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RISK IN THE IRAQ BANKING SYSTEM: AN EVALUATION BASED ON STOCK VALUES

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PREFACE

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INTRODUCTION

Banks have been in rapid development, especially in recent years. 21, also called the knowledge economy. From the beginning of the century, banking risks began to manifest themselves. Banks have gained mobility within the framework of innovation and creativity by establishing easy and fast communication networks thanks to rapidly increasing technological infrastructure. In addition, reducing costs, Information and process management and accelerated banking transactions have brought with them a number of risks. Changes in all areas of the world have brought uncertainty to the fore. The emergence of the concept called risk management and the transformation of uncertainties into risk has taken its place among the important issues.

In the past, the banking sector, which has tried to make decisions under uncertainty, may face negative conditions from time to time (Ulusoy and Civek, 2021). Banks that can convert uncertainty into measurable risk and can also calculate risk have made them able to manage the system together with banking regulations. As is known, especially the concept of management stands out at this point. For a bank that acts according to market facts and likes risk, risk management is more important than a commercial business. The main element that the banking sector buys and sells, or in other words, goods are money or funds. Because the fund is held to be weighted capital, realizations based on cash and cash-like transactions make it difficult to minimize future threats and risks. Uncertainty is defined as the inability to fully predict the future. Risk is defined as a digitized expression of uncertainty. Banks must objectively evaluate the risks that may arise at this point. In addition to calculating the risk, it must be determined in its elements that reveal the risk (Ulusoy and Civek, 2020).

In determining the risk effect, the long-term effects of macroeconomic factors on the banking sector should be calculated separately (Ulusoy ve Ugur,2020). Some researchers dealing with banking risks are well aware that markets do not directly affect banks. Economic, political and social conditions in the banking sector is

always the possibility of incurring losses in the future on one side and danger side affects all natural and legal persons the last transfer, increasing the likelihood of banking crises financial market can make it tough

1 .LITERATURE REVIEW

In the literature review, the works written in Iraq will be mentioned after the theses written primarily in Turkey. The difficulty of long-term access to data on Iraq is also evident in the literature review.

According to Turşucu (2006), banks aim to maximize profits by transferring their resources to actors in need of funds, while at the same time playing a role in ensuring sustainable macroeconomic stability. Due to the nature of financial markets, banks are exposed to various risks while continuing their activities. The prepared study focused on the types of risks that banks are exposed to and their measurement methods.

In this context, risk identification, measurement and management the importance of the bank at macro and micro level on the basis of the economy of the country were studied to evaluate in terms of needed market risk management framework and risk management techniques since the middle of 1990s the level of development is shaped according to how you have specified for themselves and the banks to consider when implementing an appropriate risk management system captured the attention of administrative regulations, and relevant legal procedures are discussed.

According to Kalkan (2007): one of the most important components that must necessarily be included in the successful strategy portfolio of banks is the effective management of risks. Banks face a number of risks in the process of providing financial intermediaries and services. For banks operating in a universe of risks, measuring and managing these risks is the most important issue. One of the most important comprehensive solutions reached by Modern business theory is risk management. Because risk management is an approach that correlates return, capital and risk; it provides an optimal balance between them. Banks use their resources in various areas with decisions they make to ensure returns. During these processes, they assume various risks. The important point is that it is possible to measure

whether the right decisions have been made, whether sufficient returns have been obtained against the risks taken, and whether it is worth allocating the resources allocated to it. For this purpose, models and techniques used in risk management have been developed. The models used in Risk management are based on a basis such as buying and interpreting banks ' data in past years or taking past crises and making forecasts for the present or future. Based on these facts, this study examined risk, risk management and risk types in general; Basel I, the current capital compromise that is still in practice, and Basel II capital adequacy standards that were implemented in many countries around the world in 2007, were mentioned. The third part of the study mentions the practice of risk management in Turkey.

According to Gür (2007): the negative effects of financial events in the past years have shown the need for financial institutions to use modern risk management approaches in order to measure all the risks they face in the banking sector. Risk management should be considered as a strategic tool that reduces financial losses and increases profitability in crisis environments. Currently, the banking sector pays even more attention to the use of modern risk management models, as it requires more complex approaches to the analysis of financial risks.

It is clear that the use of techniques such as value at risk (RMD) will have a significant impact on risk management in the banking sector over the next few years and will help improve the overall economic situation..

In this study, prepared by the Basel Committee in the country and the Banking Regulation and Supervision Agency (BRSA) risk management in banks Basel II also explained supported by measurement and the use of models and highlighted the importance of these new techniques (Ulusoy and Atay,2018) (Ulusoy and Çelik,2019) (Khalafet et al., 2023) for the use of the road map prepared by the brsa in Turkey in accordance with the preparations made by the banks have been given.

According to Şahin (2008): especially with the domestic borrowing policy pursued by governments in the 1990s, the resources collected from the market are distributed to the state through auctions of treasury bills and government bonds, rather than in the real sector, to the fullest extent in a variety of processes exceed legal limits for this size of open foreign exchange position risk capital to be entered any way you

like the experience of trying it out from time to time by taking on more risk than that organised by legal and administrative measures in the banking sector has entered the race for new can be obtained thanks to the limitations of the maximum risk that a risk management approach has been similar with both internal and external controls and strict security measures were taken and banking crises has been trying to ensure that never happens again. After the last crisis period, necessary work has been started to provide a strong infrastructure in terms of risk management, which is vital for banks. As a result of the studies implemented in order to restore the banking system to a healthier structure, the expected results have begun to be achieved. Although the structural problems of the banking system continue, the system's resistance to crises and external shocks has increased more than in recent periods of crisis.

According to Ekenel (2009): within the framework of internal regulations issued by the Banking Regulatory and Supervisory Authority (BRSA), banks have started to create "risk management units" within their bodies. These units include the market risk management committee, the credit risk management committee and the operational risk management committee. Due to the new understanding of risk management organized by legal and administrative measures in the banking sector, maximum risk restrictions that can be taken have been introduced, strict measures have been taken with both internal and external audits, and similar banking crises have been tried to ensure that they do not occur again. Each of the Risk calculation methods has different weaknesses. Therefore, the use of only one of these methods would be incorrect. However, using a combination of them can give more accurate results. In this way, the banking sector will be able to engage in healthier and more effective activities.

Ocakci (2009) examined risk, risk management and credit risk in general and examined them using alternative analysis methods, focusing on credit risk from risk types in the Turkish banking system. 31 financial ratios were used for 46 banks operating in the Turkish banking sector. Factor Analysis and logistic regression analysis were applied from multivariate analysis methods in order to obtain variables that will summarize these 31 financial ratios that will explain credit risk. Depending on the results obtained, in order to determine the importance of credit risk for banking, the measures that banks should take were focused on determining which of

the financial ratios used in the study played a more decisive role, and the Turkish banking sector was evaluated.

According to Koçer (2010): developments such as related and corrupt lending in banks, excessive risk taking and deterioration of the financial structure of banks after mismanagement, and removal of some banks from the system lead to serious problems in the economy. Especially during periods of economic expansion, it is observed that financial actors abandon the measure in risk management, in other words, take excessive risk and increase vulnerability. For this reason, the fragility leading to crises in the banking sector needs to be measured and monitored. From this perspective, risk management; it can affect banks and therefore the whole economy by becoming a management approach that relates risk, return and capital elements and tries to achieve the best balance available between them

In developed and especially developing countries, one of the conditions for stable growth is that a healthy financial structure exists. Failure to create a healthy financial structure, directing savings to shorter-term and speculative economic activities instead of directing them to investments at an affordable cost and in accordance with the country's conditions, can lead to macroeconomic instability. For this reason, the banking sector, which performs the function of creating the fund cycle in the economy, should be able to direct its funds into the economic system in the most appropriate way possible.

According to Şen (2010): in the reviews, there is no single conclusion for all banks about how effective risk management should be. It has been concluded that there is and cannot be a ready recipe for how effective risk management will be for any country, sector and/or institution and/or bank. In addition, even if you provide this activity in one period, these methods and policies may not be effective in the next period. Effective risk management can be summarized as at least producing and implementing policies to identify, measure, control and reduce risks.

Risk management is a type of quality control process for financial markets. Risk management is a natural extension of portfolio management. In recent years, intensive work on risk management has been carried out and is still being carried out. Many of these are still in the growth stage and are far beyond practical use. But the

only thing the studies have in common is that they all cover liquid and developed markets. We do not have much evidence of behavior in illiquid and underdeveloped markets. The main goal of effective risk management is to increase the return adapted to risk. Although financial institutions have different goals within themselves, the first goal of all is to maximize the returns of partners.

According to Varlık (2010): the study showed a statistically significant difference between the capital adequacy ratios of deposit banks and development and investment banks. Considering capital adequacy ratios, the average was 48,0402 in deposit banks and 103,6597 in development and investment banks. It is observed that the rates of development and investment banks are quite high compared to deposit banks. Investment and development banks, Deposits from banks, as they didn't deposit the different retail banking services are limited, purchase and merger transactions with public offerings and other capital markets transactions, doing activities such as loan and project funding from abroad, since they are found in risk perception through different of investing it is observed that.

According to Sahin (2011), operational risk can be caused by internal reasons such as systems, processes, personnel error and corruption, as well as external factors such as external corruption attempts and natural disasters. The Basel II compromise established roadmaps for identifying operational risks, identifying their causes and the events that these causes will cause, predicting the effects and severity of these events, and calculating the amount of operational risk that may occur, as well as taking into account capital adequacy. The main goal is to control and minimize these risks. Since it is difficult to estimate the potential for damage related to operational risks and to determine the probability of damage occurring, not all of this type of risk can be digitized and therefore cannot be fully measured. From the point of view of the digitized part of operational risks, creating data of sufficient quantity and quality that contains information about the size and frequency of damage caused by these risks is a very difficult task. The Basel Committee proposes "basic indicator approach", "standard approach", "alternative standard approach" and "advanced measurement approaches" in the calculation of capital to be allocated for the digitizable part of operational risks. "Qualitative measurement approaches" are used for parts of operational risks that cannot be digitized.

According to Bekar (2012): capital adequacy of banks operating in Turkey by using standard rate tables, it is essential to make renewals on the Basel scale in order to further strengthen the equity structure of existing regulations by calculating credit risks and calculating oprational risk using the basic indicator method.

According to Işık (2014): another important variable affecting credit risk was the equity/asset sum ratio. it has been noted that a poor return on equity ratio will damage the bank's reputation, and it may take a long time for weak performing institutions to regain Sunday shares that they used to have, so that attention should be paid to maintaining this ratio at a certain level. It is noted that return on equity is a short-term indicator and should be interpreted as an indicator that reflects the current state of institutions. In return for equity, the long-term strategy of the institution or its long-term losses due to the crisis are not taken into account. Non-performing loans show that the bank cannot recover from the loans it has given, and when this rate increases, the bank will be expected to write off losses from the profits it has made. The negative relationship between the ratio of non-performing loans to total loans and return on equity aligns with the literature.

Accordinf to Ulusoy and Çelik (2019) financial literacy is also important in financial sector.

Abed (2023) talks about banking risk and accounting, Abed (2022) searches about factors impacting e-banking adoption in Iraq, ahmad (2020) anaylsis the bank credits, Al-Hafidh (2020) writes about ekectronic payment systems, Al-Temimi and Abdullah (2023) writes about governance and joint audıtıng and theır reflectıon on the fınancıal system and performance in Iraq banks, Deer and Mejibli (2020) money transfer system in Iraq. The rest of literature is given in Table (1.1)

Table 1.1 Summary of Literature

Eidan (2022).	Problems Of Reality And Reform Efforts
Frecaut (2007)	Banking Supervision
Hamid and Alwan (2023)	Bankıng Activity In Iraq
Hanke and Sekerke (2003)	Monetary Options
Hassan ve Rankin (2014)	Accounting Regulation
Hashem (2021).	Banking Service Quality
Khalaf and Ali (2015)	Economic Development İn Iraq.
Khatab (2020).	Improving Banking Performance
Khatab et. al (2019)	İnfluence Of Service Quality
Laila (2024)	Role of the Central Bank
Looney and Naval (2004)	Monetary Conflicts
Mohammed (2019)	Bridge Bank
Mousa et al.(2021)	Customer Acceptance Of E-Banking
Mutlag and Salman (2019)	Impact Of E-Banking Services
Neama et al. (2023)	Financial Technology
Rahi and Faraj (2022)	Financial Crisis In Iraq
Riyadh at al. (2016)	E-Banking Implementation
Saeed and Shanan (2020)	Bank Performance
Silva and Vicksman (2004)	Central Bank In Iraq
Slow and Ali (2023)	Development of The Banking Sector
Taha and Ali (2021)	Financial System In Iraq
Subbar (2019)	Improve the Financial Stability
Talab and Mustafa (2013)	Central Bank of Iraq
Tuama and Alchaabawi(2023)	Banking System Deposits
Ulusoy and Şen (2019)	Politics and Economy:
Yıldız and Awadh (2022)	Financial Inclusion And Financial Stability

2. RISK CONCEPT IN BANKING SECTOR

Looking at the concept of risk management in banking, it would be useful to talk about a general set of dynamics underlying it. Risk management generally includes the concept of risk management, taking advantage of risks, and converting risks into opportunities, as well as using ways to reduce costs while converting risks into opportunities.

15 of the concept of Risk.it is known to have been defined from earlier periods than the century. In the 1700s, the mathematical foundations of risk were laid by the French mathematician Pascal, making calculations that were considered a game of chance. Over time, mathematicians developed probability theories on what might happen in the prediction. The role of probability in determining risk was carried over to the present day by Jacob Bernoulli. Calculations about what risk processes can be in banking began to be understood in a modern sense, especially with the portfolio management theory developed by Harry Markowitz in 1950, and then in the 20th century. from the middle of the century, Tobin and others have gone on to distinguish risky investment vehicles from risk-free investment vehicles, making studies that show that their preferences are not actually independent of each other.

Honey lalwani (2024) in Types of Risks in Banks – Concepts and Definition defines the following: *In the most basic distinction, risks in the banking sector are two types: systematic risks and non-systematic risks . In defining these two types of risk in banks, they can also be called sector-specific and country-specific risks or economy-specific risks.*

Systematic risks are risks inherent in the entire market, or one Sunday segment, and can affect a large number of assets. Systematic risk is also known as unrecoverable Risk or volatility and market risk . Systematic risk affects the overall market, not just one stock or industry. This kind of risk is both unpredictable and impossible to completely prevent. Examples include interest rate changes, inflation, recession and wars.

