EVALUATION OF THE CREDIT RISK OUTLOOK IN THE TURKISH BANKING SECTOR[ab]

Ceren YILMAZ[1], Nildag Basak CEYLAN[2], Ayhan KAPUSUZOGLU[3]

[1] Ankara Yildirim Beyazit University, Institute of Social Sciences, yz.cerenn@hotmail.com
[2] Ankara Yildirim Beyazit University, Department of Finance and Banking, nbceylan@ybu.edu.tr
[3] Ankara Yildirim Beyazit University, Department of Finance and Banking, akapusuzoglu@ybu.edu.tr

Abstract: *The banking sector, which plays an important role in ensuring the flow of fund supply and demand in financial markets, has a great importance in terms of the soundness and stability of the financial and economic structure of countries. For this reason, it is necessary to monitor closely the capital structure of the banking sector and the measurements related to the risks it bears, and to ensure that they comply with the criteria established within the framework of international regulations. In addition, within the framework of the globalization process, financial and economic markets operate in integration with each other, and this situation may create the potential for various risks that may occur in the banking sector to have an impact not only on the sector in the relevant country, but also on an international scale. In this study, evaluations will be made on the various risks that the banking sector in Turkey is evaluated in terms of international criteria, which is taken as a basis in the process of evaluating the risk situation of the sector, and on the data disclosed about the sector.*

Key words*:* credit risk; banking sector, Turkey

JEL Classification Codes: B22, G20, G21

1. INTRODUCTION

Banks are the most important parts of the financial market. Their most important task is to provide funds to those who request funds. With globalization, the problems faced by banks have gained a global dimension and diversified. Today, the problems that may arise in any bank due to the effect of pollution will affect not only its own country, but also other states in which the bank operates. For this reason, it was envisaged that banks that are also in the international scene should be subject to joint supervision and then the BIS and BASEL issues should be put on the agenda. The risk with the most history in financial markets; Credit risk is exposure to damage due to the most general definition of the bank.

---

[a]The views expressed in the study are those of the authors and do not represent the official views of the Institutions. Moreover, this study is based on Ceren YILMAZ's Term Project (Master Program without Thesis) in Ankara Yildirim Beyazit University, Graduate School of Social Sciences, Ankara, Turkey.

[b] This paper was presented at the 7th Emerging Trends and Approaches in Knowledge based Economy Creative Thinking and Innovation in Multi-Crisis Environment Conference, 2-3 December 2021, Pitesti-Romania and published in the Book of ETAEC Conference, 2021 Edition.

This is an open-access article distributed under the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/).

Credit risk is an important type of economic risk in the banking field. The bank selects and manages credit risk, which determines future performance. Banking in Turkey has been following an active management policy, measured in terms of credit, since the 2001 economic crisis, and despite the legal rules of financial crises and the increase in credit risk after that date, a stable and solid view could be obtained.

2.RISK CONCEPT AND TYPES OF RISKS IN BANKING

2.1.Definition of Risk

Risk, in its simplest terms, is the ability to reduce economic benefits due to a period of time or damage. (Babuscu and Hazar, 2014)

Its features are as follows:

• Does not contain precise and complete information
• May change over time
• It is manageable.
• Concluding can also have a negative impact.

In economic terms, risk means the difference between the return in the banking system and the current profit of the transactions realized. For this reason, the risk in banking transactions is that the expected income is lower than the return. Results are unknowable, inaccurate and difficult to predict. (Bingul, 2018).

Risks can be separated into predictable risk and unsystematic risk. Systematic risk is the risk that affects the economic, political and other environmental conditions of companies in the market. Companies do not have the economic opportunity to avoid these risks, but they can make different changes (Kaval, 2000).

2.2. Types of Risk in Banking

Risk types in banking can be listed as market risk, credit risk and operational. If we detail the types, they can be expressed as Credit Risk, Country Risk, Market Risk, Liquidity Risk, Interest Rate Risk, Currency Risk, Operational Risk, Legislation Risk, Reputation Risk, Strategic Risk, Legal Risk and Management Risk (Babuscu and Hazar, 2014).

