be conducted at the Iraqi Commercial Bank.

First/ Investment portfolio concept and portfolio management

- **Investment portfolio/** This group consists of financial investments such as stocks, bonds, commodities and cash equivalents, as well as their counterparts in funds.

Stocks and bonds are generally considered the core components of the portfolio, although you can create a portfolio with many different asset types - including real estate, gold, paintings and other artistic collectables (Tardi, 2021).

A portfolio is also known as a variety of investments or financial assets of an individual or business, including equities, bonds, real estate, mutual funds and other securities. "Portfolio" means all investments that may not be in a single account (Benson, 2022).

- Types of investment portfolio:

- a- Defensive portfolio: This type is also called capital retention. Conservative investment portfolios keep risks low and this is achieved by owning bonds and earning dividends. Defence portfolios are commonly used by older investors who do not want to risk losing their capital.
- b- Aggressive Portfolio: Also known as a Capital Asset Valuation Portfolio. Bold portfolios are suitable for younger or higher-risk investors who want to grow their assets quickly and are willing to take risks. They usually involve more volatile investments like growth stocks - corporate

stocks that proliferate but may not yet be profitable. Aggressive portfolios tend to include domestic and international equities, as well as speculative investments like cryptocurrencies (O'Connell, Curry, 2021).

- c- Income Portfolio: The income portfolio is focused on investments that generate earnings from dividends or other types of shareholder distributions. some securities in the income portfolio may also be part of the defence portfolio but are selected here mainly because of their high returns.
- d- Speculative Portfolio: Among these options, the hedge portfolio is the closest to the game. It requires more risk than any other subject dealt with here. The speculative portfolio is the only option that requires the greatest amount of research to be successfully implemented. A lot of work is required as well. Speculative stocks are usually transactions, not traditional buy-and-hold investments.
- e- Hybrid Portfolio: Building a hybrid portfolio requires investing in other investments like bonds, property, real estate and even art. The mixed portfolio approach provides significant flexibility. Traditionally, this type of portfolio has included a core group of premium stocks and some government bonds or high-quality companies. Real estate investment funds and multilateral investment funds may also form part of assets (Abraham, 2021).
- 1- **Portfolio Management**: It is the art and science of selecting and supervising a group of investments, striving to achieve long-term financial goals and gains, and trying to limit risks for the company or client.

What are the requirements of portfolio management?

- a- Portfolio management is the process of supervising investments that will meet long-term financial goals, as well as identifying risks to the investor.
- b- Managing portfolios to stay active and keep pace with the competitive market must buy and sell shares and other assets strategically.

- c- Passive portfolio management seeks to match market returns by creating indicators, indicators or benchmarks through which to measure and compare.
- d- Portfolio management must have the ability and potential to identify weaknesses and opportunities, as well as risks facing a whole range of investments.

2- Portfolio Management Types:

- Passive management: is a long-term strategy. this may involve investing in one or more exchange-traded index funds. This is commonly referred to as indexing or investing in the indicator. Those who build catalogued portfolios may use modern portfolio theory to help improve the mix.
- b- Active management includes: trying to overcome index performance by buying and selling individual stocks and other assets. Closed funds are managed effectively in general. Active managers may use a wide range of quantitative or qualitative models to assist in assessing potential investments.

3- Main components of portfolio management:

- Asset distribution: The basis through which an investment portfolio is effective is how to mix long-term assets.
 Generally, they can be expressed in stocks and bonds, and there are other investments such as real estate, goods and services that are called alternative investments.
- b- Diversification: Diversification involves the distribution of individual securities' risks and rewards within the asset class, or between asset classes. Given the difficulty of knowing which subset of the asset class or sector is likely to outperform the other, diversification seeks to capture the returns of all sectors over time while reducing volatility at any given time.
- c- Rebalancing: Rebalancing is used to restore the portfolio to its original target allocation at regular intervals, usually annually. This is done to restore the original asset mix when the market moves to force him out of stability (Hayes, 2022).

Second/ Success steps in portfolio management

There are some established principles with wise planning and a proactive approach. Investors can manage a successful investment portfolio, minimizing risk to the lowest possible degree, while raising returns to the highest possible extent.

