A RESEARCH ON THE EFFECTS OF BASEL CRITERIA ON SMEs AND AWARENESS OF THIS EFFECT BY TURKISH FINANCIAL PROFESSIONALS IN THE TURKISH BANKING SYSTEM

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By

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PLAGIARISM

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

The aim of this study is to find out the effects of Basel Criteria on the banking system and SMEs, and how much they are known by the bankers and accounting experts who are the actors of the financial system. In this research, firstly, the role of Basel Criteria in the rating, collateral structure and loan pricing processes of SMEs in the lending stage of banks in Turkey was examined. In the second part, a survey was conducted with 69 participant (bankers and accountants) who are experts in their fields about the extent to which they create awareness about the benefits of these effects, and the results were analyzed.

In the study, it is explained why the BIS and Basel Criteria are needed, how they emerged, why and how banks try to secure themselves. It has been explained how SMEs in Turkey are affected by these regulations and how they should create a collateral structure especially for bank loans, and which issues are taken into account by banks in loan pricing during the loan utilization phase.

In this context, Basel 1, Basel 2, Basel 3 were examined in detail. In addition, SMEs in Turkey have been examined in general terms. In the last part, the survey questions and the results were tried to be interpreted with frequency analysis using the statistical program SPSS. According to the analysis; It has been concluded that the Basel Criteria are extremely important and effective for SMEs in the Turkish Banking System

Keywords; Basel, Basel Criteria, BIS, SME, Banking, SME Banking, segmentation, SME segment, credit, rating, collateral, pricing, financial stability, economy, frequency analysis, SPSS.

ÖZET

Bu çalışmanın amacı: Basel Kriterlerinin Bankacılık sistemi ile KOBİ'lere olan etkilerini, finansal sisteminin aktörleri olan bankacılar ile muhasebe uzmanı kişilerce ne kadar tanındığını bulmaktır. Bu araştırmada ilk olarak Türkiye'de KOBİ'lerin Bankalar nezdinde kredilendirme aşamasında derecelendirme, teminat yapısı ile kredi fiyatlama süreçlerinde Basel Kriterlerinin rolü incelenmiştir. İkinci kısımda ise bu etkilerin faydalarını ne derece farkındalık yarattığı konusunda alanında uzman 69 katılımcıya (Bankacılar ve muhasebeciler) anket çalışması yapılarak sonuçları analiz edilmiştir.

Çalışmada BIS ve Basel Kriterlerine neden ihtiyaç duyulduğu, nasıl ortaya çıktığı, bankaların neden ve ne şekilde kendilerini güvenceye almaya çalıştıkları anlatılmıştır. Türkiye'de ki KOBİ'lerin bu düzenlemelerden nasıl etkilendiği ve özellikle banka kredileri için nasıl teminat yapısı oluşturmaları gerektiği ve kredi kullanım aşamasında bankalar tarafından kredi fiyatlamasında hangi hususların dikkate alındığı aktarılmıştır.

Bu bağlamda Basel 1, Basel 2, Basel 3 detaylı olarak incelenmiştir. Bununla beraber Türkiye'deki KOBİ'ler genel hatlarıyla incelenmiştir. Son kısımda ise anket soruları ile sonuçları istatistik programı SPSS kullanılarak frekans analizi ile yorumlanmaya çalışılmıştır. Analize göre; Türk Bankacılık Sisteminde, Basel Kriterlerinin KOBİ'ler için son derece önemli ve etkili olduğu sonucu elde edilmiştir.

Anahtar Kelimeler, Basel, Basel Kriteri, BIS, KOBİ, Bankacılık, KOBİ Bankacılığı, segmentasyon, KOBİ segment, kredi, derecelendirme, teminat, fiyatlama, finansal istikrar, ekonomi, frekans analizi, SPSS.

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ABBREVIATIONS

ATO: Ankara Chamber of Industry

BIS: Bank for International Settlements

BRSA: Banking Regulatory and Supervisory Agency

CBRT: The Central Bank of the Republic of Turkey

İSO: Istanbul Chamber of Industry

KGF: Credit Guarantee Fund Company

KOSGEB: SME Improvement and Support Office

NPL: Non-Performing Loan

SME: Small and Medium-Sized Enterprise

TBB: Turkish Banking Association

OECD: Economic Co-operation and Development

SPK: Capital Market Board

SPSS: Statistical Package for the Social Sciences

TCMB: The Central Bank of the Republic of Turkey

TÜİK: Turkish Statistical Institute

1.INTRODUCTION

The importance and business volumes of banks in the field of economy is indisputable. This situation brings with it many risks that are experienced or likely to be experienced in the financial system, which has a fragile structure. It is not possible for banks to remain indifferent to such negativities, and it is a natural attitude to protect themselves. At this point, it is seen that banks try to have a stronger financial structure and protect their reputation. It has been understood that this situation is only possible by keeping their capital at a sufficient level. Because the more capital a bank holds, the stronger it will survive and the more robust it can stand in the face of negative scenarios.

Although it is known that the main causes of financial crises stem from banking activities, banks, which are the building blocks of the financial system, have undergone radical changes with each new regulation. The common goal of these changes is to create a strong banking sector; to ensure the smooth functioning of the financial system and the immunity of financial institutions against crises.

It is an important issue that the financial system, which is constantly developing with globalization, has a more stable and transparent structure. For a stronger financial and banking sector, the concept of 'transparency' has become increasingly important with the Basel Regulations. Another important issue for banking is 'financial stability'. 'Financial stability' plays an important role in the operation of funding the market by lending money with the money they borrow from their customers under the name of 'deposit', together with the equity capital of the banks, and in ensuring this commercial cycle without any problems. The concept of financial stability is vital for banking, as banks have a high responsibility to

individuals and institutions to whom they borrow and lend. The Basel Criteria have a great contribution in terms of gaining importance of this understanding in financial circles (especially in banks) and in bank customers (firms) over time. The importance of capital adequacy ratios for banks was realized through these criteria and banks tried to continue their activities by establishing special units to comply with these criteria. As a result of these studies, banks first integrated the necessary regulations into their own structures; then, as a reflection of this, they try to adapt it to their customers (businesses) that they aim to achieve profit and efficiency.

2. LITERATURE REVIEW

2.1. Bank of International Settlements (BIS)

Established in 1930, the BIS is owned by 63 central banks, representing countries from around the world that together account for about 95% of world GDP. Its head office is in Basel, Switzerland and it has two representative offices: in Hong Kong SAR and in Mexico City. Since December 2017, its Managing Director is Agustín CARSTENS (Bank for International Settlements, n.d.)

The BIS defines its mission as 'Serving central banks in their pursuit of monetary and financial stability, promoting international cooperation in these areas and acting as a bank for central banks'. (BIS, n.d.)

Their duties in general terms :

• To encourage negotiation and facilitate cooperation between central banks,

• Supporting dialogue with other authorities responsible for promoting financial stability,

• To conduct research and policy analysis on monetary and financial stability issues,

• Acting as the main counterparty in financial transactions of central banks,

• Serving as an agent or trustee in connection with international financial transactions. (BIS, n.d.)

The Central Bank of the Republic of Turkey became a member of this organization in 1951.The Central Bank of the Republic of Turkey, which has 8,000 shares worth a total of 40 million SDR (special drawing rights), has a share of 15 per

thousand in the total capital of BISThe Central Bank of the Republic of Turkey provides high level participation in BIS meetings. (TCMB, n.d.)

When the foundation year (1930) of BIS is taken into account, it draws attention that it was established just after the Great Depression of 1929. It is not a coincidence that such a regulatory and constructive financial institution was established after this economic crisis, which was first experienced in the USA and whose effects were felt all over the world.

As it is known, industrialized cities were the most affected by the crisis in 1929; many businesses and banks collapsed, the stock market hitrock bottom. Many people (about 50 million) living in these cities have become unemployed and homeless. As a result, this collapse had a negative impact on the social and economic welfare of societies.

There are 4 main reasons for the 1929 economic depression. The first is that many small companies, large and small, in the USA had to merge due to the difficult conditions brought by the First World War. Thus, in 1929, with the merger of many small companies, "monopolies" were formed and these holdings had a share of over 50% in the country's economy. This shows that even the bankruptcy of a single holding will be enough to shake the country's economy. The second reason was the inadequacy of economic knowledge of the people in the state administration. President Hoover administration at that time, defending the liberal economy view, found it appropriate not to intervene in the economy. However, as the social cost was realized much higher than expected, the President's intervention, albeit belatedly, was not effective. The third reason was that the USA was the only creditor country in the world. Since all countries were affected by the global crisis, the loans given by the

USA to other countries could not be taken back. The fourth and the last reason that closely concerns us in terms of our work is the 'bad structure of banks'. In those years, the reasons such as the absence of laws determining the capital principles, reserve and loan ratios of the banks, the absence of a legal sanction measuring the reliability of the financial statements of the companies, and the lack of technology as today (for example, the investor could not get enough information about the company from which he bought the stock, due to the lack of adequate intelligence). It shows how poorly the financial system is functioning. Likewise, the absence of laws separating commercial banks from investment banks reveals another flaw in the system.

In summary, with the globalization that emerged from the beginning of the 1900s, the crises experienced spread rapidly among the countries and caused unpredictable harmful results. Problems such as banks' borrowing more than their current capital, lack of adequate regulation and supervision mechanisms in transactions, and unpredictability of the risks undertaken were influential in the establishment of the BIS.

The Basel Committee on Banking Supervision, originally called the Committee on Banking Regulations and Supervision Practices, the Central Bank Governors of ten countries (G10 countries: USA, Belgium, United Kingdom, France, Netherlands, Switzerland, Italy, Japan, Canada, Germany). (BIS, n.d.)The committee, headquartered in Basel,

- To ensure international cooperation in banking surveillance and supervision,
- To make common arrangements and ensure security in the international banking system,
- Developing techniques that will enable banks to be audited in general,

• Guiding national supervisory authorities, etc. was established for the purposes (O. YILDIRIM 2015)The Committee has been meeting 3 or 4 times a year since 1975. The Basel Committee consists of 28 jurisdictions and 45 members, comprising central banks and official supervisory authorities. In addition, the Committee has nine observers, including central banks, supervisory groups, international organizations and other bodies. The Committee also cooperates with other standard-setting bodies and international financial institutions to ensure effective oversight and information sharing. Among these are institutions such as the Financial Stability Board, Payments and Market Infrastructures Committee, IMF, World Bank, IFRS, FSI (BIS, n.d.)
It appears to have emerged with the collapse of the Bretton Woods System in 1974, again after a financial crisis. Bretton Woods System, II. It is the economic system that emerged at the United Nations Monetary and Finance conference held in Bretton Woods, a small town in the USA in July 1944, during World War II .(Eğilmez, Mahfi Bretton Wooods Ekonomi Sözlüğü) With this collapse, many banks lost foreign currency. With the collapse of the Bretton Woods system in the early 1970's, fluctuations in exchange rates, interest rates and prices began to emerge (M. Yayla, Y Türker Kaya 2005,3)

As a result of the crises that occurred following the fluctuations in the markets, a search for regulation was made in the international arena(İ. U. Mısırlıoğlu, 2006,76.) The most important factor in the establishment of the committee was the bankruptcy of Bankhaus Herstatt in West Germany and Franklin National Bank in the USA in 1974. (İ.Horasan, 2012,32.)

BIS has examined the risks related to banking activities within the framework of its activities and has established special units to work on this issue. Basel Banking Supervision and Audit Committee (Basel Committee On Banking

Supervision) is the most important of these studies and units established within the BIS (M. Özçam, 2004)

Although the Basel Committee does not officially have the authority to set laws and rules, it can produce drafts and proposals related to banking sector regulations and open them up for discussion (S.Teker-K. E.Bolgün-M. B.Ş. Akçay, "2005, 3). The decisions of the Committee have no legal effect. On the contrary, the committee sets the auditing standards for the practices of national authorities and gives them guiding recommendations. The Committee encourages member countries to implement the standards it has determined in a timely and consistent manner (BIS, n.d.)

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The committee aims to spread a certain vision to the world by determining common and standard approaches rather than determining the auditing techniques and works of the member countries in detail (O. Yıldırım, 2015). In this framework, one of the important goals of the committee is to fill the gaps in the international audit system. In this context, two important principles have been determined.(Babuşçu, 2005, 260):

• The first principle is that no banking institution should escape inspection,

• The second principle is the adequacy of inspections.

To summarize; As a result of the first examination of the Basel committee, it was concluded that most of the banks operating in international markets work with insufficient capital (Aksoy, 2010: 35). The most important initiative for international harmonization of banking regulations has been the Basel Criteria. The basis of the Basel Criteria is the establishment of rules that will ensure that banks have sufficient capital ratios.