Looking at non-systematic risks, it is the risk that affects a very small number of assets. This is also called non-systematic Risk , specific Risk , diversified Risk, and

residual Risk . This type of risk refers specifically to uncertainty specific to a company or industry investment. Examples include a change in management, a product recall, a regulatory change that could lower company sales, and a new competitor with the potential to take Sunday share from a company you invest in. It is possible to avoid non-systematic risks through diversification . Country risk refers to the risk of a country failing to meet its financial commitments . When a country fails to meet its obligations, it can damage the performance of all other financial instruments and relations in that country. Country risk applies to stocks, bonds, mutual funds, options and futures issued in a particular country. (https://www.oliveboard.in/blog/types-of-risks-in-banks/)

2.1. Market Risks

Market risk is one of the most important banking risks financial instruments in relation to the trading activities of banks are the basis of each financial market the Basel Committee defines market risk as losses incurred during the trading of financial instruments traded in the banking sector. Changes in the prices of Financial Instruments, Changes in interest rates, foreign exchange rates, changes in the deficit position of the bank, loads of stocks bonds from the public and private sector in the private sector, banks ' own capital from operational risks are defined as risks related to the business and operations. In developing countries such as Turkey and Iraq, there are banking risks in countries with inflation and currency risk, and mandatory government interventions in the banking system.

Banks own a significant portion of securities as well as lending. Some of these securities are held due to the bank's treasury transactions, that is, for the purpose of safety stock in the short term. However, many securities are also held as collateral, which banks lend to their customers. The banking business is therefore intertwined with the functioning of capital markets. Banks face market risks in a variety of ways. For example, if they hold large amounts of equity, they are exposed to equity risk. In addition, banks are required to hold currencies that are by definition exposed to Forex risks. Similarly, banks may also be exposed to commodity risks such as gold, silver and real estate banks use consumer hedging contracts to reduce such risks. In addition, they use financial derivatives that are freely sold in any financial market.

Banks that use contracts such as futures, options and swaps can almost completely remove market risks from their balance sheets.

2.1.1. Interest Rate Risk

The interest rate is generally called the percentage difference in trading that occurs during the exchange between those with a surplus of funds and those with a lack of funds. The most common situation in interest rate risk is the possibility of loss if the new lower and upper limits of interest generated by government intervention differ from the banking sector after trading between those who request funds and those who supply funds. In deposit transactions, interest is basically divided into a fixed interest rate and a variable interest rate. Of funds for banks from those who have more short-term the funds it collects on the basis of long-term funds for those who demand part of the payment received and the difference between the interest rate arises interest rate risk is low given that a rise in interest rates with interest rates that are different from each other can lead to unpredictable volatility in the prices of financial instruments issued. When the price of a securities falls, the difference between the purchase price and the new market price has a negative impact on the bank's balance sheets and passes as a loss to the income statements. Interest rate risk affects the market value of a bank's equity, as it reduces its expectations in the future, affecting its income statement due to its losses in general. It manifests itself by affecting the table of cash flows because it cannot receive timely payment (Ulusoy,2012).

When measuring interest rate risk, a technique called" maturity ladder " is used that belongs to the repricing of financial instruments. In active and passive, items that are hypersensitive to interest and items that are not sensitive to interest or are least sensitive are separated from each other (Ulusoy,2009).

Bank of International Settlements (BIS) authorized the boards of directors to closely monitor and instantly estimate interest rate risk and other related risks and to identify the gap in the banking system in the basic guidelines on interest rate risk management, which it updated in 2005, published in 1997. In addition, the importance of capital adequacy and interest rate compliance processes of banks is

mentioned. Banks are asked to adapt their appropriate calculation and monitoring systems and independent audit processes to risk management.

2.1.2. Exchange Rate Risk

Currency risk occurs when a bank makes financial transactions in a currency other than the currency in which that bank is located in its country. Depreciation / depreciation of the base currency or depreciation / depreciation of the currency affects the cash flows resulting from this transaction. Exchange rate risk may also affect investors trading in international markets and businesses importing / exporting products or services to multiple countries. Whether banking operating profit or loss from funds, their income will be determined in foreign currency and will need to be translated into the investor's base currency. Fluctuations in the exchange rate can negatively affect this conversion, resulting in a lower than expected amount.

The bank, which acts as a party to an import / export transaction, is exposed to accounts and receivables affected by foreign currency debts and exchange rate risk. This risk arises when a contract between two parties specifies exact prices and delivery dates for goods or services. It affects the bank. If the value of a currency fluctuates between the date of signing the contract and the date of delivery, it can cause damage to one of the parties.

There are three types of exchange rate risk:

Transaction risk: this is the risk a company faces when purchasing products from a company located in another country. The price of the product will be indicated in the currency of the sales company. If the selling company's currency is to gain value against the buying company's currency, the purchasing company will need to make a larger payment in its base currency to cover the contracted price.

Exchange risk: a parent company with a subsidiary in another country may suffer when the financial statements of the subsidiary to be displayed in the currency of that country must be translated into the currency of the parent company.

Economic risk: also called forecasting risk, it refers to the fact that a company's market value is constantly affected by its inevitable exposure to currency fluctuations

Companies exposed to currency risk may implement hedging strategies to reduce this risk. This often includes forward contracts , options and other exotic financial products, and if done appropriately, can protect the company from unwanted currency movements.

2.1.3. Liquidity Risk

Looking at liquidity risk, it can be said that there are risks arising from the failure of banks to meet their overdue deposits and credit obligations. The risk caused by a bank's requests to withdraw their money prematurely by those who provide funds to the bank and the failure to pay the debts of natural or legal persons to whom banks lend on time is also called liquidity risk. As is known, maturity-resource compatibility is very important in banks. In the same way, maturity and asset compatibility are very preliminary. Since the active passive balance in bank balance sheets is related to cash-related business and transactions, the smallest maturity mismatch disrupts the active-passive balance. As is known, if the maturity structure of the asset is high in the maturity structure, it is natural for banks to carry liquidity risk.

When the liquidity risk is examined in two ways, the failure to repay the overdue debts makes the bank in a difficult position. Collection risk arises when banks are unable to collect overdue debts. When Collection risk arises, the amounts requested by the bank before maturity by the funders cannot be fulfilled. The active passive balance is impaired when the exit is made before its maturity. Again, fund outflows made before maturity are laying the groundwork for a decline in profitability. Unpredictable inputs and outputs can be said to be among the most important causes of maturity mismatch risk. The biggest problem in banks has been premature account movements of term and demand deposit accounts.

A number of measures should be taken on the balance sheet to ensure that the risk remains within acceptable limits. Breaking between trading maturities, making changes to maturities, trying to reduce risk with new financial instruments are some of the measures that can be taken against liquidity risk. Another element that can reduce liquidity risk is trading in the interbank money market. Addressing the

periodic maturity gap is possible through interbank fund agreements. In this way, the risk created by unexpected sources will be prevented.

Political measures that can be taken against political and extraordinary risks are to maintain sufficient deposits, anticipating that there may be a rapid outflow of resources. An excellent investment and financing policy enables long-term financing of long-term debts of current assets. In addition, timely measures are also taken in order to meet the Instant Deposit demands of individuals or legal entities and to quickly meet the temporary liquidity needs of central banks. "Late liquidity window" and "intraday limit transactions" factors can be used, provided that the central bank is a party.

It is important to establish a tolerance limit for liquidity risk, to create a liquidity buffer, to try to minimize costs by reflecting them with various balance sheet items, to use scenario analysis, emergency scenarios, to make public information work in advance. In this sense, it is important to demonstrate the applicability of the decisions of the Banking Regulatory and Supervisory Authority (BRSA). In addition, a "benefit/cost analysis" should be performed to detect vulnerabilities, tests should be conducted for possible balance sheet imbalances, and the variability of the economy should be tested depending on adverse conditions. Holding high-quality, high-liquidity, high-convertibility assets can accelerate the return of buffers. These type of risks also reduces by ERPA'S (Emission Reduction Purchase Agreements) (Şen et. al.,2019).

3. IRAQI BANKING SYSTEM AND BANKS SUBJECT TO RESEARCH

3.1 Iraqi Banking System Overview

There are 77 banks in the Iraqi banking system. Of these banks, 7 are state banks, 24 commercial banks, 11 are participation banks operating on an Islamic banking basis, and 18 are private banks with external and internal support. 85% of the total deposits are held in state banks and close to 15% are held in private banks. Acting in accordance with the instructions of the Central Bank of Iraq, the banking sector strives to act in accordance with the provisions adopted in the Basel criteria in accordance with the Financial Stability Reports published. Banks have a liquidity

presence as high as 60%. This liquidity asset shows that the sector, which has not yet entered a stable period, cannot safely invest.

Table 3.1: Iraqi Banking Sector General Situation

Current Banks	Pre-2003	Post-2003	Total
State Banks	5	2	7
Private Banks	15	9	24
Participation Banks	2	27	29
Foreign Banks	0	17	17
Total	22	55	77

Source: Alsudany (2019)

Although the banking sector is profitable, it cannot reflect its profitability through capital markets. Even in the Middle East and North Africa, the support given by the banking sectors in some countries in the trust environment with interest rates on loans leads to the shift of capital to these areas. When political stability prevails, the golden age for the Iraqi banking sector will begin in the restructuring process, and real sector borrowing will be made more secure.
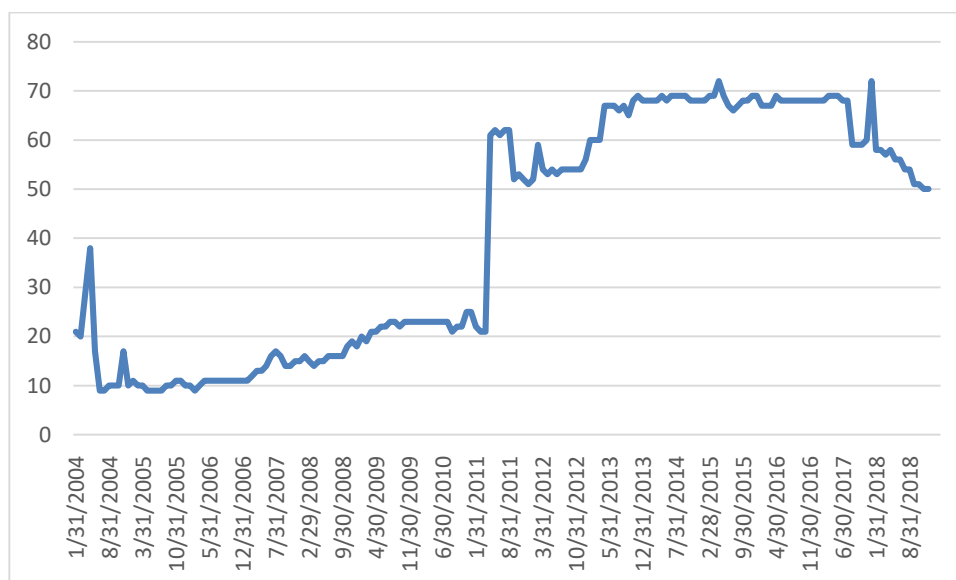
Figure 3.1: Iraqi Commercial Banks Deposit Rates (Liquid Assets) Source: Central Bank Of Iraq [Accessed 18.02.2020]