1- Establish a clear philosophy for investment/ An investor must develop a portfolio based on knowledge of the state of the market, performance expectations, expected return and the degree of risk that can be borne. If these four elements are available, the investor has a clear philosophy in managing a portfolio, the aim of which is not to bias to emotions. It must also choose the type of investment in terms of long-term or short-term returns.

A clear investment policy would also be useful in developing personal orientations, principles and an investment activity plan, which in turn would increase the investment's possibility of success.

- 2- Understanding investment assets/ To be able to analyze the market situation and make appropriate decisions, the investor needs to be aware of the asset's performance and nature.
 A user aware of the nature and performance of assets can choose an investment through crowdfunding platforms, which are one of the best sources for a good investment (Hmood, et al 2022).
- 3- Choose an investment that suits an investor's ability to risk/ Each type of investment asset has a certain level of risk, each investor has a certain risk tolerance capacity, and whoever manages the investment portfolio must take into account the investor's risk tolerance and develop a plan next to it to achieve the desired return. The portfolio manager reduces the risk ratio in several ways, the most important of which is the diversification of investment and the selection of assets with lower risk ratios (Ali, et al 2022).
- 4- Portfolio diversification/ Diversification of the investment portfolio is the best way to reduce risk and also increases the possibility of investment returns. The investment portfolio manager distributes assets within the portfolio in line with the investor's objectives and reduces the risk to the extent that the investor can afford it, and works all the time to maintain the

balance of the investment portfolio in terms of goals and risk. Extravagant diversification of the investment portfolio may be counterproductive. A competent manager diversifies investment without profitability and in the best available securities in the market. It is his responsibility to dispose of lost securities that are not expected to profit (Abdlamer, et al 2018).

- 5- Good research before investing/ An investor or expert portfolio manager needs to analyze securities well to make sure to find the best investment opportunities in the market. It should look for stocks of promising startups that promise good portfolio capital growth, with well-established market stocks to reduce risk, in the event of long-term investment. If the portfolio is of an active type and aims to invest in the near term, the skilled portfolio manager must select stocks that can benefit from their daily volatility, or their expected stock prices rise within a short period of time (Dammak, et al 2023).
- 6- Regular balancing of the investment portfolio/ The importance of rebalancing the portfolio is due to fluctuations in the market and conditions affecting the economy.

This is due to restoring the risk ratio to one that the investor can afford, getting rid of useless investments, pursuing the target return, etc.

The sale of a stock can also be intended to benefit from its high price and is not required to be caused by a rebalancing. The senior investment portfolio manager does not sell or buy stocks until after a good study and ascertaining why the good the sale is because the more times the sale and purchase of securities within the portfolio the higher the outcome of tax revenues, and the higher the commission value, the more extravagant it is never advised to rebalance.

7- Investing in crowdfunding/ Crowdfunding is an investment opportunity to offer a company that is financially appropriate to offer a portion of the company's stocks, or to make a direct request as an alternative.

This crowdfunding provides investors with investment opportunities that enable them to improve the value of their

portfolios, as this type of investment provides high returns on their portfolios which increases their overall value. Therefore, all lenders have financial convenience through rankings and good financial study to reduce risk and provide good returns. A good portfolio manager can raise the return on the investment portfolio under his management by allocating part of his investment to crowdfunding, knowing that crowdfunding has higher risk ratios than low-risk bonds and securities (Al-Youssef, 2021).

Third/ Concept of profitability in commercial banks

Profitability is the main objective of banks and is essential for their continuity and survival. It is also one of the most important indicators that creditors are interested in when dealing with the bank. It is also an important tool for measuring management's ability and efficiency in using available resources (Al Tai & Abdul Hadi, 2013).

They are defined (Al Shamaa, 1992) as ratios that provide indications of the bank's ability and ability to generate income from the resources available to it.

The profitability index is a measure of the success of the company's operating, financing and investment management because it reflects the total performance of the company, as well as examines the impact of most management decisions and the extent of the company's ability to generate profits (Al Amri, 2013).