2.2 Emergence of Basel 1 Criteria, Implementation Process

In 1988, the Basel Committee determined the Basel 1 Criteria to harmonize the methods used in the calculation of national capital adequacy for the first time, and named these criteria as the "Capital Adequacy Consensus". intended. Thus, it is suggested that the ratio of bank capitals to risky assets, that is, the Capital Adequacy Ratio, should be at least 8%. This rate has been determined as 12% by the BRSA in our country. Simply to remember the balance sheet items of banks;

Figure 1

Summary Bank Balance Sheet

ASSETS	**LIABILITIES**
-Cash	-Deposits
-Loans	-Debts from banks
-Securities	-Other Debts
.Governments Bonds	
.Other	
-Affiliates	-Equity

Figure 2

Capital Adequacy Ratio in Basel 1

Capital Adequacy Ratio =	**Capital** **----------** **Credit Risk+Market Risk**	**>=%8**

The Basel I Criteria have been fully implemented since the end of 1992, with a gradual transition process. In this process, it was envisaged that the capital adequacy ratio would be 5% in 1989, 6% in 1990, 7% in 1991 and 8% in 1998, respectively, and important steps were taken to adapt the legal and institutional arrangements in the banking sector to changing conditions and international norms (Rybak TN. & Aktan B. 2008).

Officially, this rate is 8%, but the rate determined by the Banking Regulatory and Supervisory Agency (BRSA) in practice is 12%, in Turkey. At this point, an important step has been taken in terms of financial stability by adopting a standard criterion in the banking system.

With the "Regulation on Measurement and Evaluation of Banks' Capital Adequacy", which entered into force in February 2001 in Turkey, market risks were also included in capital adequacy measurements for the first time. The BRSA, whose purpose of establishment was to achieve a healthy structure in banking, has made the implementation of the relevant regulation mandatory since the end of 2001(BRSA, 2010).

With the implementation of the Basel I Criteria in our country, issues such as the establishment of risk cultures of banks and their adoption by the institution, the development of the perspectives of managers and bank owners in line with the new

regulations, the completion of technological investments and the training of personnel began to gain importance (Beşinci M., 2005).

The Basel I Criteria are focused on the capital that must be held as a minimum to minimize the costs that current owners may face should a bank fail. With the Basel I regulations, a risk-based relationship has been tried to be established between the assets of international banks and the capital they hold.(O. Yıldırım 2015, 52)

In the introductory part of the Basel I Criteria, two points to be considered in practice came to the fore. The first is that capital standards have been developed to ensure the reliability and stability of international banks, and the second is that local banks are not binding on capital adequacy standards. In addition, the importance of fairness and consistency in the application of such a standard, which aims to reduce the application differences between countries, was also mentioned. The Committee attaches great importance to the adoption of the standard by countries other than the G-10 countries, as it will accelerate the integration in this field.(Aras, 2006, 11).

The Basel Criteria, which started to be implemented for the first time in 1989, included easy-to-understand provisions and Turkey (the country's being an OECD member is one of the main determinants) has quickly adapted to this process with the advantage of being an OECD country. Despite this rapid adaptation, it is suggested that the criteria are missing in some points. Since Basel I is applied in the same way to all banks with different fields of activity, it is defined as "one size dress for all" in the literature. In addition, borrower differentiation is not made in the calculation of the capital adequacy ratio based on credit risks. E.g; For loans given to a well-established firm with a very sound financial structure or a firm with a weak financial structure that has just been established, it is necessary to keep the same amount of capital regardless

of the debtor's quality *(*E.Aslan Külahi, G. Tiryaki, A.Yılmaz, July 2013*)* Basel I another shortcoming of the Criteria arising from the speed of change in the markets is that it did not foresee the changes and innovations in the secondary and derivative markets. Many banks underestimate the risks they actually bear by selling their debt through securitization or by taking positions in derivatives markets. Many banks, which made very risky investments compared to their capital and showed a lower level of risk through these transactions, were effective in the banking crises in the following years (Chris Matten, 2000).

Although the Basel I Criteria only covers the capital adequacy regulation, it is effective in strengthening the structure of the banking sector, but the inability of the criteria to respond quickly enough to the increasing needs of the sector and the economic problems experienced have brought the need for a new regulatory standard to the agenda. In accordance with this need and the dynamic nature of the markets, the Basel Committee published the new consensus Basel II in 2004 *(*E.Aslan Külahi, G. Tiryaki, A.Yılmaz, July 2013)

2.3 Emergence of the Basel 2 Criteria

The main purpose of the Basel Committee is to create a flexible application area that more accurately reflects the risks that banks are exposed to. Making a healthy and stable financial system sustainable is of course not possible by ensuring minimum capital adequacy alone. For this, it is necessary to establish and implement an effective inspection and surveillance system and to increase the efficiency of market discipline(Aras G. 2007).

The following innovations have been introduced with the Basel 2 Criteria, which was officially published in July 2012 (TBB, 2013):

• Banks were given the opportunity to choose the method proportional to their size,

• The structure of the capital adequacy concept has expanded (structural blocks),

• Measurements have become more risk sensitive,

• Establishment and development of effective risk management systems were encouraged,

• OECD criterion lifted,

• Expanded the scope of publicly disclosed capital adequacy information (Market discipline).

The calculation of the capital adequacy ratio with Basel 2 is as follows:

Figure 3

Capital Adequacy Ratio in Basel 2

$$\text{Capital Adequacy Ratio} = \frac{\text{Capital}}{\text{Credit Risk+Market Risk+Operational Risk}} >= \%8$$

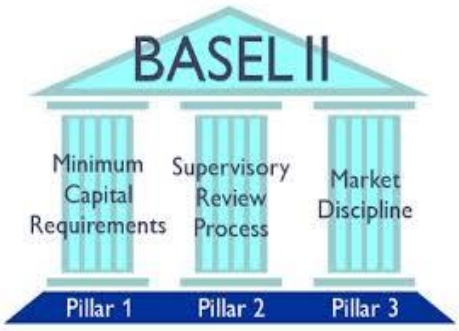
Credit risk is the risk of the loan extended by the bank, the security purchased or anythe partial or complete non-return of the money given in any way,

Market risk depending on the volatility in the financial markets, interest rates, foreign Exchange as a result of changes in exchange rates and stock prices, a bank's loss risk of losing or losing capital,

Operational risk on the other hand, is the inoperable or inappropriate internal processes, people, the risk of damage that may arise due to systems or external factors (TBB, 2006).

Figure 4

Structural Blocks of Basel 2



Basel II consists of three main parts (pillars):

1-First Structural Block: Minimum Capital Requirement

2-The Second Pillar: Supervisory Authority's Review

3-Structural Block Three: Market Discipline

Note. Entrepreneurial SMEs

Table 1

Statistical Reports, Capital Adequacy Ratio with Basel 2

YEARS	Capital Adequacy Ratios
2006	22,2
2007	19,1
2008	18,1
2009	20,9
2010	19,2
2011	16,7

Table 2

Capital Adequacy Ratios of Public-Domestic-Foreign Banks by Years

Year	PUBLIC	DOMESTIC SPECIAL	FOREIGN	ALL SECTOR
2010	16,73	18,17	17,25	19,20%
2011	16,74	15,31	16,86	16,70%
2012	17,2	17,1	17,67	18,10%
2013	13,5	14,8	15,5	15,40%
2014	18,17	15,41	15,96	16,40%
2015	16,77	14,66	15,56	15,60%
2016	15,76	14,51	16,8	15,50%
2017	17,41	17,26	24,4	16,80%

Note. BRSA, 2019.

In both tables, it is seen that the minimum capital ratios in Turkey are above 8% in every period.

The differences between Basel 1 and Basel 2 are clearly stated on the BRSA website as follows:

- The "club rule" in Basel-I, which is based on the principle of determining the capital requirement in terms of credit risk according to the criteria of being an OECD country or not, is abolished with Basel-II.

- In Basel-II, credit risk is determined according to the rating grades of the borrowers. While some methods in Basel-II use the ratings given by independent rating companies (eg Standard & Poors, Fitch, Moodys, etc.), some advanced methods (subject to the banking supervisor's approval) take into account the ratings given by banks based on their own assessments.

- In Basel-I, there is only a capital requirement for credit and market risks. In Basel-II, in addition to these risks, operational risk capital requirement has been added. In Basel-II, operational risk is defined as the risk of loss resulting from inadequate or disrupted

internal processes, people or systems, or external events (for example, losses resulting from embezzlement, earthquake, data processing failure), and banks also provide capital for these risks. are required to have them. In Basel-II, banks are required to evaluate their own capital adequacy, and both the capital adequacy and the bank's self-evaluation process are requested to be supervised and evaluated by the banking supervisor.

- Within the scope of Basel-II, it is obligatory to disclose detailed information specific to Basel-II regarding capital adequacy. This issue is not included in Basel-I. (BRSA, 2005)

2.4. Deficiencies of Basel 2, Emergence of Basel 3 Criteria and Contributions to Basel 2

Although the Basel II Criteria have eliminated a significant part of the criticisms against the Basel I Criteria, they have also been the target of many new criticisms on a global scale. The rigidity in the risk coefficients, which is one of the most criticized aspects of the Basel I regulation, disappeared with the introduction of credit rating agencies, but this situation brought new problems with it. Failure of rating agencies to accurately measure the dimensions of risks causes failure to take timely measures against crises. As a matter of fact, after the crisis began to occur in countries with very good ratings in the Asian Crisis, the country ratings were downgraded and this situation was subjected to serious criticism(S. GRIFFITH and J. S. SPRATT, 2011).

After the financial crisis that emerged as a result of the fluctuations in the housing markets in the United States in mid-2007 and spread all over the world, we are living in a period in which countries are still trying to recover.

Recent developments, one of the biggest financial crises the world has faced, have brought up the debates about the inadequacy of financial regulations, which seem extremely detailed and complex from the outside(Tiryaki G. 2010).

In order to make the financial crisis both very costly and troublesome, and to make the banking and financial system more resistant to future crises; demonstrated the necessity of important reforms such as increasing liquidity, capital quality, taking into account the economic conjuncture and increasing the capital requirement*(*BDDK, "Sorularla Basel III",2010)After the global crisis, the Basel Committee of Banking Supervision, of which our country is a member, started to work on regulations in order to increase the resilience of banks against shocks and to strengthen their capital. As a result of these studies, documents called Basel III were published *(*TCMB,2010)

Basel III, which was announced by the Basel Committee on September 12, 2010, came into effect gradually in 2013-2019. The transition process to BASEL 3 is given in the table below.

Table 3

Phase in Arrangement

PHASE IN ARRANGEMENTS

(Shading indicated transition periods - all dates are as of 1 January)

	2011	2012	2013	2014	2015	2016	2017	2018	As of 1 Janurary 2019
Legerage Ratio	Supervisory Monitoring		Parallel run 1 Jan 2013 - 1 Jan 2017 Disclosure starts 1 Jan 2015					Migration to Pillar 1	
Minimum Common Equity Capital Ratio			3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer						0.625%	1.25%	1.875%	2.50%
Minimum Common Equity Plus Capital Conservation Buffer			3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and Financials)				20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital			4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total Capital			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum Total Capital plus Conservation Buffer			8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%
Capital Instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital			Phased out over 10 year horizon beginning 2013						
Liquidity Coverage Ratio	Observation Period Begins				Introduce Minimum Standard				
Net Stable Funding Ratio	Observation Period Begins							Introduce Minimum Standard	

Source - The website for the Bank for International Settlements - http://www.bis.org/bcbs/basel3.htm

Basel III is not a "revolution" that completely changes the capital requirement calculation method like Basel II, but it is an "additional set of regulations" that completes the deficiencies of Basel II, especially in the 2008 financial crisis (BRSA, 2010).

In the new set of rules, there are topics such as the standards for increasing the quality and quantity of capital, which is important in the calculation of current equity and capital adequacy, and the creation of an additional capital buffer to be used depending on the periodicity. In addition to the aforementioned issues, new regulations have been introduced on issues such as liquidity adequacy and non-risk-based leverage ratios, which were previously seen as the biggest shortcomings of Basel II implementations (BRSA, 2010).

To summarize, the issues that Basel 3 foresees changes (BRSA, 2010):

I-More qualified capital,

II- Quantitative increase in capital adequacy,

III. Creating a capital buffer,

IV. Non-risk-based leverage ratio,

V. Liquidity arrangements.

3. SEGMENTATION IN BANKING AND ITS RELATIONSHIP WITH BASEL CRITERIA

In its most general definition, “segmentation” means partitioning, classification, grouping. This concept, more in the marketing field, means that brand owners subdivide their customers, which constitute their market, into specific customers with similar behaviors, needs, and expectations. Brand-owning companies position their products by dividing the targeted market nto small segments and identify the groups that are more likely to buy the product. Thus, the company will be more likely to sell its product, and they will save money and time by not wasting time with customers who will not buy the product.

As we know, the profitability and continuity of commercial companies are among the purposes of existence. Therefore, the main purpose of determining the segment is to reach the right market by determining the target customer group of the companies, thus to realize the effective and efficient (profitable) product sales and to maintain its position in the sector. At this point, banks have made a segmentation distinction. B.C. the point that banking, which started in temples in the 2000s, has reached today is far beyond just giving and receiving money. Banks, which have undergone major structural changes since the first quarter of the 20th century, began to turn into a financial market, especially after the 80s. This transformation has brought with it different risks and opportunities. The banking system realized some of these risks in a timely manner and took the necessary precautions. The issues that we mentioned in detail at the beginning of the study, among these steps taken in the recent history, are confronted by focusing on credit risks with Basel 1 in 1988. Major operational risk losses in the 1990’s brought Basel 2 into our lives in 2004. On the other hand, what happened during the 2008 crisis due to derivative products introduced us to Basel 3.