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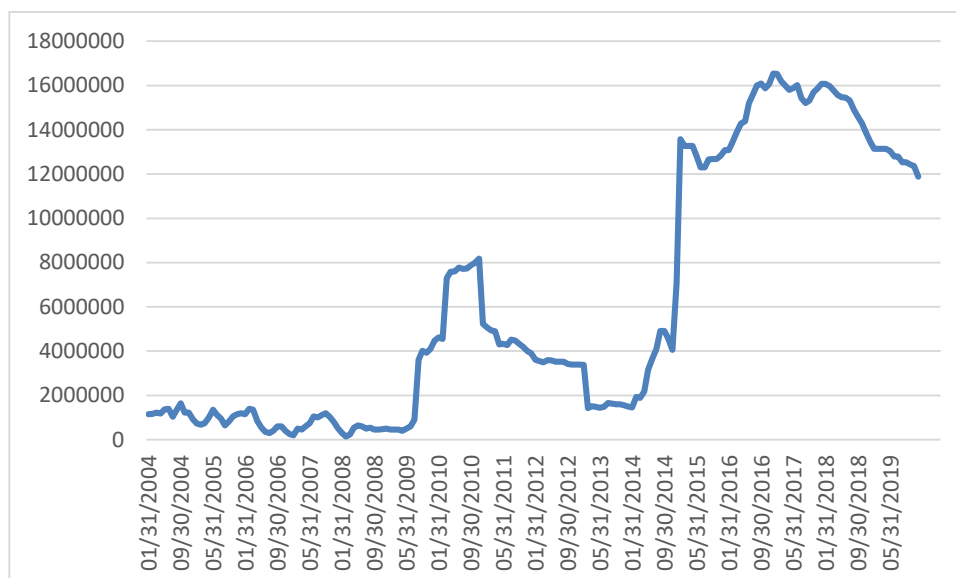
Figure 3.2: Commercial banks treasury bond Reserve (million Iraqi dinars) source: Central
Bank of Iraq [accessed 18.02.2020]
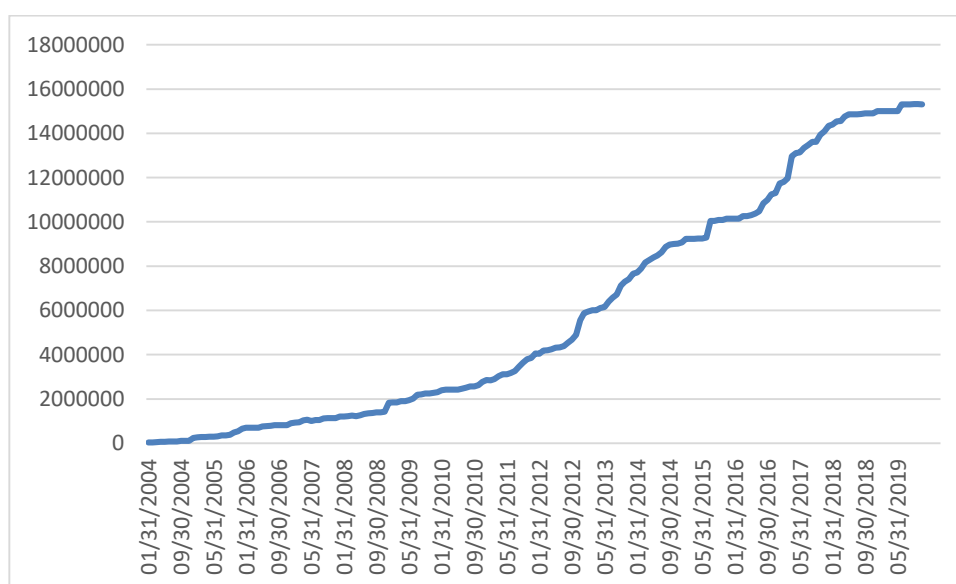
Figure 3.3: commercial banks paid-in capital (million Iraqi dinars) source: Central Bank of
Iraq [accessed 18.02.2020]
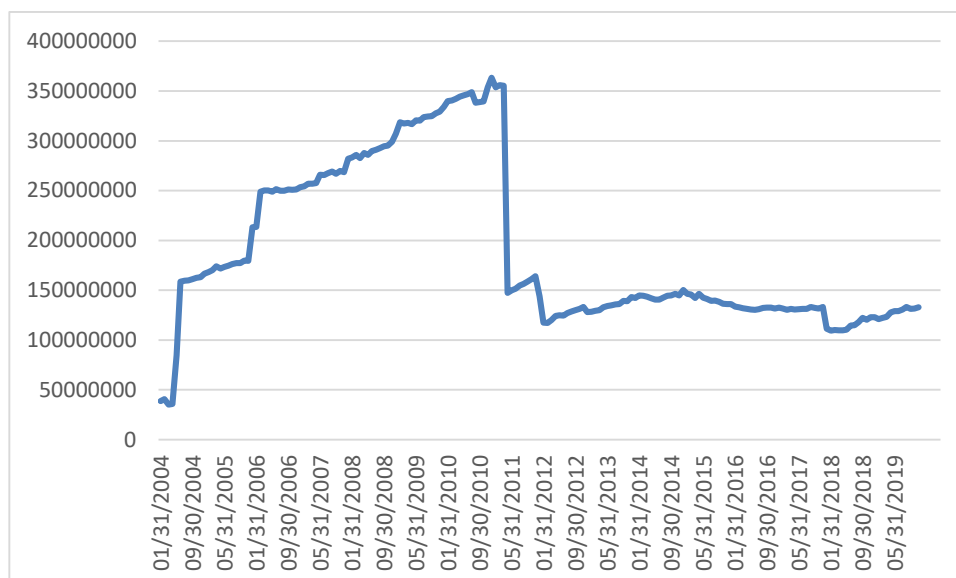
Figure 3.4: total amount of assets (resources) of Iraqi commercial banks (million Iraqi dinars) source: Central Bank of Iraq [accessed 18.02.2020]

There has been a decrease in the increase in paid-in capital over the years. Looking at the chart, in 2004, paid-in capital increased by 20% on average 6 times in the one-year calendar range, and at the end of 2004, it increased to 120%. Banks ' paid-in capital continued until the end of 2005, and since the beginning of the 2006 financial year, the rise has slowed. While the 30% increase at the end of 2008 continued,

There were almost 3% increases on average among the 13% increase in paid-in capital at the end of 2012. In 2018 and 2019, the upward movement in the paid-up capital of banks was limited enough to be neglected.

Data has been available since 2004, when the amount of assets of Iraqi Commercial Banks is examined. From this date, in May 2004, there was a 137% increase in total assets, and then an 87% increase. Again, there is a 20% increase in reports prepared based on fiscal year-end data for 2005. Then there was a 16% increase in assets in 2006. There was no movement in the assets of the bank's balance sheets until 2011. Increases and decreases remained in 1% and 2% tranches. In 2011, there was a decline of 60%, especially as of April. Declines of 11% and 12%, respectively, appear to have been reflected in assets at the end of fiscal year 2011 and the beginning of fiscal year 2012. In December 2017, there was a 16% decline in assets.

At the end of 2019, the bank's total assets amounted to 133,017,248 million Iraqi dinars.

3.2 Banks Subject To Research

Banks subject to analysis are as follows:

Commercial Bank of Iraq PSC, (BCOI)

Is a bank based in Iraq. It offers retail and corporate banking customers a complete range of commercial banking products and services. The PSC Commercial Bank of Iraq is a private bank with a network of branches, nine of which are located in Baghdad and one in Basra. The main shareholder of the company is Ahli United Bank, which owns more than 70% of the Commercial Bank of Iraq PSC.

Islamic investment and Development Bank of Iraq (BIIB)

Is a bank based in Iraq. It divides its services into personal accounts, business accounts and special services. Under the personal accounts segment, Elite Banking offers services such as personal accounts, credit cards, and Takaful (an Islamic insurance concept based on Islamic transactions). The business accounts segment offers business accounts and financing solutions. The specialized services segment offers other investments (especially long-term investments in public and private companies such as Kurdistan bank or Al Wufaqa general contracting and real estate investments in the al Fallujah Mega land project) and brokerage services.

Iraq Middle East Investment Bank (BIME)

Is a private bank based in Iraq. A range of services, both domestic and foreign investments, credit facilities, short, medium and long-term loans, credit for projects and contracts with domestic and international bank guarantees, transfers, bank and savings accounts, foreign exchange, Cash, stocks and bonds, and corporate banking services including among others accommodation. It operates with about 20 branches. Also, IMEIB real estate owned and real estate investment and development, tourism, fish and poultry farms, hospitals, and healthcare providers and companies engaged in stocks and securities, among others, as a major shareholder for companies works.

SA National Bank of Iraq (NBI), Tu (BNOI))

Is an Iraq-based private bank engaged in providing banking solutions for customers in the inter-Iraqi and Jordanian connected markets. The bank operates through two business divisions: the personal banking division provides products to individual customers such as personal accounts, NBI personal loans and electronic services such as transfers, debit cards and online banking.; the corporate banking division focuses on professional clients and institutions and offers business accounts, commercial transfers, trade finance and credit, exchange rates . The bank operates about eight branches. The company is a member of Capital Bank Jordan Group.

3.3 Current Situation In Risk Assessment In Iraqi Banking System

In the Iraqi banking system, banks hold a large share of the returns of short-and long-term financial instruments along with functioning oil markets. In addition, the functions and functions they undertake in the oil and petrochemical products market are extremely important. Dollar-related increases/decreases are important in the Iraqi banking system, as they mainly work with oil-related financial instruments. In light of the political developments in Iraq, banks have been forced to make highly leveraged transactions. Holding and effective management of equity in accordance with activity profiles can be considered as the main elements of the banking system. The realization of a number of ratios that match the criteria at the point of capital adequacy has left the Iraqi banking system in a difficult situation, which is plagued by political uncertainty. In any case, banking continues its activities in accordance with international markets within the country in relation to equity, capital adequacy, liquidity regulations and similar regulations. Along with the banking crises and liquidity crises in the world, the Iraqi banking sector has been forced to come under heavy responsibility, which it is burdened with both inside and outside. Hot money transitions in the world have left Iraqi capital market movements in a difficult situation on one side, and on the other side have led to a decline in profits in the banking sector.

The change in the Middle East and the growing uncertainty have tended to increase the interest rates of banks in the Middle East. As a result of changes in the military and political sphere, it has extraordinarily increased the risk of the decision maker in the financial sector. Risk is a digitized expression of uncertainty. Starting from this definition, uncertainty based on digitization is an obstacle to banks. From a business

point of view, when a business is a company that sells products or sells services, its risk-bearing skills are at a higher level. Based on the fact that the goods sold and received in the banking sector are money, funds or Capital, Capital Management is not easy in the banking sector. Moreover, in order to take precautions in advance for future problems and hazards, the banking sector needs to seriously classify risks. The concepts of systematic, non-systematic and systemic risk in the banking sector remain valid. These concepts will be mentioned in the next section.

It is clear that they may be vulnerable to new varieties that will occur without losing to details, so that a new risk classification should be made, especially for the banking system in Iraq, by classifying uncontrollable risks

In order to eliminate risks in the Iraqi banking system, diversified financial instruments need to be introduced into the market urgently. in addition, the question of what are the controllable and uncontrollable risks needs to be answered. during Risk Classification, definitions of Iraq and the specific risks of the region in which Iraq is located should be made. Studies should be conducted on which Risk Group affects the banking system in this region

4.   RESEARCH

4.1 Aim and importance of the research (temperature application: microscopic evaluation of the Iraqi banking system)

It can be mentioned that there are two hypotheses about the formation of stock yields. The first is the calendar Time Hypothesis and the other is the trading Time Hypothesis. The most important question in this regard is whether the yield process of earnings in banking stocks is continuous or only during active transactions. According to the calendar Time Hypothesis, yields are steady and are three times the expected yields from stocks on Monday. According to the trading Time Hypothesis, yields occur only in the process of active transactions, and the expected return is the same for each day of the week. Monday Monday is expected to be 3 times more efficient than other days of the week, according to the calendar Time Hypothesis,and Monday is not expected to have any difference in yield (Doğukanlı and Önal, 2000).)

The question to be asked here in terms of the evaluation of the hypotheses proposed trading times and very relevant to investors at the time of the transaction, the stock markets financial calendar turning to hypothesis when the hypothesis is considered as processing time the time a container, what are the effects of temperature and entropy and the temperature data obtained at the end of the session, the index value should be evaluated in terms of subsequent risk and how.

As with all investors, the Investor portfolio behavior that trades in the Iraqi banking system is quite similar to the boson grain behavior in quantum behavior. In general, those who invest in both the money and capital markets can be found in the Bose-Einstein density in statistical physics when collective decision-making is evaluated according to the degree to which decisions in similar portfolio groups are affected in the situation in which they are located. For this purpose, the Iraqi banking stock market container in the relevant financial containers was evaluated in Statistical Physics methods, considering it as a physical container (Ulusoy,2017a,, Ulusoy,2017b, Ulusoy,2017c).

Vibration of molecules emit energy pumped within the union has shown that above a certain line. These molecules themselves, which may continue until the position is gone most regular peak. Bose-Einstein density of a regular system of parts that make up the most important feature to act not only as a whole "is to establish a whole". It is the ID which is a combination of each piece their individuality is completely lost. The profit motive, it also constantly the market in thatit is possible to simulate in yuncu.

When viewed from the dispersion on the Iraq Stock Exchange banking and related sectors at 78 percent, 17.41 percent, 0.11 percent, respectively, with 0.18 per cent s insurance brokerage create other activities with the telecommunications sector; the remaining services sector, small-scale industries, tourism, hospitality and agriculture stands out as. The value of the Iraqi banking system 9.558.654 Sunday Million ID (Iraqi Dinar) is seen as.

FEAS (2019) according to the report, Iraq's economy to a large extent crude oil extraction and export deals. GDP (gross domestic Product) of crude oil is controlled by the largest share. The rise or decline in global oil prices, the

government budget surplus or deficit may occur. Oil prices per barrel published by the annual analysis of estimated current and future estimates for the government spending the country with similar issues and reports are published annually. Public authorities, especially planning related to oil increases or decreases resulting from the factor analysis made in the budget estimates of the financial burden that can bring is revealed. The volume of investment in Iraq by the Centers for college, private sector, trade, individual initiatives, the growth potential of the business sector, per capita income, unemployment, economic cycles, recession, recovery in the economy, the concepts of investment banking, which forms a large part of the market depending on the culture are reported. Considering the results of the annual report 2019, stimulants, and especially in Iraq, the share of market shares to support the sale of stock of equity capital markets pull into the Iraqi capital, the creation of new infrastructure on this subject, in developing the national economy came at the beginning of the service to be put into the system with hot money from abroad in terms of the velocity of stands out as an element to enhance investment opportunities.

Here the statistical physics research with examination by banking, stock trades in the Boson engine on the statistics taken Iraqi who invests in the stock market investor, or investors, consisting of portfolio characteristics the following common features emerge if it can be taken with (Ulusoy,2001):

The investor; the portfolio as having the size of, but when taken as a natural or legal person, the investor is always advisable, on the contrary, instead of a single investment of accumulation staggered in more than one investment vehicle that provides protection from the fluctuations of a balanced way to investing in a policy, it is observed that without considering. The capital markets can vary significantly even on the same day. For this reason, investors who do not have the expertise or without access to the necessary information, instead of directly investing tools such as stock, of the portfolio takes place in accordance to the needs that we do not invest in mutual funds, thus the expectation of high returns in Rthe IDF are to reduce their. Investors that are not capable of monitoring and interpreting economic developments for the portfolio management and investment advisory services not only benefit from, but in the vicinity sensations obtained from other investors, often creates

inaccuracies in detection as a recommended option. This also gives rise to the phenomenon of condensation on the layout at the same price point.

When authorized to invest directly into a specific investment vehicle is required without first obtaining accurate information from published research reports of experts and intermediary institutions to be decided on the basis of personal analysis, or even moved inside the psychology of the group suggests that the stories that in quantum physics boson it is possible to see in the behavior of. Similarly, many in the same situation boson to be increased the likelihood of being boson reveals the phenomenon of condensation. They boson in the same situation they want to be together. Boson and are easily managed. The investors who constantly are in movement this joint can be likened to the profit motive.

Numerous probability the only state in the boson becomes very high. So if possible, tend to enter the same state. This Bose-Einstein Condensation in the group from here that reveals the instrument buying with the expectation that the price will rise and want to be in, increases the attractiveness of the existing situation. Therefore, all investors for a certain condition, or price range of enticing it becomes inevitable for you to become.

