Impact of Concentration and Diversity of Loan Portfolio on The Bank Equity Return: A Cross Country Analysis

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Abstract: This study aims to determine the impact of the concentration and diversification of the loan portfolio in the returns of shares of a sample of Iraqi and Jordanian banks over the years (2006-2019). The problem of studying is that it is better to focus or diversify into the loan portfolio. The extent to which the focus and diversification of the loan portfolio affect the returns of shares of the research sample banks. In addition to identifying the statistical relationship between them. The results show that the research sample banks vary among themselves regarding the degree of concentration and diversification in their loan portfolios on different economic sectors. Besides, Iraqi banks are directing the study sample towards a high focus on the commercial sector. Jordan's banks tend to adopt a sometimes full and somewhat moderate credit policy at the other time. The loan portfolio concentration on the banks' samples' specific economic sectors also significantly impacts stock returns. The research provides recommendations to achieve the best balance informing the loan portfolio to achieve the highest returns with the lowest possible risk. We also recommend that banks sample research the need to follow a moderate strategy (concentration and diversification) in their loan portfolios to achieve the best return against reasonable risks. The management of banks must follow the instructions and directives issued by the regulators and adhere to the Basel III committee's requirements for reducing significant risks to banks and affecting their financial position and researching a sample of banks to determine their internal and external environments' strengths and weaknesses to enable them to build their credit portfolios as required and achieve stable and continuous returns.

Keywords: Loan portfolio, Bank equity return, Loan diversity.

1. Introduction

With the beginning of the portfolio theory, the focus and diversification of the focus and diversification approach take great importance by studying the impact of these policies on financial and non-financial institutions' performance. It also reduces risk and other views calling for the principle of specialization in loan portfolios because of its positive impact on banks' performance if banks focus on sectors with experience and knowledge. The diversification of the credit portfolio also requires expertise in different areas that banks may not have in most cases (A. Almagtome, Khaghaany, & Önce, 2020). Therefore, balancing diversification and focus is crucial for the bank's management. The importance of the study stems from highlighting the most important economic sector, the banking sector. It finances all economic sectors, which contributes actively to economic construction. The study derives its importance by addressing the focus and diversification in bank loan portfolios and their impact on equity returns. The importance of the bank loan portfolio stems from the fact that it is based on the diversification of bank loans, whether in terms of the maturity date, sector, or geographical location, which reduces the risk of investment, and this is what bank management sits on in a financial market characterized by constant volatility. Therefore, the focus and diversification of bank loan portfolios have been of great importance. Especially after the global financial crisis. It is because one of the most important reasons is the focus on mortgages. Accordingly, the study's problem is summarized (is the guide better or diversification in the loan portfolio for the sample banks study. The extent to which the concentration and diversification of loans affect equity returns. And what is the statistical relationship between them). Several issues were discussed to solve the problem of research, including:

- Identify the strategies of focusing and diversifying the loan portfolio and identify the most critical components as essential banking sectors' strategies.

- To identify the degree of concentration and diversification of the loan portfolio in the sample banks study.

• To identify the loan portfolio's concentration and diversification and their impact on shares' returns to the sample banks study.

1. Literature Review

1.1. The Concept of The Loan Portfolio

The loan portfolio is known as one of the most significant assets and is the dominant revenue source. Therefore, it is one of the most critical risk sources to the bank's safety, whether it's because of lax credit standards. Or it is mismanaging the chances of the portfolio or weakness in the economy (Moon & Seo, 2018). It can be said that the investment portfolio is the total loans granted to different types of borrowers. They may include salary loans, group loans, individual and institutional loans. It reflects the number of clients who are borrowers and the total amount granted to loans (André & Votsoma, 2018) (A. H. Almagtome, Al-Yasiri, Ali, Kadhim, & Bekheet, 2020).

1.2. The Importance of The Bank Loan Portfolio

They are considering the increasing importance of investing in investment portfolios in banks. In addition to increasing the number and diversity of assets, depositors' funds have become the bridge on which the loan portfolio is built. Besides, the bank has achieved its objectives of maximizing return, reducing risk, and benefiting by applying the principle of diversification in the portfolio (Tchakoute-Tchuigoua & Soumaré, 2019).

1.3. Loan portfolio objectives

Loan portfolio objectives are specific and measurable targets for the portfolio. It's the fruit of a culture of credit and a risk profile. The Board of Directors must ensure that the loans are provided, considering the following three primary objectives:

1. Loans should be granted on a sound and collectible basis.
2. The bank's funds' investment should be profitable for the benefit of shareholders and depositors' protection.
3. Loans are provided to serve the legitimate credit needs of their communities.