2.2.1. Market Risk

We can define it as the lost values of the economic values found in terms of price. (Parasız, 2000). In banking, financial environment risk may incur losses due to risks such as interest rate risk, stock position risk and exchange rate risk arising from interest rate, exchange rate and stock price changes arising from the fluctuations in the economic markets in their current positions in and out of the balance (Babuşcu and Hazar, 2014). For this reason, the information should be known to companies accurately and clearly. Providing a formation in the market allows units to achieve more efficient results, thus minimizing undesirable risks. (Postalci, 2010).

2.2.2. Interest Rate Risks

Losses occur in the banking system with the change in the amount of interest. The gross interest margin, which is the difference between the general earnings of the entities in the system and the average earnings of those not included in the system, has an important place on the market. If the cost of non-markets rises faster than the earnings of those present in the market, the bank's gross interest margin decreases and the system loses interest. (Erturk, 2010).

2.2.3. Foreign Exchange Risk

Foreign currencies and liabilities in banks may cause this risk. In order to avoid exchange rate risk in the banking system, on-balance sheet and off-balance sheet transactions can be made. (Babuscu and Hazar, 2014)

2.2.4. Liquidity Risk

Liquidity risk is one of the major risks of economic markets and is the elimination of the owner or the market value where the current value is located. The liquidity risk encountered in extraordinary circumstances may cause the bank to fail to fulfill its duties. In this type of risk, there is asset-liability management. Liquidity risk, which is defined as the inability of the institution to fulfill its obligations in its liabilities, occurs especially when customers want to liquidate their investments. (Parasiz, 2000)

2.2.5. Country Risk

This risk can be defined as the negative effects that may occur in the country to which the loan is extended in international lending.

We can classify these negativities as social, economic and political. As an example of political reasons; War, rebellion, terrorism, disruption of peace as examples of social causes, polarization, depression, inflation, crisis as examples of economic causes. (Postalci, 2010)

2.2.6. Operational Risk

Operational risk in the Regulation published by the BRSA; “It is defined as the possibility of loss arising from inadequate or unsuccessful internal processes, people and systems, or from external events, including legal risk” (BRSA, 2021). The reason for the increase in the number of transactions made through various distribution channels in recent years is the increase in risks originating from third parties.

2.2.7. Credit Risk

It is the risk arising from the failure of one party to fulfill its responsibilities to the other party in transactions with two parties. Credit risk in the banking sector, on the other hand, is the possibility of a bank customer not fulfilling his obligations against the terms of the agreement (TBAT, 1999).

2.2.8. Legal Risk

Legal risks are changes, termination and cancellation of legally regulated domestic and foreign obligations. In other words, it is the loss of value of receivables or trying to change more than expected. (Postalci, 2010). Due to the legal dimension of legal risk, it is among the frequently encountered situations in the international arena.

2.2.9. Reputation Risk

It is the loss caused by the failures of an institution or the loss of interest and trust in that institution by not fulfilling its obligations. This risk is managed with a strong corporate identity (Savram ve Karakoc, 2012).

2.2.10. Strategy Risk

The task of a bank is its formation, its management and the risks posed by errors in major methods. It is the fact that the moves that are fast and in line with the changing market conditions do not take place strategically. (Babuscu and Hazar, 2014).

2.2.11. Management Risk

It is the possibility of economic loss due to mistakes in the management of the institution or fraudulent transactions (Babuscu ve Hazar, 2014).

2.3. Risk Management in Banking

Banking is a risk management activity. In the case of an institution providing financial services, "risk management" broadly refers to the management of the enterprise itself (Yavuz, 2002). Therefore, the main activity of the bank is to manage the risks on the balance sheet and on the balance sheet (Postalci, 2010) Risk management has become an indispensable function in today's global banks. In a globalizing market, transactions can be made 24 hours a day and risks cannot be limited in time.

The main purpose of risk management is to minimize the risks that financial institutions, namely banks, can take. The bank's risk management has two main objectives:

1) To improve the financial situation of the bank,

2) It is to prevent big losses that the bank cannot afford and accept.

