Comparative Analysis of Commercial and Cooperative Banks in TRNC Banking Sector Using CAMELS Rating System

Berk Görgül

Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Science
in
Banking and Finance

Eastern Mediterranean University
February 2022
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

Prof. Dr. Ali Hakan Ulusoy
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science in Banking and Finance.

Prof. Dr. Nesrin Özataç
Chair, Department of Banking and Finance

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Science in Banking and Finance.

Prof. Dr. Eralp Bektaş
Supervisor

Examining Committee

1. Prof. Dr. Eralp Bektaş

2. Prof. Dr. Nesrin Özataç

3. Asst. Prof. Dr. Bezhan Rustamov

ABSTRACT

Although significant CAMELS performance analysis has been done before in the worldwide literature, a comparative analysis between commercial banks and cooperative banks which is covering the TRNC banking sector has not been made yet. Therefore, this study aims to fulfil this gap in the existing academic literature and lead other upcoming studies would be made at the same scope. In this study, private banks and cooperative banks in the TRNC banking sector will be compared with the help of the CAMELS rating system. The data of 11 commercial banks and 3 cooperative banks were used in the analysis between 2014 and 2019. According to the data obtained in the study, Turkish Bank showed the best performance among the 14 banks covered in the study, while Universal Bank showed the worst performance. Apart from this, the top five banks with the best performance are Turk Bank, Albank, ME-KOOP, Creditwest Bank, and OYAK, respectively. Additionally, it was noteworthy that the performances of Capital Bank and Asbank were also positive. It would be correct to interpret that, these seven banks have improved themselves and performed well compared to previous years. On the other hand, banks with scores below zero are interpreted as having low performance. Banks that perform below zero are Akfinans Bank, Seker Bank, Nova Bank, Near East Bank, Iktisat Bank, DAU-KOOP, and Universal Bank, respectively, from largest to smallest. Although the research sample of cooperative banks is constricted, it is seen that there are two cooperative banks among the top five banks with the best performance, considering the six years discussed.

Keywords: CAMELS, performance analysis, TRNC, banking

ÖZ

Dünya literatüründe çok sayıda CAMELS performans analizi çalışmaları yapılmış olmasına karşın bu çalışmaların hiç biri KKTC Bankacılık Sektörü içerisinde yer alan ticari ve kooperatif bankaların karşılaştırılmasında kullanılmamıştır. Literatürdeki bu eksikliği gidermek adına bu çalışmanın yapılmasına karar verilmiştir. Analizde 2014-2019 yılları arasında aktif faaliyet gösteren 11 adet ticari banka ve 3 adet kooperatif bankasının verileri kullanılmıştır. Çalışmada elde edilen bulgulara göre, araştırmaya dahil edilen bankalar arasından en iyi performansı Türk Bankası gösterirken en kötü performansı da bir başka ticari banka olan Universal Bank göstermiştir. Bunun dışında en iyi performans gösteren ilk beş banka sırasıyla; Türk Bankası, Albank, ME-KOOP, Creditwest Bank ve ÖYAK olarak sıralanmaktadır. Ayrıca Capital Bank ve Asbank'ın ortalama performanslarının da olumlu olması dikkat çekicidir. Bu yedi bankanın önceki yıllara kıyasla kendilerini geliştirdikleri ve performanslarında artış yaşadıklarını söylemek doğru olacaktır. Öte yandan sıfırın altında puan alan bankaların performans düşüklüğü yaşadıklarını söyleyebiliriz. Negatif performans gösteren bankalar iyiden kötüye sırasıyla; Akfinans Bank, Şeker Bank, Nova Bank, Near East Bank, İktisat Bankası, DAÜ-KOOP ve Universal Bank'tır. Kooperatif bankalarının araştırma örneklemi sınırlı olmakla birlikte ele alınan altı yıllık periyot dikkate alındığında en iyi performansı gösteren ilk beş banka arasında iki adet kooperatif bankasının yer alması son derece dikkat çekici bir bulgu olmuştur.

Anahtar Kelimeler: CAMELS, performans analizi, KKTC, bankacılık

DEDICATION

To My Lovely Family

ACKNOWLEDGMENT

I would like to note my appreciations for my supervisor Prof. Dr. Eralp Bektaş. It was extremely valuable for me that he did not spare me any support from the beginning to the end of the work. Also to thank him for his words of encouragement and useful insights regarding research. In addition, I would like to thank my assistant teacher Mohamad Kaakeh, who helped me as much as he could from the beginning to the end of my graduate career.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

1.1 Purpose and Motivation of the Study

The main motivation for carrying out this research was the desire to eliminate the deficiency that we noticed in the literature. To explain this deficiency briefly; it has determined that in any previous research conducted in the TRNC banking sector and using the CAMELS as a study method, commercial banks and cooperative savings banks have not been compared. For this reason, the performances of commercial and cooperative banks in the TRNC banking sector are discussed with the help of the CAMELS performance method.

1.2 Dataset Coverage of the Study

In our research, the performance analysis of commercial banks and cooperative company banks in the TRNC banking sector was made with the help of CAMELS rating method. In addition, the CAMELS ratios to be used in the research consist of the most frequently and widely used ratios in the literature. Furthermore, the balance sheets and independent auditor reports of 11 commercial banks and 3 cooperative banks active in the TRNC banking sector were used from 2014-2019. Some of these annual reports were obtained from the official website of the TRNC Central Bank (www.kktcmerkezbankasi.org), some from the website of the TRNC Banks Association (www.bankalarbirligi.org) and the rest were obtained as primary data from banks.

1.3 Limitation of the Study

Since the main purpose of the research is to analyze the performance of two banking groups, we get help from similar studies and methods in the literature were used. However, it was decided that the usage of the CAR ratio which is included in the Capital Adequacy (C) component, would not be appropriate for our study. The reason behind that is the capital adequacy ratio of commercial banks and the capital adequacy ratios of cooperative banks have great differences in terms of calculation and evaluation. Since there is no common formula, it was decided to exclude the ratio from the component and give its weight to other ratios.

A second constraint was experienced in the sample of cooperative banks, which is one of the two sectors focused on. Despite requests for information, about five cooperative banks did not share their balance sheets and profit-loss statements with us due to their banks' security policy. As such, three cooperative banks that agreed to give us information were included in the research.

1.4 Structure of the Study

In the second chapter, under the title of "Literature Review", previous and similar studies in the academic literature are included. In the section three, general information about banks and banking sectors are given, as well as commercial banking and cooperative banking are defined and compared in detail. In addition to these, the recent history and current situation of the Turkish Republic of Northern Cyprus (TRNC) banking sector defined and explained in this section. In the fourth chapter of the study, general information about the CAMELS performance analysis is given. Furthermore, the six main components of the method explained briefly one by one. In the same chapter, dataset and methodology of the study is given under

"Dataset and Methodology" title. Chapter five is the next chapter where the findings and analysis demonstrated to the reader. In this section every 14 banks analysed, ranked, and demonstrated one by one. Last but not least, the findings and conclusion of the research are given.

Chapter 2

LITERATURE REVIEW

2.1 Similar Studies

The CAMELS rating method, which is frequently used in the current literature for measuring, monitoring, and auditing the performance of banks, also constitutes the methodology of our study. Accordingly, the important studies that have been done in the literature given in this section. Although the main purpose and scope of these studies differ from our study, they show similarities in terms of the method used.

According to Dash & Das (2009), the Indian banking sector was divided into two as public and private sectors in the study. Then these two sectors were investigated within the framework of CAMELS method. As a result of the study, the authors revealed that the private banks outperformed public banks in almost every component between 2005 and 2009.

According to Kandemir and Arici (2013), deposit banks in Turkey are classified as public, private, or foreign capital. Then, the performance analysis of these banks between 2001-2010 was compared. The result of the research suggests that deposit banks with foreign capital received the best performance in the components of asset quality, management quality and sensitivity to market risk. On the other hand, public banks showed the best performance in terms of the earnings component. Another result obtained from this research is related to the "global crisis" that started in the

financial sector in 2008 and affected almost all sectors and economies was also strongly felt in the Turkish banking sector. However, it was remarkable that no bank went bankrupt during this economic event period.

Another important study was published in 2014 by Cagil and Mukhtarov (2014). In this study, the performances of domestic and foreign banks operating in Azerbaijan were evaluated with the help of CAMELS performance during the 2007-2010 period. They found that the domestic capital banks performed worse than foreign capital banks.

Baltes and Rodean (2014) analyzed four commercial banks that are listed on the Bucharest Stock Exchange (BSE) with help of the CAMELS rating approach. The study was conducted for a three years (2011, 2012 and 2013). According to the authors , they found and suggested that the four banks listed on the BSE are not sufficient for the requirement of Basel.

Karapinar & Dogan (2015) published a study that aims to compare participation banks (Islamic banks) and commercial banks in Turkey with the help of the CAMELS performance analysis method. Results of the analysis showed that participation banks underperformed in the components of management quality and liquidity situation. Also, it was revealed that they showed high performance in the component of sensitivity to market risks. Another similar study was performed by Gümüş and Nalbantoğlu (2015). The authors examined the performance of the Turkish Banking Sector between 2002-2019 under four main groups (Public, Private, Foreign, and Participation Banks) with the help of the CAMELS analysis method. They found that, private banks were the bank group that received the highest rating

with their strong capital structures as well as their successful performance especially in terms of management quality and profitability.

In the research of Hyz and Gikas, the economic crisis in Greece was studied. In this context, four big banks operating in the Greek economy between the years 2008-2013 are handled with the CAMELS study frame. Hyz and Gikas (2015) found that, the bank with the lowest score in the evaluation should raise its rating to reach the desired standard.

Alzghoul (2015), made a comparative performance analysis of Islamic and traditional banks operating in Jordan by using the CAMEL study method in his research. Seven years period between 2005 and 2011 were considered in the research, and the sample consists of two Islamic banks and three traditional banks. As a result, it was revealed that the management efficiency, liquidity and ROA ratios of Islamic banks discussed in the study performed much better than traditional banks.

In this research, 10 banks operating in Turkey were handled with the help of the CAMELS performance analysis framework. Gundogdu (2017) found that, Akbank, Garanti Bank, Ziraat Bank, Halkbank, Isbank and Vakıflar Bank performed well within the years specified. In addition, it was concluded that Finansbank, Denizbank, TEB, Yapı Kredi Bank performed poorly, respectively.

In another research, 12 banks that were active in the Turkish Banking System were first divided into two as public and private, and then these two sectors were analyzed comparatively with the CAMELS performance analysis method. According to the findings of Karaçor et al. (2018), private banks performed much better than public

banks in terms of capital adequacy, management quality and asset quality. On the other hand, public banks outperformed private banks against market risks.

Karaca and Erdogan (2018) classified the deposit banks operating in Turkey as public, private and foreign capital, and the activities of these groups for the period 2009-2016 were analyzed with the CAMELS performance analysis method. As a result of the analysis, it was determined that the state-owned deposit banks showed the best performance whereas the foreign-owned deposit banks showed the worst performance. In addition, when the performances of the banks are evaluated separately, it was determined that Akbank was the highest performing bank in the analysis, where ICBC Turkey Bank performed poorly.

The study of the top 10 deposit banks with the largest asset size in the Turkish banking system was analyzed using the CAMELS perspective. As a result of the analysis, Gulencer and Hazar (2019) found that the state-owned banks were solid in terms of liquidity were weaker against the market risk component. In addition, the authors suggest that the Turkish banking sector needs a faster, more dynamic, and transparent structure.

Khatri (2019) searched for the feasibility of the CAMELS rating system for the Indian banking sector. He picked a mixed sample of public sector and private sector banks to testify above statement. According to the study, he found that the private sector bank (HDFC) ranked first in the overall ranking whereas the private sector bank (Kotak Mahindra Bank) ranked last. Furthermore, the public sector banks (SBI and PNB) shared the second rank in the study. As a result, the author found that there is no significant performance difference between the public and private bank sectors.

Bashatweh and Ahmed (2020) made research about the Jordanian banking sector. According to this research, the performance of 13 commercial banks operating in Jordan was analyzed. In addition, the CAMELS performance method was used in the study, and it was aimed to measure the performance of these banks between 2014 and 2018. Results of the study assert that Jordanian commercial banks performed exceptionally well and were acceptable according to results. Moreover, these results also prove how accurate the decisions and procedures taken by banks.

Chapter 3

DEFINITION OF BANKING TERM & BANKING IN

TRNC

3.1 What is Banking?

The banking sector, which is one of the most important building blocks of national economies, has an extremely critical role in the development and sustainability of countries. Almost every transaction about money directly passes through that institutions. There are multiple definitions of banking in the literature.

Bair (2016) explained the importance of banks as:

> A bank is a necessity. Banks have been around for over 3,000 years. We humans need a place to keep our money, process our payments, and lend us money when our ready cash isn't enough to fulfil our aspirations. Incongruously, a bank is supposed to keep our money safe and accessible, but also risks that money on making loans and trades. (p. 1)

In the words of Barone (2021), he defines a bank in his article as: " bank is a financial institution licensed to receive deposits and make loans. Banks may also provide financial services such as wealth management, currency exchange, and safe deposit boxes."

Another description about banking made by Gobat (2012) is as follow:

> Although banks do many things, their primary role is to take in funds—called deposits—from those with money, pool them, and lend them to those who need funds. Banks are intermediaries between depositors (who lend money to the bank) and borrowers (to whom the bank lends money). (p. 38)

In the study, instead of separating and defining banks in general terms, they are divided into commercial banking and cooperative banking, which will be discussed in the research. In that way, it is aimed to provide the reader with information about the banks whose data will be processed in the following sections.

3.2 Type of Banks (Classification of Banks)

3.2.1 Commercial Banks

Commercial banks are the most commonly used bank types in our daily lives. They are simply using their customers' deposits to provide an extra amount of loan to another customer. Furthermore, these financial institutions are dealing with the trading of securities that are money substitutes. Various definitions have been made in the literature about how commercial banks operate. Some of these definitions can be listed as follows:

According to Spina (2013) define functions of commercial banks as; "Commercial banks provide the most basic functions in the financial market, by accepting deposits and safe-keeping money, extending credit in the form of loans, and transferring funds between customers. These services are provided to both individual consumers and businesses." (p. 3)

In the words of Mrs. Kagan (2021); "Commercial banks make money by providing and earning interest from loans such as mortgages, auto loans, business loans, and personal loans. Customer deposits provide banks with the capital to make these loans."

The activities of commercial banks are not limited to; all kinds of financial services are offered in these financial institutions. However, they mainly make a profit from the interest rates of money that they provide to borrowers.

3.2.2 Co-operatives and Co-operative Banks

According to the International Cooperative Alliance (ICA): "A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise".

Since cooperatives can be established wherever needed, they are considered as an important factor in reducing poverty in the region where they are located. Since these institutes were founded on a need-base, we encounter different types of cooperatives, such as, education, health, insurance, credit, and similar services in social and economic support systems.

Cooperatives working effectively and fully fulfilling their duties not only provide development in the region they are in, but also have a positive impact on the country's economy and markets. Meeting the economic needs of these institutions, which can have such an impact on the country's economies, is of vital importance for the continuity of cooperatives and the sustainability of their activities.

No matter how much the purpose of activity differs from other financial institutions, cooperatives operate in the same field as other profit-oriented enterprises. As such, cooperatives need to be managed as their competing businesses to be financially in good shape. Financial strength is a situation that can be achieved through cooperative

banking. With the help of cooperative banks, cooperatives take their development to the next step.

Cooperative banking is an important issue that needs to be emphasized in particular. For that reason, detailed information about cooperative banking and cooperative banks will be given in the following sections. So, what is this cooperative banking? What are the differences from commercial banks that operate widely in our daily life?