Again, the quantum behavior should be based on fermiyon the individualist behave and fermiyon of two never side by side. But as mentioned - boson particles, that particular investor of a group Collective in the buying process as it is to wander into the community to do what they want. There is a tendency for the groups who made the purchase to profit consistently, while the other group in anticipation of a decline in bulk sales and are able to go. So fermiyonik not bozonik Coke behavior the phenomenon shownit is possible to accept with ylik boson they may appear and disappear, and their number is not limited. The situation in a certain number of, in that case that may be fermions that means. Then fermiyon of the number is constant. In any case this idea as much as they want to where they can bosons does not apply. The same instrument he or she is investing in the purchase and sale of the investor n the instrument in a standby state before they were found, assuming the related investment as a natural consequence of the lack of any change in the price of Emerge. Quantum applications for judging in applications boson is observed that the number is not fixed. As a necessity of the logic of normal market conditions that the

group in boson they also they want to take the same steps in each case. And again here that need to be explained Bose Condensation, which include numerous boson of the case to each other is formed. Boson they do less total energy is reached when the sum of free energies of each. It also the number of people participating in the economic reservoir to increase the capital, we can explain the situation that leads to a decrease in the profit to each investor.

This point can be called from the fact that the investors may be subject to the same conditions as. On a price or price trend for investors who have the same expectations of concentration on a process that will take place. At the end of the purchases made constantly when making investments, purchases or transactions, the amount that would spend alone in the dark no longer relevant increase in the volume of the instrument the rate of increase in price begins to fall, another approach that will decrease with the expectation it would lose its charm begins to occur. In this case the quantum energy of the substance could be called the reduction of the relevant

4.2 Method and Data of Research
(Banking sector For Microscopic Evaluation With an element of risk Calculation)

The chronological time of the return of any stock volatility σ_i is equal to the square root of the frequency multiplied by the traded has been demonstrated in some studies. (Derman,2002) (Ulusoy,2001)has been adopted the concept of the temperature of the stock from here

$$\chi_i = \sigma_i \sqrt{V_i}$$

equality has been achieved. (See Appendix 2)

Here, the right side of the equation, the chronological time of volatility trading with asserts the equality of frequency multiplication. Here the expression "of a stock sicaklig reveals. This part of hypothesis 2 that are specified at the beginning of the

study, Calendar-Time Hypothesis, according to Bose-Einstein statistics were used. Here then that is to be sampled over an array using computational techniques, risk assessment of Iraq's share of the banking market , we will discuss whether it is valid (Calculations related to the concept of temperature in terms of easy understanding of the initial study were made according to the approach of Derman,2002).

Initial assessment; September 2014-May 2020, between 1145 and the days of open sessions was carried out on trading day. These related graphs in the next part of the study has been interpreted. The evaluation is mainly some data has been kept. The volume of this data is performed in the session with the index closing values of the trading session on the Iraqi bank related to temperature and entropy values were calculated. Index closing transaction volumes and values in the process was taken at the end of each day, and the trend is supported with graphics to determine in which risk occurs and index were studied. Terms of reference for the dates that may be mentioned disturbances by repeating a day to day basis; transaction volumes, transaction amounts, the Iraqi banking system is located in 4 bank values also have been kept ready.

Table 4.1 : January 2003 Q1 Example Table

Day	Transaction Volume	BCOI Closing	Temperature	Entropy
02.01.2003	49.553	10.572,08		
03.01.2003	51.527	10.591,85	92	0,000000
06.01.2003	41.849	10.445,14	278218	2,398535
07.01.2003	46.703	9.980,47	296898	2,447570
08.01.2003	40.357	10.006,76	132689	2,113266
09.01.2003	37.683	9.964,89	73887	1,823959
10.01.2003	53.951	10.238,73	370	0,000000

The formula used for the calculation of the temperature if it can be separated 2 parts in the first section, the chronological time of the return of volatility should be calculated, in the second part, the frequency of a transaction to the market must be produced.

t instantly with the assumption that each is an investor in a particular fixed number at Time t, the wealth of each investor, reducing or enhancing a W(t) variable. get In that case, total wealth, or in other words the direction of the market indicates that the investments of market players $W(t) = \sum_{i=1}^{n} w_i(t)$ create a variable.

Each i investors t_0 Time t_1 , the coefficient of the amount of wealth in the transition to the time $w_i(t) \to w_i(t+1)$ change. For all investors here it is also a W(t) consists of the value of. In reality, during each of these transitions $w_i(t)$ is the same for which the growth rate, taxes, social benefits, economic factor such as it comes to interest rates, although in these studies has been neglected. Numerically increases or decreases, then W(t) is taken to be the value of the index value in the study if at Time t the market yield $r(t) = \ln\left(\dfrac{W(t+1)}{W(t)}\right)$ is. Each process in the time range of W variation is quite small. Out of here volatility is taken as the average of the squares of returns in the range of a time when

$$Volatilite = \left[\ln \frac{W_{(t+1)}}{W_{(t)}}\right]^2 / N \qquad (2.1)$$

as emerges. Step N each step is evaluated and the transition from one session to another step in the study of N=1 taken with the new the volatility the formula for calculating

$$Volatilite = \left[\ln \frac{W_{(t+1)}}{W_{(t)}}\right]^2 \qquad (2.2)$$

The temperature of the secondary part in the calculation of the frequency, which is called a variable forming operation in the section of the market there is a need to.

Operation frequency (trade frequency); processing time (real time) according to the hypothesis, represent the number of the occurrence of the relevant stock within a certain time period. According to the hypothesis of chronological time refers to transactions that occur within the relevant session. Here is a chronological time in which the assessments are fundamental hypothesis about the frequency of Sessions as the contract number for the process or in other words, the number of orders is taken into consideration and the calculation can be seen in terms of easy 10 of[11] coefficient using normalized have been.

 The end of the session the market operation,

$$frequency = \sqrt{\# \ of \ contracts_{t+1} \ X \ 10^{11}} \quad (2.4)\#$$

To pick up from here if the market in T+1 the temperature at time λ T+1

$$\tau_{t+1}\left[ln\frac{index \ value_{(t+1)}}{index \ value_t}\right]^2 . \sqrt{\# \ of \ contracts_{t+1} \ X \ 10^{11}} \quad (\text{``}2.4\ )$$

$$\lambda_{t+1} = \left[\ln\frac{indeks\_\deg eri_{(t+1)}}{indeks\_\deg eri_{(t)}}\right]^2 . \sqrt{sozlesme\_sayisi_{t+1} \times 10^{11}} \quad (2.5)$$

the product occurs.

Entropy concept was treated in the previous sections. Accordingly, the entropy of the concept of temperature as a factor of the market trend in the direction of the change was taken as. Bose-Einstein statistics, Bose system entropy (Φ)

$$\Phi = \frac{\varepsilon}{\lambda} . \frac{1}{e^{\frac{\varepsilon}{\lambda}} - 1} + \log\left(1 + \frac{1}{e^{\frac{\varepsilon}{\lambda}} - 1}\right) \quad (2.6)$$

as is calculated. $\varepsilon = $ t+1 index closing value on time, $\lambda = $ if is taken as the temperature at the time T $\Phi = $ t+1 time the entropy value is calculated.

Of entropy from the base entropy points in the ceiling provides additional information for the analysis of cyclic trades.

In this study, the entropyof thermodynamics, the second Law is an application. In the end of all the events as mentioned in the previous sections, this rule is coming to a stable level.

Other materials that are traded in financial markets as it is in humans and have a lifetime of assets. This life, the assets so far in the positive direction or the negative direction can be explained by movements in so back. Entropy the concept of the stock market when applied to the relevant financial instrument can move in a direction of the movement of the end and in the other direction is an indication of how.

Performed simulations, the entropy ceiling and entropy has been applied to basis points of the equity market. The concept and rules of a temperature of Bose Einstein condensation together with by showing weekly, monthly, yearly, not in separate sessions as also, temperature and entropy values have been established.

A daily glance at entropy in the calculation of frequency was made by using the transaction accounts, but the show's will be accepted as being healthy in terms of calendar time is the processing time based on the time that session.

Data evaluation and conclusion regarding how comfortable reading is interpreted in terms of graphics can be viewed in the charts below. The temperature for the relevant years the following chart-the chart of the stocks with closing a temperature-entropy graph of the movements were sampled. Compared to the data obtained from the chart will be proportional to the temperature, so that movements of up-down oscillations in the case of seems to be. Index, on average, about December when it rises above or below average, with an increase in the entropy ceiling or entropy values for the base are obtained.

4.3 Findings of the research and analysis
(Closing the temperature and Entropy Comparisons)

When evaluating the results of the research are made available daily closing values of the relevant bank's assessments over the million Iraqi dinars with calculations and graphs were created and the method specified in the section. On graphs when considering the dates on the chart where the closing value and the temperature of temperature values and temperature values are reached, pre-and post-closing shares daily developed with the values given the time interval in which the behavior have been evaluated. Entropy-the second type is a comparison of the closing values closing stock values in the graph, which is shown as pre-and Post-calculated by using temperature entropy values for comparison of the reviewed. In the financial literature, entropy in this section, which is called entropy of the period of extreme high oncsi and then closing that shows the change in the values in which the value was tried to be achieved. In the last group the graphic representation of shares in alaym closing the entropy is reviewed with a comparison of the difference of the closing value. In this section, the closing stock of the value of the entropy deviates from the value determined from the degree.

PSC Trade Bank of Iraq (BCOI)
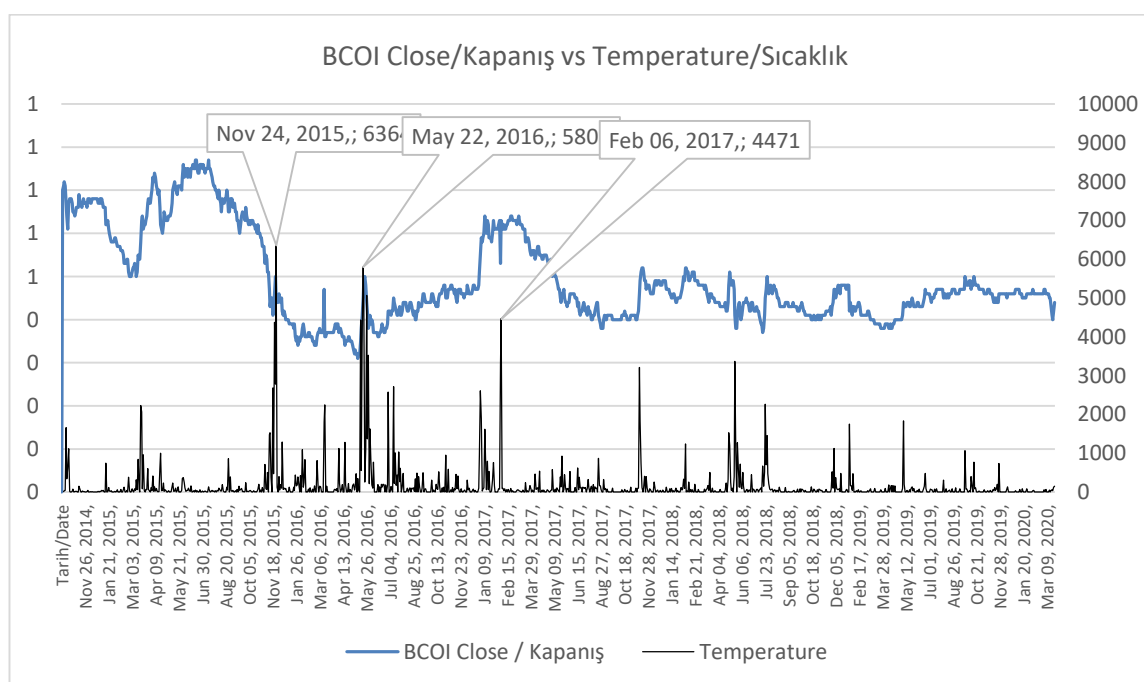
Figure 4.1: BCOI Closing/Close Temperature/Temperature Comparative

Entropy with the change of-way or-way or that has changed compared to the stock's closing value was different again. In this section the structure and operation of the variable obtained as the classical variable discussed is akin to the beta in finance.

The Trade Bank of Iraq annex a-financial balance sheet are taken into 4620,71 of the total revenue from IRD at the end of the 10-year period shows that mlynird eat 4248,17 mlýn has been declining. Net Profit Net Profit same 1753,98 mlynIRD which shows that IRD has been declining by the year 2020 2019 836,12 mlýn. Annual net profit margin %27,52 as were found. IRD 41012,74 mlýn in 2019 from cash assets (5624,48) IRD mlýn declined. In this process, the change in cash provided by investment activities net cash and Investments has been seen as negative to be negative. Total shareholders ' equity is a reduction in, although within the last one year, it is understood that there is a significant increase in the debt from the financial statements.

Figure 4.1 the daily data available between 2014 and 2020 on the Trade Bank of Iraq reveals the comparison of the temperature with the movements of the shares. When shares are examined, it is observed that the value between 0 and 1 IRD. It is observed that there is a systematic decrease from 2014 onwards. 24.11 in the corresponding graph.2015 , 24.05.By 2016 , the dates are these dates important dates and 06.02.2017 in the determination of the share price takes precedence. According to the calculations made after the respective dates temperature has shown a significant decrease in temperature values. In conjunction with the calculation of the temperature of stock prices the volatility in the attenuation and shows.
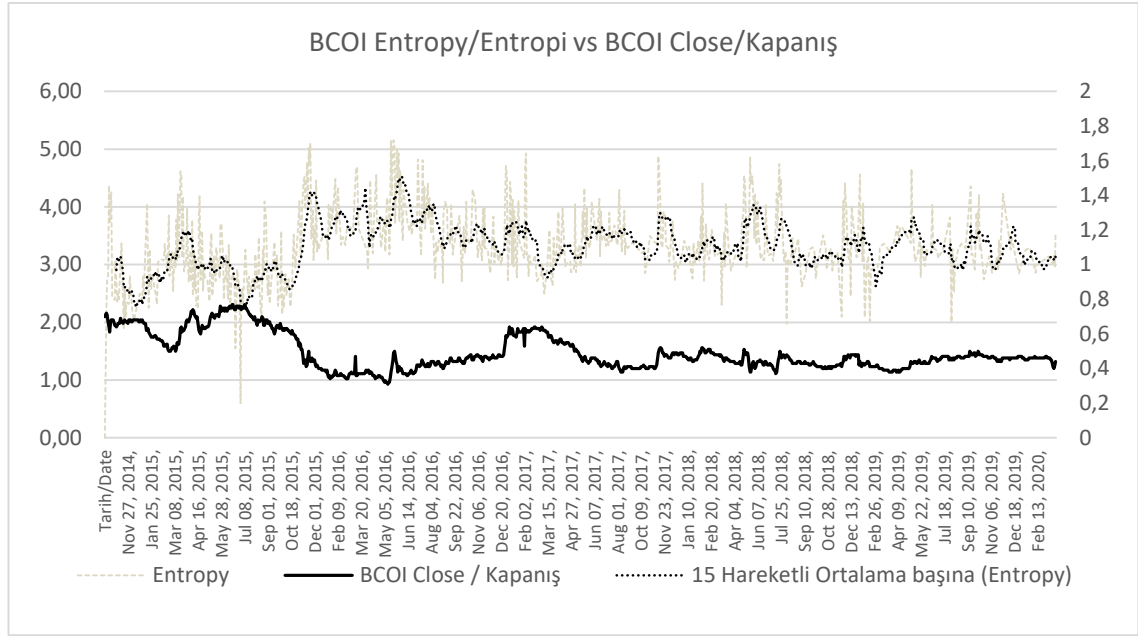
Figure 4.2 : BCOI Entropy/Entropy Closing/Close Comparative

Figure 4.2 gives a comparison of the entropy values the closing values of the stock log. Entropy is concentrated around an average value of 3. Figure 4.1 compared with an increase and decrease in entropy during peak periods of oscillation increase in the value of that is easily observed. Both the oscillation in the price of the shares both pre-entropic behavior in the oscillation seems to be Durgin. This slowdown in the wake of Strong Buy Strong Sell Or can lead us to an analysis in the form.