The main purpose of bank risk management is to establish a system that will meet the increasing needs of the bank and thus increase the profitability of the bank by correctly linking a strong financial structure with the income and risks of the bank (Altintas, 2006).

The reasons why banks create risk management activities can be listed as follows:

• Changes in the banking business environment (For example, the operational environment creates new risks due to its geographical expansion, the convergence of world and European financial markets, and changes in customer expectations).

• Changes in the working environment lead to increased competition and shareholder pressure,

• The structure of the organization becomes more complex and it becomes impossible to determine who will take full responsibility for the risk,

• Increasing product life to a level that senior management cannot appreciate. The cost of making mistakes in the strategic area increases and the consequences of possible lack of control often have negative consequences,

• Changes in the banking business environment (For example, the operational environment creates new risks due to its geographical expansion, the convergence of world and European financial markets, and changes in customer expectations),

• Changes in the working environment lead to increased competition and shareholder pressure,

• The structure of the organization becomes more complex and it becomes impossible to determine who will take full responsibility for the risk,

• Increasing product life to a level that senior management cannot appreciate. The cost of making mistakes in the strategic area increases and the consequences of possible lack of control often have negative consequences.

The topics to be created and approved by the committees are as follows:

• The structure and scope of the mechanisms established in risk management
• Measurement elements
• Duties and elements in risk management
• Structures and meeting times of risk management communities
• Methods of determining risk limits, ways to be followed at border open
• Warning methods and processes to be created

2.3.1. Basic Principles in Risk Management in Banking

The methods of the institutions in risk management can be examined under two headings as preventive and protective risk management policies:

2.3.1.1. Preventive Policies

They are proactive policies applied before the risks that may occur. In the beginning, it was realized as a method, adaptation to the positions of the bank, determining the position gaps, creating alternatives in the loan utilization and investment portfolio, realizing high formations in many subjects, etc. are policies.

It can be said that these policies are buffer measures that can protect the banks and cover the risks after they emerge. Buffer refers to bank equity and reserves made up of different elements.

Risk management accepts three basic principles:

1.The focus of risk management should be on the risks posed by the entire business, not the risks posed by each transaction.

2.Different risks will trigger each other and grow even faster. The cumulative risk should not exceed the bank's entire potential loss.

3.While determining acceptable risks, equity and available resources should be used as a reference and the maximum risk to be assumed should be determined according to these standards.

In order to get the best results in risk management, internal and external audits should be carried out in accordance with the laws and regulations, and the information provided to the authorized audit and surveillance institutions and the public should be disclosed in accordance with the principle of transparency (Babuscu et al., 2018).

In order to survive, the Bank manages the risks it encounters or may encounter, either in-house or through the audit and risk management teams available in the market. However, what should not be overlooked is that if banks, the most important element of a country's economy, encounter risks, the consequences can affect not only banks, but also the economy and other relevant factors in the economy as a whole (Babuscu et al., 2018).

2.3.2. Risk Management Process

It consists of the identification, measurement, implementation and monitoring, reporting and evaluation processes of risks.

2.3.2.1. Identification of Risks

The determination of the risk faced by the bank is primarily determined by its definition. The customer and market situation of each bank may differ. Therefore, it is necessary to define first.

2.3.2.2. Measuring Risk

It is the process of determining the risks numerically and analytically. One of the most critical concepts in this process is the Value at Risk Value (VAR) concept (Mandaci, 2003).

2.3.2.3. Implementation

Management tools such as avoidance, mitigation and transfer against the identified risks are applied at this stage.

2.3.2.4. Monitoring, Reporting and Evaluation

At the current stage, the management of risks is evaluated. It is investigated whether there is a risk other than the determined values. It is reported to the relevant units. (Guluzade, 2016).

3. CREDIT RISK IN BANKING

3.1. Credit Risk Definition and Importance

Although the concept of credit is generally referred to as a loan given to objects and legal entities within the framework of a contract, its scope is actually wider (Babuscu et al., 2018).