Cooperative banking is the banks that find solutions to the financial problems of the cooperatives to which they belong and are also managed by the managers of the cooperatives to which they belong. According to Barbu & Boitan (2019); "Cooperative banks are a typical retail-oriented institution. Usually, their asset size is smaller compared to other financial institutions. Their financial role gravitates around providing loans to households and small and medium-sized enterprises and deposit-taking services." (pp. 159-160). In addition, the main purpose of this institution is to provide long-term and low-interest loans to the cooperative it belongs to. In this way, financial support will be provided to the cooperative to which it belongs, and its development will be ensured. However, the sole purpose of a cooperative bank is not limited to this. Giagnocavo (2010) explained the purpose of the cooperative banks as follow:

> Cooperative banks have often provided more than just credit – they were proactive in encouraging business and social development and often filled a civil society vacuum. They provided institutional support, financed necessary infrastructure and research and development, encouraged training and education and eased the transition into international markets. (p. 4)

Furthermore, these banks have different aims, such as providing privileged (low-interest loan) banking activities, especially to its own cooperative members, strengthening and developing agriculture, industry or regional level institutions depending on the type in the region where it was established.

3.2.3 Differences Between Co-operative Banks and Commercial Banks

• The main task of cooperative banking is to provide banking services to rural areas, workers, small businesses, or a certain community. In that way, customers lead their development to the next step. On the other hand, commercial banking provides banking services to all customers without any discrimination.

• Cooperative banking is a relatively small size and non-profit institution that operates in small towns, rural areas, villages or states. However, commercial banks are for-profit institutions operating in large areas with high population density.

• Another feature that separates cooperative banking from others is that its customers can also have the right to say in the future of the institution. In other words, customers of cooperative banks are also the owners of the bank. However, this is not possible in commercial banks.

• The deposit interest rate of commercial banks is lower compared to cooperative banks.

• Commercial banks are much wider institutions than cooperative banks in terms of their service area.

3.3 Evaluation of Banking Sector in TRNC

With the central bank agreement signed by the authorities on the island in 1975, it was decided that the T.C Ziraat Bank would take on the role of the central bank for a temporary period for the northern part of the island. The establishment of the TRNC on November 15, 1983, lead the Turkish society to fell the need for a unique and

13

independent central bank for the country. As a result, the Central Bank of the Turkish Republic of Northern Cyprus was established in 1984. The Central Bank has been one of the building blocks of the TRNC economy ever since it was built.

3.3.1 Current Situation of TRNC Banking Sector

Despite the lax regulatory policies, the Turkish Republic of Northern Cyprus has many banks in its financial system, particularly till 2001. We can classify these banks based on their ownership. Nonetheless, bank numbers have declined significantly 42 to 24 after the 1999-2001 banking crisis period. These are private banks, foreign banks (branch banks), and government banks. These banks distribute as shown in Table 1.

Table 1: Distribution of Banks in North Cyprus (December 2020)

Sector	Amount
Central Bank	1
Foreign Bank	6
Government Bank	2
Private Banks	14
Cooperative banks	6
Total	**29**

Following the changes in the components within the banking sector will show us the situation of the TRNC banking sector between 2014 and 2021. In this context, the TRNC banking sector is taken as a whole and the changes in the number of branches basis and personnel in this sector basis are given below. These are:
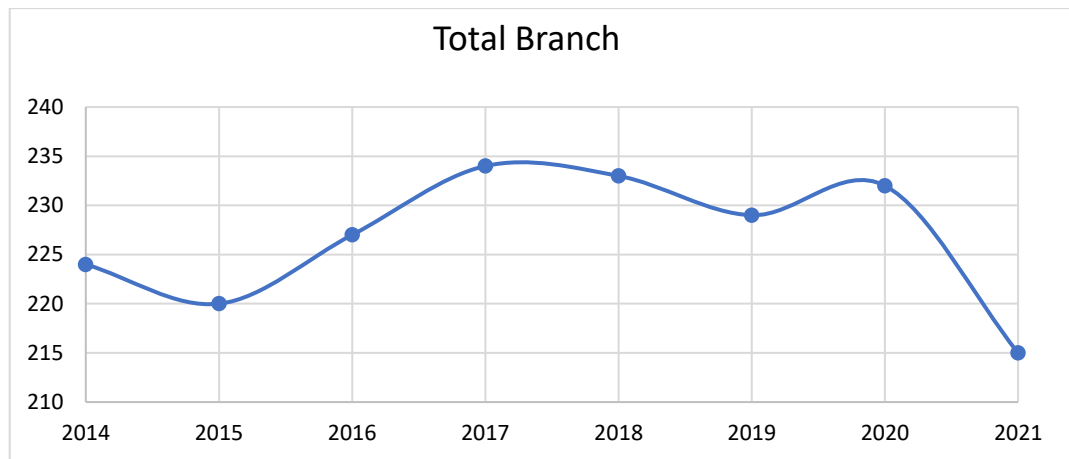
Figure 1: Total Branch Numbers of Banks in TRNC(Central Bank of TRNC, 2021)

According to figure 1, there were 225 branches in the TRNC banking sector in 2014 and this number decreased to 220 in 2015. After 2015, the number of branches increased steadily every year and reached its peak point in 2017 with 235 bank branches. Although there were fluctuations in 2018, 2019, and 2020, the number of branches did not decrease noticeably. However, the pandemic measures were taken due to the Covid-19 cases, which affected the whole world in 2020 and emerged in Turkey and the TRNC in the last quarter of 2020, also deeply affected the island economy. We can understand these effects by looking at the number of TRNC banking sector branches in 2021. According to the number of branches, which was 232 in the previous year, decreased to 215 in 2021.
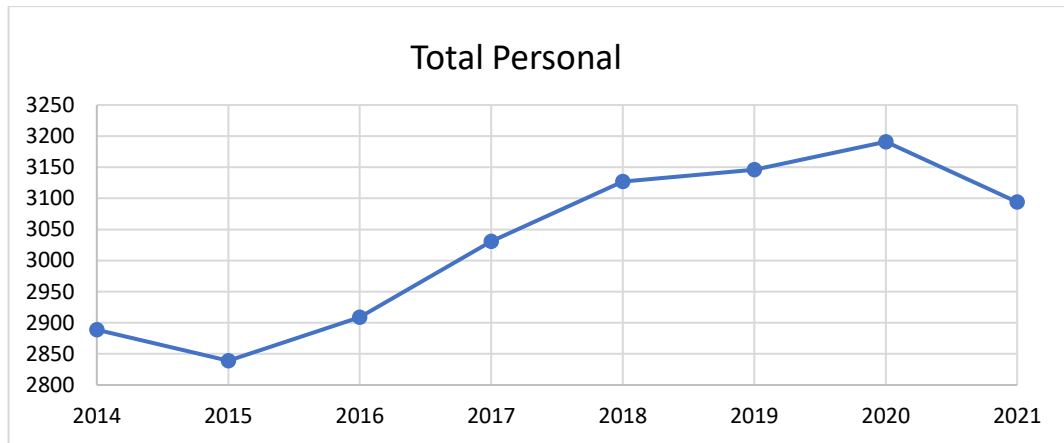
Figure 2: Total Personal Number of Banks in TRNC (Central Bank of TRNC, 2021)

According to Figure 2, the number of personnel, which was 2889 in 2014, decreased by 50 to 2839 in 2015, and then continued to increase as 2909 persons, 3031 persons, 3127 persons, 3146 persons, and 3191 persons until 2016, 2017, 2018, 2019 and 2020, respectively. However, with the negative impact of the Covid-19 and pandemic process, the number of personnel in the TRNC banking sector decreased from 3191 to 3094 in 2021.

	2014	2015	2016	2017	2018	2019	2020	2021
CAR	17.57	17.31	17.07	17.54	17.37	18.28	17.07	16.33
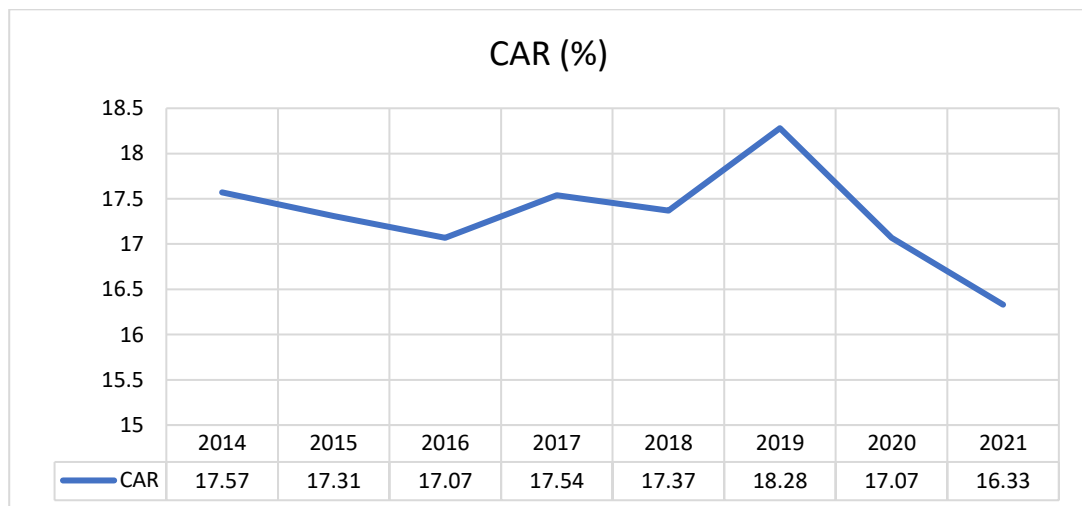
Figure 3: Capital Adequacy Ratio (CAR) of TRNC Banking Sector (Central Bank of TRNC, 2021)

Note: Capital Adequacy Ratios (CAR), are simply, created in Basel Accords and aim to protect both sides; depositors and banks at the same time. According to this ratio, if a bank's CAR rate is below 8%, it indicates that the bank is not in a good shape. Even it could mean that the bank could collapse or have liquidation problems shortly.

Adam Hayes (2020) explains Capital Adequacy Ratio (CAR) as follow:

> The capital adequacy ratios ensure the efficiency and stability of a nation's financial system by lowering the risk of banks becoming insolvent. Generally, a bank with a higher capital adequacy ratio then 8% considered as safe and likely to meet its financial obligations.

To examine TRNC Banking Sector in more detail, the ratio, which was 17.57 in 2014, decreased slightly in 2015 and 2016 to 17.31 and 17.07, respectively. Then, it increased to 17.54 in 2017. The CAR ratio, which showed a fluctuating performance until 2019, reached its peak with 18.28 points in 2019 and drew attention as the highest ratio in the seven years discussed. Afterward, the TRNC banking sector, which experienced a rapid decline due to Covid-19 and the accompanying pandemic practices, declined to 17.07 points in 2020 and 16.33 points in 2021, respectively. This decrease in 2021 also draws attention as the lowest CAR rate in the seven year s discussed. It is seen that the CAR ratios of the TRNC banking sector are above 8% and 10.5%, respectively, which were taken in the Basel II and Basel III decisions. This shows us that the TRNC banking sector banks are generally far from bankruptcy and have no difficulty in meeting customer demands.
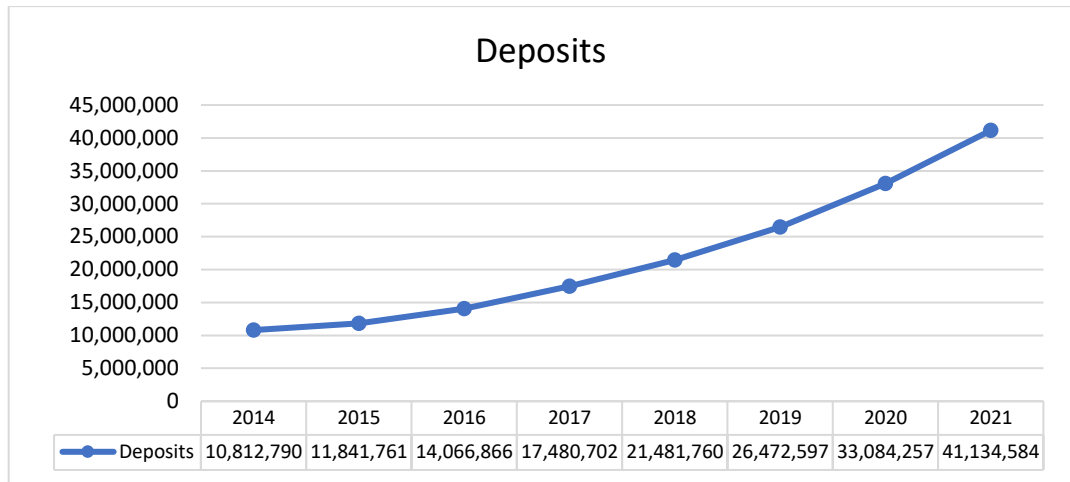
Figure 4: Total Deposits of the TRNC Banking Sector (Central Bank of TRNC, 2021)

When the TRNC banking sector is analyzed based on deposits, it is seen that there has been an ongoing increase since 2014. The total deposit amount, which was 10,812,790 TL in 2014, increased continuously and reached 41,134,584 TL in 2021. That fourfold increase in the number of deposits proves that the TRNC banking sector is growing in volume day by day.
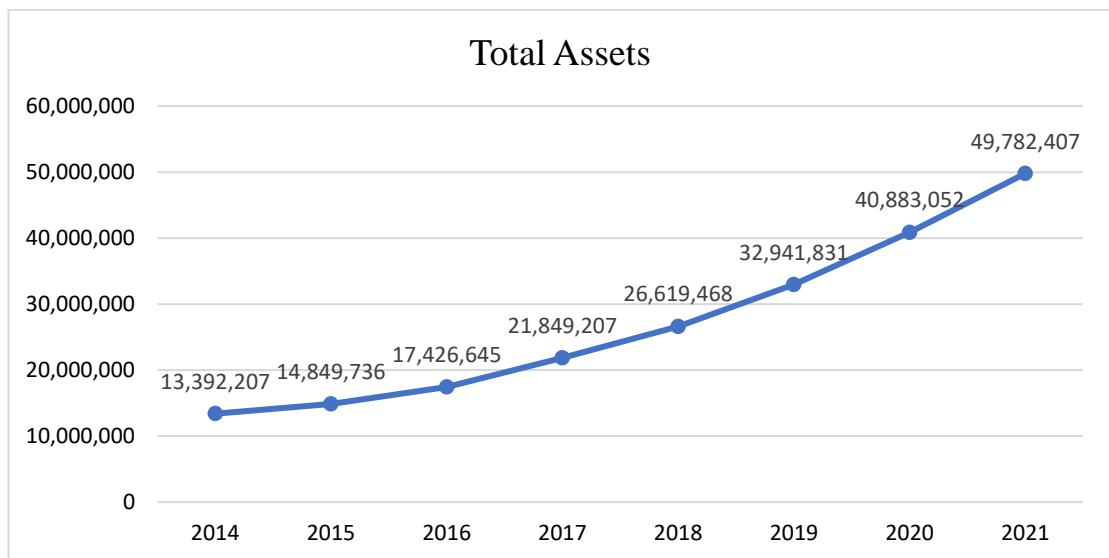
Figure 5: Total Assets of the TRNC Banking Sector (Central Bank of TRNC, 2021)

It is observed that the TRNC banking sector has a total asset curve starting from 2014 and performing an increasing trend. Total assets, which started with 13,392,207 TL in 2014, increased more than three and a half times and reached 49,782,407 TL in 2021. Accordingly, it has been observed that banks have experienced significant increases in their asset volume each year. This shows us that the TRNC banking sector is growing every year.