1.4. Credit Policies in Managing The Bank Loan Portfolio

Chang (2019) defines it as a policy that leads to compatibility between liquidity, profitability, security, and bank management of its assets properly by adhering to credit policy controls and procedures, especially concerning credit granted and the study of guarantees provided (Al-Wattar, Almagtome, & AL-Shafeay, 2019). The failure to comply with the processes and controls established by the banking administration, which leads to the low efficiency of banking management and the inability to keep up with banking developments due to the emergence of the problem of banking failure resulting from the inability to study the credit guarantees provided under sound banking bases. Credit policy is part of economic policy because it adjusts the rhythm of the bank's work and would threaten the entire financial system if it is subjected to a scientific approach in the design of that policy.

1.5. Focusing and Diversifying the Loan Portfolio

First: Focus Strategy

Banks' main risks are credit risk, interest risk, liquidity risk, exchange risk, operating risks, and other risks. However, these are not the only and final risks. Since lending is the main activity of most commercial banks and the loan portfolio is usually an essential part of its assets. Therefore, it can be said that the most critical risk for banks is the risk of credit, as mentioned in the literature (Ali, Almagtome, & Hameedi, 2019). The risk of credit in banks increases due to the unjustified concentration in the loan portfolio. Therefore, one of the main factors that should receive the most attention while investigating portfolio credit risks is its focus. A bank that provides credit will never be safe about the sector where changes or declines can occur. It is at risk of significant losses because it allows for a large part of the loans to a single industry, and therefore the risks of focusing on the loan portfolio can be noted (Khaghaany, Kbelah, & Almagtome, 2019). It arises when the value of the portfolio of bank loans provided to a single borrower or group of borrowers is significant, and therefore the risk of loss to the bank is high (Rita and Freitakas, 2012). During the savings and loan crisis in the United States in 1980, more than 1,000 institutes were defaulting due to a focus on the real estate and vital sectors. Most banks in Texas and Oklahoma suffered heavy losses due to debt activities in those sectors.

In the mid-1990s, many Scandinavian banks went bankrupt during the real estate crisis because of their focus on the sector in 2001. The dangers of focusing were first discussed as an organizational issue in the Basel Committee in 1999. Therefore, the Basel Committees identified the risks of concentrating as potential exposure, which could be the source of some significant losses in adverse market conditions (Hameedi, Al-Fatlawi, Ali, &

Almagtome, 2021). The risk of focusing on both the bank's assets and liabilities (Slime and hammami, 2016). Lütkebohmert (2009) proposes a definition of concentration risk in the credit portfolio, defining it as an unequal distribution between one-to-one debt exposure (name concentration) or in many sectors or industries (sector or industry concentration). This strategy focuses on a particular sector of customers, a particular crown lien, or a geographical sector itself. It means providing a good or service that satisfies a specific industry of consumers' needs or serves a specific geographical area. According to the progress, the bank lending concentration risk is the borrower's inability to meet its obligations to the bank. Credit risk arises for a variety of reasons that can be determined as follows: (Al-Mamlouk,2020)

a) Banks focus on granting their loans to specific geographical areas or on specific economic activities. The irregular distribution of loans may lead to increased risks due to economic factors that affect loan concentration in some geographical regions or economic activities.
b) The over-payment of loans by banks leads to the granting of bad loans and results in an increased risk of non-payment so that the rate of loan losses is higher than that of other banks.
c) The bank grants loans to foreign countries or foreign private sector companies, exposing them to the risks of countries that arise from the foreign borrower's inability to transfer value in foreign currency due to the foreign exchange ban measures determined by the Central Bank country.

Second: Concentration Types

Three types of credit concentration risks will be distinguished:

1- Name concentration

The risks of name concentration are apparent when the portfolio's size is small or when exposure to a small number of individual borrowers is significant compared to its overall direction. The Bank can have a portfolio large enough to assume that the risks are mixed. In many cases, however, the concentration of the name is in the wallet. If this concentration risk is not considered, capital requirements could be reduced (Grippaand and Gornicka, 2016).

2- Customers Concentration

There are many foreign and local studies on customer concentration because the client is a crucial external stakeholder in the bank, impacting the day-to-day process and decision-making within the bank. Customers' attention is mainly influenced by shareholder composition, size, the concentration of the operating plan, and bank funds (Amagtome & Alnajjar, 2020). As customer concentration increases, customers' bargaining power gradually increases or, in the negotiation process, forces banks with low credit ratings to make concessions and give higher benefits to large customers, resulting in lower bank profitability. Customers are also more inclined to cooperate with banks with a better financial position to provide an ideal financial situation to customers. Organizations may win the appreciation of large customers through fake profits, fake assets, and misinformation. Therefore, customer concentration will increase the likelihood of violations by banks (Qian, 2018).