Credit risk is the oldest risk in the financial market and its broadest definition is the loss suffered by the bank due to the borrower's failure to fulfill its obligations in a timely and complete manner. This loss means a decrease in income and a loss in expenses (Altintas, 2012). Credit risk is a risk that can be encountered in different ways at every stage of economic activity. The person who lends this value in exchange for the material formation that the counterparty promises to serve or receive in the future is subject to credit risk and must be more or less managed (Altintas, 2012). It is not possible to prevent the occurrence of credit risk. Keeping the risk at or near zero is possible only under one condition: lending the country's national currency to the state treasury or the central bank.

3.2. Credit Risk Management

The efficient management of risk has recently been on the agenda of institutions. Basically, even though BASEL II regulations come to mind, it is important to establish a solid economic system. One of the reasons for this is that banks face increasingly complex and increasing economic threats. The second reason is that almost all financial products available in the market today involve credit risk, market risk and operational risk. In order to manage interrelated risks, there is a need for an appropriate system that identifies and systematically measures the risk of loss in all activities (Iskender, 2014).

Credit risk management includes bank activities, marketing and distribution of credit, measuring, monitoring, controlling, reporting the risks assumed by the credit and the risks to be assumed, and the adequate allocation of one of them, credit strategies, policies and procedures. (BRSA, 2016)

3.2.1. Credit Process

The credit process is the first stage of credit risk management, and a well-established process is one of the greatest credit guarantees. (Babuscu et al, 2018)

The loan process of the bank begins with the first contact with the customer and asking the customer to provide the loan, loan principal, all interest and commissions. This process includes the period of warranty release and additional payments (or expiration of a particular warranty) as well as the period terminated by closing the relationship, and all transactions occurring during that period. In the crediting process, banks generally follow the following path (Horasan and Horasan, 2012):

After the meeting, the client applies for cooperation with the bank.

- Collecting information about customers
- Quantitative and qualitative analysis of customer data
- Loan allocation offer
- Preparation of documents
- Credit allocation
- Control (monitoring)
- Payment

3.2.2. Credit Rating and Credit Rating Agencies (CRA)

Rating is the process of evaluating the current and past performance of the company's economic data and non-economic data, and providing standard scores to a company within the framework of forecasting future performance. In other words, rating is the measurement of the risk taken by the business or the risk that the counterparty should take (Ersoy and Oral, 2015). Rating in the financial market is the process of determining the outstanding loan principal and interest risk.

Rating in the financial market is the process of determining the outstanding loan principal and interest risk (Babuscu et al., 2018).

Risk rating systems are scale systems that can monitor the risk situation in the investment portfolio, classify credit customers according to their ability to fulfill their obligations, and determine their creditworthiness. The role of the rating level is to distinguish borrowers based on their risk level. (Candan and Ozun, 2014).

Rating principles may change according to the conditions of the current period. In other words, credit rating principles may need to be updated when the time comes.

Prominent rating principles are criteria such as the income generation capacity of the country's economy, liquidity indicators, foreign debt accumulation, and political risk. (Caliskan, 2002).

3.2.3. Credit Placement Policies

The funds obtained by the banks should be placed with certain methods, and some limitations should be imposed when necessary.

There are four basic principles that form the basis of the allocation policy and banks should follow these principles when making their loan decisions. These principles are explained as follows:

Security: An understanding of the creditworthiness of the customer and the bank's credit distributor is essential to ensure that the normal activities of the company are used to repay the loan. Another requirement of the security principle is to take assurance against unforeseen risks (Takan, 2001).

Liquidity: Loan repayment in a short time refers to the use of credit-themed business according to the season (continuous loan collection, repayment) and the situation where the loan is not used in completely frozen conditions. Full utilization of the credit means that the company uses the credit continuously at the level of the credit line provided by the bank. This shows that companies trust in credit. The use of freezing means that the company's credit risk remains unchanged for a long time, therefore it is one of the most important evidence of the deterioration in the company's cash flow (Takan, 2001).

Efficiency: It provides loans to companies by providing commissions, demand deposits, other income and interest income. Having as much cash flow as possible through the bank will increase the monitoring and effectiveness of bank loans (Takan, 2001).