Because of the lack of an integrated means of determining when the bank is in a profitable position, profitability is one of the bank's most difficult indicators as a measure and concept. For greater future profit, many investment opportunities involve sacrificing current profits (Mashhadani, 2009).

1- The most common profitability ratios

 a- Return on Assets (ROA)/ is a financial metric that shows a bank's capacity to generate income from its holdings (Mohammed, 2006). It is also known as return on investment since it is a measure of the profitability of all the bank's short- and long-term investments and is highly dependent on the number of earnings from these assets (Mashhadani, 2009).

Additionally, it demonstrates how effectively and efficiently management operates its assets and inspires confidence in its financial management and the objectivity of its investment and operational choices. Net profit divided by total assets is used to generate this metric (Dawood, 2010).

b- Return on equity: The level to which the goal pursued by the banks is to accomplish the rate of return on the funds invested by the owners, which is the norm for maximizing their wealth, is measured by this indicator, which is of considerable interest to the bank's management (Al Amri, 2010).

Additionally, it is a particular measure of development and growth (Dawood, 2010). On the other side, the large proportion shows that the bank is managed effectively. At the same time, it shows the bank's dependence on borrowing and the significant danger of rising leverage, and its fall shows the bank's adoption of cautious loan financing (Mashhadani, 2009).

calculated by dividing net profit by equity.

c- Net interest margin: This ratio is expressed in percentage terms and is measured by the difference between interest income and interest expenses (i.e., the difference between interest income received and interest paid) divided by the active assets generated for this income and includes both loans and investments (Abbas, 2015).

This ratio is a measure of efficiency and profitability and also indicates the success of the bank's management and the ability of employees to retain revenue growth (primarily from investments, loans and service charges) (Rose & Hudgins, 2010).

Fourth: Practical aspect of the study:

- Study variables:
- 1- Independent variables: independent variables reflect portfolio return and portfolio risk. These variables have been measured using data from Iraq's stock market according to the following:
 - a- Investment portfolio return measured by the following ratio:

$$RP = \sum Wi \times Ri$$

b- Portfolio risk measured by the following ratio:

$$SP = \frac{\sqrt{(i-\bar{\iota})^2}}{n-1}$$

- 2- Dependent variables: dependent variables reflect commercial banks' profitability and have been measured using the following ratios:
 - a- Rate of Return on Investment (ROI):

 $ROI = \frac{\text{net profit after tax}}{\text{total assets}}$

b- Rate of Return on Equity (ROE):

$$ROE = \frac{\text{Net Profit After Tax}}{Total Equity}$$

- - Study variable descriptive statistics:

Table (1)

variable	Mean Statistic	Std. Deviation statistic	Kurtosis
Portfolio Return	3.039	4.34	0

Portfolio	37.40	18.80	0
Risk			
Return on	32.17	22.45	0
Investment			
Return on	51.93	57.60	0
Equity			

Source from Researchers' Preparation Based on the Bank's Quarterly Data in Reports Using the SPSS Program

1- Portfolio Return

The standard deviation amounted to a Mean of 4.34 portfolio return and is the lowest standard deviation value for the rest of the variables. As shown in the table, the Portfolio Return 3.03, the table also indicates that the value of the Kurtosis 0 is smaller than 3, indicating that the distribution curve is moderate and regular fluctuation and the height of the curve approaches the height of the normal distribution curve.

2- Portfolio Risk

The standard deviation from the Mean of portfolio risk is 18.80, as shown in the table as 37.40, and the table also indicates that the value of Kurtosis 0 is smaller than 3, indicating that the distribution curve is moderate and regular fluctuation and the height of the curve approaches the height of the normal distribution curve.

3- Return on Investment

The standard deviation from the Mean risk of a portfolio is 22.40, as shown in the table as the Mean 32.17. The table also indicates that the value of Kurtosis 0 is smaller than 3, indicating that the distribution curve is moderate and regular fluctuation and the height of the curve approaches the height of the normal distribution curve.