Chapter 4

DATASET & METHODOLOGY

4.1 CAMELS Rating System

The banking sector is one of the most important building blocks of national economies, and has an extremely crucial role in the development and sustainability of countries. The reliability of these institutes, which is extremely important for countries, is a concept that should be especially emphasized. For instance, confidence in the banking sector decreased after the economic crisis in 2008, which caused the bankruptcy of banks that were described as "too big to fail". After the collapse of the Lehman Brothers, the presence of lack in the supervisory and surveillance system in the banking sector has emerged. As such, to regain trust, various internal and external audit methods have been developed. Among these methods, one of the most frequently used ones in the academic literature is called the "CAMELS Rating System".

The CAMELS rating system has emerged to solve this lack of supervisory and surveillance in the economic system. This rating system was developed to determine the general financial situation of banks using the help of the various ratios and aim to maintain help for the lower performing banks against others. According to Derviz & Podpiera, (2008) "This system is a natural object of analysis, as it is not only a widespread supervisory tool, but also one of the few generally accepted quantifiers of the otherwise soft notion of bank safety" (p. 118)

On the other hand, Cole & Gunther, (1998) explained the purpose of the method as follows:

> Regulators do not expect all poorly rated banks to fail but rather focus attention on early intervention and take action designed to return troubled banks to financial health. Given the multiple dimensions of CAMEL ratings, their primary purpose is not to predict bank failures.

CAMEL performance analysis method is an international rating system that is originally developed and used first as a method in the U.S.A. The concept was initially adopted in 1979 by the Federal Financial Institutions Examination Council (FFIEC) under the name Uniform Financial Institutions Rating System (UFIRS) (corporatefinanceinstitute.com). After a few modifications, the system got named CAMEL. In 1997, with the addition of the sensitivity to market risk (S) component to the model and with that way it reached what is it today "CAMELS". This method uses by bank supervisory authorities and academicians to rate financial institutions' current situation and spot possible financial distress that could happen in the future according to six factors (**C**apital adequacy, **A**sset quality, **M**anagement, **E**arnings, **L**iquidity, and **S**ensitivity to Market Risk).

4.2 Description of the ingredients of C-A-M-E-L-S

4.2.1 Capital Adequacy

Banks with a strong capital structure means that the bank will be more resilient and prepared against potential risks. If a serious financial problem arises, for instance, bank failure or liquidation of the bank; the losses which belong to depositors need to minimize as lower as possible. Furthermore, minimization of that kind of loss, is directly connected with the capital adequacy of the banks. Because of that reason, capital adequacy plays a crucial role in CAMELS performance analysis as well as the banking sector.

According to FDIC (Federal Deposit Insurance Corporation), some criteria should take consideration in the capital adequacy variable. These are:

• The level and quality of capital and the overall financial condition of the institution.

• The ability of management to address emerging needs for additional capital.

• The nature, trend, and volume of problem assets, and the adequacy of allowances for loan and lease losses and other valuation reserves.

• Balance sheet composition, including the nature and amount of intangible assets, market risk, concentration risk, and risks associated with non-traditional activities.

• Risk exposure represented by off-balance sheet activities.

• The quality and strength of earnings, and the reasonableness of dividends.

• Prospects and plans for growth, as well as past experience in managing growth.

• Access to capital markets and other sources of capital, including support provided by a parent holding company. (FDIC, 2014)

Table 2: Capital Adequacy Ratios

	DIRECTION	WEIGHT
Capital Adequacy		**0.2**
Equity / Total Liabilities	+	0.4
Equity / Loans	+	0.4
Paid-in Capital / Equity	+	0.2

4.2.2 Asset Quality

Risk is one of the major problems for the banking sector. Sometimes risk may create a snowball effect and hit banks so hard. For instance, there could be depreciation in the currently available bank assets and that would affect the bank's balance sheet negatively. For another example, the doubtful loans of the banks which are known as

"Non-performing Loans" would damage the bank's assets as well. Therefore, monitoring and minimizing the risk of the bank is playing a vital role. According to Jha & Hui, (2012) "Poor quality of assets and the low liquidity are the reasons for the failure of banks" (p. 7603). Because of these reasons, banks have various purposes such as identifying and monitoring their problematic assets, determining loan provision status, reviewing their loan and investment portfolios and analyzing loan utilization risks.

For the assessment of such risks, the asset quality element in the CAMELS performance analysis helps us to calculate various ratios mainly through the asset items in the balance sheet. Through these ratios, various inferences can be made. According to FDIC (Federal Deposit Insurance Corporation, 2014), the asset quality ratios need to base on some criteria. These are:

• The adequacy of underwriting standards, soundness of credit administration practices, and appropriateness of risk identification practices.

• The level, distribution, severity, and trend of problem, classified, nonaccrual, restructured, delinquent, and nonperforming assets for both on- and off-balance sheet transactions.

• The adequacy of the allowance for loan and lease losses and other asset valuation reserves.

• The credit risk arising from or reduced by off-balance-sheet transactions, such as unfunded commitments, credit derivatives, commercial and standby letters of credit, and lines of credit.

• The diversification and quality of the loan and investment portfolios.

• The extent of securities underwriting activities and exposure to counterparties in trading activities.

• The existence of asset concentrations.

• The adequacy of loan and investment policies, procedures, and practices.

• The ability of management to properly administer its assets, including the timely identification and collection of problem assets.

• The adequacy of internal controls and management information systems.

• The volume and nature of credit documentation exceptions.

Table 3: Asset Quality Ratios

	DIRECTION	WEIGHT
Asset Quality		**0.2**
Total Loans / Total Assets	+	0.2
Fixed Assets / Total Assets	-	0.2
Non-Performing Loans(gross) / Total Loans	-	0.3
Provision for Loan Losses / Total Loans	+	0.15
Earning Assets / Total Assets	+	0.15

4.2.3 Management

Management quality is a component that measures how much importance the bank managers attach to laws, statutes, and regulations in detecting, monitoring, and responding to the uncertainties or risks that arise as a result of the bank's activities.

Unlike other CAMELS components, the management component contains two ratios that are subjective and abstract, making it more difficult to measure than other components. These components are the total assets per branch and net profit per branch ratios. According to FDIC (2014), the management quality component is based on some criteria. These are:

• The level and quality of oversight and support of all institution activities by the board of directors and management.

24

• The ability of the board of directors and management, in their respective roles, to plan for, and respond to, risks that may arise from changing business conditions or the initiation of new activities or products.

• The adequacy of, and conformance with, appropriate internal policies and controls addressing the operations and risks of significant activities.

• The accuracy, timeliness, and effectiveness of management information and risk monitoring systems appropriate for the institution's size, complexity, and risk profile.

• The adequacy of audits and internal controls to promote effective operations and reliable financial and regulatory reporting; safeguard assets; and ensure compliance with laws, regulations, and internal policies.

• Compliance with laws and regulations.

• Responsiveness to recommendations from auditors and supervisory authorities.

• Management depth and succession.

• The extent that the board of directors and management is affected by, or susceptible to, dominant influence or concentration of authority.

• Reasonableness of compensation policies and avoidance of self-dealing.

• Demonstrated willingness to serve the legitimate banking needs of the community.

• The overall performance of the institution and its risk profile.

Table 4: Management Quality Ratios

	DIRECTION	WEIGHT
Management Quality		**0.1**
Non-Performing Loans(gross) / Total Loans	-	0.3
Net Profit per Branch	+	0.2
Net Asset per Branch	+	0.2
Non-Interest Income / Total Assets	-	0.15
Non-Interest Income / Non-Interest Expenses	+	0.15

4.2.4 Earnings

The main purpose of banks is to make a profit. The bank that makes profits from various activities adds those profits to their equity to reinforce the bank's finance. In this component of the CAMELS performance analysis, we can define and interpret how efficiently the banks use their assets, and their resources to get earnings with help of certain ratios. Some criteria that should take consideration in earning variables. These are specified in the FDIC (2014) "Statement of Policy" module and they are :

• The level of earnings, including trends and stability.

• The ability to provide for adequate capital through retained earnings.

• The quality and sources of earnings.

• The level of expenses in relation to operations.

• The adequacy of the budgeting systems, forecasting processes, and management information systems in general.

• The adequacy of provisions to maintain the allowances for loan and lease losses and other valuation allowance accounts.

• The earnings exposure to market risks such as interest rate, foreign exchange, and price risks.

Table 5: Earning Ratios

	DIRECTION	WEIGHT
Earnings		**0.15**
Net Profit/Total Assets	+	0.2
Net Profit/Equity	+	0.2
Non-Interest Income/Non-Interest Outcome	+	0.15
Total Interest Income/Assets with Earning	+	0.15
Total Interest Expenses/Costly Liabilities	-	0.15
Net Interest Margin	+	0.15

4.2.5 Liquidity

Liquidity is a vital concept for banks. Liquidity is used to determine the adequacy of the capital of banks in order to measure their ability to pay their short-term debts. The inability of a bank to be liquid means that the bank cannot meet customer demands and make necessary payments. This could mean that the bank may encounter loss of reputation and customers, even the bank may come to the point of bankruptcy. According to Roman & Sargu, (2013):

> Liquidity (L) is the most important component for a bank and has a significant impact on its financial soundness. It constitutes one of the vital elements that evaluates the operational performance of a bank because it indicates the capacity of a bank to pay its short-term debts and face unexpected withdrawals of depositors. (p. 106)

The concept of liquidity, which is so important for banks, has the same importance within the components of CAMELS analysis. In this study, four different ratios were used to measure the liquidity status of banks.

Some criteria that should take consideration in liquidity variables as well as other variables. These are:

• The adequacy of liquidity sources compared to present and future needs and the ability of the institution to meet liquidity needs without adversely affecting its operations or condition.

• The availability of assets readily convertible to cash without undue loss.

• Access to money markets and other sources of funding.

• The level of diversification of funding sources, both on- and off-balance sheet.

• The degree of reliance on short-term, volatile sources of funds, including borrowings and brokered deposits, to fund longer term assets.

• The trend and stability of deposits.

• The ability to securitize and sell certain pools of assets.

• The capability of management to properly identify, measure, monitor, and control the institution's liquidity position, including the effectiveness of funds management strategies, liquidity policies, management information systems, and contingency funding plans.

Table 6: Liquidity Ratios

	DIRECTION	WEIGHT
Liquidity		**0.25**
Liquid Assets/Total Assets	+	0.3
Liquid Assets/Total Foreign Assets	+	0.25
Deposit/Equity	-	0.2
Liquid Asset(Foreign Currency)/Liabilities (Foreign Currency)/	+	0.25

4.2.6 Sensitivity to the Market Risk

The sensitivity to market risk component was added to the CAMEL method by the US Federal Deposit Insurance Corporation in 1996. With that modification, the CAMEL performance analysis evolved to CAMELS. This component simply measures how the bank responds to changes in interest rates, changes in stock prices, and risks arising due to exchange rate changes. In the words of FDIC (2018) the Sensitivity to Market Risk component is explained as follow:

> When evaluating this component, consideration should be given to management's ability to identify, measure, monitor, and control market risk; the institution's size; the nature and complexity of its activities; and the adequacy of its capital and earnings with its level of market risk exposure. (p. 20)

According to FDIC , the asset quality ratios need to base on some criteria. These are:

• The sensitivity of the financial institution's earnings or the economic value of its capital to adverse changes in interest rates, foreign exchange rates, commodity prices, or equity prices.

• The ability of management to identify, measure, monitor, and control exposure to market risk given the institution's size, complexity, and risk profile.

• The nature and complexity of interest rate risk exposure arising from nontrading positions.

• Where appropriate, the nature and complexity of market risk exposure arising from trading and foreign operations.

Table 7: Sensitivity to Market Risk Ratios

	DIRECTION	WEIGHT
Sensitivity to Market Risk		**0.1**
Portfolio of Securities/Total Assets	-	0.25
Earning Assets /Costly Liabilities	+	0.25
Net Interest Income/Total Assets	+	0.25
FC Total Assets/ FC Total Liabilities	-	0.25

4.3 Dataset

The main purpose of the study is to analyse the soundness of commercial banks and cooperative banks, which have an important role in the TRNC banking sector and economy, between the years 2014-2019. In this context, the CAMELS rating method, which is widely used all over the world, constitutes the methodology of our research. The 14 banks to be discussed in the research are shown in Table 8. Accordingly, 11 banks consist of commercial banks, while the remaining 3 banks consist of cooperative banks. In addition, Cyprus Turkish Cooperative Central Bank (KOOP) and Limasol Turk Kooperatif Bank (LTKB) in the TRNC banking sector were not

included in our study. The main reason for this is that these banks have both commercial banking licenses and cooperative banking licenses.

Table 8: The Banks Included in the Study

Commercial Banks	Establishment
Turk Bank	1901
Asbank	1986
Iktisat Bank	1990
Nova Bank	1992
Near East Bank	1996
Seker Bank	1996
Akfinans Bank	1997
Universal Bank	1998
Creditwest Bank	2006
Capital Bank	2012
Albank	2016
Co-operative Banks	Establishment
MEKOOP	1958
OYAK	1961
DAUKOOP	1993

4.4 Methodology

28 financial ratios were used in the analysis. These ratios were selected based on previous studies in the literature and the evaluations of the authors. The mentioned ratios were calculated by using the balance sheets, profit-loss statements, and audit reports of 14 different banks. In addition, the weights of the main components of CAMELS determined as follow: Capital Adequacy (C) and Asset Quality (A) components are 20%, Management Quality (M) and Sensitivity to Market Risk (S) components are 10%, Earning (E) 15%, and finally Liquidity (L) component is 25%. All of the ratios that are used in the calculation of bank performances in the analysis are given in Table 9.

Table 9: Financial Ratios Used in the Study

		DIRECTION	WEIGHT
	Capital Adequacy		**0.2**
CA1	Equity / Total Liabilities	+	0.4
CA2	Equity / Loans	+	0.4
CA3	Paid-in Capital / Equity	+	0.2
	Asset Quality		**0.2**
AQ1	Total Loans / Total Assets	+	0.2
AQ2	Fixed Assets / Total Assets	-	0.2
AQ3	Non-Performing Loans(gross) / Total Loans	-	0.3
AQ4	Loan Loss Provision / Total Loans	+	0.15
AQ5	Earning Assets / Total Assets	+	0.15
	Management Quality		**0.1**
MQ1	Non-Performing Loans(gross) / Total Loans	-	0.3
MQ2	Net Profit per Branch	+	0.2
MQ3	Net Asset per Branch	+	0.2
MQ4	Non-Interest Income / Total Assets	-	0.15
MQ5	Non-Interest Income / Non-Interest Expenses	+	0.15
	Earnings		**0.15**
EQ1	Net Profit/Total Assets	+	0.2
EQ2	Net Profit/Equity	+	0.2
EQ3	Non-Interest Income / Non-InterestOutcome	+	0.15
EQ4	Total Interest Income / Earning Assets	+	0.15
EQ5	Total Interest Expenses / Costly Liabilities	-	0.15
EQ6	Net Interest Margin	+	0.15
	Liquidity		**0.25**
L1	Liquid Assets / Total Assets	+	0.3
L2	Liquid Assets / Total Foreign Assets	+	0.25
L3	Deposit / Equity	-	0.2
L4	FC Liquid Asset / FC Liabilities	+	0.25
	Sensitivity to Market Risk		**0.1**
SMR1	Portfolio of Securities / Total Assets	-	0.25
SMR2	Earning Assets / Costly Liabilities	+	0.25
SMR3	Net Interest Income / Total Assets	+	0.25
SMR4	FC Total Assets / FC Total Liabilities	-	0.25

The CAMELS rating system is a method that has eleven steps in itself and presents the outputs to the researcher by applying these steps sequentially. The application part of the study is shown in Table 10 step by step.