To summarize; Today, while banking is a chain market with its feature of being a financial market, it has also turned into an art of presenting products to the target audience (segment) with effective and accurate collateral, taking into account possible risks.

3.1.The Importance of Segmentation in Banking and Its Effect on Customer Policies (Strategies)

"Segmentation" is an important concept in the banking sector. Banks need to identify existing customers and potential customers while determining the location of their branches and the areas where ATMs are located. Many fixed expenses, especially the number of personnel to be employed by the branch and its cost, and the rental fee to be paid to the branch building and ATM area, are important cost items for banks. Financing of these expenses is provided by the income (professional efficiency) to be obtained from the customer in return for the service to be provided by that branch or ATM. The determination of the location of the deposit and loan utilization potential contributes to the determination of the bank's investment areas and the products to be offered. It would not be appropriate to market education loans or entrepreneurial support loans for the establishment of new workplaces in regions with a large retired population, or to offer agricultural or tradesman loans to companies whose turnover and asset size have reached a certain level, especially in large organized industrial areas in Istanbul. Therefore, presenting and marketing the right product to the right audience depends on the Bank's sound segmentation planning. Banks generally include departments, branches and customers; It is classified under the umbrella of Retail, SME, Commercial and Institutional Segments. I will try to explain SME Banking, which is the segment that falls within our scope of study.

3.2 What is SME? The Place of the SME Segment in Banking

SME, which is used as an abbreviation of small and medium-sized enterprises, is generally defined as an economic enterprise that uses less capital, operates with more manual labor, also has the opportunity to make quick decisions, works with low administrative expenses and realizes a cheap production.

Economical businesses classified as micro-enterprises, small enterprises and medium-sized enterprises, employing less than two hundred and fifty people per year, and whose annual net sales revenue or financial balance sheet does not exceed two hundred and fifty million Turkish Liras. units or enterprises". Enterprises that meet the conditions specified in the definition are classified as SMEs and are classified within themselves according to the number of personnel employed annually, net sales revenue and financial balance sheet.

Table 4

Classification of SMEs in Turkey

Criteria (Annual)	Micro Sized SME	Small Sized SME	Medium Sized SME
Number of Employed Personnel	< 10 employees	< 50 employees	< 250 employees
Net Sales Revenue	≤ 5 Million TL	≤ 50 Million TL	≤ 250 Milllion TL
Balance Sheet Total	≤ 5 Million TL	≤ 50 Million TL	≤ 250 Million TL

Note. Pursuant to the Presidential Decision dated 17/3/2022 and numbered 5315 published in the Official Gazette dated 18/3/2022 and numbered 31782

According to KOSGEB, which stands for Small and Medium-Sized Industry Development and Support Administration, the definition of SME is defined as micro-enterprises, small enterprises and medium-sized enterprises, employing less than two hundred and fifty people per year, with either annual net sales revenue or financial balance sheet not exceeding two hundred and fifty million Turkish Liras. Economic units or enterprises classified as businesses.

The SME criteria of HALKBANK, which was established in 1938 as the small business and SME Bank as of its mission, are determined according to the net sales, reference limit or number of beds (if in the tourism sector) and asset size, paying attention to the sector group of the companies.

a) Net Sales: For companies in the Manufacturing Sector: 0- 100.000.000 TL; The upper limit of turnover for companies whose sector code is "Ticaret" or which manufactures but has a share of more than 50% of the turnover obtained from their commercial activities in the total turnover is 200.000.000 TL.

b) *Reference Limit: The main criterion for companies operating in the contracting sector is that company'sis the reference limit. Total reference limit whose customer type is SME: 200.000.000 TL.

*Reference limit: The number of escalated (price difference) completed work since the establishment of the company or a certain period.

c) Number of Existing Beds and Active Size: Operating in the tourism sector SME

Criterion in companies: The upper limit is 1.000 beds and 200.000.000 TL asset size. Active size included in the final financial year balance sheet is taken into account.In the uropean Union, SMEs; micro, small and medium scale are classified. Micro-sized SMEs with 1-9 employees per year, net sales Businesses with a revenue

or financial balance sheet total of less than €2 million. small scale SMEs, employing less than 50 annual employees, net sales revenue or total financial balance sheet Businesses not exceeding 10 million €. Medium-sized SMEs, on the other hand, have less than 250 employees per year with a net sales revenue of less than €50 million or a financial balance sheet total of less than €43 million are businesses.

Table 5

Classification of SMEs in the EU

Criteria (Annual)	Micro Sized SME	Small Sized SME	Medium Sized SME
Number of Employed Personnel	< 10 employees	< 50 employees	< 250 employees
Net Sales Revenue	≤ 2 Million Euros	≤ 10 Million Euros	≤ 50 Million Euros
Balance Sheet Total	≤ 2 Million Euros	≤ 10 Million Euros	≤ 43 Milyon Euros

Note. Europa. eu/enterprise/policies/sme/facts- analysis/smedefinition/index_en.htm, 13.09.2018

3.3 The Importance and Value of SMEs in the Turkish Economy

Small and medium-sized enterprises (small and medium-sized enterprises) whose value is recognized more and more in developed and developing countries to strengthen and grow sized enterprises (SMEs) more than large enterprises. A lot of study is being done for this purpose. Growth with a constantly dynamic and flexible movement SMEs, which tend to are the most important institutions. It would be more beneficial to explain the place of SMEs in the Turkish Economy with TUIK.

Table 6

The Importance of SMEs in the Turkish Economy

	Ratio %
Number of SMEs	99,8
Number of Personnel Employed	72
Sales	49,4
Personnel Cost Incurred	49,2
Production Value	42,7
Added value with factor cost	41,3
Total Exports	36,4
Total Imports	24

Note. TÜİK, 2020.

3 million 295 thousand enterprises operating in the industry and service sectors are classified as SMEs enters. SMEs constituted 99.8% of the total number of enterprisesin 2020. With this, account for 72% of employment, 49.2% of personnel costs, 49.4% of turnover, productionaccounted for 42.7% of its value and 41.3% of added value with its factor cost. by 2020. SMEs accounted for 36.4% of total exports and 24% of imports.47.8% of exports made by SMEs in 2020 to European countries, 34.3% to Asiacarried out to their countries. SMEs import 49.6% of their imports from Asian Countries and 40.2% made from European Countries.

3.4 Strengths and Weaknesses of SMEs

Thanks to their small and flexible structures, SMEs easily adapt to the rapidly changing conjuncture. Therefore, SMEs are of great importance for both developing and developed countries is doing. However, from time to time serious economic fluctuations, especially in Turkey, andSMEs are even more important for countries facing crises exists (N. Hacıevliyagil,2016). The contributions of SMEs to the economy can be examined under 5 main headings (ATO, 2007)

• Employment creation

• Quickly adapt to changes,

• To enable product differentiation,

• Encourage entrepreneurship,

• Supplying intermediate goods to large enterprises.

In addition, the development of national economies and the realization of sustainable growth structural advantages of SMEs, which are extremely important for with lower capital establishing a closer relationship with customers and personnel, reducing the internal bureaucracy stock problems and products not being sold because they are less and are made to order considered to be less risky(Zengin, 2010: 62-63)With these structural contributions, there are weak and problematic points of SMEs. Of these some:

- Since the sales of SMEs are not stable in general, they are used both in decision making and in cash, have a hard time balancing.

-Management problem in SMEs, raw material acquisition problem, not finding skilled workers, R&Dnot being aware of their work and not being able to allocate a budget, not enough investment in technology(Zengin, 2010: 64-65). Failure to do so, inadequacy of financial planning and financing problems are the main problems are encountered.

3.5. Financing Problem and Financial Management Approach in SMEs

The need for financing in SMEs is a very important problem; especially equity and business lack of capital is common. SMEs, new investment, growth stage or they are mostly faced with this problem in the liquidity crunch during the crisis periods. These problems equity is generally provided by SMEs from the personal assets of the company partners (with the personal savings of the partners or the sale of

a valuable real estate owned by them), acquisition of new partners, government incentives or financial institutions that can provide equity to the company. It is tried to be overcome by providing borrowing at appropriate interest and maturity.Apart from this, it is not directly related to financing; frequently, albeit indirectly, related to finance, one of the problems is that SMEs have competent personnel with effective financial management is the absence. Generally; It is a financial system established at the will of the company's partners. Because they are the owner of the business and are usually the only authority. Most business owners, although they do not have an education and professional background, the job is carried out by family elders and even their fathers. They manage finance with the old-fashioned 'black book' method, as he learned from their side. Some there is no financial unit in enterprises. Financial management, mostly still firmentrusted to the follow-up of close relatives to the partners or persons responsible for administrative affairs such as pre-accountinghas been done. In such cases, financial management in SMEs is not carried out by experts irregular cash flow, poor financial literacy, lack of balance sheet and financial analysis information deficiencies such as inadequacy and lack of institutionalization are frequently encountered.

3.6. Financial Resources Provided to SMEs and Share of Banks

SMEs finance their activities mostly with their own resources, that is, with equity. However, they prefers bank loans when their own resources are not enough (Kutlu, H. A. & Demirci, N. 2007).

Table 7

Distribution of Businesses by Financial Resources Used in Turkey

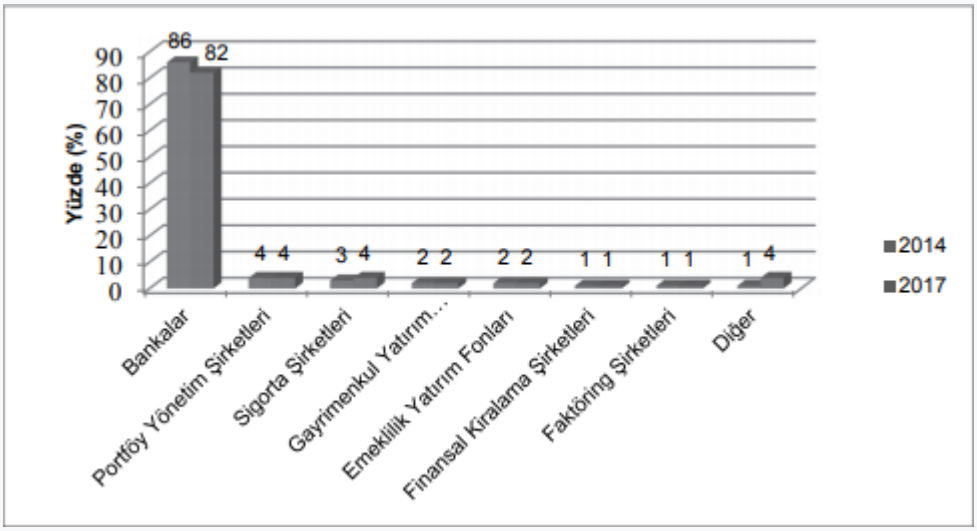
Financing Resources	**Small Sized Enterprises**	**Mid Sized Enterprises**	**Large Sized Enterprises**	**Total Enterprises**
Equity Capital	70,4	76,7	80,2	74,6
Commercial Banks	66,9	65,2	69,5	66,9
Exim Bank	8,5	24,8	40,5	20,6
Leasing	14,1	20	25,2	18,4
Faktoring	10,2	7,6	19,1	11,2
Investment and Development Banks	6,3	11,9	12,2	9,4
Foreign Financial Institutions	0,4	1,9	14,5	3,8
Other	2,8	2,4	3,8	2,9
Capital Market Instruments and Mutual Funds	0,4	1	3,1	1,1

Note. İSO, 2013.

As can be seen from the Table 7, it is seen that 74,6% of the total enterprises in Turkey turn to their own resources to find resources, and 66,9% to commercial bank loans. Therefore, the financial resources provided by the banks to the enterprises have a very large share. The shares of banks and other financial institutions in total asset size in the financial sector between 2014 and 2017 are as follows:

Table 8

The shares of banks and other financial institutions in total asset size in the financial sector between 2014 and 2017

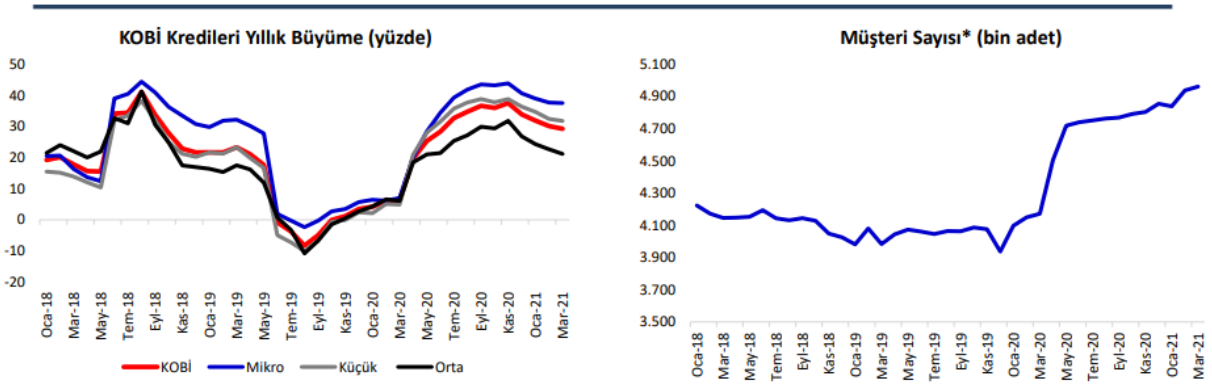


Note. TBB,2018.