3- Sector concentration

The term sectoral focus refers to significant exposures to specific groups so that they are likely to default on common underlying factors. Such as industry sectors or geographical locations. Even if modeling these types of industries are usually similar. The same concentrations have different characteristics (Hibbeln 2010:58), which occurs because of excessive exposure to individuals, sectors, or interrelated economic industries. Borrowers generally vary in their sensitivity to risk.

Moreover, some banks are not interested in the economic conditions in which they operate. As a result, borrowers are hampered by the repayment process, so a realistic valuation of default is an essential element for measuring credit risk. Therefore, the sectoral focus is the concentration of credit in a particular sector, so the loan portfolio is heavily concentrated in recognition for companies in a specific industry. The shocks in this sector may have a significant impact on the portfolio Ullmann, Masschelein,2007)

1.6. Managing the Risk of Credit Concentration

The Bank's Credit Focus Risk Management includes:

1) The risks of concentration in the loan portfolio are measured by monitoring essential aspects of engagement.
2) It is monitoring the credit risk that appears in the loan portfolio. The risk management of the concentration of credit arises when loans are granted. A large part of it is directed to a customer or group of interconnected customers or a specific economic sector. Or a particular industry or to a country or group of countries with interrelated economies.
3) Establish appropriate limits to determine the risks of concentration at the bank's acceptable level and report the dangers of focus to senior management for review and discussion.
4) Follow-up trends in growth in loans, quality of assets, and guarantee values to detect weaknesses in its portfolio.
5) Conduct stress tests to assess the risk of a group of borrowers exposed to adverse circumstances and take appropriate action to reduce concentration risks, such as pricing additional risks and increasing reserves, capital, or securitization to hedge against the risk of concentration.

Diversification Strategy

The loan portfolio formation's main objective is to reduce the risk of losses and make the loan investment process more diversified. Still, the loan portfolio can be kept from danger. By diversifying its loan portfolios to increase performance, the potential risk to the portfolio can be reduced.

The portfolio management strategy must invest in different assets to achieve diversification, achieving an optimal return while keeping risk at its lowest level. Portfolio diversification plays an essential role in modern portfolio theory, a decision-making theory that aims to build a portfolio of investments that offer maximum returns and the least risk using diversification, which is an essential means of reducing risk and achieving returns (Lin& Chung, 2020:3).

The diversification strategy means that the bank's management chooses to enter a new business field that is entirely different or related to the business esotas that banks are doing. It also means adding new products that may be unconventional or familiar to sell in new markets, as diversification may be an extension or departure from the original activity(Nguyen,2018).

Diversification Methods In The Loan Portfolio

- **Naïve** diversification **style:**

Naïve diversification or simple diversification is based on the basic instinct that the greater the diversification of the portfolio's investments, the lower the risk to the return. The naïve style of diversification can be expressed by the wisdom of not putting all the eggs in one family. Naïve diversification provides for the equal allocation of capital between all assets to reduce the portfolio's overall risk simply and intuitively without complicating and deepening the mathematical laws currently used to solve the problems of improving returns(Lhabitant, 2017).

The most straightforward and widely applied selection rule in large-scale portfolio building is the naïve diversification strategy. It includes allocating equal weights between a set of specific choices regardless of the individual characteristics of the fundamental choice alternatives, often referred to as the Equal Weight strategy or N/1 (Giorgi, Mahmoud, 2016).

Markowitz's diversification style

American Professor Markowitz, a 1990 Nobel Prize winner in economics, was the first to give accurate content to the concept of diversification. Markowitz's diversification is assets that are less than favorable to reduce risk and without sacrificing portfolio returns, and Markowitz's diversification is based on the basic idea that the dangers of the portfolio depend not only on the chances of the investments involved but on the relationship between the returns of those investments. In other words, when choosing the assets that make up the portfolio, the nature of the correlation between the returns generated by them should be taken into account, and this indicates that there is an element missing in the portfolio risk measure, which shows the relationship between the returns of the investments that make up the portfolio (Jafar, 2016).