4- Return on Equity

The standard deviation from the Mean risk portfolio is 15.76, as shown in the table, the Mean is 51.93. The table also indicates that the value of Kurtosis 0 is smaller than 3, indicating that the distribution curve is moderate and regular fluctuation and the height of the curve is approaching the height of the normal distribution curve.

Testing Study Models: Model 1: Analysis of the effects of investment return and portfolio risk on rate of return on investment.

The dependent and independent study variables are divided into two multiple linear regression models, in the first model the impact of the independent variables will be analyzed (portfolio return and portfolio risk) on the dependent variable (return on investment) by finding the multiple linear regression equation and testing the study hypotheses by demonstrating the nature of the relationship between variables through some statistical metrics using the SPSS statistical analysis program. As follows:

Test the first sub-hypothesis: It states that the risk and return on investment of an investment portfolio have a statistically significant impact at the indicative level of $\alpha \leq 0.05$.

a- With a view to statistically testing this hypothesis, this requires statistical reformulation as follows:

Hypothesis (H0): The return and risk of the investment portfolio have no statistically significant impact on the return on investment at the $\alpha \leq 0.05$ indicative level.

Alternative hypothesis (H1): The return and risk of the investment portfolio have a statistically significant impact on the return on investment at the $\alpha \leq 0.05$ indicative level.

To determine whether there is a statistically significant impact of the portfolio's return and risk as an independent variable and the return on investment as a dependent variable, the multiple linear regression model has been used and Table 2 shows this.

	1	-				
Statement	R	R^2	Test	Significant	DW	Decision
			F	level	test	
					value	
Impact of	1.000	1.000	0	0	2.000	Accept
portfolio return						H0
and risk on rate						
of return on						
investment						

Table (2)

Source from Researchers' Preparation Using SPSS

From the above table, we note that R is equal to 1.00 indicating a very strong correlation between the independent variables, The determination R² indicates the quality of the decline model and the strength of the effect and represents the value box of the correlation R and its value here 1.00 which means that there is no strong effect on return on the portfolio and its risks on the return-on-investment variable by 1%. In other words, the independent variables explain 1% of the change in the approved variable and remain 99% due to other factors affecting the value of the return on investment. As for the value of the F test, it's equal to zero, and the level of meaning of sig = 0 is less than 0.05 and this indicates that the model is moral in interpreting the relationship and measuring the effect, this means relying on the regression equation and thus accepting the zero hypotheses that a statistically significant impact at the level of $\alpha \leq 0.05$ of the portfolio's return and risk to the return on investment, either for DW calculated value is equal 2.000.

b- Estimate the regression equation to impact the portfolio's return and risk on the return on investment

Variable	Regressions	Т	sig	VIF
Constant Term	85.34	0	0	
b ₀				
Portfolio Return	-0.001	0	0	1.2
b ₁				
Portfolio Risk	-10.035	0	0	1.2
b ₂				

Table	(3)
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Source from Researchers' Preparation Using SPSS

From the above table, the constant term value is 85.34 and the first variable (portfolio return) is -0.001, while the second variable (portfolio risk) is -10.035.

And we showed a b₀ positive value, which means that the slope line goes from the top point of origin, and the b_1 , and b₂ values were negative, that is, The dependent variable's relationship to the independent variables is opposite. An increase of one unit of independent variables means a decrease in the dependent variable by b₁ and b₂ values. The values Sig = 0, t1 = 0. Both indicative levels approach 0.05. The alternative hypothesis is then dismissed and the zero hypothesis is accepted. This decision has both variables, i.e., no moral differences between the portfolio return variable and portfolio risk with the independent variable return on investment. As for the VIF value of the linear multiplicity problem, the result was for both variants 1.2, which is less than 10. Therefore, there is no linear multiplicity problem between the independent variables, so the regression equation of the above model can be written as follows: Y=85.34-0.001x_1-10.035x_2

Model 2: Analysis impact of the investment portfolio's return and its risks on the return on equity

The second model will analyse the impact of independent variables (portfolio return and portfolio risk) on the dependent variable (equity return) by finding a simple linear regression equation and demonstrating the nature of the correlation between variables through some statistical metrics using the SPSS statistical analysis software. As follows:

- a- **Examine the second sub-hypothesis,** which contends that the risk and return of an investment portfolio have an effect on the return on equity.
 - With a view to statistically testing this hypothesis, this requires statistical reformulation as follows:
 - **Hypothesis (H0):** The return on the investment portfolio and the risk to equity return are not statistically different at the $\alpha \leq 0.05$ indicative level.