Table 9

SME Loans of Banks as of March 2021

	TL	YP	Toplam Nakdi Krediler	Müşteri Sayısı*	Ortalama Kredi
		Milyar TL		Adet	Bin TL
Toplam KOBİ	**745**	**134**	**879**	**4.961.077**	**177**
Mikro	260	13	274	4.157.991	66
Küçük	243	40	283	618.360	458
Orta	241	81	323	184.726	1.749



Note. TBB, May 2021.

►SME loans Cash loans extended to SMEs in March 2021 amounted to TL 879 billion.

►While the average loan size is 177 thousand TL in all SMEs, it is 66 thousand TL in micro enterprises, 458 thousand TL in small enterprises and 1,7 million TL in medium-sized enterprises.

►As of March 2021, SME loans grew by 29 percent compared to the same month of the previous year.

► The total number of SME customers* has increased rapidly since the beginning of 2020, reaching 4,9 million.

* The number of customers is not deduplicated. An SME can be a client of more than one bank.

3.6.1.The Impact of Basel Criteria on SME Banking and SMEs

It is obvious that the Basel Criteria will affect SMEs the most in terms of bank loans, which are a source of financing. Bank loans, which we mentioned in the previous section, are of great importance in eliminating the resource problem for SMEs. It is as if bank loans are as vital for SMEs as “breathing”. In the profession, we express this importance as “water of life”. with Basel Criteria. When we correlate it, 3 important issues come to the fore in SME Loans. These; risk rating of the enterprise (scoring, rating), collateral and pricing.

3.6.1.1. The Rating Effect of Basel Criteria on SMEs

In order for the lending process to begin fully, visiting the business that has a loan request on site and seeing its activities on-site and forming an opinion is the first step for the analysis to be made. It is best to make this acquaintance visit (especially for companies that work for the first time) so that the evaluations can be made properly. Thus, mutual demands and expectations are determined; The credit evaluation process

proceeds more easily. After the meeting is positive, a set of documents belonging to the relevant enterprise (tax plate, signature circular, trade registry newspaper, activity certificate, identity of the company shareholders and attendance sheet, if any, capacity report, if it is a manufacturer, workplace - stock insurance, identity of the company partners) photocopy of title deed, etc.), and financial data (detailed trial balance with the Institutions Declaration of the last 3 years, detailed trial balance with interim temporary declaration depending on the evaluation date, and the list of ongoing, completed and remaining works in the construction / contracting sector).

With the provision of this information and documents, the rating and scoring process (score, risk rating) of the enterprise begins. This scoring is done to measure the risk of the business that is the subject of the credit study and to determine its credit worthiness. There are 2 types of analysis that banks use and base on in scoring. These are: Quantitative and qualitative analysis.

Quantitative analysis includes quantitative data. In these data, the financial structure of the enterprise is examined. Especially the last period (usually the last 3 years) financial statements are evaluated in detail. These statements are generally the balance sheet, income statement and trial balance. In the quantitative analysis, there are calculations that measure the current ratio, acid test ratio (liquidity ratio), cash ratio (disponibility) and how liquid the business is. Receivable turnover, debt collection period, debt collection period, inventory holding period and inventory turnover rate are determined in relation to the operating cycle. Technical determinations and evaluations such as vertical, horizontal and ratio analysis are made.

Vertical analysis (percentage method) is the determination of the share of the accounts in the balance sheet and income statement of a certain year in their own

groups and in the general total, expressing this share as a percentage and interpreting it.

Horizontal analysis (comparative table analysis) is the comparative arrangement of the financial statements of the enterprise for more than one financial period and the determination and examination of the developments and changes in the accounts in these tables over time.

Ratio analysis is the mathematical relationship between the accounts and/or account groups in the financial statements and expressing these accounts as percentages or multiples of each other. It provides the opportunity to examine the operating results of the businesses by comparing them with the companies in the same or different sectors *(*Financial Statement Analysis, Prof. Dr. Adem Çabuk, Prof. Dr. İbrahim Lazol/Ekin Bookstore).

In ratio analysis, liquidity ratios to measure the short-term debt solvency of the enterprise and to evaluate the liquidity risk; activity ratios to obtain information on how efficiently and economically assets and resources are used; **profitability ratios** to measure the adequacy of the firm's profits; Financial structure ratios are used to examine the relationship between equity and liabilities and to measure financing risk. You can find these ratios in the formulas section at the end of the study.

Strong capital structure (paid-in capital, profitability), positive net working capital, tangible assets (registration of workplace ownership, etc.), effective increase in turnover compared to previous years (sales increased widely as a result of operating activities) quantitative analysis is positive. influencing factors. In addition, while the shortness of the collection of receivables and the shortness of the stock-keeping period and the length of the debt payment period of the enterprise, which is in the manufacturing or trade sector according to its field of activity, affect the analysis

positively; The quality of the ongoing and completed works of the enterprise in the contracting sector, the profitability achieved and the short period of progress payment collection are other important issues that positively affect the financial analysis.

Qualitative analysis, on the other hand, includes qualitative data. In other words, it is the market and morality research conducted for the enterprise and its partners, which are the subject of the credit study. This research is data obtained from internal and external sources. The past and current status of the company and its partners are examined. Establishment date of the firm, its works in the market, the companies it trades with, the professionalism of the partners, their education level, work experience, whether there is a person to ensure the continuation of the enterprise, morality (such as written-unpaid check, promissory note, enforcement record) inquiry for the firm and partners, other the main issues such as whether there is a regular payment habit in loans taken from financial institutions) and the existence of workplace and stock insurance are examined with qualitative analysis. Qualitative analysis is especially important in terms of getting to know the business closely and explaining the credit file to the approval authority well, especially when the first credit study is done. These analyzes are brought together and inputs are provided to the credit module created by the banks themselves. This modulemay be different depending on the infrastructure established by each bank and the information technology it has. After the system login, the credit rating of the firm is automatically created by the bank system. It is very important that the entries made into the system are made accurately and impartially, as they contain information about the business subject to the loan. The resulting risk rating sheds light on the firm's situation in the period under review. A customer who has worked for many years gives a positive and negative idea about the course of the business compared to previous evaluations. As a

result of these analyses, we can state that although it varies according to the sector, in general, banks consider the effect of qualitative criteria on the rating score as 60% and the effect of quantitative criteria on the rating score as 40%.

The risk rating generally used by banks in practice is as follows: 1 represents the lowest credit risk and 4 represents the highest credit risk. The best grade given in the analysis is 1 and the worst grade is 4. In practice, credits are allocated mostly to CC and higher companies. C group companies are under the authority of the board of directors. Firms with a D grade are not allocated loans as per the Bank's policy. It is seen that the companies that banks give loans to SMEs have mostly CCC, B, BB, BBB and rarely A grades.

Table 10

Bank's Ratings

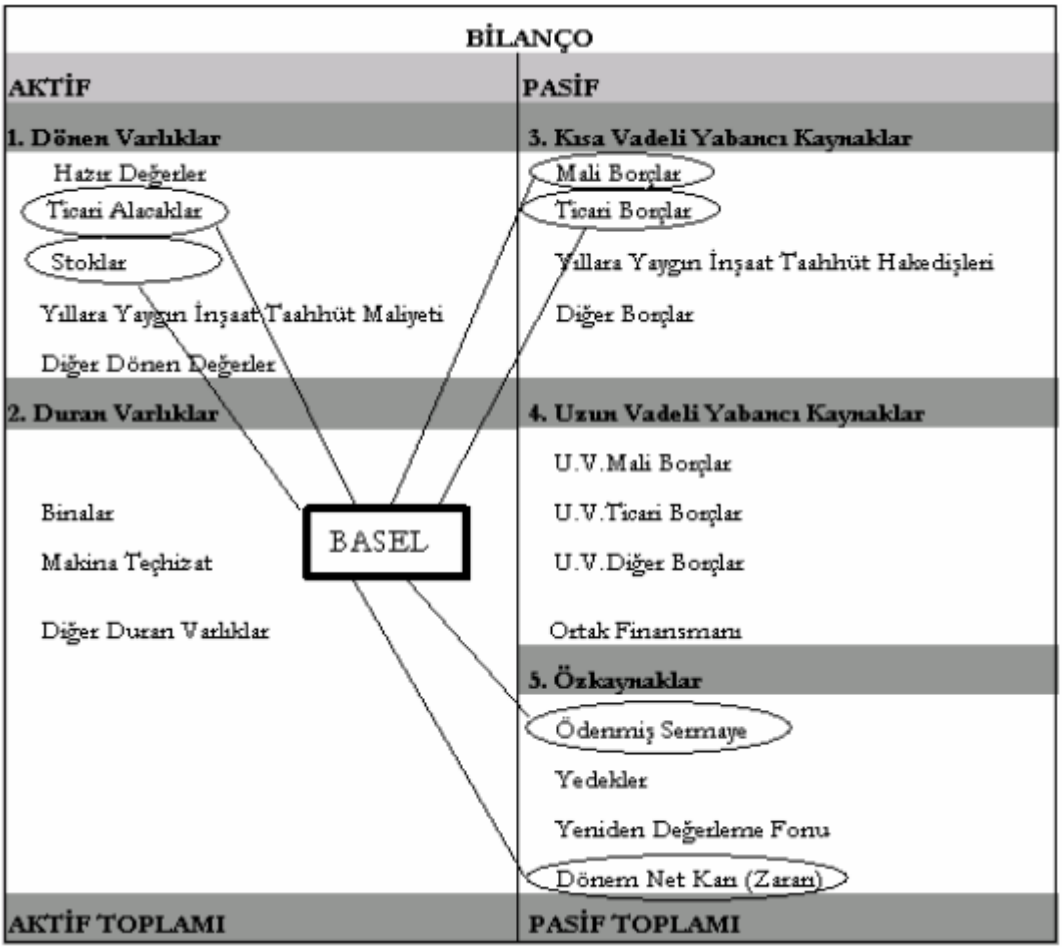
Score Note	
AAA	1,00-1,40
AA	1,41-1,80
A	1,81-2,00
BBB	2,01-2,20
BB	2,21-2,40
B	2,41-2,60
CCC	2,61-2,80
CC	2,81-3,20
C	3,21-3,60
D	3,60-4,00

The Banks Association of Turkey emphasized the importance of the following points for SMEs to have a good risk rating: "In the Basel II system, SMEs have a high rating by adopting corporate governance principles, not having unregistered activities, having a strong financial structure, and by banks and banks. Factors such as the ability to provide the data requested by the rating agencies in a timely and accurate manner will be decisive."(TBB, Risk Management and Effects of Basel II on SMEs, 2004, p.28–29).

Today, these factors are very effective for SMEs to have a good risk score. The points to be taken into account in SME balance sheets, especially in preventing informality, are as follows:

Table 11

Items to be Considered in SME Balance Sheets for Prevention of Informality



Note. TBB, 2006.

3.6.1.2. The Collateral Effect of Basel Criteria on SME Segment

It is essential that loans or liabilities are paid on time. If the loans are not paid on time, the loan will be in default and banks will have to resort to legal means to collect their receivables. The concept of collateral for banks gains more importance in this difficult period. In banking, collateral refers to the rights arising from all kinds of assets, guarantees, sureties and contracts that ensure all or a part of the bank's receivables against the risk of non-repayment of the loans. Banks demand this in order

to reduce the probability of loss of risks (financial, economic, structural risk, etc.) that they may encounter after the lending process. There are 4 main reasons for obtaining collateral by banks. These are:

1-) It is aimed to reduce the risk of non-repayment of the loan after financial analysis and other evaluations (morality, intelligence, etc.).

2-) Experiences, the necessity of obtaining collateral arises as a result of the experiences of the banks in the past.

3-) Forcing the customer, the existence of the collateral and its ability to be converted into cash are effective as a deterrent factor in directing the borrower to comply with the loan conditions and pay the loan. This is especially common with customers who mortgage their home. Borrowers who make more effort to pay their debts in order not to lose their home (especially if it is a family residence) in economic hardship are frequently encountered.

4-) Profitability (efficiency): It is important to increase the profitability of banks or to give a better price to the customer in loan pricing. This subject will be discussed further in section.

Completion of the credit work; When the approval authority allocates the loan, the terms of the loan are determined. With the formation of loan conditions, the issue of collateral becomes clear. The collateral, which is formed by determining and demanding the collateral suitable for the structure of the enterprise during the loan allocation stage, acts as a life jacket for the banks.

Even if it is not 100% (considering the cyclical and sectoral risks), the collateral structure based on the rating of the enterprise is requested by the banks from their customers. The perception of risk about the business is very important when creating collateral. The risk rating (rating) created on the basis of the enterprise is an

important factor in the formation of this perception, but it is not sufficient on its own. The risks of the country, the sector (the market), and even the world economy should be taken into account and collateral should be provided accordingly.

In case the specified collateral structure is not fulfilled or fulfilled incompletely, the Banks have to bear with possible losses and allocate more provisions. This situation prevents banks from using their resources effectively, that is, transferring them to profitable (productive) areas. In addition, in such transactions, in-bank penal sanctions are applied to the relevant unit / personnel on the grounds of causing damage to the bank (condemnation, deducted rank, material liability, etc.). Generally, two types of collateral are applied by banks. It is divided into 2 as personal guarantee and material guarantee.