Diversification in The Loan Portfolio

The bank must actively manage and monitor its portfolios to adjust and diversify its new activities to address and correct any significant concentration that already exists or avoid what may appear in the future. Diversification benefits banks by distributing loans to different borrowers, economic sectors, and multiple geographical regions. Diversification is one of the most important ways of controlling the risks of credit concentration. The focus on granting loans to specific economic sectors may lead to the disruption of such loans under economic conditions such as inflation and financial recession. Banks should resort to geographical diversification and sectoral diversification when granting loans to distribute risks to many sectors and different geographical areas. Because the risk may appear in a particular industry or region, diversification is a traditional method of reducing concentration risk. Statistics indicate that banks with activities in several geographical areas are characterized by stable profitability (Ghandour et al., 2017). Accordingly, the diversification of the loan portfolio is divided into several types and as described below:

A. Geographical Diversification

Geographical diversification means expanding the land due to the business area's development and the increase in the number of branches. The geographical diversification of lending has the advantage of reducing the risk of marketing. Still, it also weakens the relationship and efficiency between banks and financial consumers spatially. It requires geographical expansion and transfer of lending processes to obtain new information, analyze, and cost new lenders. Geographical diversification can enhance financial institutions' valuations through various channels, for example, and higher levels of geographical diversification may reduce exposure to special domestic shocks and enhance administrative efficiency.

B. : industrial diversification

Industrial diversification means that banks' management finances several industries in a region, region, province, or state without limiting to a single or limited number of significant initiatives and shows industrial diversification in the sites and areas where the industry has long existed. Over time, it has become an important center of industrial attraction, as established by the industrial diversification in large population areas (Ayasra, 2014).

C. Sectoral Diversification

Sectoral diversification occurs when the bank seeks to enter into new businesses unrelated to its current industry or market. The classical financing theory suggests that diversification should reduce risk within the asset portfolio due to asymmetric information in the banking markets. Many countries have rules that limit the bank's exposure to a single borrower. On the one hand, and the other hand, some banks decide to participate in experienced sectors. The mortgage crisis of 2008, which led to the global financial crisis, is due to the high exposure of the real estate sector, which is closely linked to the macroeconomics, as this crisis caused by the concentration of the loan portfolio hampering the banking industry in the United States (Belguith, Bellouma, 2017).

Indicators used to measure concentration and diversification in the loan portfolio

The bank's management is responsible for determining the risk limits on loans provided by the bank. These limits consider the bank's ability to withstand historical losses, absorb future losses, and achieve the desired return level.

Herfindahl -Hirschman Index – HHI

Many studies indicate that the HHI measure is the best in measuring the loan portfolio concentration for banks and market shares. It was first used by(Harshman in 1940) as equal to the square root of the total market share boxes and then was modified by(Herfindahl)year (1950), and this indicator took its name and current image after an article published(Harshman) in 1964.

This indicator is widely used in studies, particularly in the United States of America. The HHI index calculates the collection of market share boxes for each institution in a market. It is often an indicator of competition in the market and ranges from (0-10,000) points (sigve, and Arnegard, 2017:20). HHI is calculated as the sum of market share boxes for all companies serving a particular market area, and therefore the Herfindahl-Hirschman index is derived from this formula (S. Rose, 2004:636).

$$HHI = \sum_{i=1}^{k} A_i^2$$

(1)

Where:

Ai: The financial company in the market controls the percentage of deposits, assets, or sales in the market.

K: The number of financial companies serving the market in total.

The HHI index value ranges from(10000-0) and is interpreted as follows: (Bital, Dulaimi, 2018).

If the HHI index's value is less than (1000), this indicates a lack of concentration and that the banks are in a state of complete diversification (real competition).

If the HHI index's value is between (1800-1000), this indicates that concentration and diversification are moderate (monopolistic competition).

If the HHI index's value is more significant than (1800), it means a high or complete concentration level and low or non-existent diversification.

Stock Concept

The share in the economy terminates other times on the percentage given to the stake and one's performance. The first is an instrument representing part of the company's capital, which increases and decreases depending on its activity. The second consideration is the shareholder's right to a company. Whether; from the money companies or the part whose value is divided by the company's total capital fixed in an instrument with nominal values, the shares are represented in their natural wealth and equal value (Mexmonov,2020).

Stock properties

The shares have many characteristics, including (Kehina, 2016)

a) The inability of the percentage to be fragmented means that the claims' owners cannot be multiplied in front of the company. The participation of two or more persons in the ownership of one share due to a legacy, gift, or will does not apply in the company's face. The shareholders are obliged to choose a person who takes over the rights related to the stock towards the company.
b) Equal to the shares' value and the joint-stock shareholding is divided into shares of equivalent value. The countries' commercial laws determine the minimum and maximum value of each claim, and the principle of equal value of the shares entails equal rights and obligations.
c) Trading shares, i.e., the freedom to waive it to others without obtaining its acceptance of the waiver since the money companies take financial consideration without personal consideration.
d) Restrict the trading of shares under special regulations and specific times for buying and selling through the stock exchange and its system.