Appropriateness of allocation: Creating a balanced loan client portfolio across banks, departments, customers, geographic locations, loan types, currencies, terms and guarantees (Postalci, 2010).

3.2.4. Credit Concentration

Credit concentration means the clustering of credit risk in similar categories such as sector, region, product, risk level, payment date and joint collateral, that is, insufficient diversity in the investment portfolio (Candan and Ozun, 2014).

Concentration in Turkey is regulated by the Banking Law; The BRSA's Guide to the Management of Concentration Risk, prepared on March 31, 2016, includes regulations on measuring the concentration risk of banks and measures to be taken (BRSA, 2016).

3.2.5. Principles Regarding Credit Risk Strategies

• Banks need to determine their credit policies for confidence and profitability.
• Each bank has its own strategy.
• Risk factors should be clearly defined, and internal and external policies of the bank should be determined.
• Policies should be reviewed regularly.
• Portfolios and target markets should be determined.
• Every bank, big or small, has to make a profit. A risk-return ratio should be established.
• The board of directors of banks should determine sufficient capital against all kinds of risks

3.2.6. Credit Monitoring and Early Warning

One of the basic conditions for banks to survive is to transfer the collected resources to repayable and profitable areas. It is necessary to monitor whether the resources in the area to be transferred are reliable or if their reliability is maintained after the transfer, and necessary measures should be taken when signs of increased risk are seen. If it is determined that the risk of the company has increased after the loan is given, the bank should act with caution. The system that allows to see the signs of some indicators and take preventive measures before such situations occur is an early warning system (Babuşcu et al., 2018).

3.2.7. Credit Risk Management Tools

In an effort to minimize risk, banks and other financial companies are giving more importance to risk / return decisions by lenders and investors. Banks have started to deal with credit risks on the basis of their investment portfolios. (Kavlak, 2003).

Banks have developed various methods to control credit risk. Some of them are as follows; risk premiums, derivatives, mortgages, insurance and stress testing.

4. CREDIT RISK OUTLOOK OF THE TURKISH BANKING SECTOR

The changes in the system can be analyzed in terms of gross domestic product, deposit, profitability, credit and capital, together with the latest report published by the BRSA.

4.1. In Terms of GDP and Deposits

The relationship between bank loans, which is one of the sectors that encourage GDP, and total assets and GDP growth is an important indicator.

Figure no. 1. Total Asset Size/GDP
Source: BRSA (2021)

In March 2021, deposit banks have a share of 86%, development and investment banks 7% and participation banks 7%, according to the total assets of the banking sector. According to the ownership group distinction; public banks have a share of 45%, domestic private banks 30% and foreign banks 25%.

4.2. In Terms of Return on Equity

While the return on equity of the banking sector decreased in the public bank group compared to the same period of the previous year, it increased in the domestic private and foreign bank groups.

The return on assets of the banking sector for the period of March 2021 decreased compared to the same period of the previous year.

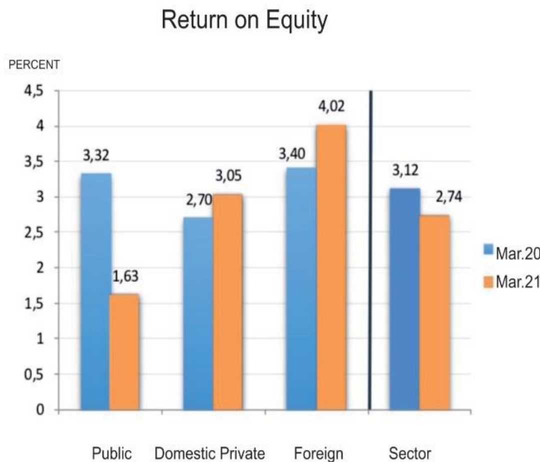

Figure no. 2. Return on Equity
Source: BRSA (2021)