Figure 4.3 share workin kapanis price, closing value the closing value related to the entropy that was created by taking the difference with the comparison of the forward prediction chart is created. Figure 4.3 of the stock in the future 12 months may rise in the process to suggest that. Work ascension 0,30-0,60 range throughout is advancing.
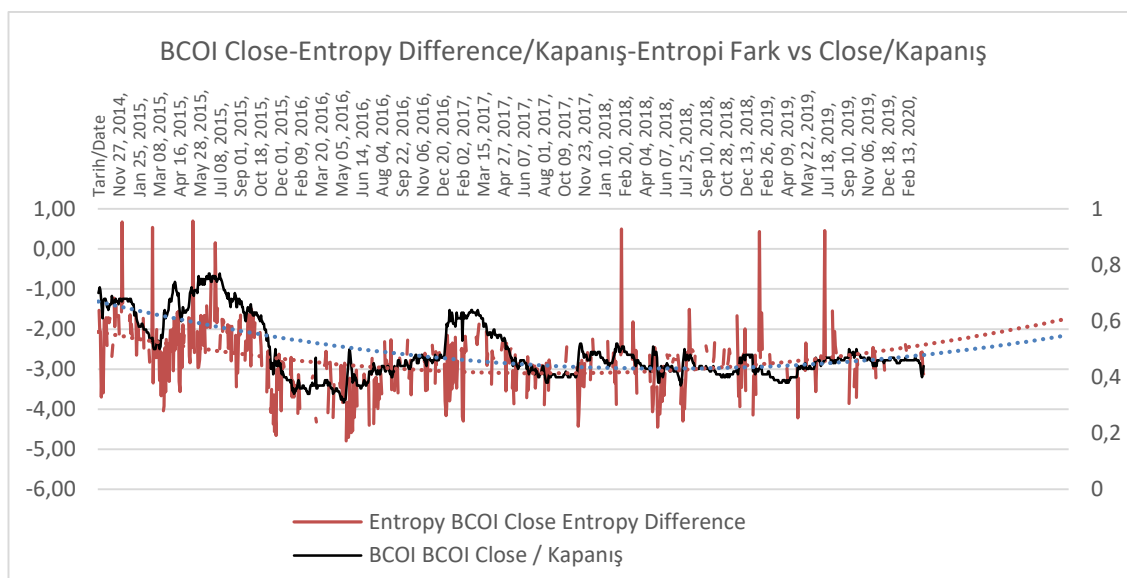
Figure 4.3 : BCOI Close-Entropy Difference/Closing-Entropy Difference Cose/Closing Comparative

The Iraq investment and development Islamic Bank (BIIB)

Iraq and the Islamic Investment Bank's annual net profit margin %is 59,65. (See Appendix A). The statement of financial position total income in a given year has dropped from IRD IRD 13121,76 16203,88 mlyn mlyn. Mlyn, while net profit 6374 IRD 1305.02 mlýn IRD declined. Equity increased in the last one year, although there has been an increase in total liabilities. It also 0.08 per share of net cash flow in the last year, the IRD can be seen in the financial statements. The change in 2019-2020 has been in the form of a return to negative net cash positive. 2019 net cash change in 41872 mlýn from IRD (68365) IRD has been mlýn. Cash from operating activities is negative.Investing activities cash provided by an increase compared to the previous year, although the past seems to be negative. Per share of snow for an average is 0.01 ,with increased between 0.03 IRD.
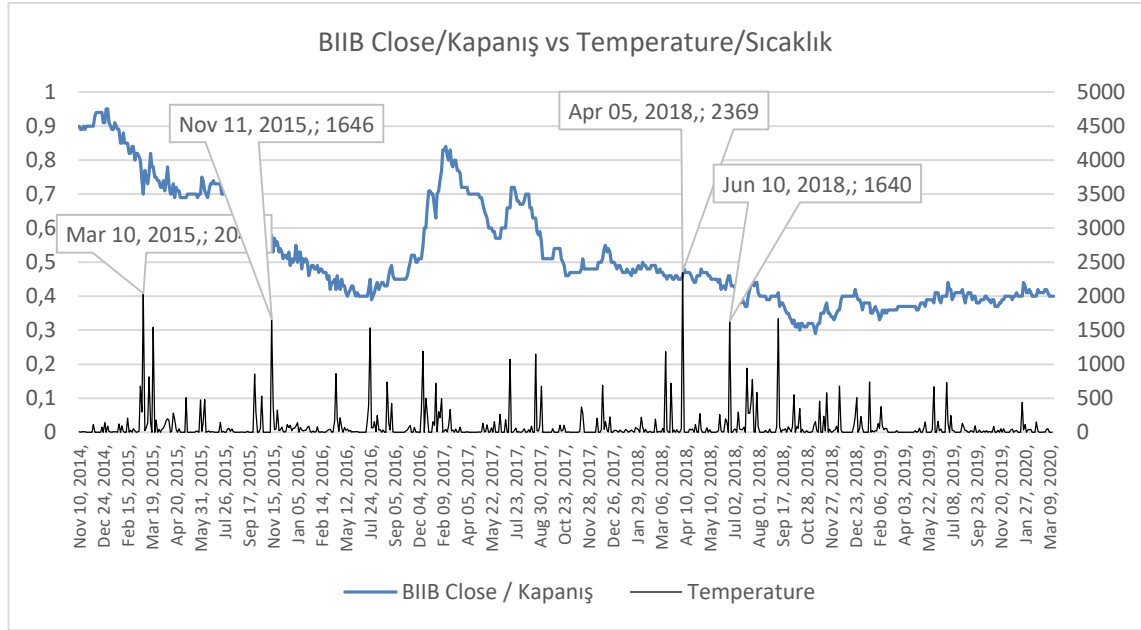
Figure 4.4: BIIB Closing/Close Temperature/Temperature Comparative

Figure 4.4 in are examined, it is observed that between 2014-2020 is in serious decline in the bank's shares. 10.03.2015 temperature values, 11.11.2015, 05.04.2018, it is observed that extreme increases and decreases 10.07.2018 in history. Later than 2018, Extreme of temperature oscillations are not seen. An increase in the amount of oscillation the temperature of the stock volatility both increases are realized.

Figure 4.5 is examined it can be said that it travels around the entropy value of 3. As they began moving far away from this value, increases and decreases in the closing values of the shares outside predictable limits were observed. As can be noted, the occurrence of entropic decrease of emissions compared to the previous period starting from the middle of 2018, that is an impingement on the closing price of the shares, it can be observed easily.
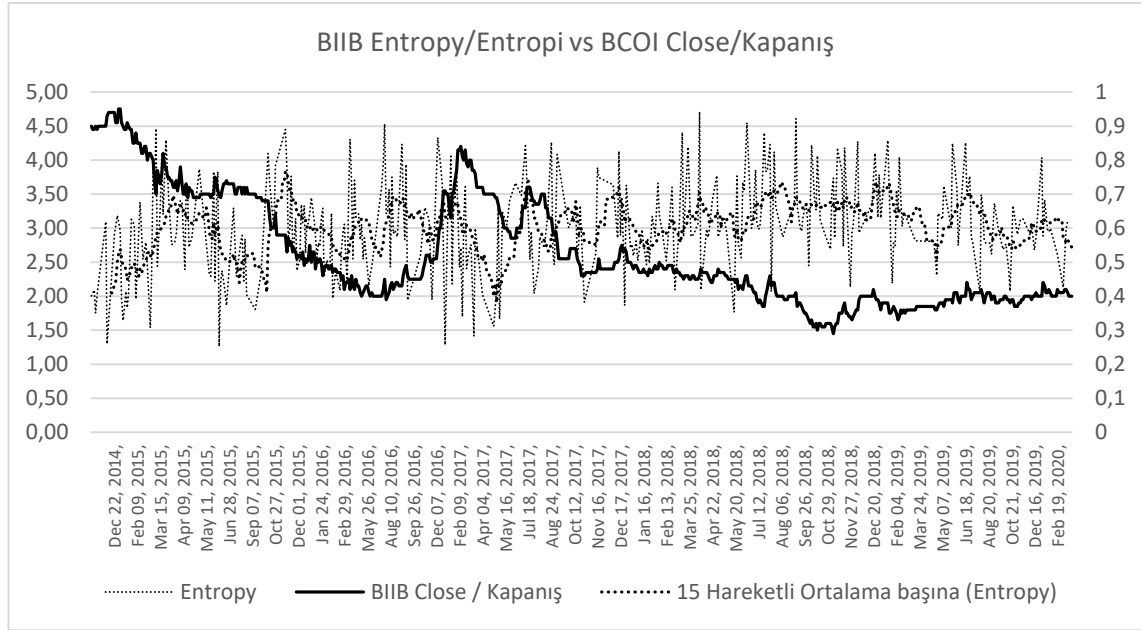
Figure 4.5: BIIB Entropy/Entropy Closing/Close Comparative

Figure 4.5 shows the difference in entropy with the closing shares, if the closing value of shares with a value that shows the relationship between. What is important here December 2014 December 2016 and entropy changes of between 1.5 and 4.5 is an oscillation between high. This oscillation in conjunction with a sudden decrease in the value of closing stock followed by the bank's sudden upward trend is seen.
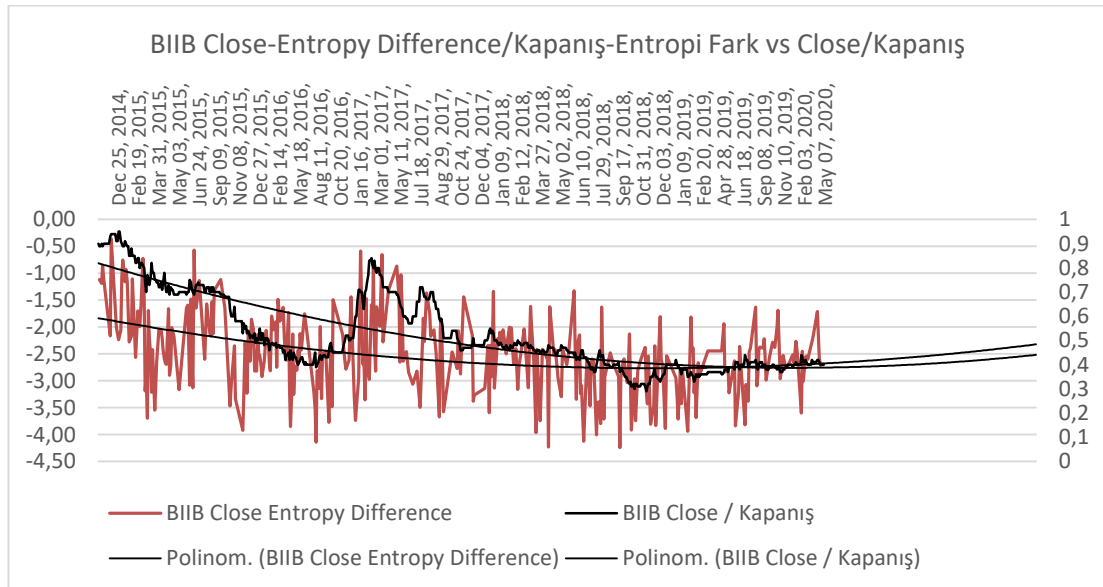
Figure 4.6: BIIB Close - Entropy Difference / Closing-Entropy Difference Cose / Closing Comparative

Especially later than 2018, the average began to follow a path 3 to be slightly wavy. Figure 4.6 an annual process described above in May 07 after 2020 in the light of the possible values of fluctuations in the chart is located. Accordingly, the 200-day according to the movement of the closing values of 0.4 and 0.5 are expected to jam between.