Table10: Steps of the Process

Steps	Process	Explanation
Step 1	*Creating the data set*	For creating the dataset of the study, 27 different ratios were used under 6 main components (C A M E L S).
Step 2	*Bank Value*	Bank values were calculated by using the ratios mentioned above for each bank and each year. For our study, (27*14) 378 ratio was calculated for one year.
Step 3	*Reference Value*	Reference values were calculated by getting the average value of all banks ratios in each year.
Step 4	*Calculating the Index Value*	It was calculated by dividing bank value by reference value then multiply the result by 100 (bank value/reference value)*100.
Step 5	*Deviation Value*	Every 27 ratios which are used in the calculation phase, have either a positive sign or negative sign. If it is a possitive sign ratio then; (+) = (Index value-100). If it is negative then; (-) = (100-Index value).
Step 6	*Weighting the Deviation Value*	For calculating the weighting deviation ratio, we need to multiply deviation ratio by its ratio weight. In other words, need to multiply deviation ratio by its own weight ratio. (Deviation value * Weight of the sub-ratio)
Step 7	*Summing of Weighted Deviation Value*	Simply, we need to sum up weighted deviation values with each other under every component.
Step 8	*Finding Group Weights*	Every component needs to multiply by its group weights (C-A-M-E-L-S).
Step 9	*Component Values*	At the end of all calculations, we have 6 ratios in our hands.
Step 10	*Total CAMELS Value*	We simply need to sum each other and reach the total CAMELS value. After that step, we can make interpretations.
Step 11	*Evaluation and Interpretation*	The analyst gives points between 1 and 5 at the end of the evaluation. In the evaluation phase, "1" means "demonstrated the best performance" and increasing of digit refers to the negativity of performance; "5" means "medium to heightened level of supervisory concern".

For better understanding, we will recalculate and demonstrate every step one by one. Let's take Creditwest Bank (CRDW) in 2014 as an example. As a first step, we need to find the "bank value" of the bank. Hence, we use CAMELS ratios which are mentioned in the previous section of the study under Table 10. After using those 27 ratios, we would find the bank values of Creditwest Bank for the year 2014.

Calculating the "reference value" of our sample will be the further step. For finding reference values we find bank values of every bank which are included in the study in the same period. After finding those values, we simply sum these values and find the arithmetical average. This will give us the "reference value" of the study.

After finding reference values, we need to find the "index value" of our study by dividing bank value to reference value, and multiplying the result with 100 ((Bank value/ Reference value) *100). In that way, we would reach index values. For our example, in the case of calculating ratio CA1; the bank value (0.0561) and the reference value is (0.0757). For the year 2014, we will find the reference value of CRDW for ratio CA1 is 79.16.

In the next step, we need to make more complex calculations compared to the previous calculations. To explain these steps, we need to know for every 27 ratios used in the study (either a positive sign or negative sign). If the sign of the ratio is positive, we need to subtract the index value from 100. If it is negative, then we are going to subtract 100 from the index value.

"(+) = (Index value- 100)" or "(-) = (100- Index value)."

With the help of this step, we would reach the "deviation values" of our data. After reaching deviation values we simply need to give the weight of ratios accordingly. For instance, the CA3 ratio weight is 0.1 in the model. Therefore, we would multiply that ratio by 0.1 to weigh it properly (-86.77*0.1). From this calculation "weighted deviation values" are calculated.

As a next step, we need to sum each ratio's weighted deviation value to find the total "weighted deviation values" under six main components(C-A-M-E-L-S). Turning back to our example, for component C, we need to sum CA1, CA2, and CA3, which will give us -40.84 ((-10.33) + (-13.15) + (-17.35)).

In the next step, we need to weigh what we found in the previous step. For instance, in component C (-40.84) we need to multiply it with component C's overall weight, which is 0.2. To do the same calculations for the other five components, we have to sum them up to find the final value which is called "Total CAMELS Score" in Table 10. (-8.17+2.69+11.06+7.03+(-4.05)+(-0.91) = 7.65). For more comprehensive information about these calculations, refer to Figure 3, which contains all the data and demonstrates calculations.

This scoring phase is explained by the Commercial Bank Examination Manual prepared by the Board of Governors of the Federal Reserve System: accordingly score 1, represents an institution that is basically sound in every respect; 2, indicates an institution that is fundamentally sound but has modest weaknesses; 3, an institution with financial, operational, or compliance weaknesses that give cause for supervisory concern; 4, is for an institution with serious financial weaknesses that could impair future viability; and 5, is for an institution with critical financial

weaknesses that render the probability of failure extremely high in the near term. However, in our research as is done in many similar studies in the literature like Roman and Şargu (2013), Arıcı (2013), Yılmaz and Taşseven (2019) , it was avoided to make inferences by assigning points to banks according to a score scale. In other words, we avoided using "Step 11" of Table 10 in our research. The main reason for this is the absence of scale, reliable table, or source for the CAMELS method within the Central Bank of the TRNC and the Central Bank of Turkey. Instead of using scores between "1" to "5", we would analyze the data of every bank one by one, and year to year separately according to their total CAMELS score.

Ratio	Direction	Weight	Bank Value	Referance Value	Index Value	Deviation Value	Weighting	Total Weighted Dev.Value	CAMELS Values	Total CAMELS Score
C		**0.2**								
CA1	+	0.4	0.0561	0.0757	74.16	-25.84	-10.33			
CA2	+	0.4	0.0919	0.1369	67.11	-32.89	-13.15	-40.84	-8.17	
CA3	+	0.2	0.1157	0.8749	13.23	-86.77	-17.35			
A		**0.2**								
AQ1	+	0.2	0.6107	0.5770	105.84	5.84	1.17			
AQ2	-	0.2	0.0126	0.0384	32.84	67.16	13.43			
AQ3	-	0.3	0.0573	0.1014	56.48	43.52	13.06	13.44	2.69	
AQ4	+	0.15	0.0187	-0.8182	-2.29	-102.29	-15.34			
AQ5	+	0.15	0.9082	0.8445	107.54	7.54	1.13			
M		**0.1**								
MQ1	-	0.3	0.0573	0.1014	56.48	43.52	13.06			
MQ2	+	0.2	1,603,744	404,254	396.72	296.72	59.34			
MQ3	+	0.2	100,330,292	43,916,140	228.46	128.46	25.69	110.60	11.06	
MQ4	-	0.15	0.0291	0.1209	24.05	75.95	11.39			
MQ5	+	0.15	0.7466	0.6948	107.47	7.47	1.12			7.65
E		**0.15**								
EQ1	+	0.2	0.0160	0.0078	204.58	104.58	20.92			
EQ2	+	0.2	0.2848	0.1168	243.87	143.87	28.77			
EQ3	+	0.15	0.7466	0.6948	107.47	7.47	1.12	46.88	7.03	
EQ4	+	0.15	0.0905	0.0979	92.48	-7.52	-1.13			
EQ5	-	0.15	0.0588	0.0568	103.53	-3.53	-0.53			
EQ6	+	0.15	0.0332	0.0391	84.86	-15.14	-2.27			
L		**0.25**								
L1	+	0.3	0.3755	0.4306	87.19	-12.81	-3.84			
L2	+	0.25	0.4046	0.4726	85.62	-14.38	-3.59	-16.20	-4.05	
L3	-	0.2	15.4263	12.1967	126.48	-26.48	-5.30			
L4	+	0.25	0.3886	0.4513	86.12	-13.88	-3.47			
S		**0.1**								
SMR1	-	0.25	0.0762	0.0565	134.99	-34.99	-8.75			
SMR2	+	0.25	1.0261	0.9676	106.04	6.04	1.51	-9.09	-0.91	
SMR3	+	0.25	0.0302	0.0330	91.44	-8.56	-2.14			
SMR4	-	0.25	0.9981	1.0095	98.87	1.13	0.28			

Figure 6: Calculations of the CAMELS Score of Creditwest Bank for Year 2014

Chapter 5

ANALYSIS OF THE BANKS

5.1 Commercial Banks

5.1.1 Creditwest Bank

According to calculations, Creditwest Bank performed well in 2014. Although the C (Capital Adequacy), L (Liquidity), and S (Sensitivity to Market Risk) components are slightly negative, the fact that the A (Asset Quality), M (Management), and E (Earnings) components have high positive values lead the bank to get 7.65 total CAMELS score in the year 2014. This score placed Creditwest in fifth place among thirteen banks in 2014.

In 2015, a significant increase was experienced in the A, M, E, and L components of the bank, while there was a decrease in the components C and S. As a result of these activities, the CAMELS rating of the Creditwest rose to 12.84 compared to the previous year. The bank, which performed well compared to the previous period, took second place after the Turkish Bank for 2015 based on the periodical total CAMELS scores. This performance increase proves that the bank performed better the than previous year.

When we look at the year 2016, it is seen that Creditwest Bank components have noticeably lost value and all components except the S component, have decreased compared to the previous year. These decreases caused the bank's total CAMELS

score to regress 2.76. This decline also affected the ranking, causing the bank to regress five steps from the previous year, and rank as seventh among fourteen banks.

In 2017, the deficient performance of the previous year was eliminated, and the bank performed better in all components except component E. In particular, the significant increase in component C means that the bank has performed much better and experienced recovery relative to the previous year. However, the fact that the value of the component is still negative means that the bank still has work to do. In general, this positive performance of Creditwest Bank in 2017 caused an increase in its total score to be 8.75 and ranked fourth out of 14 banks in our ranking.

In 2018, although there was a significant decrease in the components C and L, increases were observed in the A, M, E, and L components. Particularly, the positive change in the M component shows us that the bank managed better than the previous year. The increase in the asset size of the bank also proves this development. The positive developments experienced in 2018 enabled the bank to have a total CAMELS score of 10.58. With that score, the bank find itself in fourth place compared to the previous year.

Finally, when we look at 2019, there were noticeable increases in the values of A and L components, while low-level decreases occurred in the remaining C, M, E, and S components. Since the amount of these reductions is exceedingly small, Creditwest Bank's CAMELS score increased to 12.55 compared to the previous year. This caused the bank to place in fourth place among 14 banks.
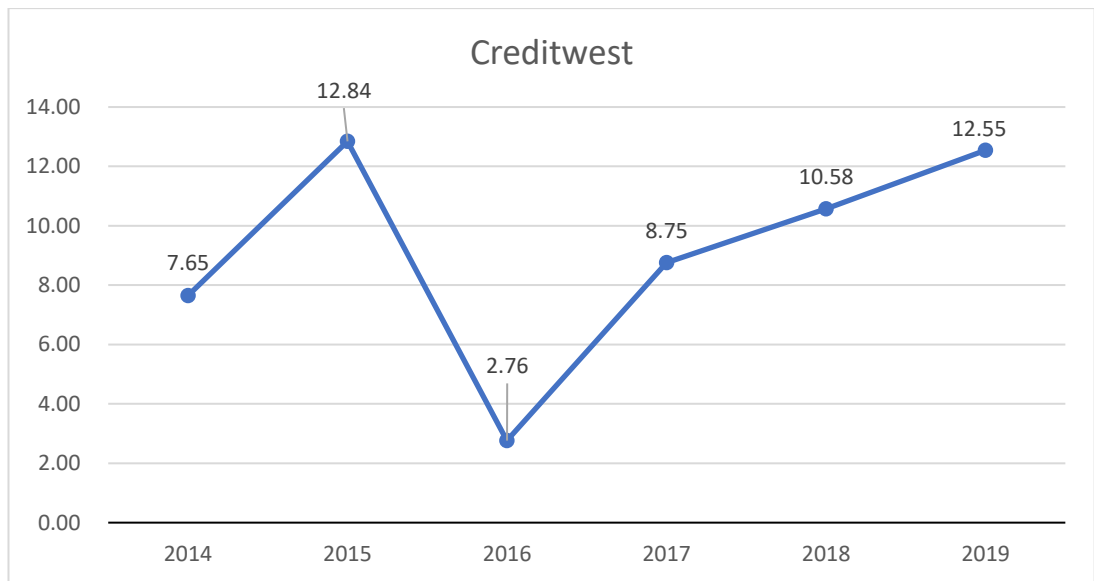
Figure 7: Total CAMELS Scores of Creditwest Bank

Creditwest Bank stands out as a bank that performs above the average when the six years covered in the research are taken into account. Especially in 2015, the bank achieved a total CAMELS score of 12.84 which led the bank to reach its peak point. However, it experienced a serious decrease in performance in 2016. The research, which started with a total CAMELS score of 7.65 in 2014, ended with a score of 12.55 in 2019. According to the outputs obtained, it is seen that the performance of the bank is in an upward trend since the year 2017 and it has performed relatively well.

5.1.2 Near East Bank

In the year 2014, Near East Bank (NEB) obtained negative values in its C (Capital Adequacy), A (Asset Quality), M (Management), E (Earnings), and S (Sensitivity to Market Risk) components. On the other hand, component L (Liquidity) was the only positive component. Overall, the low performance of the NEB in this period was reflected in the total score of CAMELS as -21.44 points. This score caused the bank to rank as the twelfth among the 14banks covered in the research.

Unlike the previous year, 2015 was the leap year for NEB. In this period, the components that were negative in the previous period were either positive or remarkably get close to positive. To elaborate further, we need to explain each component individually. According to outputs, the M, E, and S components went from negative to positive, while the A component made great progress and approached the zero point. Apart from this, minor decreases were experienced in the remaining C and L components. It wouldn't be wrong to characterize this performance of the bank in 2015 as good, especially when we compare it with the previous period. The fact that the bank's 2015 CAMELS score rose to 3.45 and ranked seventh among 14 other banks proves this good performance.

It is observed that the Near East Bank experienced a decrease in its performance in 2016 compared to the previous year. In this year, there was a negative movement and decreases in all components except for component A. On the other hand, there was a slight increase in component A. All these decreases caused the bank's total CAMELS score to regress -11.34 in 2016. The fact that the score is so low will also decrease the bank's place in the ranking by three steps compared to the previous year, causing the bank to be in tenth place among 14 banks.

In 2017, small increases were observed in the C, A, M, and S components. On the other hand, negative changes were experienced in the remaining E and L components. One of the components that should be paid special attention to in this period is the M (management) component. Because the two ratios used directly contain the number of branches (Total Asset/Branch Number) and (Net Profit/Number of Branches). To be clearer, Near East Bank opened new branches in 2017, increasing the number of branches from 14 to 15. Despite this, it increased

both its total assets and net profit compared to the previous year. The newly opened branch means that the ratios will be divided by a larger number compared to the previous period ratios and therefore should be smaller. In short, this means that Near East Bank did a remarkably successful job in 2017, especially in the management segment. Despite all of this, other components either perform lower performance or decrease compared to the previous year. That let the bank get a slightly better score. Near East Bank got a total CAMELS score of -10.42 for 2017, and this score regressed the bank to twelfth place.