Stock types

1. Ordinary shares:

It is a document with a single nominal value put to the PUBLIC OFFERING and can trade and is not entitled to pay on a specified date. Regular stock financing is the primary and most common form of financing owned. Financing through the issuance of ordinary shares will not carry any legal burdens or obligations, such as providing distributions to ordinary shareholders instead of the forms of financing, premium shares, and bonds. The holders of these shares are entitled to sell the common share to investors through the secondary market (Tursoy, T., & Berk, N,2020).

2- Premium shares:

Premium shares are considered title deeds with a nominal, book, and market value in that regard. But the book value is the value of the premium shares as shown in the company's books divided by the number of shares issued, as the owner of the premium share may not vote in the General Assembly. Therefore the premium share does not have a share of reserves and profits held that appear in the balance. These shares are characterized as permanent as long as the institution is standing and continuing. It does not have a specific maturity date.

Research hypotheses:

Based on the questions and problem of the study, to test the study model and answer questions, the following hypotheses have been formulated:

The first primary hypothesis: there is no statistically significant effect of the concentration and diversification of the loan portfolio in the returns of shares in the Iraqi banks' sample study.

The second primary hypothesis: there is no statistically significant effect of the concentration and diversification of the loan portfolio in the returns of shares in Jordanian banks sample study.

The third central hypothesis: the study sample banks (Iraqi and Jordanian) tend to follow diversification strategy in their loan portfolios.

The fourth main hypothesis: the sample banks (Iraqi and Jordanian) tend to follow the procedure of focusing on their loan portfolios.

2. Research Methodology And Data Collection

2.1. Sample study

The study sample consisting of (4) banks was selected as a sample of the total commercial banks listed on the Iraqi Stock Exchange and commercial banks operating on the ASE.

Table(1). The relative importance of loans granted to the economic sectors and the degree of concentration and diversification(HHI)in Gulf Bank for the period (2006 - 2019)

Sector / The government's support	Commercial	Industrial	Construction and construction	Agricultural	Transport	Other community services	Mali	People	Government and public sector	HHI
2006	54	6	9	5	-	26	-	-	-	3734
2007	57	4	7	8	-	24	-	-	-	3954
2008	65	3	8	9	-	15	-	-	-	4604
2009	56	6	13	8	-	17	-	-	-	3694
2010	51	3	14	2	-	30	-	-	-	3710
2011	42	4	16	2	1	35	-	-	-	3266
2012	30	9	20	7	6	28	-	-	-	2250
2013	32	10	15	9	8	26	-	-	-	2170
2014	47	10	13	7	5	18	-	-	-	2876
2015	46	11	14	9	6	14	-	-	-	2746
2016	34	-	-	7	-	19	-	40	-	3166
2017	57	-	-	22	-	11	-	10	-	3954
2018	57	-	-	22	-	11	-	10	-	3954
2019	26	-	-	7	-	4	22	3	38	750
Rate	46.71	4.7143	9.21	8.857	1.86	19.857	1.571	4.5	2.714	3202

The table above shows the size of the loans granted by The Commercial Gulf Bank for each of the different economic sectors and the degree of concentration and diversification(HHI) in the bank's loan portfolio (2019-2006). The average HHI during the entire study period(3202)points indicates that the concentration rate during the study period in the Gulf Commercial Bank loan portfolio is complete or high. On the contrary, this average index indicates a decrease in diversification in the bank's loan portfolio. While the highest score of the HHI index in 2008 and4604points means a high or very complete concentration against a low diversification in the bank's loan portfolio. The bank has focused heavily on lending in the commercial sector and by (65%)%. The total percentage of loans granted to other industries in the same year is 35%. In giving its loans during this year to the government sector significantly and by (38%)of the total loans granted, then came the commercial industry by (26%) while the ratio of the financial sector was (22%) while the proportions of other sectors were relatively different and small from the total loans granted in the same year.

Table(2). The relative importance of loans granted to the economic sectors and the degree of concentration and diversification(HHI)at The Middle East Bank for the period (2006 - 2019)

For the sector / The government's support	Agriculture	Industrial	Construction and construction	Trade	Transport	Service	Another one.	Mali	People	Government and public sector	HHI
2006	1	20	-	23	-	34	22	-	-	-	2570
2007	2	6	-	23	-	42	27	-	-	-	3062
2008	2	3	-	83	-	1	11	-	-	-	7024
2009	1	10	-	32	7	18	31	1	-	-	2460
2010	1	4	7	41	5	28	-	14	-	-	2752
2011	1	4	5	16	6	67	-	1	-	-	4824
2012	1	3	4	17	4	69	-	2	-	-	5096
2013	1	3	6	17	5	66	-	2	-	-	4720
2014	1	3	6	17	5	66	-	2	-	-	4720
2015	-	4	6	42	6	40	-	2	-	-	3456
2016	-	11	9	76	3	0	-	1	-	-	5988
2017	5	-	-	7	-	1	-	16	7	64	4476
2018	15	14	31	40	-	-	-	-	-	-	2982
2019	16	14	25	36	-	9	-	-	-	-	2454
Rate	3.35	7.07	7.07	33.57	2.92	31.5	6.5	2.93	0.5	4.57	4041