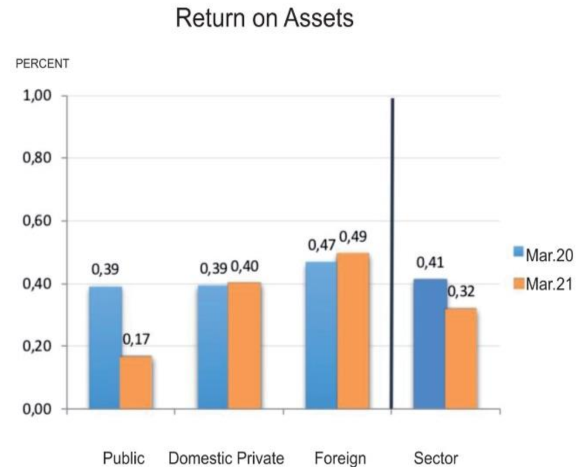

Figure no. 3. Return on Assets
Source: BRSA (2021)

4.3. In Terms of Credits

In the period of March 2021, of the total loan amount of 3.777 billion TL, 2.418 billion TL is composed of Turkish currency loans and 1.359 billion TL is foreign currency loans. The share of commercial and corporate loans in loans is 54%, the share of SME loans is 23% and the share of consumer loans (including credit cards) is 23%.

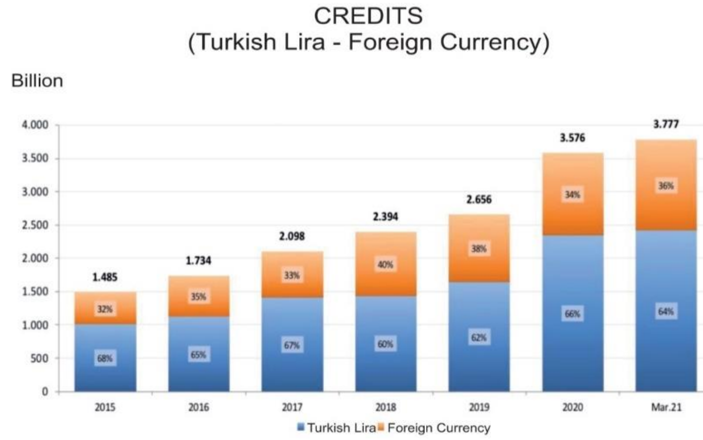

Figure no. 4. Credits
Source: BRSA (2021)

4.4. In terms of Non Performing Loans

As of March 2021, the (gross) amount of non-performing loans is 150 billion TL. The NPL ratio of loans in the banking sector was 3.81% in March 2021.

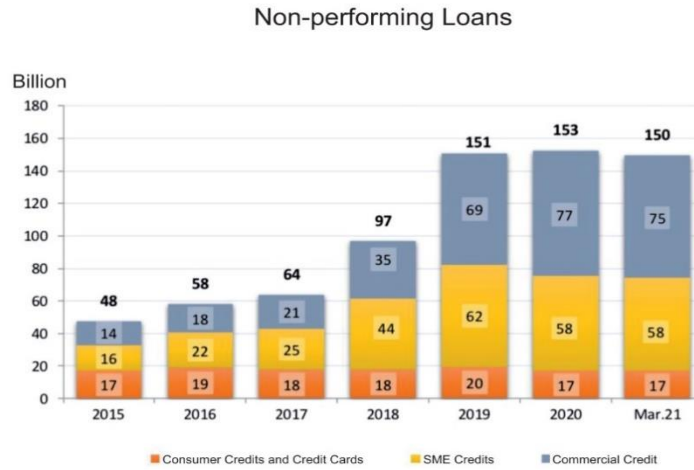

Figure no. 5. Non-performing Loans
Source: BRSA (2021)

4.5. In Terms of Capital Adequacy

The capital adequacy ratio of the Turkish Banking Sector was 17.99% in March 2021. In terms of bank ownership groups, the capital adequacy standard ratio of the domestic private bank group is 18.34%, which is above the sector average. In the calculation of capital adequacy, 88% of risk-weighted assets consist of the amount subject to credit risk, 9% of the amount subject to operational risk and 3% of the amount subject to market risk. Among the gross risk weighted assets included in the calculation of the amount subject to credit risk, the share of those with 100% risk weight is 37%, and the share of those with 0% risk weight is 31%.