In general, we can say that 2018 was a better year for Near East Bank compared to the previous period. Especially the positive change and development in all components except the S component confirms this idea. The S component, on the other hand, has undergone a small amount of negative change. When all these changes are taken into account, the bank's total CAMELS score is improved to -3.19. This score has enabled Near East Bank to rank ninth out of 14 banks. In 2019, a decrease was detected in the C, L, and S components, but a positive movement was observed in the A, M, and E components compared to the previous year. As a result of these changes, the bank's total CAMELS score has increased to -2.62 in 2019. According to this score, Near East Bank ranked tenth among fourteen banks.
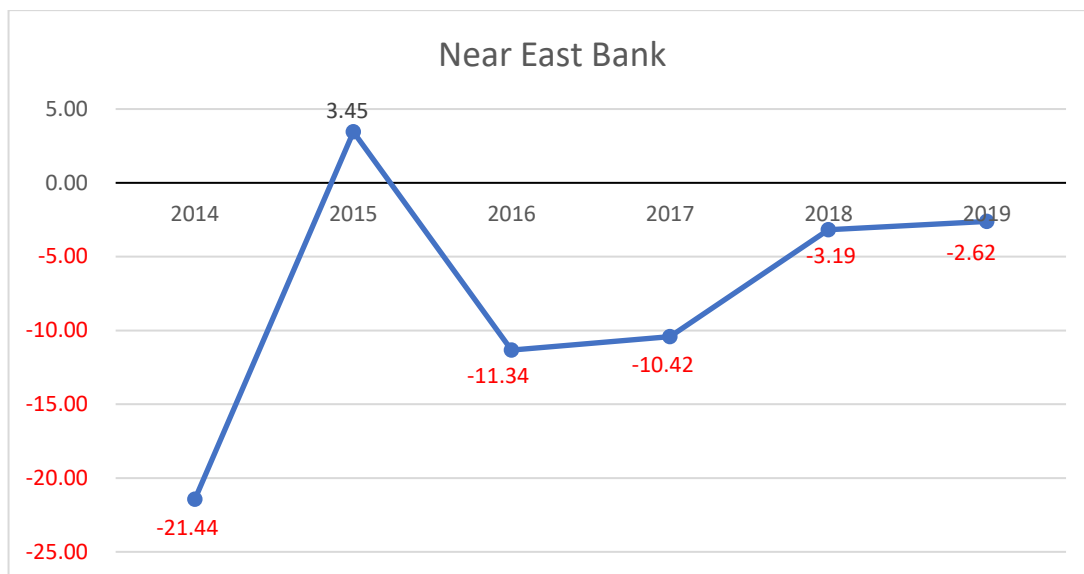
Figure 8: Total CAMELS Scores of Near East Bank

Near East Bank started the research with a very poor score but was able to increase its score to a positive value in the following year. The bank gave a negative value in five of the other six years and underperformed against average. Despite all these negativities, it is seen that the bank is in an upward trend that started in 2016, and if it continues that way, it will increase the bank's performance to positive values. The bank, which started the study with a very low score of -21.44, ended the study with a score of -2.62.

5.1.3 Iktisat Bank

Iktisat Bank showed its lowest performance in 2014 among the years covered in the research. Only the E (Earnings) and S (Sensitivity to Market Risk) components were positive, whereas the C (Capital Adequacy), A (Asset Quality), M (Management) and L (Liquidity) components have predominantly negative. These negative and low values can be explained as the main reason for the poor performance of the bank. As a result of this performance, Iktisat Bank got -12 in the total CAMELS score and ranked tenth among 13 banks.

42

It is observed that the bank performed much better and achieved positive scores than the previous period in the year 2015. Especially the positive activity experienced in the components except C defines that situation briefly. On the other hand, component C performed moderately negative performance in that year. In general, Iktisat Bank received -3.43 points as a total CAMELS score in 2015. Under normal circumstances, a better score should mean a better rank. However, the other banks in that period performed better than the bank, causing this bank to rank as eleventh among 13 banks.

In 2016, a small amount of increases were detected in the A and S components, while a decrease was observed in the remaining four components C, M, E, and L. As a result of these low-performance indicators, the Iktısat Bank scored poor score in general. With a total CAMELS score of -11.91, the bank ranked eleventh among 14 banks in 2016.

Figure 9 demonstrated that the Iktisat Bank performed a small amount of positiveness in their performance compared to the previous year. In 2017, C, A, and S components experienced small positive increases whereas the M, E, and L components of the bank experienced slightly negative movements. In general, Iktisat Bank scored -11.45 in total CAMELS score and ranked 13th among 14 banks.

In 2018, it was determined that the bank performed better than the previous period in terms of the overall rating. However, this performance was still below the average and need to thrill to count as a good performance. In the aforementioned year, the Bank experienced improvements only in components A and E compared to the previous year. On the other hand, the bank underperformed in the remaining four

components C, M, L, and S. This performance led to an increase in the rank of the bank by one step; to twelfth and get the total CAMELS score to -10.62.

Although Iktisat Bank performed slightly better in A, M, and L components in 2019 compared to the previous year, the poor performance of the remaining C, E, and S components caused the total CAMELS score to decrease to -11.92. The low score caused the bank to stay in 12th place in the general ranking.
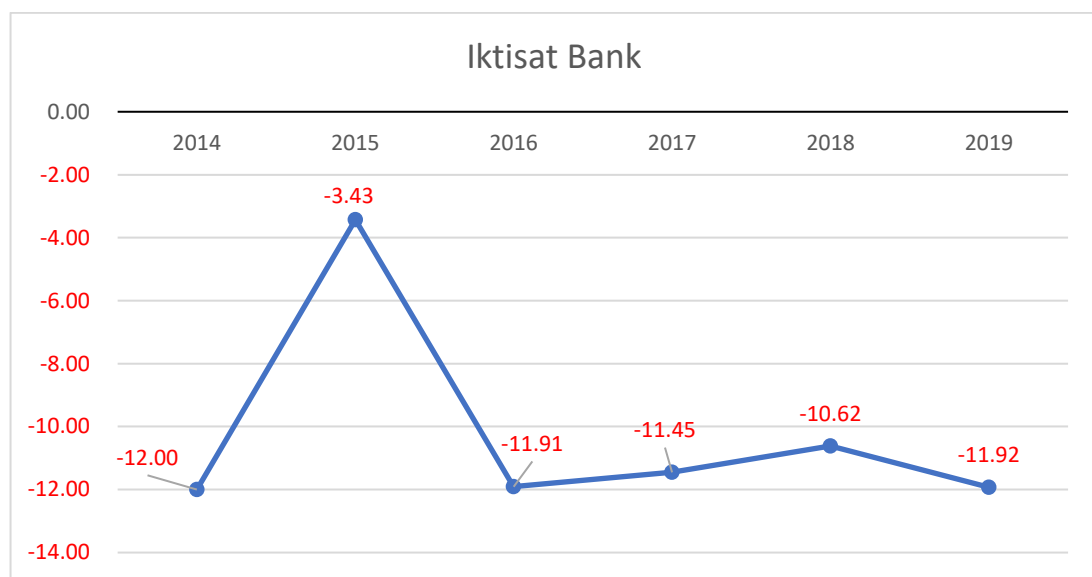
Figure 9: Total CAMELS Scores of Iktisat Bank

Considering the six years covered in the research, Iktisat Bank has been found to perform below the average. In this context, the best performance of the bank was in 2015. However, the bank achieved negative scores in all years, including 2015. The general opinion is that the bank does not give good signals in general, and the current situation is not sustainable. The bank started the research with a score of -12 and closed with a score of -11.92.

5.1.4 Universal Bank

In 2014, Universal Bank had negative values in the C (Capital Adequacy), A (Asset Quality), M (Management), and E (Earnings) components. The rest of the components L (Liquidity) and S (Sensitivity to Market Risk) received positive values. The fact that both the weights and values of the negative variables outweighed the positive variables caused the bank's total CAMELS score to be -25.80 in 2014. As a result of this score, it is seen that Universal Bank ranked thirteenth among 14 banks in 2014.

In 2015, it is observed that there was a weakening in the C, L, and S components compared to the previous period, while an increase was experienced in the A and M components. Component E remained the same as in the previous period. As a result of all this activity, Universal Bank's 2015 CAMELS score became -23.22. This score, on the other hand, made the bank rank twelfth, one step ahead compared to last year's rank.

Although there were minor improvements in the M and E components in 2016, there was no positive development in the remaining C, A, L, and S components. On the contrary, it is observed that the values of these components decreased in this year. As such, Universal Bank's total CAMELS score in 2016 was determined as -24.25, which is smaller than the previous year. Furthermore, that score caused the bank to take 13th place by one step down from the mentioned year ranking.

In 2017 and 2018, some of the components showed positive activity as in previous periods. However, since the components are all negative and getting smaller, it

lowers both the bank's CAMELS score and rank. Universal Bank in 2017 and 2018; ranked 14th with -22.54 points and 14th with -28.50 points respectively.

In 2019, Universal Bank received the lowest rating and performance not only for itself but also for all banks covered in the research and for years. Although there was a slight positive movement in the C, E, and S components, the huge declines in the A and M components, in particular, brought down the bank's overall performance. Component A has shrunk almost 10 times compared to the previous period and at the same time component, M has shrunk almost 5.5 times. When this is the case, Universal Bank's CAMELS score was determined as -66.16 and ranked as 14th place.
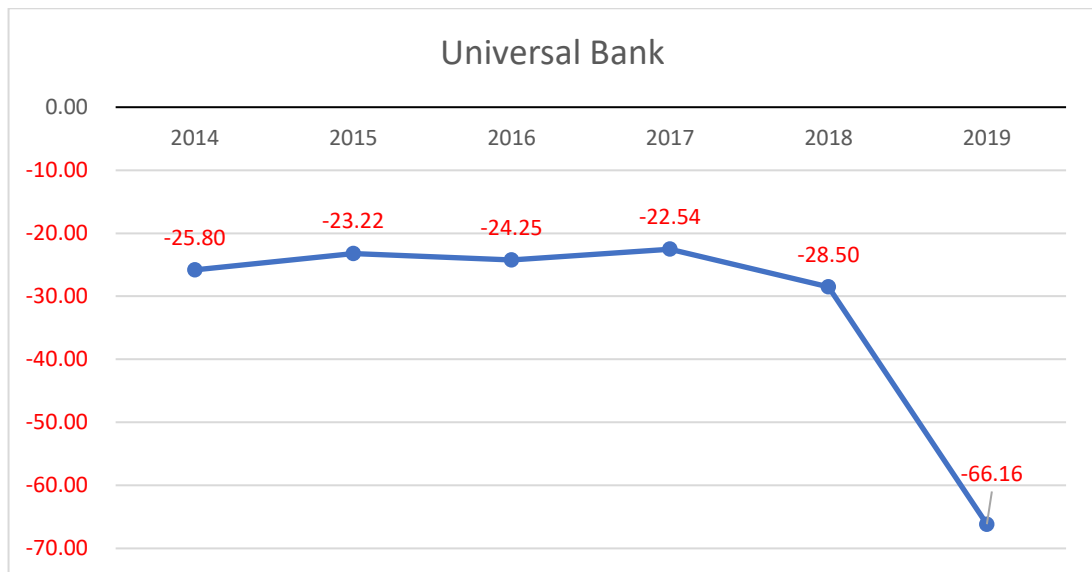

Figure 10: Total CAMELS Scores of Universal Bank

Universal Bank was the bank with the worst performance among the fourteen banks included in the study. The bank has achieved lower and lower scores over the past six years. The bank, which started the research with a score of -25.80, which is

considered quite low compared to other banks, lowered this score even more and ended the study with a score of -66.16. In particular, the bank's score of -66.16 in 2019 was recorded as the lowest score in the research. The opinion of the researcher is that the bank should immediately review its policies and find a way out. Otherwise, the bank is in a position to fail at any moment.

5.1.5 Akfinans Bank

Considering the year 2014, it is seen that Akfinans Bank has an average performance and ranks in that period. When we jump to the detail, positive values are dominant in the C (Capital Adequacy), L (Liquidity), and S (Sensitivity to Market Risk) components of the bank while it is seen that the A (Asset Quality), M (Management) and E (Earnings) components have negative values. Especially the high value of the C and S components affected the performance of the bank positively way and enabled the bank to get 0.51 points as a total CAMELS score. This score helped the bank to get rank seventh among 13 banks.

2015 was the period in which Akfinans Bank reached the best level in terms of performance within the research period. Particularly, the significant positive increase in the A, M, and E components compared to the previous year plays an important role in the increase of the bank's performance. On the other hand, although the C value decreased significantly, the L and S components decreased slightly. As a result of all this activity, Akfinans Bank took sixth place in the ranking by getting 7.41 points as a total CAMELS score.

In 2016, Akfinans bank experienced some negativities in its performance. According to outputs, there was a significant decrease in the C, A, M, E, and L components compared to the previous year. As we can see, the decreased movements were

heavily dominant against the increase. As a result, the bank's total CAMELS score decreased to -5.86 and ranked eighth among 14 banks.

Although the bank experienced increases and decreases in 2017 compared to the previous year, these were in low amounts. Compared to the previous period, there was an increase in the C, A, M, and E components, while minimal decreases were experienced in the L and S components. As a result of these minimal movements, Akfinans Bank performed better than the previous year. The score and rank that the bank got in 2017 prove this idea. The bank gets a -2.98 score and this score lead the bank to get the eighth rank among 14 banks.

2018 was the lowest performance year for Akfinans Bank within the research timeframe. One of the main reasons for this decrease in performance can be shown as a significant decrease in C, A, M, and L components. On the other hand, there was a slight increase in the remaining two components, E and S components. After that performance, Akfinans Bank received -7.15 points in terms of total CAMELS score and decreased to rank ten compared to the previous year.

In 2019, it was observed that the bank achieved a significant increase, especially in the C, A, M, and L components. On the other hand, small decreases were observed in L and S components. Especially the increase in the C component increased Akfinans Bank's total CAMELS score to 1.30, which enabled the bank to rank eighth among 14 banks in the ranking.
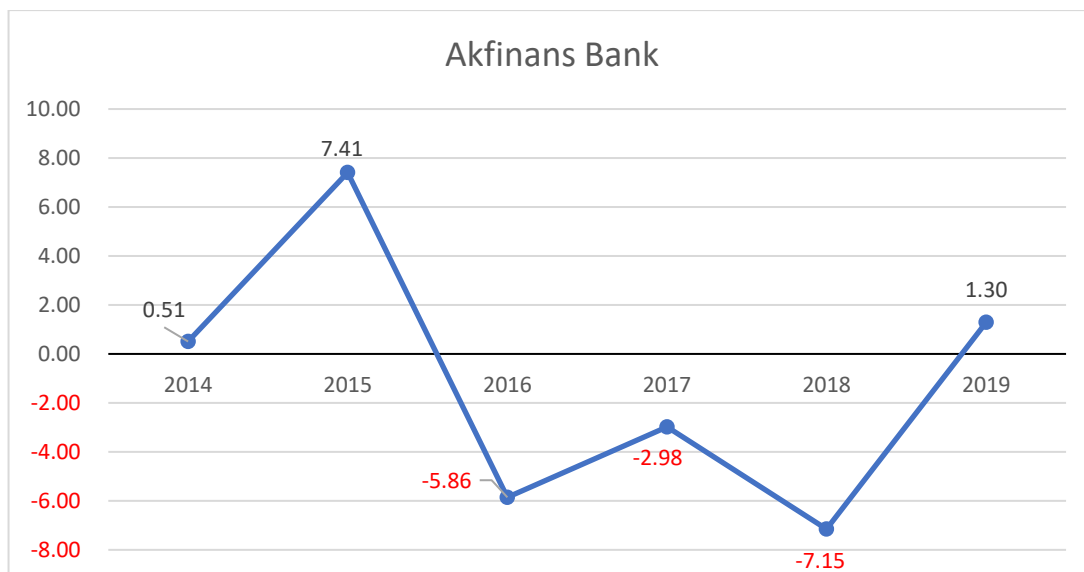
Figure 11: Total CAMELS Scores of Akfinans Bank

Akfinans Bank had a volatile six years. Despite these fluctuations, it was determined that the bank performed very close to the average performance of the other banks discussed in the research. In general performance, the bank received 0.51 points at the start of the study and ended the study with 1.30 points.

5.1.6 Albank

Albank, one of the fourteen banks studied in the research, started operating in the year 2016. Therefore, we would skip the years 2014 and 2015 for our analysis.

Albank started its operations in the TRNC banking sector on September 5, 2016. Albank entered the sector with a large amount of capital reflected in the research components, especially in component C (Capital Adequacy). In addition, the fact that the A (Asset Quality) component was positive, and the L (Liquidity) component was well above the average were among the factors that significantly increased the bank's score. On the other hand, the M (Management) and E (Earnings) components have negative values. After all these outputs, Albank became the bank with the highest

49

CAMELS scores among the banks covered in the research. As expected, the bank with 51.48 points, ranked first among 14 banks. However, it should not be forgotten that the bank's high overall score due to the high amount of capital in the year of establishment is a temporary situation.