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Table 12

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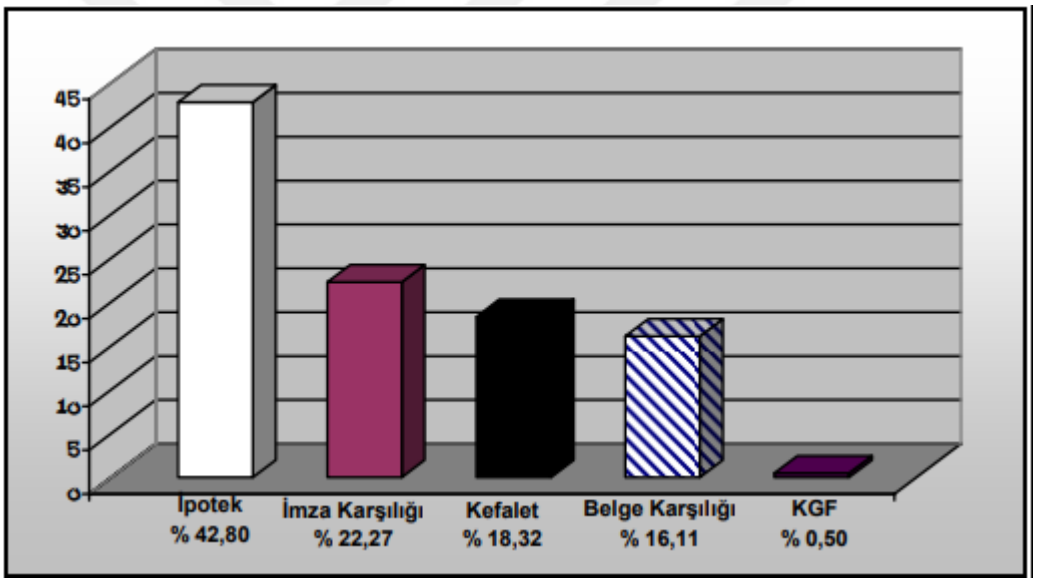


Note. KOSGEB, 2004.

It is necessary to add information to the table above that it is known that there has been a significant increase in KGF-guaranteed loans in Private and Public Banks, especially in 2017-2019 and 2020.

The evaluation of the collateral types widely used in the Turkish banking sector in terms of Basel II is done as follows. (TBB, 2006)

a) Real Estate Mortgage: Real estate mortgage is defined as a type of receivable in Basel II, not as an element of collateral. Here, a distinction is made in the form of loans given in return for residential real estate mortgages and loans given against commercial real estate mortgages. Real estate mortgage, which is considered as a type of receivable in Basel II, is an accepted collateral for almost every type of loan (housing, commercial, investment, specialty, consumer, Eximbank loans, etc.).

b)The use of credit against assignment of receivables is a widely preferred practice in our country. Even though it is a type of collateral accepted among the liquid collaterals (Group II Collaterals) within the scope of the Provisions Decree, it is not considered among the risk-reducing collaterals in the Basel II standard approach. It is possible to say that this situation is against SMEs in terms of collateralization.

c)Customer Checks and Bills Customer checks or bills arising from real commercial transactions are an important financial instrument accepted by the banking sector as collateral, especially in meeting the commercial or revolving loan needs of SMEs that engage in forward trading. In the Basel II document, there is an exception that such negotiable instruments can be considered as collateral for a transitional period of 3 years, only within the scope of national preferences and for guaranteeing defaulted receivables.

d) Bail Granting loans against real or legal person surety is partially included in Basel II. Basel II accepts companies with an 'A' or higher rating and all bank guarantees and credit derivatives as collateral. However, since no company in our country currently has an 'A' or higher rating, it does not seem possible to use the guarantees given by the aforementioned companies as a factor reducing the credit risk. Since the Credit Guarantee Fund (KGF) operating in our country does not have a rating from any rating agency, the guarantees it will give do not have a risk-reducing

effect. For this reason, the existence of a high quality surety service in line with risk management and Basel II understanding is an important issue for SMEs that will use loans from banks, especially SMEs.

e) Commercial Enterprise and Vehicle Pledge Commercial enterprise and vehicle pledge, which is one of the commonly used collateral types in Turkey, is not included in the Basel II accord. For this reason, it significantly reduces the items that can be offered as collateral for SMEs.

While explaining the subject of collateralization of banks, it is useful to mention the classification of loans, the provisions issued by the BRSA for these loans and how much of the guarantees taken as collateral is taken into account. Banks, including their branches operating abroad, have to monitor their loans and other receivables by classifying them into five groups according to their collection ability and creditworthiness of debtors. In this regard, the credits are:

a) **First Group** – Standard Qualified Loans and Other Receivables (0-30 days overdue loans)
b) **Second Group** – Loans and Other Receivables under Close Monitoring (includes loans overdue 31-90 days)
c) **Third Group** – Loans with Limited Collection Opportunity and Other Receivables (includes 91-180 days overdue loans)
d) **Fourth Group** – Uncollectible Loans and Other Receivables (181-360 days overdue loans)
e) **Fifth Group** – Loans with Loss and Other Receivables (includes loans over 360 days). (BRSA, "Regulation on the Procedures and Principles on Determination of the Qualifications of Loans and Other Receivables by Banks and Provisions to be

Set aside for These", (T.R. Official Gazette dated 01.11.2006, numbered 26333), article 4

Table 13

SME Loans of Banks as of March 2021

	Nakdi Krediler	Tahsili gecikmiş alacaklar	Toplam Krediler	Tahsili gecikmiş alacaklar / Toplam krediler	Tahsili gecikmiş alacağı bulunan müşteri sayısı
	Milyar TL			Yüzde	Bin Adet
Toplam KOBİ	**879**	**58**	**937**	**6,2**	**279**
Mikro	274	16	290	5,5	210
Küçük	283	18	301	6,0	53
Orta	323	24	347	6,9	16

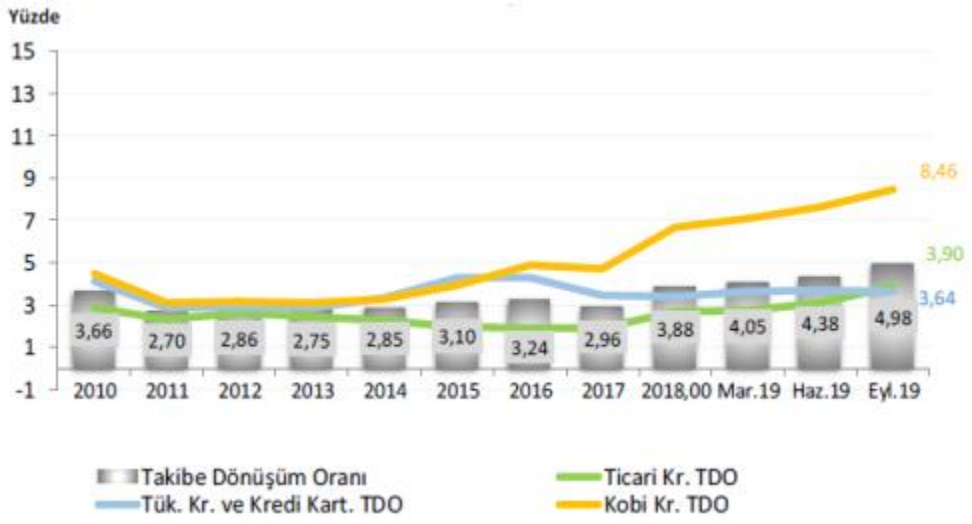
Note. TBB, May 2021.

► As of March 2021, the ratio of NPLs in SME loans to total loans is 6.2%

► The said rate is 5.5% in micro enterprises, 6% in small enterprises and 6.9% in medium-sized enterprises.

Table 14

NPL Ratio of Loans

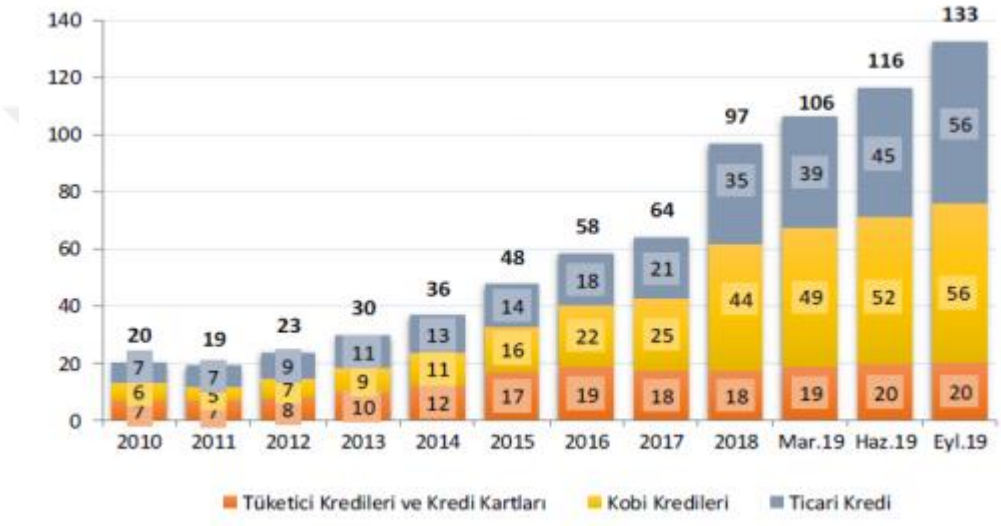


Note. BRSA, 2019.

As of September 2019, the NPL ratio of loans is 3.9 percent in corporate loans and 3.64 percent in individual loans. It is 8.46 percent in SME loans. It is evaluated that the fluctuations inexchange rates and interest rates in the third quarter of 2018, the weak course of economicactivities and the slowing loan growth had a negative impact on the NPL ratios of loans (CBRT, 2019).

Table 15

Non-Performing Loans



Note. BRSA, 2019.

As of September 2019, the total amount of non-performing loans in the Turkish banking sector reached 133 billion TL. When the amount of non-performing loans since 2010 is analyzed, it is seen that the loans given to SMEs are above the corporate and individual loans in terms of share. (C. Senel 2020, 12(1), 810-825 https://doi.org/10.20491/isarder.2020.879) In terms of banking, the concept of provision is to take precautions for possible losses. Thus, when the said losses are realized, it will be ensured that the deterioration in the financial structure remains at a recoverable level and that the activities will continue uninterruptedly (Ö.Acar, 2000).

Banks allocate general provisions for first and second group loans and special provisions for third and other group loans. Banks have a general reserve ratio of one percent (1%) of the total of the first group cash loans and two percent (2%) of the total of the second group of cash loans;

They set aside special provisions at least twenty percent (20%) of the third group cash loans, at least fifty percent (50%) of the fourth group cash loans, and at least one hundred percent (100%) of the fifth group cash loans. (BRSA, "Regulation on the Procedures and Principles on Determination of the Qualifications of Loans and Other Receivables by Banks and Provisions to be Set aside for These", (T.R. Official Gazette dated 01.11.2006, numbered 26333).

Treasury bills, government bonds, bank guarantees and suretyships and letters of guarantee are the first group, stocks, precious metals other than gold, real estate mortgages and foreign exchange Notes arising from real commercial relations are the second group and commercial enterprise pledge, vehicle pledge and natural or legal person whose creditworthiness is higher than that of the debtor sureties can be given as examples of third group guarantees. The types of collaterals other than the first three groups are defined as the fourth group collaterals (BRSA, "Regulation on the Procedures and Principles Regarding the Determination of the Qualificationsof Loans and Other Receivables by Banks and the Provisions to be Set aside for These", (TC Official Gazette dated 01.11.2006, numbered 26333).

Collaterals are divided into four groups according to the provisions regulation published by the BRSA, and the rates of consideration of collateral in the calculation of special provisions are as follows: (BRSA, "Regulation on the Procedures and Principles Regarding the Determination of the Qualifications of Loans

and Other Receivables by Banks and the Provisions to be Set aside for These", (01.11.2006) date, TC Official Gazette numbered 26333).

Consideration rate of first group collateral: One hundred percent (100%)

The rate of consideration of the second group of guarantees: Seventy-five percent (75%)

Rate of consideration of third group collateral: Fifty percent (50%)

The rate of consideration of the fourth group of guarantees: Twenty-five percent (25%).

To give an example to gather information: 95 days have passed since the short-term loan payment of 200.000.-TL by a bank to its SME customer. Let's assume that there is a real estate mortgage worth 250,000 TL as collateral for the loan. In this case, if we calculate how much provision the Bank should set aside: Real estate mortgage is the second group of collateral. Since the coverage ratio is 75%, a guarantee of 200,000 /100* 75=150,000 TL will be taken into account. In this case, special provision will be applied for the difference of 200.000 TL-150.000 TL = 50,000 TL. Accordingly, since the special provision amount to be applied is 20% for the 3rd group loans, it is 50,000 TL / 100 * 20 = **10,000 TL.**

3.6.1.3. Pricing Effect of Basel Criteria on SMEs

So far, I have tried to explain the two main elements used in risk measurement with the Basel Criteria. The first of these is the "firm rating score", which is determined as a result of the evaluation of the financial data and qualitative factors of the enterprise. The second is the collateral structure, which is evaluated together with the risk perception as well as the rating. Efficiency is the basis for the existence and continuity of the Banks, as in every business that we have included in this section and will consider as the third effect. We can also express this as the profit

that a bank obtains from its customers or wants to make. Profitability is mostly measured and evaluated by the marketing units of the Banks. This issue emerges with the pricing process in product and service sales, which is the most important item of these units.