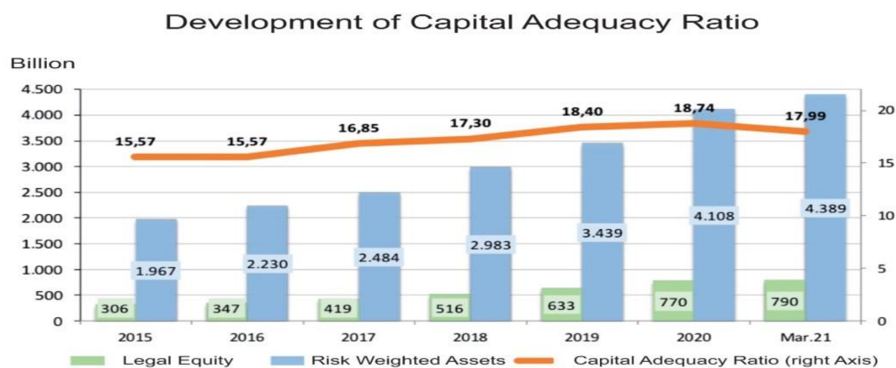

Figure no. 6. Development of Capital Adequacy Ratio
Source: BRSA (2021)

5. CONCLUSION

The reason why banks have an active role in risk management is due to their role in the economic system. Fund disbursement transactions are mainly carried out by credit transactions, creating a risk situation between the transaction and the bank. Risk management has gained importance in defining, controlling, measuring and monitoring risk. The most fundamental risk faced by banks is considered credit risk.

Banks try to implement risk management policies both in the credit decision phase and in the monitoring phase. However, diversification of loans and risks have taken different forms over time, and many innovative tools have been developed.

There are many definitions of credit risk in the literature. The common definition arises in the credit quality of one of the parties in a financial contract. Risk exposure due to possible positive or negative changes is considered the possibility of reducing current or future capital or income. Credit risk and the probability of a default event include adverse changes in quality and may originate from the counterparty. Transaction (derivative financial transaction) or third transaction giving rise to bilateral claims may result from a change in credit quality of a party TFRS 9 includes the concept of expected credit loss. It is expressed as a weighted estimate of the default risk of the entire financial instrument.

Since 2000, credit derivatives have been used to hedge against a wide variety of credit risks. Protection was considered one of the most important tools. While these instruments provide loans to banks, they also provide various methods such as hedging and risk transfer. The credit derivative is subject to credit risk due to possible losses from credit events. Financial contract regulators aiming to reduce or eliminate levels also cooperate with banks' risk management. After the global crisis of 2009, which was closely involved, this interest increased. In the internationally accepted Basel Agreement, it was more conservative on these issues. Regulations are already being formulated. The main purpose of the Basel consensus is to ensure that banks hold a reasonable amount of capital to counter the risks they face. The regulation called "Basel II" is still in force and the third phase of the Basel Agreement is partially in place and the fourth phase of Basel is in the drafting phase.

Measuring and managing credit customers and credit risks is very important for an efficient risk management. However, there is no agreed standard measurement method on credit risk. It is the use of scoring methods to determine Internal Loan quality or the use of department-heavy geographical distribution and concentration reports by modeling expert systems based on artificial intelligence, theoretical models and loan portfolios. Banks are particularly cautious when giving their first loans. In this area, highly developed rating systems in recent years, lending process will be applied from today. Due to the number of bad loans resulting from this,

the main effort of the banks is higher. Obviously, it will move towards monitoring loans and increasing the efficiency of this process.

In the study, the definition of credit risks and their classification in terms of their characteristics, the definition of credit risk, its structure, the methods used in risk measurement, the variables in risk measurement, the size of credit risk in the Turkish banking sector, the definition of credit derivatives, types of credit derivatives were examined in the last report published by the BRSA.