Iraqi Middle East Investment Bank (SYMBOLS)

Net profit margin %13.9 2020 bankanin2019 the third quarter and third-quarter net profit comparison when looking at (1046), appears to have increased from 2108 to IRD IRD Mlyn Mlyn. Mlyn Mlyn was an increase of 4294 IRD 5479 total income from IRD. The bank's total asset size is IRD 670.974 mlýn. Mlyn mlyn IRD from IRD 402.011 457.343 total liabilities compared to the previous year has slowed down. The increase in total equity from the previous year (2019) by mlyn mlyn 268.963 265.439 IRD from IRDincreased. 0.02 0.07 IRD IRD HBK while a falling stock Nakist Flow were found. (See fig. Appendix a, financial statements)
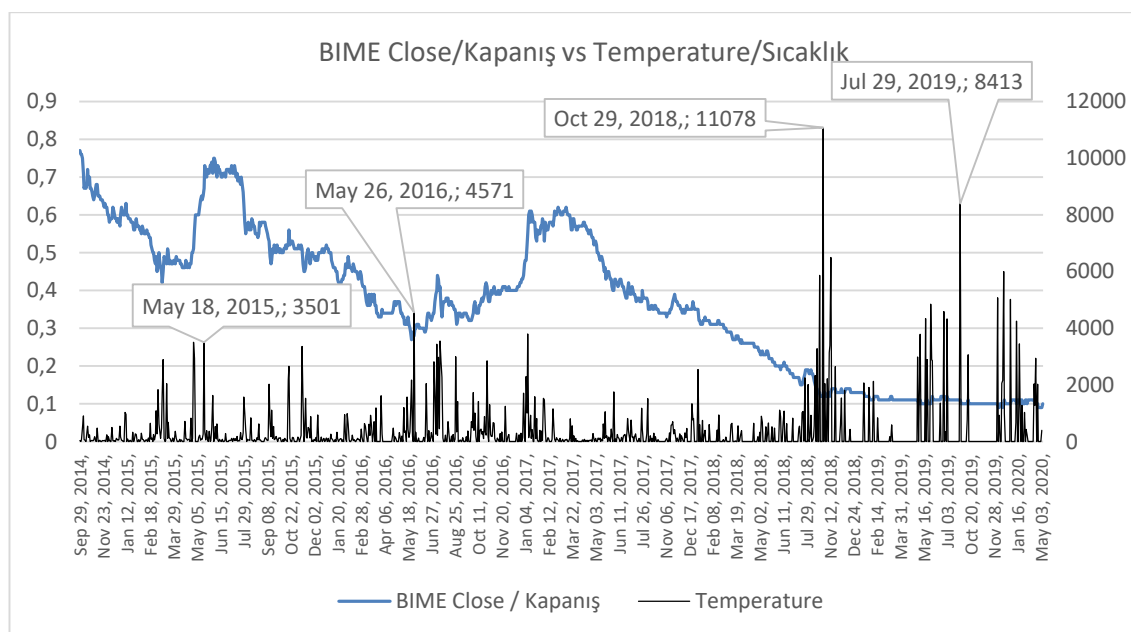
Figure 4.7: the symbols for Closing/Close Temperature/Temperature Comparative

Cash provided by operating activities compared to the previous year shows a considerable drop in the company's cash inflows provided by investing activities is

almost negligible. In addition to cash provided by financing activities was negative, while positive in 2020 from a previous has returned.

Figure 4.7 it is clear that in this way than when looking at the 2014 downtrend of the stock. However, especially in the temperature calculations made on 18 May 2015 26 May 2016, And by 2018 29 July 2019 29 October and the post-it would not be wrong to say that history is decisive. Between the years of 2016-2017 of the variables considering the trend shown in the graph as mixed temperature, the temperature rise breaks down constantly up or constantly in the years that followed, it is likely that you will give. By 2018, confirms the hypothesis that in a continuation break in the process. The narrow stock trend after 2018 (jam) trend values corresponding to the high temperature after 2020 the share and again up and breaks down constantly or constantly shows that can give. Just gas, such as a jam) and temperature values of the stock price after 2020 and a boom (boom) or sudden crashes (crash) are likely to be subjected to the influence of kalabilirlig.
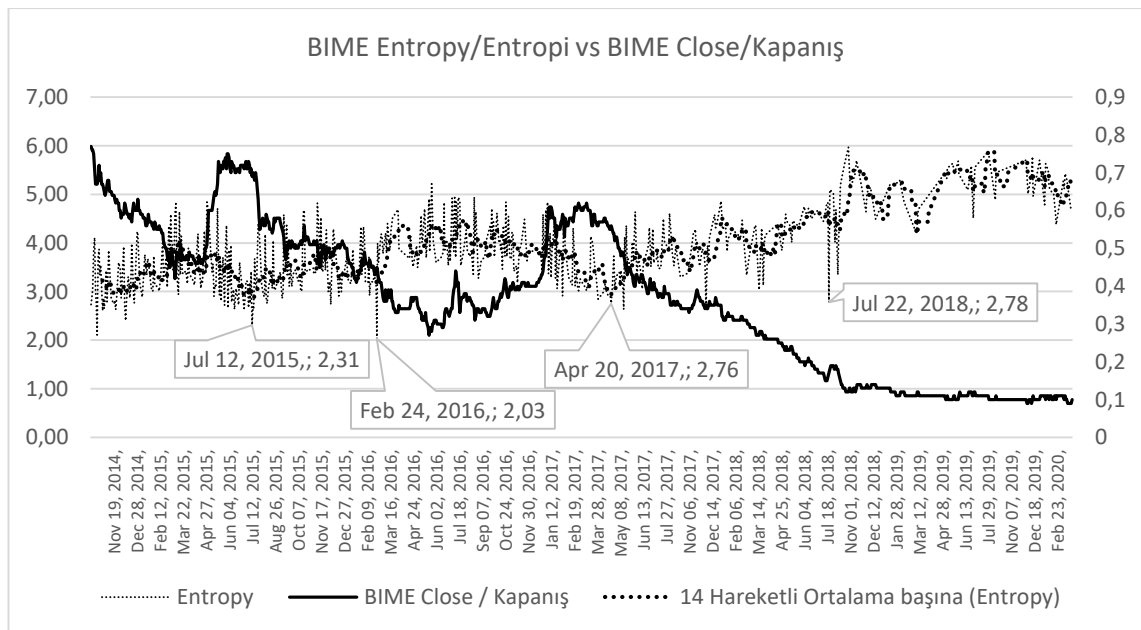
Figure 4.8: the symbols entropy/entropy Closing/Close Comparative

Figure 4.8 , in particular, the entropy of refraction 2015 July 12, 2016 February 24, 2017 July 2018 April 20 and 22 that are parallel to the developments in the history of shows. And especially after 2018, the share price declined rapidly, parallel to the

previous temperature graph there is an increase in the entropy value. So closing stock values between the values of entropy with an excess of openness that might be followed by the sudden trend change in the precursor.
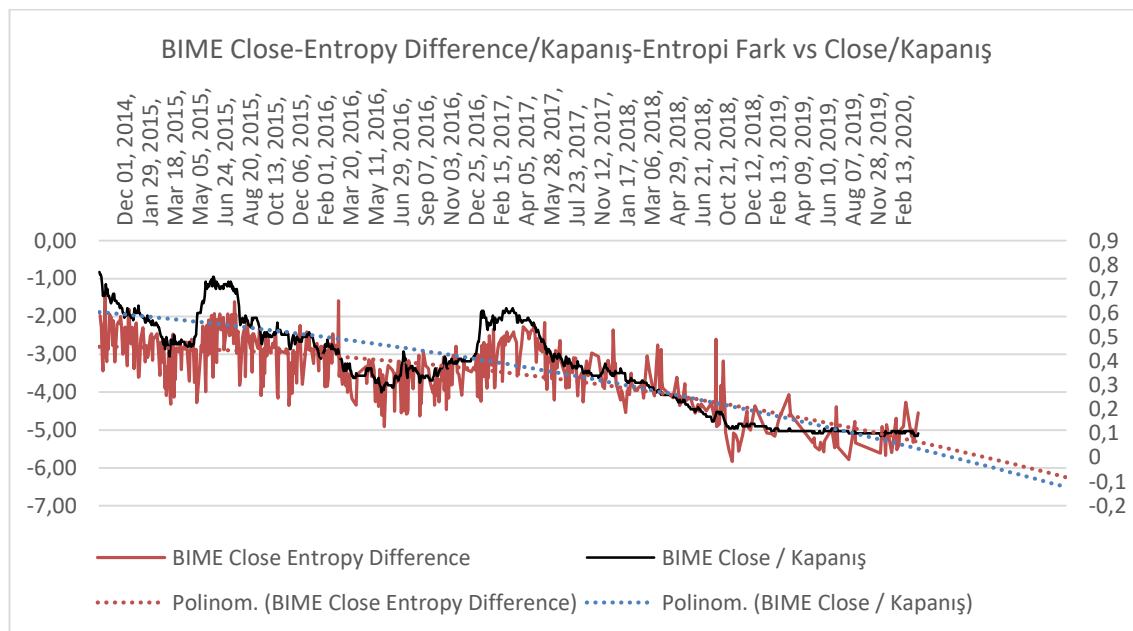
Figure 4.9: close the symbols-entropy difference/Closing-Entropy Difference
Cose/closing the kennelsthe astirmal

Figure 4.8 and figure 4.9 are considered together when after 2020 the trend in the calculation of the bank shares could fall further before giving rise after strong after the sale of Al seems to be out of the question. For a long time of 0.1 is likely to remain in the vicinity of IRD. The calculations in classic technical analysis technical indicators at this point is strong, it is possible to see that the possibility of a sale. But for a long time a high volume of purchase/sales-defunct bank to organize to produce positive cash flows and the cash flows of the firm after 2020 along with possible scenarios of the emergence of exceptional situations seems to be between buying.

Tu National Bank of Iraq (NBI), **(BNOI)**

The National Bank of Iraq, the most stable lead banks. Operating margin %net profit margin for the bank's 43.72% is 35.76. 11216 2019 2020 total revenue increased by Mlyn Mlyn IRD 17133 IRD the bank. Net profit increased from 1597 IRD 6978 IRD Mlyn Mlyn. Long-term debt to total assets ratio of 0.74 % which is the company's debt to total assets ratio remained at the same level. Total assets, Total Liabilities and

total shareholders ' equity , respectively 797.670, 535.761, 261.909 mlýn was in the form of IRD. IRD IRD 0.07 0.18 income per share cash flow per share a shares also has been at the level. (See Appendix A for financial statements)

The change in cash provided by operating activities compared to the previous year 62%) has increased. The effect of this increase in cash provided by investing activities has made the rate at least. (- 39%) in provided by financing activities in the cash rate 46% showed an increase. In general, all items are collected when compared to the previous year of the change in net cash 598 % increase it is evident from the financial statements.
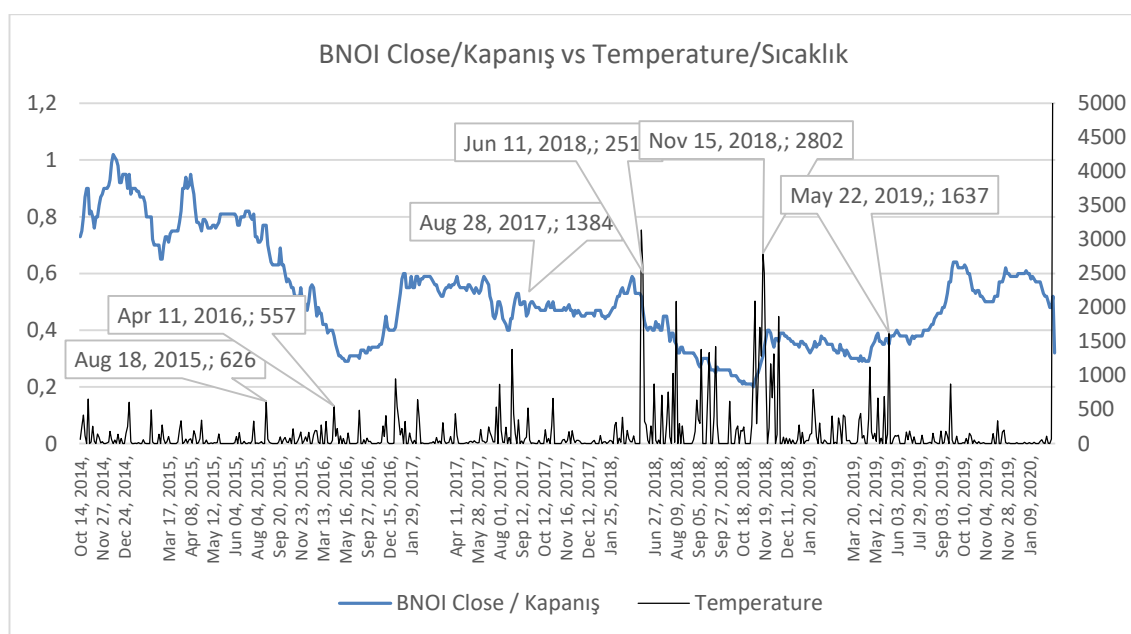
Figure 4.10: BNOI Closing/Close Temperature/Temperature Comparative

When looking at Figure 4.10 a critical date of August 18, 2015, 11 April 2016 And 28 August 2017, 11 June 2018, 22 May 2019 15 November 2018 and it would not be wrong to say that. Especially in 2015, 2016 and 2017 breakage a sudden temperature increase triggered upward. 2018 January –June between the months of sudden temperature changes, like the movement up or down seems to be the harbinger of hard hard. Trapped in a specific price range of the stock movements and oscillations that by 2019 the accompanying with the decrease of the movement provides information on what could be 2020 and subsequent years.