In the marketing units of the banks, the rating, collateral and profitability aspects of the enterprise are very effective in the pricing process. While determining the interest and commission rate of the loan, the first considerations are the credit rating of the enterprise, the second is the existing or the collateral to be received, and the third is the current or potential profitability. Pricing is made by synthesizing these 3 data. Thus, the credit rating sheds light on the analysis of the loan requester as "high risk" or "low risk" and plays an important role in the pricing process. In other words, the worse the credit firm's rating, the more risk the bank will take, and the more capital it will hold in return. Therefore, it will deprive more resources of income (as long as the inability to transform into return on assets or reduce costly resources in liabilities) (TBB, 2006).

With regard to collateral and pricing, Banks display more appropriate and flexible pricing in businesses with strong collateral, and higher and more stringent pricing in customers with weak collateral. Because if the loan is not repaid, it is known that the return of the loan is provided faster and with less loss with a strong collateral, while the return of the loan with weak collateral is much more difficult and costly. Naturally, it is seen that banks reflect this additional cost to be incurred as interest and commission at the pricing stage.

We can say that profitability, that is, efficiency, is the most important criterion of pricing. As it is known, although banks are larger in scale, they have the characteristics of a commercial enterprise like an SME. Therefore, its main purpose is

to make a profit. For this reason, it wants to gain efficiency in return for many products and services that it spends effort and energy, provides employment and services, takes risks and provides. In practice, it can do this in two ways. The first is the efficiency achieved in the past period, that is, the current efficiency of an SME customer who has been working for a long time, is taken into account in the pricing process. From the first year of working with the Bank, how much transaction volume has been carried out, how many products have been used, how much of the cash flow has been transferred to the Bank, how much share has been taken from the deposit size, if any, of the enterprise or company partners, and the sensitivity of the enterprise to interest and commission are determined to determine the current efficiency. plays an important role in The fact that most of these criteria are met by the Bank will also have a positive effect on the interest and commission of the requested loan. To give an example, let's say we have an old customer who has been exporting for many years and requests 1.000.000 USD EXIM Credit for the supply of raw materials. A customer who has used EXIM Credit from the same Bank once). Here, apart from the risk rating and collateral that the company has, the first thing to be considered is the efficiency of the past period, the number of products it currently uses, and the export value it previously provided to that Bank in return for the EXIM loans it has used before. If this amount is not at least as much as the loan amount, the Bank's marketing units will not find it appropriate to provide a loan with appropriate interest and commission to that customer again.

For a new SME customer, the potential efficiency it will provide to the Bank regarding the projects it will carry out is analyzed. For example, an advance of 5.000.000 TL and a performance guarantee letter of 3.000.000 TL are requested by the employer for a factory construction work worth 50.000.000 TL for an SME operating

in the construction contracting sector. Let's assume that we have a customer who has been scored, credit allocation has been approved by the relevant authorities for that business, and the collateral structure has been agreed with the customer, but has not used any product or loan with the Bank before. In this case, the point taken into consideration is to determine how much transaction volume will be transferred to the Bank with this project. Accordingly, it is tried to learn how often the progress payments will be and how much demand deposit average will be created in the negotiations with the customer. From the salary payments of the personnel who will work in this construction business to the tax SSI payments to be made by the company, the transaction volume to be carried out by the Bank directly affects the pricing policy that the Bank will offer for that enterprise. If necessary, a protocol can be drawn up with the customer for the committed transactions before taking the risk. The aim here is that the risks and costs taken will be compensated in line with the commitments made.

When we associate it with pricing with Basel, the traditional Credit Pricing applied before the Basel Criteria is: Funding Cost + Customer Risk Premium + Dividend,Basel II Loan Pricing continued as: Cost of Funding + Expected Loss Rate + Cost of Additional Capital + Dividend.

With Basel II, banks' methodologies for determining loan interest rates follow a pattern of reflecting the risk incurred and the additional cost, as shown below. As it is understood from the table, it is seen that the lowest interest rate is given to the A group enterprise within its sector and collateral structure, while the highest interest rate is applied to the C group enterprise within its own sector and collateral structure.

Table 16

Pricing with Basel

FTP	11,0%	* Sermaye maliyeti riski en düşük getiri aracı olan % 14 DİBS ortalama bileşik faizi olarak dikkate alınmıştır.
Sabit Maliyet	2,0%	* Fon transfer maliyetinin % 11 olduğu varsayılmıştır.
Sabit Kar	2,0%	* Her rating, sektör ve teminatlar için ayrı ayrı PD, LGD, EAD, EL ve UL hesaplamalarının daha önce yapıldığı varsayılmıştır.
Sermaye Maliyeti	14,0%	* Sermayedarın kar beklentisinin her türden müşteri için % 2 olduğu kabul edilmiştir. (müşterinin ratingi, faaliyet gösterdiği sektörün riskliliği gibi unsurların dikkate alınmadığı varsayılmıştır.)

EAD	Rating	LGD	Sektör	EL	UL	EL %	UL %	Referans Fiyat	Kredi Fiyatı
2645	A	15%	Tekstil	7	11,82	0,26%	0,45%	13,29%	**15,29%**
2645	BBB	15%	Tekstil	8,06	10,71	0,30%	0,40%	13,32%	**15,32%**
500	BB	30%	Tekstil	3,05	5,45	0,61%	1,09%	13,68%	**15,68%**
500	B	30%	Tekstil	10,19	33,31	2,04%	6,66%	15,69%	**17,69%**
900	AAA	15%	Metal	0,53	0,94	0,06%	0,10%	13,07%	**15,07%**
4000	AA	70%	Metal	2,8	5,93	0,07%	0,15%	13,08%	**15,08%**
2500	AA	30%	Metal	0,5	3,26	0,02%	0,13%	13,04%	**15,04%**
1350	BBB	45%	Metal	6,75	8,65	0,50%	0,64%	13,52%	**15,52%**
2645	BBB	15%	Metal	13,62	103,92	0,51%	3,93%	13,99%	**15,99%**
500	BB	30%	Metal	3,19	5,23	0,64%	1,05%	13,70%	**15,70%**
1000	B	100 %	Metal	78,69	255,39	7,87%	25,54%	23,34%	**25,34%**
1000	AAA	100 %	Gıda	0,85	1,64	0,09%	0,16%	13,10%	**15,10%**
900	AA	15%	Gıda	0,49	2,09	0,05%	0,23%	13,08%	**15,08%**
2645	A	15%	Gıda	3,17	14,31	0,12%	0,54%	13,18%	**15,18%**
10000	BBB	100 %	Gıda	103,5	383,09	1,04%	3,83%	14,43%	**16,43%**
4000	BB	70%	Gıda	107,8	184,39	2,70%	4,61%	15,96%	**17,96%**
2166	B	10%	Gıda	22,09	31,8	1,02%	1,47%	14,08%	**16,08%**
1350	C	45%	Gıda	112,99	168,78	8,37%	12,50%	21,95%	**23,95%**
3166	AA	10%	Perakende	0,79	4,01	0,02%	0,13%	13,04%	**15,04%**
1000	AA	100 %	Perakende	30,19	30,43	3,02%	3,04%	16,02%	**18,02%**
2645	A	70%	Perakende	12,43	125,73	0,47%	4,75%	14,07%	**16,07%**
1000	A	100 %	Perakende	0,75	1,18	0,08%	0,12%	13,08%	**15,08%**
4000	BB	70%	Perakende	84,8	92,3	2,12%	2,31%	15,15%	**17,15%**
10000	BB	100 %	Perakende	202,5	3553,22	2,03%	35,53%	19,72%	**21,72%**
1350	B	45%	Perakende	78,09	200,74	5,78%	14,87%	20,06%	**22,06%**
1000	B	100 %	Perakende	88,94	129,63	8,89%	12,96%	22,46%	**24,46%**
1000	AAA	100 %	Kimya	0,9	1,59	0,09%	0,16%	13,10%	**15,10%**
500	A	30%	Kimya	1,75	8,43	0,35%	1,69%	13,54%	**15,54%**
1000	A	100 %	Kimya	10,35	35,9	1,04%	3,59%	14,39%	**16,39%**
1000	B	100 %	Kimya	69,19	232,83	6,92%	23,28%	22,21%	**24,21%**
409	C	70%	Kimya	39,59	42,89	9,68%	10,49%	22,79%	**24,79%**

Note. TBB, 2006.

Expected Loss Rate: Customer's Probability of Default (PD) * Loss at Default Rate (LGD)

4. METHODOLOGY

4.1 Sampling Procedure

Research data is based on around 300 bankers and accountants responses on the subject of the Basel Criteria. These bankers and accountants are employed in Istanbul, Ankara, Bursa, Kocaeli, Denizli and other provinces. Questionnaire was sent to all of the bankers and accountants, 69 out of 300 baccountants were reached for the survey and the response rate was just over %23.

4.1.1 Research Design

The SPPS program and frequency analysis and quantitative research method were used.

4.1.2 Research Variables

Research variables are each of the Basel Criteria totaling 20 variables. In addition to the 20 variables, there are additional 2 open-ended variables. There are 22 research variables in total.

4.1.3 Measurement Instruments

The questionnaire is composed of three sections.

The first section asks the respondents of the socio-demographics such as the title, employed in provinces, and the professional experience of the respondent.

The second part of the questionnaire consists of 22 items focusing on the importance and effects of the Basel Criteria for SMEs that measure the necessity of the questionnaire. Each item from 1 to 12 questions a 5-point Likert type scale was used, ranging from 1 “not important” to 5 “very important”. The measurement has been developed by the researcher based on the Basel Criteria. From the 13th to the 18th questions, multiple-choice answers were presented and it was tried to learn the opinions of the participants on the compliance of SMEs with the Basel Regulations.

In the third part, 4 interrelated questions were asked, two of which were open-ended. In this section, it has been tried to learn the opinions of the participants about the reasons by asking whether the Basel Criteria are necessary for SMEs and which criterion is the most effective.

4.1.4 Frequency Analysis

Frequency analysis was used statistical analysis technique that shows the frequency of observation and percentage distribution of data. We can evaluate demographic factors, survey items, categorical or integer research questions with frequency analysis.

5. RESEARCH FINDINGS

Table 17

Demographic Characteristics of the Participants

Statistics

		Participant's Job	Age of Participant	Work Experience of the Participant	City where the participant resides / works
	Valid	69	69	69	69
	Missing	0	0	0	0
Mean		1,0870	2,6667	2,1884	1,9420
Median		1,0000	3,0000	2,0000	1,0000
Std. Deviation		,28384	,53321	,57587	1,67054
Variance		,081	,284	,332	2,791

We see that we have 69 variables (participants) in the Statistics section and there are no missing values.

Table 18

Participant's Job

	Frequency	Percent	Valid Percent	Cumulative Percent
Bankers	63	91,3	91,3	91,3
Financial Advisor / Independent Accountant/ Certified Public Accountant	6	8,7	8,7	100,0
Total	69	100,0	100,0	

When we look at the Frequency Table, we see the total numbers and % values in the profession variable. 91.3% of the participants are bankers and 8.7% are accountants.

Table 19

Work Experience of the Participant

	Frequency	Percent	Valid Percent	Cumulative Percent
0-5 years	6	8,7	8,7	8,7
5-15 years	44	63,8	63,8	72,5
Over 15 years	19	27,5	27,5	100,0
Total	69	100,0	100,0	

While 63.8% of the participants have 5-15 years of experience, 27% have more than 15 years of experience and 6% have less than 5 years of experience.

Table 20

City where the participant resides / works

	Frequency	Percent	Valid Percent	Cumulative Percent
İstanbul	51	73,9	73,9	73,9
Ankara	2	2,9	2,9	76,8
Bursa	1	1,4	1,4	78,3
Other	15	21,7	21,7	100,0
Total	69	100,0	100,0	

73.9% of the participants were from Istanbul, 2.9% from Ankara, 1.4% from Bursa and 21.7% from other provinces.

Table 21

Statistics of survey questions 1 and 18

Question number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Valid	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	4,3478	4,2609	4,4928	4,1014	3,9710	3,9710	3,6957	4,3768	3,5217	4,1884	4,1014	3,7246	2,6522	3,1304	3,1304	4,4928	3,1739	1,7536
Median	4,0000	4,0000	5,0000	4,0000	4,0000	4,0000	4,0000	5,0000	4,0000	4,0000	4,0000	4,0000	3,0000	3,0000	3,0000	6,0000	3,0000	2,0000
Std. Deviation	0,66035	0,72054	0,67787	1,04523	1,11105	0,95442	1,15433	0,76891	1,38912	0,92792	0,92585	1,19907	1,05477	1,55216	1,58033	1,73733	1,81462	0,75549
Variance	0,436	0,519	0,460	1,092	1,234	0,911	1,332	0,591	1,930	0,861	0,857	1,438	1,113	2,409	2,497	3,018	3,293	0,571

According to the table, it is seen that the average values for the answers to 5-point Likert-type questions in the range of 1-12 questions are at the level of 4.0628, and this average is spread around the "important" option. The fact that the standard deviation and variance values are generally below 1 shows us how compatible the data are.