REFERENCES

1. Altıntas Ayhan, *Risk Management and Capital Adequacy in Banking within the Framework of the Banking Law No. 5411, Basel I and Basel II Regulations*, Turhan Publishing, 2006.
2. Altıntas Ayhan, *Estimation of Credit Losses Based on Macroeconomic Variables and Stress Tests: An Econometric Approach for the Turkish Banking Sector*, Istanbul, 2012, https://www.tbb.org.tr/Content/Upload/Dokuman/795/Altintas_Kitap.pdf
3. Babuscu Senol, Hazar Adalet, *Bank Asset Liability Management*, Akademi Consulting&Training, 2014.
4. Babuscu Şenol, Hazar Adalet, Iskender Arya, Risk Management in Banks Basel I, II, III, IV Regulations, Akademi Consulting&Training, 2018.
5. Banking Regulation and Supervision Agency-BRSA, https://www.bddk.org.tr, 2021.
6. Banking Regulation and Supervision Agency-BRSA, *Guidance on Managing Reputational Risk*, https://www.bddk.org.tr, 2016.
7. Bingul, Berna Ak, *Risk and Capital Adequacy in Banking System*, Igdir University Journal of Social Sciences, Vol. 14, p.456-477, 2018.
8. Candan Hasan, Özün Alper, *Risk Management in Banks and Basel II*, Turkey Is Bank Culture Publishing, Istanbul, 2014.
9. Caliskan, Omer Veysel, *Credit Rating Agencies and Risk Assessment Criteria*, Gazi University Journal of Faculty of Economics and Administrative Sciences, Vol. 4, No. 1, p. 53-66, 2002.
10. Ersoy Hicabi, Oral Nesrin, *Problems Emerging in Measuring the Credit Value of SMEs: A Solution-Oriented Practice Example*, Cankiri University Journal of Institute of Social Sciences, Vol. 6, No. 1, p. 367-384, 2015.
11. Ertürk Hakan, *Risks Encountered by the Banking Sector and Risk Management*, Journal of Denetisim, Vol. 4, p. 62-70, 2010.
12. Guluzade Sabir, *Risk Management and Model Used in Banking System*, Journal of Banking and Financial Research, Vol. 3, No. 1, p. 1-6, 2016.
13. Horasan Mukadder, Horasan Ilkay, *Credit Process and Comparison with Basel II Criteria*, Marmara University Journal of Faculty of Economics and Administrative Sciences, Vol. XXXII, No. 1, p. 201-230, 2012.
14. Iskender Ebru Sonbul, *Analysis of Credit Risk Resilience: Policy Recommendations on the Turkish Banking Sector*, Turkey Banks Association Publications, Istanbul, 2014.
15. Kaval Hasan, *Risk Management in Banks*, Yaklasim Publishing, Ankara, 2000.
16. Kavlak Dilek, *Credit Risk and Transfer Using Derivative Instruments*, Capital Markets Board of Turkey, https://spk.gov.tr/SiteApps/Yayin/YayinGoster/409, 2003.
17. Mandacı Pinar Evrim, *The Risks that the Turkish Banking Sector Faced and the Risk Measurement Models in Overcoming the Crisis*, Dokuz Eylul University Journal of Social Sciences, Vol. 5, No. 1, p. 67-84, 2003.
18. Parasız İlker, *Money, Bank and Financial Markets*, Ezgi Publishing, Bursa, 2000.
19. Postalcı, Altan, *Credit Risk and the Credit Risk Prospect of Turkish Banking Sector*, Dumlupinar University, Institute of Social Sceinces, Master Thesis, Kutahya, 2010.
20. Savram Merve, Karakoc Ali, *The Importance of Reputation Risk in the Banking Sector* International Conference on Euroasian Economies, Proceedings Book, p. 328- 332, 2012.
21. Takan Mehmet, *Banking*, Nobel Publishing, Ankara, 2001.
22. The Banks Association of Turkey-TBAT, *Principles Regarding the Management of Credit Risk*, 1999.
23. Yavuz Salih Tanju, *Components of Internal Control Functions: Is the Internal Control Center a Different Mechanism from Inspection (Internal Audit)?*, Journal of Bankers, Vol. 42, p. 40-56, 2002.