When we take a look at 2017, we can say that the bank experienced serious decreases, especially in the C, A, L, and S components, while there were small positive developments in the M and E components. In this period, the bank received a CAMELS score of 8.97, placing itself in third place among 14 banks.

In 2018, there was a decrease in the C, M, and E components, but positive changes were experienced in the A, L, and S components. The major performance loss that was experienced immediately after the establishment of the bank started to recover in this period and the bank's performance started to increase. The bank's total CAMELS score was 8.97 points as of 2018, and Albank ranked 3rd among 14 banks.

In 2019, the bank's performance, which had improved in the previous year continued. Although minimal decreases were experienced in the C and S components compared to the previous period, the significant increase in the A, M, E, and L components increased Albank's total CAMELS score. With a score of 17.64 in 2019, the Bank increased its ranking by one more step compared to the previous period and ranked as second.
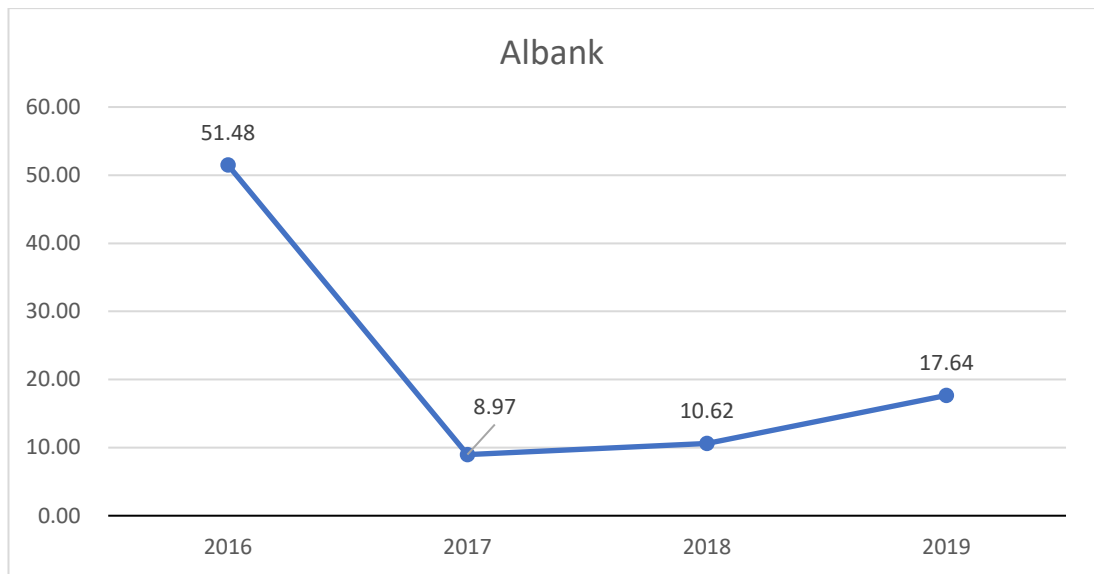
Figure 12: Total CAMELS Scores of Albank

We can easily say that Albank is one of the three banks that showed the best performance in the study. In fact, it achieved high and positive scores in each year covered which led the bank to perform above average. The fact that the bank consistently ranks in the top three proves this idea. The bank included in the study in 2016 entered the study with a score of 51.48 and finished the study with a total CAMELS score of 17.64.

5.1.7 Asbank

In 2014, Asbank gave negative values in the C (Capital Adequacy), A (Asset Quality), and S (Sensitivity to Market Risk) components, which were handled within the research. On the other hand, it was determined that it showed positive performance in M (Management), E (Earnings), and L (Liquidity) components. In conclusion, the bank's total CAMELS score in 2014 was -1.48 points and Asbank ranked 8th when compared to the other 13 banks.

In 2015, it was determined that the bank achieved significant increases in the values of components C, L, and S whereas experienced a small amount of depreciation in its A, M, and E components compared to the previous period. Overall, positive changes in the components lead to the bank's CAMELS score increase compared to the previous year and brought the score up to -0.02. This small change did not change the bank's order in the ranking and kept it stable in eighth place.

2016 has been an extremely profitable year for Asbank. In this year, the C and L components of the bank decreased significantly while the S component decreased slightly compared to the previous year. However, the massive increase in A, M, and E components allowed to suppress these reductions. Especially, the massive increase in these two components (M and E) simply means that the bank improves both its overall profitability, earnings, and management quality. In short, Asbank performed much better in 2016 compared to the previous and following periods. Of course, this successful performance of the bank was also reflected in the total CAMELS score of the bank for the year 2016 and enabled the bank to take 4th place in the overall ranking with 11.65 points.

In 2017, positive changes and increases were experienced in the C, A, L, and S components. On the other hand, it was observed that there were significant decreases in the E component and M component, which were very high in the previous year. In this context, it has been determined that the total CAMELS score of the bank decreased by almost half compared to the previous period and decreased to 5.75 points. This recession caused Asbank to regress in its 2017 ranking as well, causing the bank to rank 6th place among 14 banks.

In 2018, it was observed that all components of Asbank except S, experienced a slight decrease in their values compared to the previous year. On the other hand, it was determined that the S component experienced a slight increase. Overall, decreases, in total were reflected in the bank's score as decline. That will lead to a decrease bank's score to 4.37 points, ranked as fifth among 14 banks.

In 2019, it was determined that the bank experienced a decrease in the C, L, and S components compared to the previous year, while there was a significant increase in components A, M, and E. This motility enabled Asbank to increase the total CAMELS score to 7.15 points whereas rank bank as sixth among 14 banks.
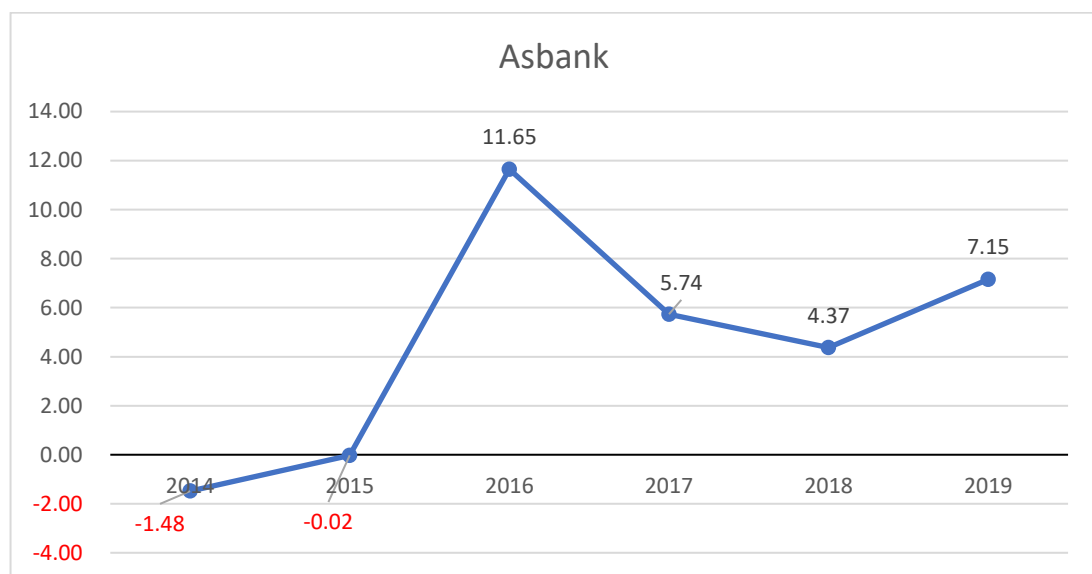

Figure 13: Total CAMELS Scores of Asbank

Asbank is one of the banks that performed above average. Although the first two years of the study had negative values close to zero, the bank managed to get positive values in the remaining four years. It is seen that if bank managers improve the bank in the future with minor improvements, the bank may become one of the best

performing banks in the sector. The bank, which started the research with a score of -1.48, got 7.15 points as a result of the analysis.

5.1.8 Capital Bank

The fact that none of the components except the C (Capital Adequacy) received a negative value in 2014 indicates that the bank performed a good year. The fact that the A (Asset Quality) and E (Earnings) components are in high amounts means that; both the amount of assets of the bank and the amount of net profit obtained in 2014 are pretty high. In other words, we can define that as a good sign for a bank. Overall, Capital Bank performed above the average and got 15.85 total CAMELS score in the year 2014. Furthermore, the Capital Bank ranks itself in 2nd place among 13 banks.

In 2015, compared to the previous year, there were minimal decreases in the C, A, M, E, and S components, whereas the L component showed a significant increase. As a result of this activity, the total score of the bank decreased slightly compared to the previous period and became 15.54. However, despite this declined performance compared to the previous year, Capital Bank managed to find its place in the 1st rank among the 14 banks discussed in 2015.

In 2016, it was determined that there were decreases in the C, A, and L components of the bank compared to the previous year whereas small increases were detected in the M, E, and S. Especially the high amount of decrease in the C component decreased the total CAMELS score of Capital Bank and caused it to decline to 3.91 points. In addition, this decrease was also influential in the ranking of the bank, causing the bank to regress five places at once, to rank sixth.

2017 was a year in which Capital Bank outperformed the previous year in general. Although there were minimal decreases in the A, L, and S components, especially the high increase in the E component increased the bank's total CAMELS score; helped the bank rise to the 5th rank with 8.55 points. In addition, minor increases in the C and M components are helpful factors in obtaining this score.

2018 was the worst year for Capital Bank within the six-year range covered. This decrease was observed in all six components of the bank and it was observed that all variables moved negatively compared to the previous period. This poor performance also affected the score and ranking of the bank. While Capital Bank scored -2.87 in 2018, it fell to eighth place in the ranking among 14 banks.

In 2019, the bank improved its performance and received positive signals compared to the previous period. Although the C and L components continued to decrease, the remaining A, M, E, and S components showed an increase in positive performance. This activity had a positive impact on the total CAMELS score of the bank in 2019, resulting in a score of 2.62. This score has caused the bank to find itself in the seventh-place compared to the other 14 banks.
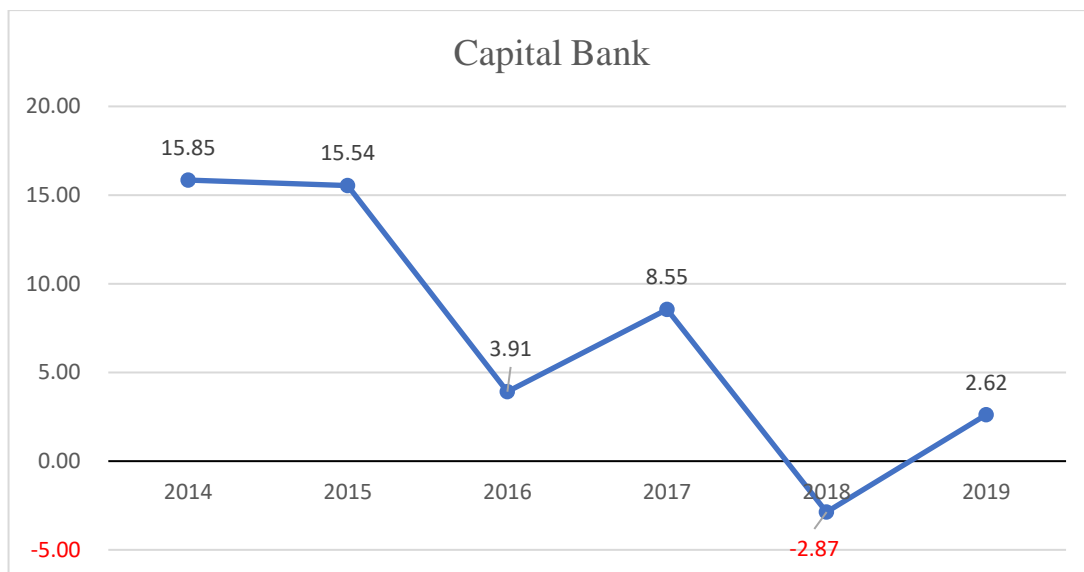
Figure 14: Total CAMELS Scores of Capital Bank

Capital Bank was another bank that performed above average in the study. Considering the six years discussed, it has been determined that the bank has experienced decreases and fluctuations. However, these fluctuations consistently recovered over the next year. Despite this, it was determined that there was a decrease in the performance of the bank. In addition, we can also say that the bank is in a downtrend. The fact that the bank started the research with 15.85 points and completed it with 2.62 points confirms these findings.

5.1.9 Nova Bank

In 2014, it was determined that the bank had positive values in the C (Capital Adequacy), A (Asset Quality), and S (Sensitivity to Market Risk) components where the negative values close to zero in the remaining M (Management), E (Earnings) and L (Liquidity) components. In general, it is seen that Nova Bank's total CAMELS score is 4.48 and this score puts the bank in sixth place among 14 other banks.

2015 has been the year of the worst performance for Nova Bank. The decline in six different components in this period proves that the bank has gone through a troubled time. Especially in the L component, the six-fold decrease compared to the previous year reveals the severity of this performance decrease. This troublesome period for Nova Bank caused its score to be -28.98 and regressed to 13th place.

Although there was a decrease in the C component in 2016 compared to the previous period, there was an increase in the remaining A, M, E, L, and S components. This development, which was experienced in a positive way in general, increased the total CAMELS score of the bank to -6.73 points. And that score caused the bank to be in the tenth place.

Overall, Nova Bank gathered -14.46 total CAMELS score in the year 2017. To explain that score briefly we need to check what happened on the component basis. First of all, the components A, M, E, and S were increased where C and M experienced slight decreases compared to the previous year. The increased components values were much greater than the C and M components. With that score, the bank ranked 10th among 14 banks.

Nova Bank managed to maintain its increasing performance in 2018 as well. While the C component was the only value that lost value, an increase was observed in the A, M, E, L, and S components. As a result of these increases, the bank increased its total CAMELS score to 3.44 points. Coming to 6th place among 14 banks in the ranking, Nova Bank experienced a period in which it increased the amount of liquid assets along with the amount of assets in general.

Although the bank experienced an increase in the A and M components in 2019, the decreases in the C, E, L, and S components adversely affected the bank's overall score. In short, Nova Bank's rank and score regressed to ninth place with a score of -0.88 in 2019.
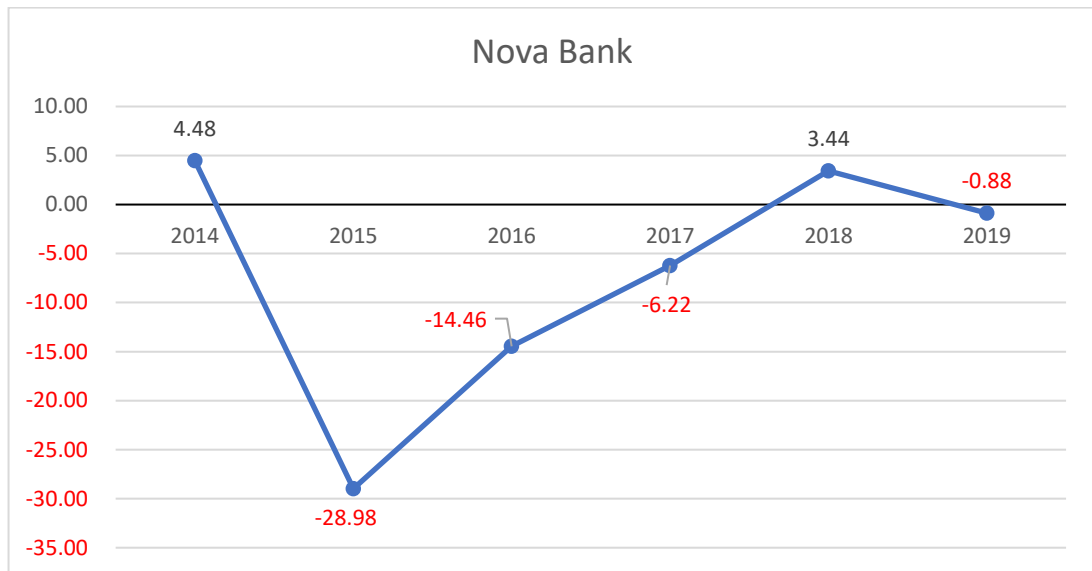
Figure 15: Total CAMELS Scores of Nova Bank

Considering the six years, Nova Bank appears to be a bank that falls slightly behind the average. Especially in 2015, the serious performance decline of the bank disrupted the bank, and this poor performance was tried to be recovered for the next two years. Although the bank started 2014 with a total CAMELS score of 4.48, it ended the analysis in 2019 with a score of -0.88.