The above table shows the loans granted by The Middle East Commercial Bank for each of the different economic sectors and the degree of concentration and diversification (HHI) in the bank's loan portfolio (2019 - 2006). On the contrary, the average index score indicates a decrease in diversification in the bank's loan portfolio. Simultaneously, the Focus and Diversification Index (HHI) highest score in 2008 and (7024) points means a significant concentration against low diversification in the bank's loan portfolio. The bank has focused heavily on lending to the commercial sector. By 83%while the total percentage of loans granted to other industries (17%) was high. Simultaneously, the lowest score of the HHI index in 2009 and by(2460) points demonstrates a high concentration against a low diversification in the bank's loan portfolio. The bank has focused on granting loans to the commercial sector significantly and 32%of the total loans granted while the other sector ratio (31%)followed by the service sector percentage (18%). At the same time, the other sectors were small and relatively different for the total loans granted.

Table(3). The relative importance of loans granted to the economic sectors and the degree of concentration and diversification in Cairo Amman Bank for the period (2006 -2019)

Sector / Year	Agriculture	The government's support	Trade	Shares	Real estate	People	Mali	Government And the public sector.	HHI
2006	0.5	1	7	1	9	19.5	28	34	2452
2007	0.5	1	5	1	10.5	19	23	40	2627
2008	1	2	8	1	9	20	16	43	2656
2009	1	1	10	1	8	20	19	40	2528
2010	1	1	11	1	9	26	20	31	2242
2011	1	3	10	1	8	27	19	31	2226
2012	1	3	7	1	9	28	12	39	2590
2013	1	2	7	1	8	26	15	40	2620
2014	1	2	8	1	7	26	27	28	2308
2015	1	1	9	1	8	25	28	27	2286
2016	1	1	11	1	10	27	21	29	2235
2017	1	2	12	1	10	26	11	37	2416
2018	1	4	17	1	11	22	11	33	2122
2019	1	5	17	1	9	20	12	35	2166
Rate	0.929	2.071	9.929	1	8.964	23.68	18.71	34.785	2391

The above table shows the size of the loans granted by Cairo Amman Bank for each of the different economic sectors and the degree of concentration and diversification(HHI) in the bank's loan portfolio (2019-2006). The average index (HHI) during the entire study period (2391) degree shows that the concentration rate during the study period in the Jordan Investment Bank portfolio is complete or high. This indicator's average score indicates that the bank's loan portfolio diversification is non-existent or low. While the highest score of the Hirschman- Herfindahl Index (HHI) in 2008 and at (2656) points. It means a complete or high concentration, as opposed to a non-existent diversification in the bank's loan portfolio as the bank has focused on granting its loans to the sector. The government and the ratio reached (43%) and then came the industry of individuals where it reached (20%). The financial sector obtained a percentage (16%)of the total loans granted in the same year, and the rest of the sectors got low and varying rates of the percentage of total loans granted in the same year. At the same time, the lowest score for the index (HHI) in 2018and by (2122) points, which means that the concentration in the bank's loan portfolio is high or complete, as well as the diversification was low or non-existent in the loan portfolio as the loans granted previously varied. The bank, where the highest percentage in the government sector reached (33%) of the total loans granted and followed by the individual industry (22%) and followed by the commercial sector by (17%) while the ratios of other sectors were small and relatively different from the total loans granted.

Table(4). The relative importance of loans granted to the economic sectors and the degree of concentration and diversification in Arab Bank for the period (2006 -2019)

Sector / The government's support	Trade	Industry and mining	Real estate	Agricultural	Construction	People	Tourism and hotels	Transport	Shares	Public services	Banks and financial institutions	Government and public sector	HHI
2006	6	4	10	0.5	-	10	-	-	8.5	5	34	22	1989