Alternative hypothesis (H1): The return and risk of the investment portfolio have a statistically significant impact on return on equity at the 0.05 indicative level. A multiple linear regression model has been employed, as shown in Table 4, to establish whether there is a statistically significant relationship between the return and risk of the portfolio as an independent variable and the return on equity as a dependent variable.

Statement	R	R^2	F test	Significant	DW	Decision
				level	test	
					value	
The impact of the portfolio's return and risk on the rate of return on equity	1.000	1.000	0	0	2.000	H0 accept

Table (4)

Source from Researchers' Preparation Using SPSS

From the above table, we note that R is equal to 1.00 indicating a very strong correlation between the independent variables, The determination R^2 is the quality of the decline model and impact strength and represents the value box of the correlation R and its value here 1.00, which means that there is no strong effect on return on the portfolio and its risks on return-on-investment variable by 1%. In other words, the independent variables explain 1% of the change in the approved variable and remain 99% due to other factors affecting the value of the return on equity. The level of meaning of sig = 0 is less than 0.05 and this indicates that the model is moral in interpreting the relationship and measuring the effect, this suggests that it is possible to rely on the regression equation and accept the null hypothesis that the return on risk at the level of $\alpha \leq 0.05$, either as to the value of 2,000 determined by Darben Watson.

b. Calculate the regression equation to determine how the return and risk of the investment portfolio affect return on equity.

Table (5)

Variable	Regressions	Т	sig	VIF
Constant Term	18.18	0	0	
b ₀				
Portfolio Return	-0.001	0	0	1.2
b ₁				
Portfolio Risk	-23.57	0	0	1.2
b ₂				

Source from Researchers' Preparation Using SPSS

From the above table, the constant term value is 18.18, the first variable (portfolio return) is -0.001, and the second variable (portfolio risk) is - 23.57.

And we showed a b_0 positive value, which means that the slope line goes from the top point of origin, and the b_1 and b_2 value was negative, that is, the independent variables and the dependent variable have an inverse relationship. An increase of one unit of independent variables means a decrease in the dependent variable by b_1 and b_2 values. The values Sig = 0, t1 = 0. Both indicative levels approach 0.05. The alternative hypothesis is then dismissed and the zero hypothesis is accepted. This decision has both variables, i.e., no moral differences between the portfolio return variable and portfolio risk with the dependent variable return on investment. As for the VIF value of the linear multiplicity problem, the result was for both variants 1.2, which is less than 10. Therefore, there is no linear multiplicity problem between the independent variables, so the regression equation of the above model can be written as follows:

Conclusions:

1- Both researchers found that the difficulties that the world economy experienced as a result of the COVID-19

epidemic did not statistically significantly affect the return and risk on the investment portfolio.

- 2- Because the coronavirus outbreak was occurring during the study period, there is no statistically meaningful relationship between the risk and return on an investment portfolio.
- 3- The Kurtosis values are equal to zero and are smaller than the Kurtosis range (+ 3, -3) which indicates that the distribution curve is moderate, regular fluctuation and the high curve is close to the height of the normal distribution curve.
- 4- An opposite relationship between independent variables and dependent variables means that an increase in one unit of independent variables with a portfolio's return and risk will result in a lower dependent variable with a return on investment and equity.

Recommendations:

- 1. The requirement for the competent authorities at the Iraqi Stock Exchange to create a database including the returns of investment portfolios due to the usefulness of this information in creating studies and supporting investors in making a logical investment decision.
- 2- The portfolio manager must be experienced, knowledgeable and qualified to see the effects of crises on the global economy around the investment portfolio.
- 3- Investors should evaluate their investments in portfolios by calculating both return and risk.
- 4- Conduct other studies dealing with other dimensions not covered by the study and re-study on a larger sample for a larger period.

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