5.1.10 Şeker Bank

When the 2014 outputs were analyzed, it was determined that Şeker Bank's C (Capital Adequacy), E (Earnings), L (Liquidity), and S (Sensitivity to Market Risk) components consist of positive values. However, the fact that one of the remaining two components, A (Asset Quality), received a very low negative value and the other

one M (Management) component, showed a below-average performance indicates that in general, the bank's performance in this period was negative. The inferences we wrote above, approved by the total CAMELS score of the bank and rank among others in 2014. (Total CAMELS score -5.95 and rank as ninth.)

2015 was the best performance of Şeker Bank in its research years. Although there was a slight decrease in the C, L, and S components compared to the previous year, positive developments and recovery in the A, M, and E components boosted the bank's performance. After all, the total CAMELS score of the bank find as 7.74 and ranked as fifth among 14 banks.

Compared to the previous year, the bank experienced depreciation in all its components except the S component in 2016. The C, A, M, E, and L components all took negative values, resulting in the bank's total CAMELS score of -6.13. According to the outputs mentioned above, Şeker Bank had shown poor performance in the year 2016. Because of that reason, the bank regressed four places compared to the previous year and took ninth place among 14 banks.

In 2017, the bank tried to recover the poor performance of the previous year. This effort had a small positive impact on the variables and total score of the bank. So that; C, A, and L components acted positively and managed to increase the bank's score to -4.60 as of 2017. However, due to the changing amounts and the overall score not being very large, the bank remained stable in 9th place.

2018 was the year with the lowest performance for Şeker Bank. The bank, showed a slight increase in component C compared to the previous year. However, the

remaining A, M, E, L, and S components experienced negative changes. After all negative activity experienced, Şeker Bank's total CAMELS score in 2018 was-12.06, and its ranking dropped to thirteenth among 14 banks.

In 2019, the low performance shown in the previous year was tried to be recovered and an increase was observed in the C, A, M, E, and L components. The S component, on the other hand, decreased this year compared to the previous year. While these developments enabled Şeker Bank's total CAMELS score to rise -6.54 and these positive movements of the components played an important role in moving the bank's overall ranking to eleventh place among 14 banks.
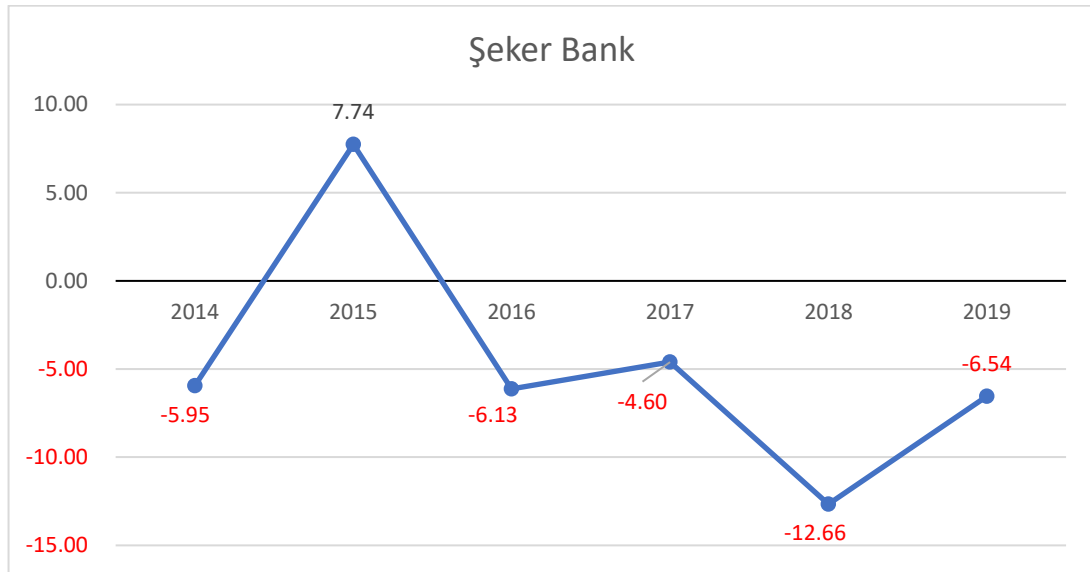

Figure 16: Total CAMELS Scores of Şeker Bank

Şekerbank received negative scores in five of the six years covered, and these scores caused the bank to lag behind the average. It was observed that the bank started the research with a score of -5.95, but in the end, it regressed to -6.54.

5.1.11 Turkish Bank

Considering the year 2014, Turkish Bank's C (Capital Adequacy), A (Asset Quality) and M (Management) components consist of positive and high values, whereas E (Earnings), L (Liquidity), and S (Sensitivity to Market Risk) components were negative but close to zero. Especially the high value of the C and M components had a significant impact on the total CAMELS score of the bank in 2014 and helped the bank to get 38.19 points. This high performance also helped the bank to be the first among 14 banks.

Although there was a two-fold increase in the amount of the C component of the bank in 2015 compared to the previous year, it was determined that there was a decrease in the remaining A, M, E, and S components. Particularly, the sharp decrease in the amount of component A compared to the previous year was one of the main factors that affected the bank's CAMELS score, causing the bank to decline to 8.67 points. On behalf of the Turkish Bank, this decrease also affected the general ranking and caused the bank to fall three places compared to the previous year, to fourth place among 14 banks.

Although there was an increase in the M and S components in 2016, it is seen that the bank underperformed compared to the previous year, as the decrease in the C, A, E, and L components outweighed the performance of the bank. As the total CAMELS score of 2016, Turkish Bank got 4.14 points and ranked fifth in the general ranking.

In 2017, it is seen that the bank has increased its performance especially compared to the previous two years. When we look at the component basis, a decrease was

observed in the A, M, E, and S components, however a high increase in the C and L components was sufficient to increase the bank's performance. In 2017, Turkish Bank received 26.20 points as a total CAMELS score and rose to first place in the general ranking. After this year, the bank has entered a rising performance trend.

In 2018, there was an increase in the C, M, and L components, while there were decreases in the A, E, and S components. However, especially the increase in the C component and that's components consist of very high amount caused the bank's performance to increase compared to the previous year. As such, the bank achieved the total CAMELS score with a score of 45.56 and remained in first place out of a total of 14 banks.

In 2019, the increase in the amount of C components again draws attention. Although there were minor decreases in the M, E, and L components, these reductions did not succeed in reducing the rising performance chart of the Turkish Bank. As a result, the bank received a total of 48.15 CAMELS points, and with that score the bank placed itself in first place again among 14 banks in 2019.
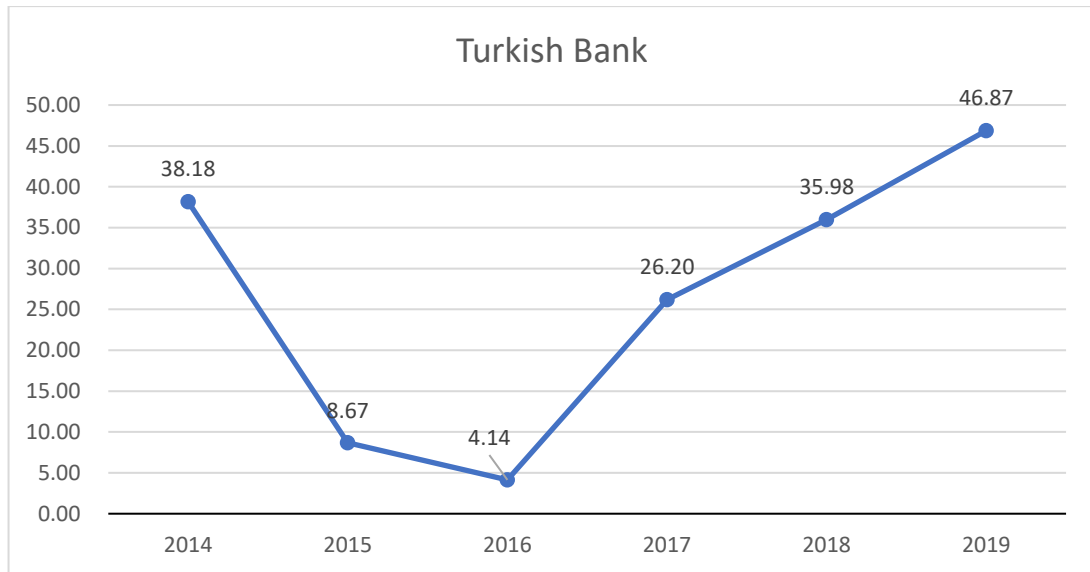
Figure 17: Total CAMELS Scores of Turkish Bank

According to results, Turkish Bank was arguably the best-performed bank covered in the research. The bank, which managed to achieve positive scores even between the years of decline in 2015 and 2016, managed to find itself in the top three places in these years. In addition, it has been determined that the bank has entered a positive trend that has increased in the three years after 2016. The bank, which started with 38.18 points, got 46.87 points at the end of the research period. Those scores can be interpreted as a good performance.

5.2 Cooperative Banks

5.2.1 ME-KOOP

In the year 2014, the C (Capital Adequacy), M (Management), E (Earnings), and S (Sensitivity to Market Risk) components of MEKOOP were positive, while the A (Asset Quality) and L (Liquidity) components have negative values. According to outputs, we can define that the bank performed positively in general. That definition is approved by the total CAMELS score which is 9.82. This score ranks MEKOOP fourth place among 14 banks.

In 2015, it was observed that the bank's performance increased compared to the previous year. While there was a slight decrease in the C, A, L, and S components, there were increases in the M and E components. Especially the noticeable increase in the E component was twofold compared to the previous year. In general terms, the bank got 10.35 points by increasing the total CAMELS score and it ranked third among 14 banks.

In the year 2016, MEKOOP generally increased its performance compared to the previous year. Although the C, A, and L components decreased, there were increases in the M, E, and S components. Especially, the high increase in the E means that the bank had a very profitable year this year, while the increase in the M component means that both the total amount of assets and total profitability increased. Improving the bank's performance was also reflected in the total CAMELS score, enabling it to advance to second place with 35.44 points.

While there were decreases in the C, M, E, L, and S components in 2017, there was a slight increase in the A component. In this period, when significant decreases were experienced, the bank also lost a significant number of points compared to the previous period. So much so that, MEKOOP received 4.43 points in this period as a total CAMELS score, placing itself in the seventh-place among 14 banks.

2018 draws attention as a year in which the effects of the sudden decline experienced in the previous year continued. The fact that the number of increasing components was too small and the amount of declining variables was too much, worsened this situation. The fact that bank scored 1.63 in total in 2018 as a CAMELS score and ranked seventh out of 14 banks.

The fact that MEKOOP experienced a significant increase especially in its A, L, and S components in 2019 caused the bank to collect the low performance it has experienced in the last two years and to be in the top five again. These positive developments not only increased the performance of the bank but also increased its place in the ranking by two places compared to the previous period, enabling it to rank in fifth place among 14 banks.
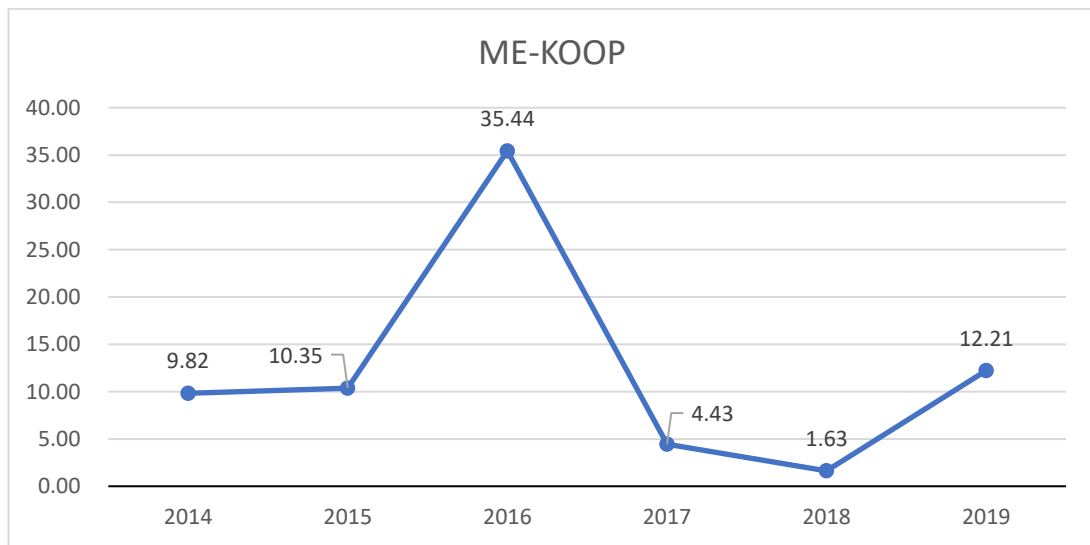
Figure 18: Total CAMELS Scores of ME-KOOP

MEKOOP shows itself as a cooperative bank that performs above the average when the period covered in the research is taken into account. In particular, the fact that almost all CAMELS scores consist of positive and high values proves this idea. The bank started its work with 9.82 points and increased to a total of 12.21 points five years later.

5.2.2 DAU-KOOP

In 2014, the cooperative bank had negative values in the C (Capital Adequacy), A (Asset Quality), M (Management), E (Earnings), and S (Sensitivity to Market Risk)

components and high in the only remaining component, L (Liquidity). The fact that the values of the negative components were close to zero and the amount in the L component was quite higher than the general average led the bank to get good performance. DAU-KOOP's total CAMELS score was determined as 12.11 as of 2014, whereas its performance ranking was determined as the 3rd rank among 13 banks.

In 2015, the bank experienced an almost twofold reduction in the L component compared to the previous year. In addition to this decrease, the significant decrease in the E component adversely affected the overall performance of the bank. The cooperative bank scored -2.23 in this period, placing itself in tenth place, seven places behind compared to the previous period.

2016 has been a nightmare year for DAU-KOOP bank. Compared to the previous year, the bank experienced a slight increase in components A and L, while the remaining components C, M, E, and S stay below zero. In particular, the decrease in the E component almost eight times compared to the previous year resulted in a score of -51.75, which is one of the lowest scores not only for the bank but also for the whole study. The bank with such a low score finds itself in last place among 13 banks.

Compared to the previous year, there were significant increases especially in the E component in 2017. In addition, there were increases in the C, A, M, and S components. The positive movements of the components mean that the bank has improved its performance during the mentioned year. Considering the total CAMELS score, it is seen that the bank got -7.83 points. Although the poor

performance of the bank, the score means that the bank was succeeded to recover an important amount of negative components after its poor performance in the previous year. In addition, with this score, the bank took eleventh place among 14 banks.

In 2018, DAU-KOOP experienced little change in its components compared to the previous year. While the decrease in the A component was remarkable, there was a slight increase in the L and S components. After this sluggish period, the bank's total CAMELS score was -9.98, keeping it stable at the eleventh place in the ranking.