2007	9	2.5	10	0.5	-	8	-	-	6	4	34	26	2135
2008	9	14	5.5	0.3	12	9	2	2	-	14.2	11	21	1303
2009	13	17.5	7	0.5	7	10	1.5	2	-	7	9	25.5	1460
2010	7	8.5	5	0.5	4	6.5	1	2.5	-	7	41	17	2231
2011	6	11	4	0.5	4	6	1.5	3	-	6	38	20	2116
2012	7	11	3	0.5	4	7	1	2	-	3	36.5	22	2074
2013	8.5	11	3.5	0.5	4	7	1	2	-	6	33.5	23	1963
2014	9	10	3	0.5	4	7.5	1	1.5	0.5	6	18	39	2147
2015	9	9	2.5	0.5	5	8	1	1.5	1.5	6	14	42	2259
2016	10	9	3.5	0.5	5.5	9	1	1.5	0.5	6	18	35.5	1928
2017	12	11	4	1	7	1	1	2	0.5	8	18	34.5	1915
2018	10	11.5	4	0.5	5	10	1	0.5	0.5	6	16	35	1892
2019	9	10.5	3.5	0.5	5	10	1	0.5	0.5	6.5	16	37	1997
Rate	8.892	10.035	4.8929	0.5214	4.75	7.79	1	1.5	1.32	6.479	24.071	28.535	1958

The above table shows the size of the loans granted by Arab Bank for each of the different economic sectors and the degree of concentration and diversification(HHI) in the bank's loan portfolio (2019 -2006). The average HHI index during the entire study period (1958) is a degree, which shows that the concentration rate during the study period. The Jordan Investment Bank loan portfolio is relatively moderate, and the average score of this indicator indicates that the diversification in the bank's loan portfolio is also reasonable. In contrast, the Hirschman- Herfindahl Index (HHI) highest score in 2015 and at 2259 points means a complete or high concentration against a non-existent diversification in the bank's loan portfolio. The bank focused on granting its loans to the government sector and by 4%2) Followed by the banking and financial institutions sector, where it reached 14%. The rest of the sectors received small and varying percentages of the proportion of total loans granted in the same year. It means that the concentration and diversification are moderate in the bank's loan portfolio. The loans granted by the bank varied, with the highest percentage in the commercial sector reaching (21%) of the total loans granted, followed by the public services sector by 14.2%. In contrast, the proportions of other sectors were small and relatively uneven from the total loans granted.

3. Results

Analysis of statistical description and natural distribution Through the first research, the quality of data is recognized for the Iraqi and Jordanian banks' study variables through the natural distribution of data. It will be determined the extent of the distribution of raw data distribution through flatting and twisting. The calculated values as they approach zero mean that they come symmetry and that the deals for flatting The sprain. It ranged from(+-1.96)to acceptable limits, as well as the Jarque- Bera test and it is level of morale if the moral level is more significant than (0.05)the data is a natural distribution, and the test results are like:

Table(5)Natural distribution of the focus and diversification index of the bank loan portfolio of Iraqi banks

Details	Gulf Bank	Middle East Bank
Skewness	0.56	0.72
Kurtosis	1.30	1.31
Jarque-Bera	1.01	1.26
Probability	0.60	0.53

Table(6)Natural distribution of the stock returns the index for Iraqi banks

Details	Gulf Bank	Middle East Bank
Skewness	1.86	-0.97
Kurtosis	1.32	1.06
Jarque-Bera	1.99	1.18
Probability	0.21	0.34

It should be noted from the table that the data on the concentration and diversification of Iraqi banks' bank loan portfolios were swayed and twisted within acceptable bounds (+-1.96). The values' significance level (Jarque-Bera) was more significant than (0.05), indicating that the time series research sample from 2006 to

2019 was distributed naturally. There is the possibility of predicting the use of the correlation coefficient and its effect.

Table(7)Natural distribution of the focus and diversification index of the bank loan portfolio of Jordanian banks

Details	Arab Bank	Cairo Amman Bank
Skewness	-1.990	0.067
Kurtosis	1.602	1.529
Jarque-Bera	1.568	1.272
Probability	0.627	0.529

Table(8)The natural distribution of the stock returns the index for Jordanian banks

Details	Arab Bank	Cairo Amman Bank
Skewness	0.319	1.359
Kurtosis	1.201	1.108
Jarque-Bera	0.609	2.903
Probability	0.737	0.132

Table (7) and (8) show that the flatting and twisting of the data of the concentration and diversification of the bank loan portfolio of Jordanian banks were within limits (+-1.96). the moral level of the values(Jarque-Bera)was more significant than (0.05) and this indicates that the time series of the research sample (2006-2019) was distributed naturally. There is the possibility of predicting the use of the correlation coefficient and its impact.

3.1. Stationary Time Series

The time series stability test is one of the statistical methods that explain the behavior and interpretation of the indicator data during specific periods to arrive at an accurate description of the indicator data during those periods of the values recorded, both historical and past, and the changes that occurred during specific periods researched. The purpose of unit root testing is to ensure that the search sample's time series is fixed, i.e., there is stability in the data variation along the chain. Accordingly, the degree of stability is determined separately for each indicator. The test of the method of analysis of the effects is adopted on the level of strength. It reflects the table(9)results (unit root test) for the index of concentration and diversification of the bank loan portfolio at the level of Iraqi Jordanian banks. According to the results, it turns out that the index data was stable during the historical years sample research from(2006)to (2019) Iraqi and Jordanian banks at the level(level).