Considering that questions 13-18 are different from likert type questions and each answer may differ according to the question, no comments were made by looking at the mean value, standard deviation and variance data.

Question 1: The importance of Basel Criteria in the economy of the world and our country?

Table 22

Results of survey question no. 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Not important	1	1,4	1,4	1,4
Undecided	1	1,4	1,4	2,9
Important	39	56,5	56,5	59,4
Very important	28	40,6	40,6	100,0
Total	69	100,0	100,0	

56,5% of the participants answered 'important', 40,6% ' very important'. The remaining 2.9% answered as ' not important ' and 'undecided'.

Question 2: Impact/contribution of Basel Criteria on SME Banking and SMEs?

Table 23

Results of survey question no. 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Less Important	3	4,3	4,3	4,3
Undecided	2	2,9	2,9	7,2
Important	38	55,1	55,1	62,3
Very Important	26	37,7	37,7	100,0
Total	69	100,0	100,0	

55.1% of the participants answered ' important', 37,7% 'very important'. The remaining 7,2% answered 'less important' and 'undecided'.

Question 3: The role/importance of capital adequacy ratios of Basel Criteria in bank balance sheets?

Table 24

Results of survey question no. 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	1	1,4	1,4	1,4
Undecided	1	1,4	1,4	2,9
Important	29	42,0	42,0	44,9
Very Important	38	55,1	55,1	100,0
Total	69	100,0	100,0	

55,1% of the participants answered 'very important', 42% 'important'. The remaining 2.9% answered as ' not important ' and 'undecided'.

Question 4: The effect of Basel Criteria in the decision of banks to lend to SMEs?

Table 25

Results of survey question no. 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	2	2,9	2,9	2,9
Less important	7	10,1	10,1	13,0
Undecided	1	1,4	1,4	14,5
Important	31	44,9	44,9	59,4
Very Important	28	40,6	40,6	100,0
Total	69	100,0	100,0	

Participants 44.9% answered as 'important', 40.6% as 'very important', and 10.1% as ‘less important’. The remaining 4.3% answered as 'not important' and 'undecided'.

Question 5: The role/importance of Basel Criteria in the collection of bad loans that can not be collected after banks lend to SMEs?

Table 26

Results of survey question no. 5

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	3	4,3	4,3	4,3
Less Important	8	11,6	11,6	15,9
Undecided	1	1,4	1,4	17,4
Important	33	47,8	47,8	65,2
Very Important	24	34,8	34,8	100,0
Total	69	100,0	100,0	

Participants 47.8% answered as 'important', 34.8% as 'very important', and 11.6% as ‘less important’. The remaining 5.8% answered as 'not important' and 'undecided'.

Question 6: Contribution of Basel Criteria to sustainable growth in SMEs?

Table 27

Results of survey question no. 6

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	1	1,4	1,4	1,4
Less Important	8	11,6	11,6	13,0
Undecided	2	2,9	2,9	15,9
Important	39	56,5	56,5	72,5
Very Important	19	27,5	27,5	100,0
Total	69	100,0	100,0	

56.5% of the participants answered as 'important', 27.5% as 'very important' and 11.6% as ‘less important’. The remaining 4.4% answered as 'not important ' and 'undecided'.

Question 7: The effect/contribution of Basel Criteria on financial costs in SMEs?

Table 28

Results of survey question no. 7

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	3	4,3	4,3	4,3
Less Important	13	18,8	18,8	23,2
Undecided	2	2,9	2,9	26,1
Important	35	50,7	50,7	76,8
Very Important	16	23,2	23,2	100,0
Total	69	100,0	100,0	

50.7% of the participants answered as 'important', 23.2% as 'very important' and 18.8% as 'less important'. The remaining 7.2% answered as 'not important' and 'undecided'.

Question 8: Are Basel Criteria well known and applied by banks in global crises?

Table 29

Results of survey question no. 8

	Frequency	Percent	Valid Percent	Cumulative Percent
Less Important	3	4,3	4,3	4,3
Undecided	3	4,3	4,3	8,7
Important	28	40,6	40,6	49,3
Very Important	35	50,7	50,7	100,0
Total	69	100,0	100,0	

40.6% of the participants answered 'important', 50.7% 'very important', the remaining 8.7% 'less important' and 'undecided'.

Question 9: Considering the capital adequacy ratios, whether the banks are domestic, public or private?

Table 30

Results of survey question no. 9

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	9	13,0	13,0	13,0
Less Important	12	17,4	17,4	30,4
Important	30	43,5	43,5	73,9
Very Important	18	26,1	26,1	100,0
Total	69	100,0	100,0	

43.5% of the participants answered 'important', 26.1% 'very important', 17.4% 'less important' and 13% ' not important'.

Question 10: Adaptation of SMEs to Basel Criteria in Turkey?

Table 31

Results of survey question no. 10

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	1	1,4	1,4	1,4
Less Important	5	7,2	7,2	8,7
Undecided	3	4,3	4,3	13,0
Important	31	44,9	44,9	58,0
Very Important	29	42,0	42,0	100,0
Total	69	100,0	100,0	

44.9% of the participants answered 'important', 42% 'very important', 7.2% 'less important' and 5.9% 'not important' and 'undecided'.

Question 11: In your opinion, what the Basel Criteria brings to the financial system should be sufficiently known by SMEs?

Table 32

Results of survey question no. 11

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	1	1,4	1,4	1,4
Less Important	6	8,7	8,7	10,1
Undecided	2	2,9	2,9	13,0
Important	36	52,2	52,2	65,2
Very Important	24	34,8	34,8	100,0
Total	69	100,0	100,0	

52.2% of the participants answered 'important', 34.8% 'very important', 8.7% 'less important', the remaining 4.3% 'not important' and 'undecided'. has given.

Question 12: Is it important to constantly revise the Basel Criteria and to implement Basel 4 very soon in terms of creating insecurity and/or financial instability in SMEs?

Table 33

Results of survey question no. 12

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Important	6	8,7	8,7	8,7
Less Important	7	10,1	10,1	18,8
Undecided	4	5,8	5,8	24,6
Important	35	50,7	50,7	75,4
Very Important	17	24,6	24,6	100,0
Total	69	100,0	100,0	

50.7% of the participants answered 'important', 24,6% 'very important', 10,1% 'less important', the remaining 14,5% 'unimportant' and 'undecided' has given.

Question 13: From whom do SMEs first learn about the existence of the Basel Criteria?

Table 34

Results of survey question no. 13

	Frequency	Percent	Valid Percent	Cumulative Percent
From financial news	12	17,4	17,4	17,4
From financial advisor / consultants	14	20,3	20,3	37,7
From banks	33	47,8	47,8	85,5
From the companies/markets they trade with	6	8,7	8,7	94,2
Other resources	4	5,8	5,8	100,0
Total	69	100,0	100,0	

The response was 47.8%, where SMEs first learned of the existence of the Basel Criteria from 'banks'.

Question 14: In which subject do SMEs in Turkey have the most difficulty in adapting to the Basel Criteria?

Table 35

Results of survey question no. 14

	Frequency	Percent	Valid Percent	Cumulative Percent
Dominance of legislation	14	20,3	20,3	20,3
Creating accounting system and infrastructure	14	20,3	20,3	40,6
Providing adequate budget / financial resources	12	17,4	17,4	58,0
Acquiring human resources with the necessary competence	7	10,1	10,1	68,1
Prevent informality	22	31,9	31,9	100,0
Total	69	100,0	100,0	

In Turkey, the most difficult issue in complying with the Basel Criteria for SMEs was the answer to 'Preventing informality' with a rate of 31.9%. In the second place, with 20.3%, 'domination of legal regulations' and 'creating an accounting system and infrastructure' were marked.

Question 15: What should be the priority issue that SMEs in Turkey should develop in order to make the transition period to Basel Criteria better?

Table 36

Results of survey question no. 15

	Frequency	Percent	Valid Percent	Cumulative Percent
Dominance of legislation	16	23,2	23,2	23,2
Creating an accounting system and infrastructure	13	18,8	18,8	42,0
Providing adequate budget / financial resources	6	8,7	8,7	50,7
Acquiring human resources with the necessary competence	14	20,3	20,3	71,0
Prevent informality	20	29,0	29,0	100,0
Total	69	100,0	100,0	

The answer was 'to prevent informality' with 29% in the first place, and the answers to dominate the legal legislation with 23.2% were given in the second place.

Question 16: SMEs in which sector provide the most comfortable transition to the Basel Criteria compliance process?

Table 37

Results of survey question no. 16

	Frequency	Percent	Valid Percent	Cumulative Percent
Construction / contracting	1	1,4	1,4	1,4
Manufacture	14	20,3	20,3	21,7
Trade	9	13,0	13,0	34,8

Service	8	11,6	11,6	46,4
Regardless of the sector, SMEs that make their purchases / sales mainly to corporate companies and SMEs with foreign connections and / or foreign trade	37	53,6	53,6	100,0
Total	69	100,0	100,0	

With the highest rate of 53.6%, the Basel Criteria were answered as the most comfortable sector for 'SMEs that make their purchases / sales predominantly to corporate companies, regardless of the sector, and SMEs with foreign connections and / or foreign trade'.

Question 17: SMEs in which sector have the most difficult transition in the Basel Criteria compliance process?

Table 38

Results of survey question no. 17

	Frequency	Percent	Valid Percent	Cumulative Percent
Construction / contracting	22	31,9	31,9	31,9
Manufacture	6	8,7	8,7	40,6
Trade	8	11,6	11,6	52,2
Service	10	14,5	14,5	66,7
Agriculture	17	24,6	24,6	91,3
Regardless of the sector, SMEs that make their purchases / sales mainly to corporate companies and SMEs with foreign connections and / or foreign trade	6	8,7	8,7	100,0
Total	69	100,0	100,0	

In the survey, it was accepted that the sector with the most difficult transition in the compliance process of SMEs with the Basel Criteria was the construction contracting sector with a rate of 31.9%.

Question 18: What is the issue/problem that SMEs are most affected by during or after the decision process of banks to lend to SMEs with Basel Criteria?

Table 39

Results of survey question no. 18

	Frequency	Percent	Valid Percent	Cumulative Percent
Rating-Scoring: SMEs do not have sufficient and necessary grades for crediting,	30	43,5	43,5	43,5
Collateral: Inability of SMEs to create the necessary and sufficient collateral required by the Banks after loan approval	26	37,7	37,7	81,2
Pricing: Although SMEs have the necessary and sufficient collateral, the inability of SMEs to obtain loans at appropriate interest and commission from banks or to provide them with high costs	13	18,8	18,8	100,0
Total	69	100,0	100,0	

With the Basel Criteria, the problem that SMEs are most affected by during or after the decision process of banks to lend to SMEs: Rating-Scoring-Scoring: It is accepted that SMEs do not have sufficient and necessary grades for crediting.

Table 40

Statistics of survey questions 19 and 21

Statistics			
Question number		**19**	**21**
	Valid	69	69
	Missing	0	0
Mean		1,0580	2,2174
Std. Deviation		0,2354	0,7044
Variance		0,05541	0,49616

According to the related questions and answers, the mean value, standard deviation and variance data are compatible.

Question 19: Do the Basel Criteria need to be better known and applied by SMEs?

Table 41

Results of survey question no. 19

To the question of whether Basel Criteria should be better known and applied by SMEs, 65 people answered 'yes' with 94.2%.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	65	94,2	94,2	94,2
No	4	5,8	5,8	100,0
Total	69	100,0	100,0	

Question 20: If your answer to question 19 is No, explain why? If your answer is yes, why and what do you think is needed for this?

The following answers were given to this open-ended question 20, which was asked depending on the 19th question:

-Trying to comply with the Basel Criteria is necessary for the sustainability of commercial life for many years for SMEs.

-It is enough for them to know, but it is not enough on its own. Banks and legislators need to introduce incentives for the implementation of this system.

-It will contribute to less borrowing with more affordable costs. For this, more effective finance departments should be established in SMEs and finance management should be managed by personnel with high financial literacy.

-Providing direct information to SMEs and increasing awareness of public service advertisements or banks

-If the SME knows the Basel legislation and how this legislation is implemented by the bank, it will be easier and more understandable to access credit.

-I think that the whole financial sector should work on the same system and everyone should have the same consciousness. In this, a standard training and certificate can be offered.

Question 21: Which criterion in Basel Criteria affects SMEs the most?

Table 42

Results of survey question no. 21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basel 1	11	15,9	15,9	15,9
	Basel 2	32	46,4	46,4	62,3
	Basel 3	26	37,7	37,7	100,0
	Total	69	100,0	100,0	

In the Basel Criteria, the criterion that most affects SMEs is accepted as Basel 2 with 46.4%.

Question 22 : What is the reason for your answer to question 21?

The following answers were given to this open-ended question 22, which was asked depending on the 21th question:

- Firm rating and collateralization is in question in Basel 2.

- It is Basel 2, with Basel 2, more effective applications have been brought to the Banks and SMEs.

-Basel 2 criteria are the criteria that affect SMEs the most, as they include parameters with a high risk perception.