When looking to figure 4.11 entropy of the movement with stock price movements (as usual) it is observed that this inverse relationship. That goes to expectations of decline, the trend has been an increase in the value of the entropy prior that goes again to the expectations of the Ascension the entropy monitoring resulted in the price of the shares looking too complicated.
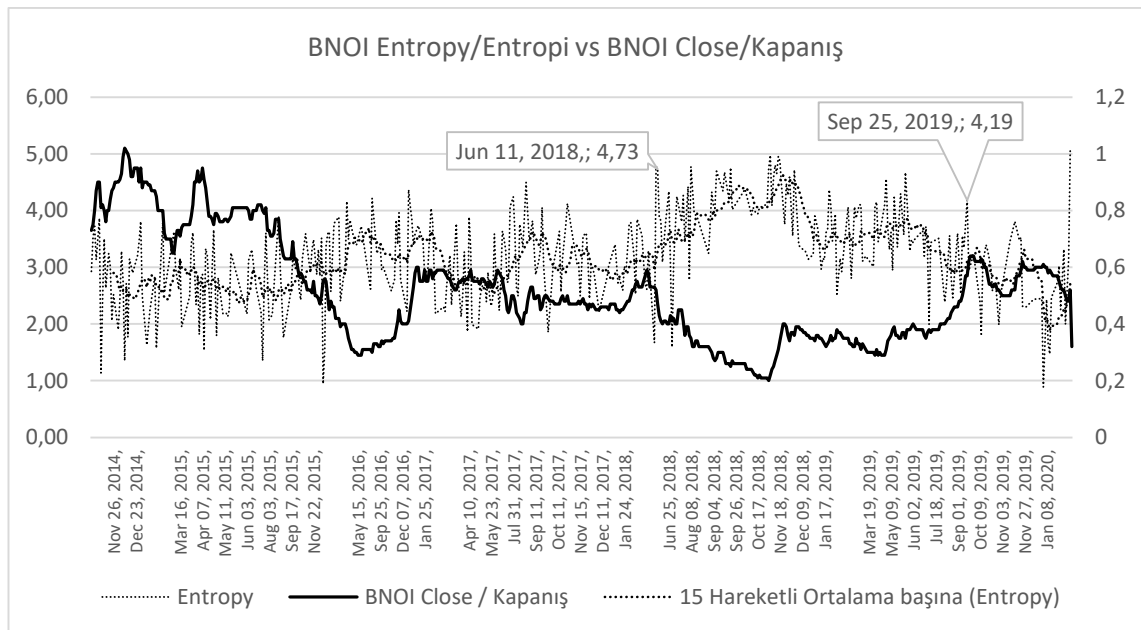
Figure 4.11: BNOI Entropy/Entropy Closing/Close Comparative

Figure 4.11 and 4.12 are examined together, when going horizontally, while the entropy with the oscillation of the stock is mixed, but after a long-term upward trend will be observed. After 2020 the price movements of entropy rise and 200-day averages shows that it is compatible with.
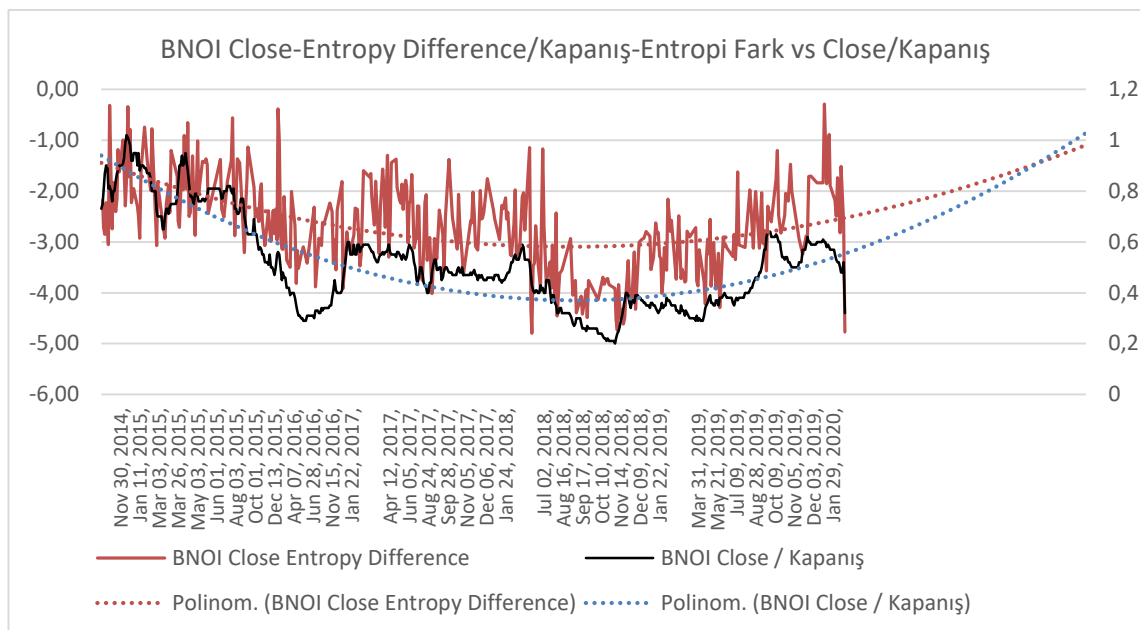
Figure 4.12: close BNOI-entropy difference/Closing-Entropy Difference

Cose/Closing Comparative

5. CONCLUSION AND EVALUATION

From time to time with the struggles and battles of the Iraqi economy, good and bad, it is normal for them to act. Even the accepted normality of the world within the framework of the Iraqi banking system in general, including the oil and foreign interest was sparked by that energy conversion was observed.

On the other hand, considering the theoretical structure of the analysis in the conclusion it is possible to repeat the following points:

When evaluating the results of the research are made available daily closing values of the relevant bank's assessments over the million Iraqi dinars with calculations and graphs were created and the method specified in the section. On graphs when considering the dates on the chart where the closing value and the temperature of temperature values and temperature values are reached, pre-and post-closing shares daily developed with the values given the time interval in which the behavior have been evaluated. Entropy-the second type is a comparison of the closing values closing stock values in the graph, which is shown as pre-and Post-calculated by using temperature entropy values for comparison of the reviewed. In the financial literature, entropy in this section, which is called entropy of the period of extreme

high oncsi and then closing that shows the change in the values in which the value was tried to be achieved. In the last group the graphic representation of shares in alaym closing the entropy is reviewed with a comparison of the difference of the closing value. In this section, the closing stock of the value of the entropy deviates from the value determined from the degree. Entropy with the change of-way or-way or that has changed compared to the stock's closing value was different again. In this section the structure and operation of the variable obtained as the classical variable discussed is akin to the beta in finance.

When looking at the Trade Bank of Iraqduring the peak periods RTIs decreases and the entropy value in the increase of oscillation that is easily observed. Both the oscillation in the price of the shares both pre - entropic behavior of the oscillation in Durgin seems to be. This slowdown in the wake of Strong Buy Strong Sell Or can lead us to an analysis in the form. HifS Kapanis price, closing related to the entropy by taking the difference with the value that was created created a chart with the comparison of the forward prediction of the closing value of the bank's shares next 12 months may rise suggests that in the process. Work ascension 0,30-0,60 range throughout is advancing.

When viewed Islamic investment and Development Bank of Iraq to that, especially later than 2018, the average began to follow a path 3 to be slightly wavy. Aciklanan after 2020 in light of the possible values of process fluctuations on the chart in May 07, an annual is located. Accordingly, the 200-day according to the movement of the closing values of 0.4 and 0.5 are expected to jam between.

When looking at Iraqi Middle East Investment Bank analysis, the points stand out: after 2020 the trend in the calculation of the bank shares could fall further before giving rise after strong after the sale of Al seems to be out of the question. For a long time of 0.1 is likely to remain in the vicinity of IRD. The calculations in classic technical analysis technical indicators at this point is strong, it is possible to see that the possibility of a sale. But for a long time a high volume of purchase/sales-defunct bank to organize to produce positive cash flows and the cash flows of the firm after 2020 along with possible scenarios of the emergence of exceptional situations seems to be between buying.

Related graphs together with TU of the National Bank of Iraq when we examined the stock of the mixed entropy with horizontal oscillation going for a while, but after a long-term upward trend will be observed. Of entropy the rise of the price movements after 2020 and 200-day averages shows that it is compatible with.

Developments in the banking sector of oil and other energy factors energy investments that will develop more with the evaluation belonging to the buying and it is obvious. U.S. bilateral energy agreements with energy companies with the Iraqi government, it seems that this process has started. Deals with the transition to energy from gas, additional oil fields with the opening of cooperation is of great importance. Cash inflows to the power plant that feeds the Iraqi fields can be provided with improvements to be made

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ANNEX-A[1]

Commercial Bank of Iraq PSC Company Profile

IndustryRegional Banks
SectorFinancial
Employees
214
Equity Type
ORD
Commercial Bank of Iraq PSC is an Iraq-based bank. It offers a complete range of commercial banking products and services to retail and corporate banking customers. The Commercial Bank of Iraq PSC is a private bank, which has a network of branches of which nine are based in Baghdad and one in Basra. The Company's main shareholder is Ahli United Bank, which owns over 70% of Commercial Bank of Iraq PSC.

BCOI INCOME STATEMENT

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Net Interest Income	3862.78	4433.81	4448.24	4226.52
Interest Income, Bank	3924.41	4588.26	4601.97	4414.84
Total Interest Expense	61.63	154.45	153.73	188.32
Loan Loss Provision	-25.47	5.87	-60.06	-218.81
Net Interest Income After Loan Loss Provision	3888.25	4427.95	4508.31	4445.33
Non-Interest Income, Bank	696.3	513.3	467.42	387.91
Non-Interest Expense, Bank	-2922.41	-2681.74	-1876.74	-2438.97
Net Income Before Taxes	1662.14	2259.51	3098.99	2394.27
Provision for Income Taxes	-91.84	98.04	307.86	112.34
Net Income After Taxes	1753.98	2161.46	2791.13	2281.93
Net Income Before Extraordinary Items	1753.98	2161.46	2791.13	2281.93
Net Income	1753.98	2161.46	2791.13	2281.93
Income Available to Common Excluding Extraordinary Items	1753.98	2161.46	2791.13	2281.93
Diluted Net Income	1753.98	2161.46	2791.13	2281.93
Diluted Weighted Average Shares	250000	250000	250000	250000
Diluted EPS Excluding Extraordinary Items	0.01	0.01	0.01	0.01
Diluted Normalized EPS	0.01	0.01	0.01	0.01

* In Millions of IQD (except for per share items)

Obtained from http://www.investing.com[1]

BCOI BALANCE SHEET

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Total Current Assets	-	-	-	-
Total Assets	443383.55	453471.2	443945.61	430389.08
Cash & Due from Banks	198920.17	164914.13	155818.3	179214.77
Other Earning Assets, Total	224280.05	268640.41	267872.22	233601.66
Net Loans	11064.84	11615.72	11932.59	11353.62
Property/Plant/Equipment, Total - Net	3122.29	2705.42	1780.44	1778.13
Other Assets, Total	5996.2	5595.51	6542.06	4440.9
Total Liabilities	164278.85	176195.21	159987.37	149224.68
Total Deposits	142672.64	149186.95	134551.6	122451
Other Current liabilities, Total	79.87	985.73	887.69	579.83
Other Liabilities, Total	21526.34	26022.53	24548.08	26193.85
Total Equity	279104.7	277276	283958.25	281164.4
Common Stock, Total	250000	250000	250000	250000
Retained Earnings (Accumulated Deficit)	29011.9	27257.92	33854.1	31062.97
Other Equity, Total	92.81	18.08	104.14	101.42
Total Liabilities & Shareholders' Equity	443383.55	453471.2	443945.61	430389.08
Total Common Shares Outstanding	250000	250000	250000	250000

* In Millions of IQD (except for per share items)

BCOI CASH FLOW STATEMENT

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Period Length:	6 Months	3 Months	12 Months	9 Months
Net Income/Starting Line	3921.65	2259.51	11683.92	8584.93
Cash From Operating Activities	6804.69	15539.54	7458.09	-4505.89
Depreciation/Depletion	268.25	131.75	280.08	152.4
Cash Taxes Paid	814.02	-	1434.82	1434.82
Changes in Working Capital	2614.79	13148.28	-4505.9	-13243.23
Cash From Investing Activities	42948.8	-1163.44	49088.08	83493.6
Capital Expenditures	-630.25	-309.19	-298.27	-168.28
Other Investing Cash Flow Items, Total	43579.05	-854.25	49386.36	83661.88
Cash From Financing Activities	-8740.76	-8077	-17739.73	-17106.67
Financing Cash Flow Items	-242.9	-242.9	-	-
Total Cash Dividends Paid	-8497.85	-7834.1	-17739.73	-17106.67
Net Change in Cash	41012.74	6299.1	38806.45	61881.04

* In Millions of IQD (except for per share items)

Name	Company	Industry
P/E Ratio TTM	13.07	-
Price to Sales TTM	6.17	-
Price to Cash Flow MRQ		-
Price to Free Cash Flow TTM		-
Price to Book MRQ	0.42	-
Price to Tangible Book MRQ	0.42	-

Profitability: TTM vs 5 Year Average Margins ■ TTM (%) ■ 5 Year Avg. (%)

Gross margin TTM	-	-
Gross Margin 5YA	-	-
Operating margin TTM	49.46%	-
Operating margin 5YA	-	-
Pretax margin TTM	49.46%	-
Pretax margin 5YA	51.28%	-
Net Profit margin TTM	47.22%	-
Net Profit margin 5YA	45.87%	-

Revenue/Share TTM	0.08	-
Basic EPS ANN	0.04	-
Diluted EPS ANN	0.04	-
Book Value/Share MRQ	1.12	-
Tangible Book Value/Share MRQ	1.12	-
Cash/Share MRQ	0.8	-
Cash Flow/Share TTM	0.04	-

Dividend Yield ANN	8.09%	-
Dividend Yield 5 Year Avg. 5YA	7.15%	-
Dividend Growth Rate ANN	13.48%	-
Payout Ratio TTM	105.69%	-

Iraqi Islamic Bank for Investment and Development Company Profile

IndustryRegional Banks
SectorFinancial
Employees
244
Equity Type
ORD

Iraqi Islamic Bank for Investment and Development is an Iraq-based bank. It divides its services into Personal Accounts, Business Accounts and Specialized Services. Under the Personal Accounts segment it offers such services as Elite banking, Personal accounts, Credit Cards and Takaful (an Islamic insurance concept, which is grounded in Islamic transactions). The Business Accounts segment offers Business accounts and Financing solutions. The Specialized Services segment offers Other investments (mainly long-term investments in public and private companies, such as Bank of Kurdistan or Al Wufaqa General Contracting and Real Estate Investments in AL Fallujah Mega Terrain Project) and Brokerage services.