Table(9)Test (the root of the unit) for data concentration and diversification of the bank loan portfolio of Iraqi and Jordanian banks

At the level of Iraqi banks					
Pointer	Level			First Deference	
	ADF Statistics		Result	ADF Statistics	Result
X	-3.9593	0.000	Stationary	-	-
And	-9.60690	0.000	Stationary	-	-
At the level of Jordanian banks					
Pointer	Level			First Deference	
	ADF Statistics		Result	ADF Statistics	Result
X	-4.72456	0.000	Stationary	-	-
And	7.00905-	0.000	Stationary	-	-

Source: Preparing the researcher based on the outputs of the statistical program(EViews)

3.2. Test correlation hypotheses

It will be established that there is a statistical correlation between the study's indicators, and the methodology of the study assumed a positive correlation as well as the significant correlation between the loan portfolio concentration, diversification, and return on equity of Iraqi and Jordanian banks. The hypothesis is accepted if the level of morale achieved is lower or equal to (0.05). Two assumptions are assumed to test the correlation between indicators of concentration and diversification of the bank loan portfolio and equity returns, the first at the level of Iraqi banks and the second at the level of Jordanian banks, as follows:

1- Testing the correlation relationship of Iraqi banks: The paper assumed that there is a correlation between the concentration and diversification of the bank loan portfolio and the stock returns of the research sample banks as in table(10), which shows the link matrix as follows: -

Table(10)The correlation between the concentration and diversification of the bank loan portfolio and equity returns at the level of Iraqi banks

Independent variable	**Dividends**	
	Link coefficient	Moral level
Focusing and diversifying the bank loan portfolio	0.79	0.000

Table 10 shows the correlation of the bank loan portfolio's concentration and diversification with dividends reached (0.79) and is positive. It indicates that the change in the level of attention and diversification in the bank loan portfolio will increase the portfolio's returns by a similar percentage. It is a significant relationship and has reached the level of morale achieved (0.000) and is of significance at the level of (0.05). According to these results, accept this hypothesis at the level of this study.

2. Testing the correlation relationship of Jordanian banks: The research assumes the correlation between the concentration and diversification of the bank loan portfolio and the stock returns of the research sample banks, as in table(11), which shows the link matrix as follows:

Table(11)The correlation between the concentration and diversification of the bank loan portfolio and equity returns at the level of Jordanian banks

Independent variable	**Dividends**	
	Link coefficient	Moral level
Focusing and diversifying the bank loan portfolio	0.70	0.000

Table 11 shows the correlation of the bank loan portfolio's concentration and diversification with dividends reached (0.70) and is positive and indicates the change in the level of engagement and diversification in the bank loan portfolio. It will increase the returns of the portfolio by a similar percentage, as it is an honest relationship and has reached the level of morale achieved (0.000) and is of moral significance at the station (0.05) and according to these results, accept this hypothesis at the level of this study.

Conclusions and Discussion

The study aims to ensure financially and statistically the impact of the policy of focusing or diversifying the bank loan portfolio through the Index (Hirschmann-Herfendal) on the returns of shares of a sample of Iraqi and Jordanian banks. The study's objectives can be summarized as identifying strategies for concentrating and diversifying the loan portfolio and the banking sector's most critical components. The degree of loan portfolio concentration and diversification in the sample banks study, as well as identifying loan portfolio concentration and diversification and their impact on the returns on the sample banks' shares. The study derives its importance by addressing bank loan portfolios' concentration and diversification and their effects on equity returns. The results show that the bank's sample research varies among themselves regarding the degree of focus in the portfolios of their loans on different economic sectors because each bank has its policies and procedures in granting loans. The banks focus their loan portfolios on the commercial sector, including the lack of sufficient experience of the bank to manage investment portfolios in other different economic sectors, in addition to the possibility of exposing other sectors to high credit risks if the bank diversifies its loan portfolio. It is a statistically significant impact on equity returns, which means that the change in the level of concentration and diversification in the bank loan portfolio will increase the portfolio's returns by a similar percentage. The study's sample of the banks shows that the loan portfolio will be focused on particular economic sectors (the commercial sector) that will increase their risk level due to uncertain conditions and uncertainty about unstable economic conditions affecting their returns. The volatility in the returns of shares for Iraqi banks is due to the inefficiency of the markets and their impact on economic and political conditions and the health situation that has cast a light on all aspects of economic life.

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