-More stringent controls are included in Basel 3, which was prepared due to the inadequacy of Basel 2.

- Basel 3, Coming of more comprehensive coercive rules.

- Basel 2, rating and collateral.

- Basel 3, being the last applied criterion.

- Basel 2, financial news.

-Basel 2, terms and obligations are more difficult.

-With Basel 3, rational control mechanisms were developed for additional liquidity.

- Basel 3, have strict rules

-Basel 3, but I do not have detailed information about the criteria.

- Basel 3, SMEs with higher ratings incur lower costs.

- Basel 1 important.

- Basel 2, due to its capital adequacy.

- Basel 3, due to capital adequacy changes.

- Basel 3, due to the capital adequacy ratio,

- Basel 1, Uniform valuation is not sufficient to evaluate different sectors.

- Basel 2, I think the basic adjustments were made in Basel 2.

- Basel 2- The most applied system in Turkey.

-Basel 3- Being Coercive.

6. CONCLUSION

The direction Basel criteria gives to the banking system is quite clear. In this study, it is emphasized how much these effects are known by the bankers who are a part of the financial system and the accounting experts who are the regulators of financial reporting. In particular, this awareness has been researched through its impact on SMEs, which constitute 99,8% of companies in Turkey. The results of the survey study are not surprising. Considering the answers given, the answers to the first 12 questions (related to the place and importance of the Basel Regulations for SMEs) using a Likert type scale are predominantly “important” and “very important”. The remaining 13-18. The question and answer within the range of questions should be evaluated on its own merits. It is clear that the answers given at this point are consistent. Although the answers to questions 14-15 and 16-17 are the same, the questions are different. Participants understood these questions correctly and did not give contradictory answers. We can see the same attention in the answers given to questions 19-21. As a result, it is understood that the level of recognition regarding the subject we are trying to reach is quite high.

In addition to the survey results, the answers given to the questions 'Better knowing and applying the Basel Criteria by SMEs' and 'The criterion that most affects SMEs in the Basel Criteria' and the answers to the open-ended questions related to these questions are also satisfactory. Better knowledge and application of Basel Criteria by SMEs forms the basis of our work. Emphasizing the importance of this with a rate of 94% also supports the study. It is also natural that Basel 2 has impressive criteria. It is clear that the most effective and systematic decisions in the banking system are taken with these regulations.

I would like to thank the participants once again for their meticulous contributions.

In addition to contributing to the study, I would like to add the following information.

With the Basel I Criteria, which includes regulations on minimum capital adequacy, which was first published in 1982, the capital ratio that banks should allocate against possible risks is determined as 8% and above. It has been reported that capital adequacy below 8% may put banks in trouble in case of possible crises. Basel I Criteria were criticized and a new regulation was needed due to situations such as the low risk sensitivity of the Basel I Criteria, the use of a single risk measurement method and the functioning of the club member rule. (Cicioğlu Ş. & Çil. C. G.,2019)

In 2006, different concepts were used in risk measurements with the Basel II Criteria. In the calculation of risks, the concept of operational risk is included in credit and market risk. Thus, the Basel II Criteria appear as a more sensitive regulation against risks.

The global financial crisis experienced in 2008 affected the whole world. Especially in the banking sector, there were great shocks and some important banks came to the brink of bankruptcy. The Basel II Criteria, which were in force in this period, started to be criticized. After the crisis, new regulations were needed and Basel III Criteria were published.

Basel III Criteria brought new regulations. Increasing the amount and quality of capital, establishing leverage ratios, regulations regarding liquidity and creating cyclical capital buffers are some of the innovations.

We see that the Basel regulations have a history of about 40 years from past to present. It is known that Basel 4, which changed its name to Basel 1-2-3 over time,

is likely to be created in the near future, although its infrastructure is not yet completed. The common aspect of these regulations is; It is a continuous effort to be developed with the improvement policies determined by the financial actors in order to eliminate the economic crisis and disruptions that developed in the process. Although the name of the regulations changes; It seems that the policies to be improved and the regulations to be made will never end. I liken this situation to diseases and epidemics that mankind has been fighting for centuries. As a result of every disease and epidemic, there is a treatment and vaccine over time, but the emergence of new types of viruses and diseases cannot be prevented after years. As a result, new treatment and vaccine studies are started. It is a fact that since Adam Smith, who is accepted as the father of economics, we are constantly in the process of new economic wars (crises) and we are in policies that need to be constantly improved.

It cannot be denied that the Basel Criteria, which act as a vaccine as a result of financial problems, have become more inclusive and effective over time than the previous one. However, it is obvious that economic changes and, accordingly, crises (diseases) will continue, as we are constantly exposed to change in all areas of life. In this case, we can say that the measures and improvement policies will not remain stable.

In addition, another important point that needs to be emphasized is that, as in all BIS member countries, financial actors and especially banks have constantly taken financial measures andregulations with the Basel Criteria in Turkey. However, I think that in addition to these regulations, a solution can be developed on the other hand. As an example, it may be in the direction of eliminating the problems we mentioned under the title of "financing problem and financial management understanding in

SMEs" in our study. Since our subject includes SMEs, it will help to solve the problem in a different dimension by making more criteria mandatory from the establishment of SMEs. Among these criteria, the partners of the company must be at a certain level of education, have a professional background of at least 5 years in the field, make the finance unit mandatory in the enterprise, and the person who manages the finance must have a good grasp of financial statements such as cash flow, balance sheet and trial balance, if not, being forced to receive training in this field, Issues such as keeping the paid-in capital figure high at the establishment stage and increasing this figure over time, not allowing fictitious transactions in accounting records, establishing stricter rules to prevent informality, making the IFRS system mandatory for SMEs are particularly beneficial for the development of SMEs will be. For Turkish Banking, on the other hand, businesses with more conscious, healthy and strong financial management mean less bad l oans, less provision (cost-loss), less problematic customers (less energy and labor loss).

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APPENDIX A –Survey Questionnaire

Basel Kriterlerinin Kredilendirme Süreçlerinde KOBİ'lere etkisi

Anketimize hoş geldiniz. Tez çalışmamızın amacı Basel Kriterlerinin Türkiye'deki KOBİ'ler üzerindeki etkisi ve özellikle KOBİ'lerin Bankalar nezdinde kredilendirme aşamasında derecelendirme, teminat yapısı ve kredi fiyatlama süreçlerindeki rolünü incelemektir. Finans sisteminin bir parçası olan ve bu dengeyi kurmada başrole sahip bankacı ve mali müşavirlerimizin bu konudaki bilgi, görüş, tecrübe ve önerilerine tezimizde yer vermek çalışmamız için çok kıymetli bir veri olacaktır.
Yardım ve katkılarınız için şimdiden sonsuz teşekkürler...
Saygılarımızla,

Katılımcının mesleği : * *
Bankacı
Mali Müşavir/ SMM/ YMM

Bulunduğunuz alandaki iş tecrübesi ? *
0-5
5-15
15 yıl üstü

Bulunduğunuz il hangisidir? *
İstanbul
Ankara
İzmir
Bursa
Diğer

Aşağıdaki sorulara "çok önemlidir, önemlidir, az önemlidir, önemsizdir veya kararsızım" olarak yanıt verilmesi
rica olunur.
1. Basel Kriterlerinin dünya ve ülkemiz ekonomisindeki yeri / önemi ? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
2. Basel Kriterlerinin KOBİ Bankacılığı ve KOBİ'ler üzerindeki etkisi /katkısı? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım

3. Basel Kriterlerinin sermaye yeterlilik rasyolarının banka bilançolarındaki rolü/önemi? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
4. Bankaların KOBİ'lere kredilendirme kararında Basel Kriterlerinin etkisi? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
5. Basel Kriterlerinin Bankaların KOBİ'leri kredilendirmesi sonrası, tahsil edilemeyen batık kredilerin tahsilinde rolü/önemi? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
6. KOBİ'lerde sürdürülebilir büyümede Basel Kriterlerinin katkısı ? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
7. Basel Kriterlerinin KOBİ'lerde finansal maliyetlerine etkisi/ katkısı? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
8. Küresel krizlerde Basel Kriterleri Bankalarca yeterince iyi bilinip uygulanması? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
9. Sermaye yeterilik rasyoları dikkate alındığında Bankaların yerli, kamu veya özel sermayeli olması? *
Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım
10. Türkiye'de KOBİ'lerin Basel Kriterlerine uyum sağlaması? *
Çok önemlidir
Önemlidir

Az önemlidir
Önemsizdir
Kararsızım

11. Basel Kriterlerinin finans sistemine neler getirdiği sizce KOBİ'ler tarafından yeterince bilinmesi? *

Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım

12. Basel Kriterlerinin sürekli revize edilmesi ve çok yakında Basel 4'ün uygulanacak olması KOBİ'lerde güvensizlik ve/veya finansal istikrarsızlık yaratması bakımından önemli midir? *

Çok önemlidir
Önemlidir
Az önemlidir
Önemsizdir
Kararsızım

13. KOBİ'ler Basel Kriterlerinin varlığını ilk olarak kimden öğreniyor? *

Finans haberlerinden,
Mali müşavir / danışmanlarından,
Bankalardan,
Ticaret yaptıkları diğer şirketlerden /piyasalardan,
Diğer kaynaklar.

14. Türkiye'de KOBİ'ler, Basel Kriterlerine uyum sağlamada en çok hangi konuda zorlanır?

Yasal mevzuata hakimiyet,
Muhasebe sistemi ve alt yapı oluşturmak,
Yeterli bütçe / finansal kaynak sağlamak,
Gerekli yetkinliğe sahip insan kaynağı edinmek,
Kayıt dışılığı önlemek

15. Türkiye'de KOBİ'lerin Basel Kriterlerine geçiş dönemini daha sağlıklı yapabilmesi için geliştirmesi gereken öncelikli konu ne olmadır ?

Yasal mevzuata hakimiyet,
Muhasebe sistemi ve alt yapı oluşturmak,
Yeterli bütçe / finansal kaynak sağlamak,
Gerekli yetkinliğe sahip insan kaynağı edinmek,
Kayıt dışılığı önlemek.

16. Hangi sektörde yer alan KOBİ'ler Basel Kriterlerine uyum sürecinde en rahat geçiş sağlar?

İnşaat / taahhüt
İmalat
Ticaret
Hizmet
Tarım
Sektörü fark etmeksizin alış / satışlarını ağırlıklı olarak kurumsal şirketlere yapan KOBİ'ler ile yurt dışı bağlantılı ve/veya dış ticareti olan KOBİ'ler

17. Hangi sektörde yer alan KOBİ'ler Basel Kriterlerine uyum sürecinde en zor geçiş sağlar?
İnşaat / taahhüt
İmalat
Ticaret
Hizmet
Tarım
Sektörü fark etmeksizin alış / satışlarını ağırlıklı olarak kurumsal şirketlere yapan KOBİ'ler ile yurt dışı bağlantılı ve/veya dış
ticareti olan KOBİ'ler
18. Basel Kriterleri ile Bankaların KOBİ'lere kredilendirme karar sürecinde veya sonrasında KOBİ'lerin en çok etkilendiği husus/problem hangisidir?

Rating-Skorlama-Paunlama: KOBİ'lerin kredilendirilmesi için yeterli ve gerekli nota sahip olamaması,
Teminatlanma: KOBİ'lerin kredi onayından sonra Bankalarca istenen gerekli ve yeterli teminatı oluşturamaması
Fiyatlama: Gerekli ve yeterli teminata sahip olmakla birlikte KOBİ'lerin Bankalardan uygun faiz ve komisyonda kredi
sağlayamaması ya da yüksek maliyetlere katlanarak sağlaması

Aşağıdaki sorulara yorumunuzu ve öngörülerinizi belirterek yanıt vermeniz rica olunur.
19- Basel Kriterlerinin KOBİ'lerce daha iyi bilinmesi ve uygulanması gerekli midir?
evet
hayır
19. soruya yanıtınız Hayır ise sebebini açıklayınız ? Yanıtınız evet ise sebebi ve bunun için sizce ne gerekiyor?

20- Basel Kriterlerinde KOBİ'leri en çok etkileyen kriter hangisidir? *
Basel 1
Basel 2
Basel 3
20. soruda verdiğiniz yanıtın sebebi nedir?

APPENDIX B – Formulas

Liquidity Ratios

Net Working Capital = Current assets – Current liabilities,

Current Ratio=Current Assets / Short Term Liabilities

Liquidity Ratio = Current Assets – (Inventories + Prepaid Expenses + Other Current Assets) /Short-Term Liabilities)

Activity Ratios

Trade Receivable Turnover Rate = Sales/Average Trade Receivables

Receivable Collection Period = 365/ Trade Receivable Turnover Rate

Trade Payables Turnover Rate =Purchases During the Period / Average Trade Payables

Debt Payment Period= 365 / Trade Payables Turnover Rate

Stock Turnover Rate= Cost of Goods Sold/ Average Stock

In Stock Waiting Time =365/ Stock Turnover Rate

Profitability Ratios

Net Profit Margin = Net Profit for the Period/Net Sales

Return on Equity = Net Profit for the Period/Equity

Return on Assets = Period Net Profit/Total Assets

Financial Structure Ratios

Leverage Ratio = Short and Long Term Liabilities / Total Assets

Financing Ratio = Total Liabilities / Equity