Period Ending:	2019 30/09	2019 30/06	2019 31/03	2018 31/12
Net Interest Income	6126.23	3820.47	4726.14	-11440.15
Interest Income, Bank	6849.18	4097.78	5199.91	-11112.78
Total Interest Expense	722.95	277.31	473.77	327.38
Net Interest Income After Loan Loss Provision	6126.23	3820.47	4726.14	-11440.15
Non-Interest Income, Bank	26.59	18.06	12.36	16437.03
Non-Interest Expense, Bank	-2520.64	-3107.97	-2726.58	-3205.2
Net Income Before Taxes	3632.17	730.56	2011.92	1791.67
Provision for Income Taxes	-	-	-	1083.57
Net Income After Taxes	3632.17	730.56	2011.92	708.11
Net Income Before Extraordinary Items	3632.17	730.56	2011.92	708.11
Total Extraordinary Items	-	-	-	-
Net Income	3632.17	730.56	2011.92	708.11
Income Available to Common Excluding Extraordinary Items	3632.17	730.56	2011.92	708.11
Dilution Adjustment	-	-	-	-
Diluted Net Income	3632.17	730.56	2011.92	708.11
Diluted Weighted Average Shares	250000	250000	250000	250000
Diluted EPS Excluding Extraordinary Items	0.01	-	0.01	-
Diluted Normalized EPS	0.01	-	0.01	-

* In Millions of IQD (except for per share items)

BIIB BALANCE SHEET

Period Ending:	2019 30/09	2019 30/06	2019 31/03	2018 31/12
Total Assets	621515.26	548502.79	527718.22	530115.62
Cash & Due from Banks	358113.28	303641.73	301200.23	316240.96
Other Earning Assets, Total	24411.19	24060.91	12552.21	13858.26
Net Loans	193600.17	182017.71	175114.76	164381.8
Property/Plant/Equipment, Total - Net	31131.23	30055.05	29096.15	27225.9
Other Assets, Total	14259.4	8727.39	9754.88	8408.69
Total Current Liabilities	-	-	-	-
Total Liabilities	354318.05	282899.11	262025.44	266434.76
Payable/Accrued	120333.32	121189.78	43533.17	76620.76
Total Deposits	203511.32	132500.57	190700.57	162344.52
Other Liabilities, Total	30473.4	29208.76	27791.71	27469.48
Total Equity	267197.22	265603.67	265692.78	263680.86
Common Stock, Total	250000	250000	250000	250000
Retained Earnings (Accumulated Deficit)	17197.22	15603.67	15692.78	13680.86
Total Liabilities & Shareholders' Equity	621515.26	548502.79	527718.22	530115.62
Total Common Shares Outstanding	250000	250000	250000	250000

* In Millions of IQD (except for per share items)

BIIB CASH FLOW STATEMENTS

Period Ending:	2019 30/09	2019 30/06	2019 31/03	2018 31/12
Period Length:	9 Months	6 Months	3 Months	12 Months
Net Income/Starting Line	6374.65	2742.48	2011.92	6123.48
Cash From Operating Activities	56184.95	-487.05	-14798.76	42646.21
Cash From Investing Activities	-14458.26	-13031.8	-564.2	-7068.51
Capital Expenditures	-3905.33	-2829.15	-1870.25	-3198.53
Other Investing Cash Flow Items, Total	-10552.93	-10202.65	1306.05	-3869.97
Cash From Financing Activities	145.62	919.61	322.23	-9601.7
Financing Cash Flow Items	145.62	919.61	322.23	-2694.7
Total Cash Dividends Paid	-	-	-	-7500
Issuance (Retirement) of Stock, Net	-	-	-	-
Issuance (Retirement) of Debt, Net	-	-	-	593
Foreign Exchange Effects	-	-	-	-
Net Change in Cash	41872.32	-12599.23	-15040.74	25976

* In Millions of IQD (except for per share items)

P/E Ratio TTM	13.77	-
Price to Sales TTM	4.94	-
Price to Cash Flow MRQ	3.05	-
Price to Free Cash Flow TTM	6.12	-
Price to Book MRQ	0.36	-
Price to Tangible Book MRQ	0.36	-

Profitability: TTM vs 5 Year Average Margins   ■ TTM (%) ■ 5 Year Avg. (%)

Gross margin TTM	-	-
Gross Margin 5YA	-	-
Operating margin TTM	-	-
Operating margin 5YA	-	-
Pretax margin TTM	41.4%	-
Pretax margin 5YA	44.53%	-
Net Profit margin TTM	35.9%	-
Net Profit margin 5YA	35.88%	-
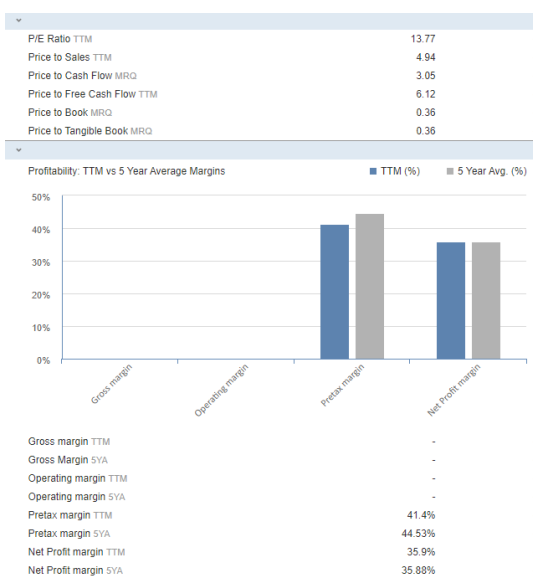
Iraqi Middle East Investment Bank Company Profile

IndustryInvestment Services

SectorFinancial

Employees

707

Equity Type

ORD

Iraqi Middle East Investment Bank (IMEIB) is an Iraq-based private bank. It offers a range of services, including domestic and international investments, credit facilities, short, medium and long term loans, credits for projects and contracts, domestic and international bank guarantees, transfers, debit and savings accounts, foreign exchange, checks, stocks and bonds, and corporate banking services, among others. It operates through approximately 20 branches. Additionally, IMEIB owns real estate properties and operates as a major shareholder for companies engaged in real estate investment and development, tourism investment, fish and poultry farms, hospital and medical services providers, and stock and securities companies, among others.

BIME INCOME STATEMENT

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Net Interest Income	2739	3190	2777	2277
Interest Income, Bank	4272	4769	4397	3942
Total Interest Expense	1533	1579	1620	1665
Net Interest Income After Loan Loss Provision	2739	3190	2777	2277
Non-Interest Income, Bank	253	93	166	1651
Non-Interest Expense, Bank	-3411	-3536	-6664	-3402
Net Income Before Taxes	-419	-253	-3721	526
Provision for Income Taxes	-	-	-	-
Net Income After Taxes	-419	-253	-3721	526
Net Income Before Extraordinary Items	-419	-253	-3721	526
Net Income	-419	-253	-3721	526
Income Available to Common Excluding Extraordinary Items	-419	-253	-3721	526
Diluted Net Income	-419	-253	-3721	526
Diluted Weighted Average Shares	250000	250000	250000	250000
Diluted EPS Excluding Extraordinary Items	-0	-0	-0.01	-
Diluted Normalized EPS	-0	-0	-0.01	-

* In Millions of IQD (except for per share items)

BIME BALANCE SHEET

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Total Current Assets	-	-	-	-
Total Assets	720545	720976	831847	676498
Cash & Due from Banks	360043	363614	474994	317786
Other Earning Assets, Total	36405	36405	36405	36405
Net Loans	102612	104483	104314	104897
Property/Plant/Equipment, Total - Net	134326	133885	133202	133902
Other Assets, Total	87159	82589	82932	83508
Total Liabilities	453908	453724	564820	405790
Accounts Payable	-	-	-	-
Payable/Accrued	100882	88569	87420	128789
Accrued Expenses	-	-	-	-
Total Deposits	314949	326877	439582	239708
Total Long Term Debt	4465	4819	4136	4439
Long Term Debt	4465	4819	4136	4439
Total Debt	4465	4819	4136	4439
Other Liabilities, Total	33612	33459	33682	32854
Total Equity	266637	267252	267027	270708
Common Stock, Total	250000	250000	250000	250000
Retained Earnings (Accumulated Deficit)	16637	17252	16967	20708
Total Liabilities & Shareholders' Equity	720545	720976	831847	676498
Total Common Shares Outstanding	250000	250000	250000	250000
Total Preferred Shares Outstanding	-	-	-	-

* In Millions of IQD (except for per share items)

BIME CASH FLOW STATEMENT

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Period Length:	6 Months	3 Months	0 Months	9 Months
Net Income/Starting Line	-419	-340	-	526
Cash From Operating Activities	-2581	14418	-	-49817
Non-Cash Items	153	967	-	53
Changes in Working Capital	-2315	13791	-	-50396
Cash From Investing Activities	-441	-1027	-	-495
Capital Expenditures	-441	-1353	-	-495
Other Investing Cash Flow Items, Total	-	326	-	-
Cash From Financing Activities	-549	-10981	-	-1124
Financing Cash Flow Items	-196	-11843	-	-1811
Issuance (Retirement) of Debt, Net	-353	862	-	687
Net Change in Cash	-3571	2410	-	-51436

* In Millions of IQD (except for per share items)

Name	Company	Industry
P/E Ratio TTM	-	-
Price to Sales TTM	1.9	-
Price to Cash Flow MRQ	-	-
Price to Free Cash Flow TTM	-	-
Price to Book MRQ	0.09	-
Price to Tangible Book MRQ	0.09	-

Profitability: TTM vs 5 Year Average Margins ■ TTM (%) ■ 5 Year Avg. (%)

	Company	Industry
Gross margin TTM	-	-
Gross Margin 5YA	-	-
Operating margin TTM	-	-
Operating margin 5YA	-	-
Pretax margin TTM	-29.42%	-
Pretax margin 5YA	13.59%	-
Net Profit margin TTM	-29.42%	-
Net Profit margin 5YA	10.81%	-

National Bank of Iraq SA (BNOI)

National Bank of Iraq SA (NBI), is an Iraq-based private bank engaged in the provision of banking solutions for customers in the inter-linked markets of Iraq and Jordan. The Bank operates through two business divisions: the Personal banking division provides products to individual clients, such as personal accounts, NBI personal loans and transfers, issuing debit cards and electronic services, such as Online banking.; the Corporate Banking division focuses on professional clients and corporation and offers business accounts, commercial transfers, trade finance and credit, foreign currency exchange, . The Bank operates approximately eight branches. The Company is a member of Capital Bank Jordan Group.

BNOI BALANCE SHEET

Period Ending:	2018 31/12	2017 31/12	2016 31/12	2015 31/12
Total Current Assets	-	-	-	-
Total Assets	525757.06	603213.75	579598.33	535764.59
Cash & Due from Banks	378455.14	399587.54	367688.22	311401.44
Other Earning Assets, Total	27544.22	40739.67	54022.25	2600.22
Net Loans	76828.44	134355.73	124682.91	194155.51
Property/Plant/Equipment, Total - Net	14923.74	13924.98	14234.49	19103.98
Property/Plant/Equipment, Total - Gross	21998.25	19463.3	18133.97	24184.56
Accumulated Depreciation, Total	-7074.51	-5545.62	-3899.49	-5080.57
Intangibles, Net	4246.19	3170.78	2494.76	-
Other Assets, Total	23759.32	11435.05	16475.7	8503.44
Total Current Liabilities	-	-	-	-
Total Liabilities	267907.31	317509.1	291865.74	275368.26
Accounts Payable	-	-	-	2502.37
Payable/Accrued	-	-	-	2762.45
Accrued Expenses	-	-	-	111.39
Total Deposits	242672.82	306006.73	280481.86	265334.66
Total Short Term Borrowings	-	-	-	2241.28
Other Current liabilities, Total	2296.3	2911.03	-	545.37
Total Debt	-	-	-	2241.28
Other Liabilities, Total	22938.2	8591.34	11383.88	1870.74
Total Equity	257849.74	285704.65	287732.59	260396.33
Common Stock, Total	250000	250000	250000	250000

	7797.1	35851.39	37744.2	6396.33
Retained Earnings (Accumulated Deficit)	7797.1	35851.39	37744.2	6396.33
Unrealized Gain (Loss)	52.65	-146.74	-11.61	-
Other Equity, Total	-	-	-	4000
Total Liabilities & Shareholders' Equity	525757.06	603213.75	579598.33	535764.59
Total Common Shares Outstanding	250000	250000	250000	250000

* In Millions of IQD (except for per share items)

BNOI INCOME STATEMENT

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Net Interest Income	2203.07	1568.57	1345.49	1596.9
Interest Income, Bank	3090.29	2297.53	1920.7	2156.92
Total Interest Expense	887.22	728.96	575.21	560.02
Loan Loss Provision	173.76	-233.32	-536.57	1085.45
Net Interest Income After Loan Loss Provision	2029.31	1801.89	1882.06	511.44
Non-Interest Income, Bank	6985	5038.55	3596.17	3441.71
Non-Interest Expense, Bank	-5994.56	-4796.47	-6662.06	-712.04
Net Income Before Taxes	3019.75	2043.98	-1183.83	3241.11
Provision for Income Taxes	566.75	488.04	1996.3	300
Net Income After Taxes	2453	1555.94	-3180.13	2941.11
Net Income Before Extraordinary Items	2453	1555.94	-3180.13	2941.11
Net Income	2453	1555.94	-3180.13	2941.11
Income Available to Common Excluding Extraordinary Items	2453	1555.94	-3180.13	2941.11
Diluted Net Income	2453	1555.94	-3180.13	2941.11
Diluted Weighted Average Shares	250000	250000	250000	250000
Diluted EPS Excluding Extraordinary Items	0.01	0.01	-0.01	0.01
DPS - Common Stock Primary Issue	-	-	-	-
Diluted Normalized EPS	0.01	0.01	-0.01	0.01

* In Millions of IQD (except for per share items)

BNOI CASH FLOWS

Period Ending:	2019 30/06	2019 31/03	2018 31/12	2018 30/09
Period Length:	6 Months	3 Months	12 Months	9 Months
Net Income/Starting Line	5063.73	2043.98	-5616.24	-4432.41
Cash From Operating Activities	12640.18	-13941.58	24767.73	23830.12
Depreciation/Depletion	1091.26	552.74	2182.7	1621.75
Non-Cash Items	-	-	-1744.61	-2828.24
Cash Taxes Paid	2487.55	1505.19	2911.03	-
Changes in Working Capital	6485.2	-16538.3	29945.89	29469.03
Cash From Investing Activities	-40140.16	-26144.36	-28746.84	-2578.83
Capital Expenditures	-2561.36	-737.15	-2575.17	-644.56
Other Investing Cash Flow Items, Total	-37578.8	-25407.21	-26171.67	-1934.27
Cash From Financing Activities	4268.7	1700	-18000	-18650
Financing Cash Flow Items	-81.3	-	-	-
Total Cash Dividends Paid	-	-	-20000	-20000
Issuance (Retirement) of Debt, Net	4350	1700	2000	1350
Net Change in Cash	-23231.27	-38385.94	-21979.11	2601.29

* In Millions of IQD (except for per share items)

Academic Series No:1