Despite the increase in the C component in 2019, the performance of the bank decreased compared to the previous year due to the decreases in the A, M, E, L, and S components. While the total CAMELS score of the bank was -21.25, it was determined that it regressed to thirteenth place among 14 banks.
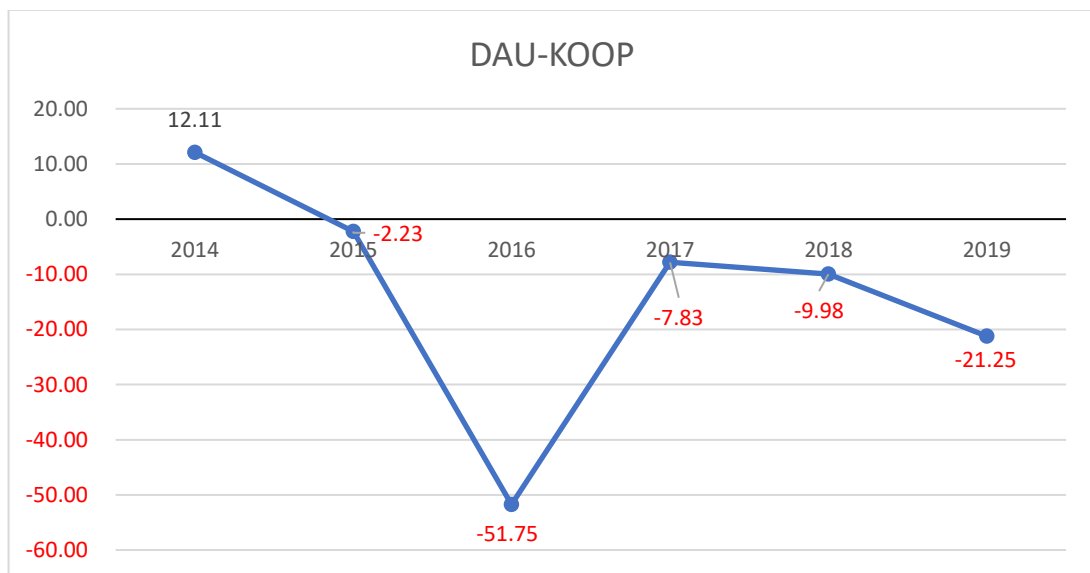

Figure 19: Total CAMELS Scores of DAU-KOOP

Although DAU-KOOP made a good start to the research, it could not continue steadily in the following years and got low and negative scores. The bank, which started our analysis with 12.11, decreased to -21.25 points at the end of the study. Although the performances of banks were avoided to be evaluated as good or bad in the study, we can say that the performance of DAU-KOOP does not bode well and good days are not waiting for the bank if it continues in this way.

5.2.3 OYAK

Considering the year 2014, ÖYAK's C (Capital Adequacy), E (Earnings) and L (Liquidity) components got extremely low values whereas, A (Asset Quality), M (Management), and S (Sensitivity to Market Risk) components had values above the average. Especially the very low score in the C and L components negatively affected the total CAMELS score of the bank. In conclusion, the ÖYAK bank got a -14.44 total CAMELS score and that score led the bank to place at eleventh place among 13 banks.

It is observed that the bank increased in almost all its components in 2015 compared to the previous period. Especially the positive activity in the L component was one of the main factors that increased the bank's score. As the total CAMELS score, the bank gets -0.62 points and advanced to ninth place in the ranking.

In 2017, it was seen that the output achieved in the previous year could not be sustained. Despite the significant increase in the L component, the negative activity in the C, A, M, E, and S components brought down the bank's performance. The decrease in the total CAMELS score to 10.89 points compared to last year proves that inference. However, despite this negative performance, the bank moved up one place up to second place.

When we look at the outputs of 2018, it is seen that the decline experienced in the previous period has come to an end and the bank has performed positive way again. While there were increases in the C, A, E, and S components, there were decreases in the M and L components. In conclusion, ÖYAK get a 15.85 total CAMELS score and with that score the bank maintained its position in the previous year.

When the components of ÖYAK in 2019 were examined, it was determined that there was a decrease in the C and L components compared to the previous year, but a significant increase was achieved in the remaining A, M, E, and S components. The fact that the increases experienced were in larger amounts compared to the decreases had a positive impact on the bank's overall performance and enabled the bank to reach 16.54 points as a total CAMELS score. With this score, the bank took third place out of 14 banks in 2019.
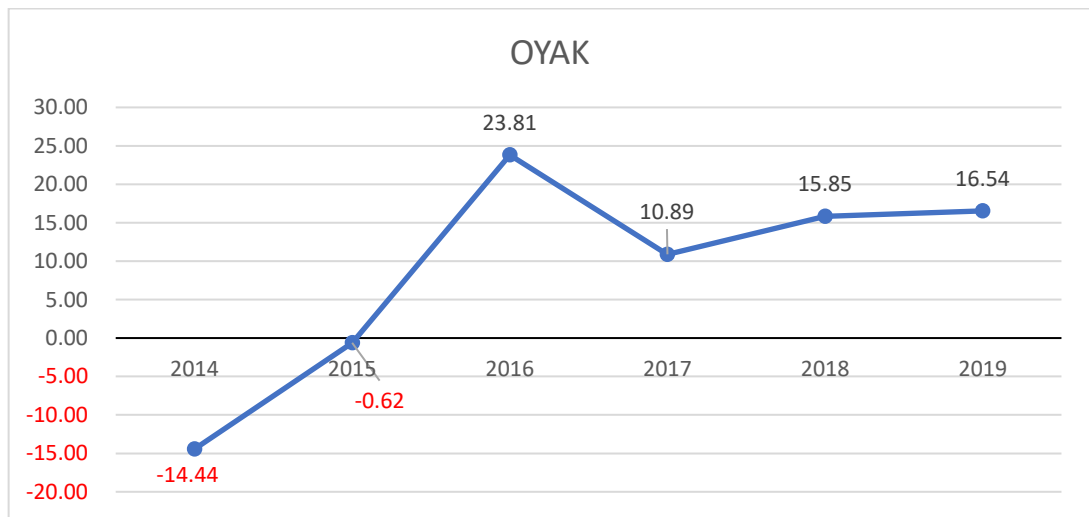

Figure 20: Total CAMELS Scores of OYAK

ÖYAK was another bank that performed above average in the study. Despite starting the research with a low score, the bank managed to recover itself in the following

years. The bank, whose initial score was -14.44, achieved to get 16.54 points at the end of the research.

Chapter 6

CONCLUSION & POLICY RECOMMENDATIONS

The banking sector, which is one of the most important building blocks of national economies, has an extremely critical role in the development and sustainability of countries. The control of these institutions that direct the country's economies is an important issue. Problems encountered especially after the economic crises in recent years have led to a decrease in trust in the banking sector and led to questioning its supervision and regulation. In order to regain this trust and to supervise banks properly, on-site, and off-site audit methods have been developed by the supervisory authorities. One of the methods called "CAMELS", which is frequently used within the off-site monitoring, is an accepted and actively used method by the supervisory authorities in many countries, especially in the USA and Turkey.

In our study, the performances of commercial banks and cooperative banks, which have an extremely important place in the TRNC economy, were analysed and compared with the help of the CAMELS method between 2014 and 2019. Accordingly, the sample of the study consists of 11 commercial banks and 3 cooperative banks. In the study, similar to previous studies, it was avoided to interpret the performances of banks according to a scale of 1 to 5. It would not be accurate to make any interpretation directly about the performance of these banks, as it is not possible to give points on a scale and evaluate them on these scores. Therefore, the total CAMELS scores of the 14 banks considered for each year were

evaluated according to their total CAMELS scores for each year. In this way, both the performance of the banks were measured and they were ranked in a comparative manner. When we look at the average scores of the banks operating in the TRNC economy it is seen that Turkish Bank is the bank with the best performance among the fourteen banks considered. Accordingly, the bank received an average total CAMELS score of 26.67. Then, Albank was second with 22.18 points and ME-KOOP was third with 12.31 points respectively. Apart from the first three banks, respectively; Creditwest Bank, OYAK, Capital Bank, and Asbank are seen as banks with a positive average performance above zero when the six years period is taken into account. Therefore, we can say that the average performance of the mentioned banks is positive and sufficient. On the other hand, the average activity scores of Şeker Bank, Nova Bank, Near East Bank, Iktisat Bank, DAU-KOOP, and Universal Bank consist of negative values. This shows us that the performances of these banks in the years discussed are insufficient and they need improvement. The bank with the lowest score in the study was Universal Bank. It would be correct to describe the performance of the bank with an average CAMELS score of -31.74 as lower than other banks.

Another issue that is curious about the research is how cooperative banks perform compared to commercial banks. Accordingly, ME-KOOP ranks as the third bank with the best average CAMELS score. Another cooperative bank, OYAK, showed slightly lower performance and ranked fifth. In this context, it would not be wrong to say that both cooperative banks performed well. On the other hand, DAU-KOOP, the third cooperative bank included in the research, remained below zero and ranked second from the last. Even though cooperative banks differ from commercial banks in terms of their functioning and operational purposes, it is noteworthy that they have

a better CAMELS score than most commercial banks in the TRNC banking sector. In other words, the cooperative banks considered in the study generally performed as well as commercial banks.

Additionally, it has been observed that cooperative banks generally prefer to remain liquid. However, since there is an inverse relationship between liquidity and returns, high liquidity caused the profits of these banks to be low in general. On the other hand, it has been observed that the bank, which has lower liquidity compared to other cooperative banks, has higher earnings than others. That difference put the bank ahead of many banks discussed in the research.

In particular, it has been observed that more than three components of the banks that performed poorly in the same year always remained below zero when they showed negative performance. Therefore, improvement in the main components of underperforming banks with negative values will be beneficial for the banks and will increase the performance of these banks. To explain the aforementioned idea more clearly, a negative Management (M) component will be in a much better position by reducing the non-performing loans in it. In addition, the increase in net profit and net assets items will also directly affect this component. It will enable banks with low management quality components to perform better. The increase in this component will also have a positive effect on the performance of the bank, and it will mean that the bank will rank much better with a better score.

The profitability component is a component that is examined very carefully in bank performance measurement, since the main activity of banks, like most commercial enterprises, is to make a profit. It is noteworthy that the profitability ratios of some of

the banks discussed in the research are quite low. Increasing non-interest and interest incomes in order to eliminate these will provide serious developments in the earnings component. In addition, reducing the amount of non-interest and interest expenses will likewise affect banks positively and will increase the performance of banks to a higher point.

Considering the six-year performance averages among the 14 banks considered in our research, it was determined that two of the five banks with the highest average performance were composed of cooperative banks (ME-KOOP and OYAK). This shows us that cooperative banks, no matter how small in volume, can perform at least as well as commercial banks. In this context, it should be considered that the policy implementers' facilitation of cooperative banks can have serious positive effects on the performance of these banks. In addition, applying the same care shown in the supervision and transparency of commercial banks to cooperative banks will also increase the reliability of these banks and indirectly improve their activity volume.

Finally, it has been determined that most of the cooperative banks operating in the TRNC banking sector operate more efficiently than the commercial ones. Paying more attention to these banks, which can provide above-average efficiency with less resources in a country with an introverted economic system such as the TRNC banking sector, will mean a step forward not only for cooperative banks but also for the country's economy.

REFERENCES

Alzghoul, Mohammad Omar. (2015). Performance Analysis of Conventional Banks Vs. Islamic Banks in Jordan. Thesis (M.S.), Eastern Mediterranean University, Institute of Graduate Studies and Research, Dept. of Banking and Finance, Famagusta: North Cyprus.

Bair, S. C. (2016, Jun 02). Perspectives: What is a bank? today's bank: Necessity, mystery, whipping boy; the former FDIC chairman says banks hold many definitions. *Wall Street Journal(online).*

Baltes, N., & Rodean (Cozma), M. D. (2014). Study regarding the financial stability of commercial banks listed on Bucharest Stock Exchange of CAMELS rating outlook. *JOURNAL OF INTERNATIONAL STUDIES*, 7(3), 133–143.

Barbu, T. C., & Boitan, I. A. (2019). Cooperative banks' business model at the crossroads between financial performance and societal involvement. *Ekonomický Časopis*, 67(2), 157-174.

Barone, A. (2021, March 21). Bank. Investopedia. https://www.investopedia.com/terms/b/bank.asp.

Bashatweh, A. D., & Ahmed, E. Y. (2020). Financial Performance Evaluation of the commercial banks in Jordan: Based on the CAMELS Framework. *International Journal of Advanced Science and Technology*, 29(05), 985–994.

Çağıl, G. & Mukhtarov, S. (2014). AZERBAYCAN TİCARİ BANKACILIK SEKTÖRÜNÜN CAMELS YÖNTEMİ İLE PERFORMANS ANALİZİ - PERFORMANCE ANALYSIS OF COMMERCIAL BANKING SECTOR OF AZERBAIJAN BY CAMELS METHOD . *Öneri Dergisi*, 11 (41) , 77-94

Cole, R. A., & Gunther, J. W. (1998). Predicting Bank Failures: A Comparison pf On- and Off-Site Monitoring Systems. *Journal of Financial Services Research*, 13(2), 103–117.

Corporate Finance Institute. (2020, July 30). CAMELS Rating System. https://corporatefinanceinstitute.com/resources/knowledge/finance/camels-rating-system

Dash, M., & Das, A. (2009). A CAMELS Analysis of the Indian Banking Industry. *SSRN Electronic Journal*.

Derviz, A., & Podpiera, J. (2008). Predicting Bank CAMELS and S&P Ratings: The Case of the Czech Republic. *Emerging Markets Finance & Trade*, 44(1), 117–130.

FDIC Law, Regulations, Related Acts - Statements of Policy. (1997, January 1). FDIC. https://www.fdic.gov/regulations/laws/rules/5000-900.html

FDIC. (2018, July). Risk Management Manual of Examination Policies. Sensitivity to Market Risk, 1–24. https://www.fdic.gov/regulations/safety/manual/section7-1.pdf

FRB: Supervisory Letter SR 96–38 (SUP) on uniform financial institutions rating system -- December 27, 1996. (1996, December 27). Uniform Financial Institutions Rating System. https://www.federalreserve.gov/boarddocs/srletters/1996/sr9638.htm

Giagnocavo, C., Gerez, S., & Pérez, L. F. R. (2011, May). Proactive Cooperative Banks in Local Development: socio-economic problem solving, growth and community building. In United nations Expert Group Meeting,"Cooperatives in Social Development" in Ulanbatar, Mongolia (pp. 3-5).

Gobat, J. (2012). What is a Bank? Back to Basics, 38–39. https://www.imf.org/external/pubs/ft/fandd/2012/03/pdf/basics.pdf

Gülençer, S., & Hazar, A. (2019). Türkiye'dei Mevduat Bankalarının CAMELS Analizi ile Değerlendirilmesi. *23. Finans Sempozyumu*, 247–265.

Gümüş, F. B., & Nalbantoğlu, N. (2015). PERFORMANCE ANALYSIS OF TURKISH BANKING SECTOR WITH CAMELS ANALYSIS BETWEEN 2002–2013 YEARS. *İktisadi ve İdari Bilimler Fakültesi Dergisi*, 17(2), 83–106.

Gündoğdu, A. (2017). The Camels Analysis Of Turkish Deposit Banks . *Journal of Banking and Financial Research* , 4 (2) , 26-43 .

Hyz, A., & Gikas, G. (2015). CAMELS and Greek banking sector performance during the crisis an analysis and review of the evidence. *Folia Oeconomica*, 5(316), 27–39.

International Cooperative Alliance. (n.d.). What is a cooperative? | ICA. https://www.ica.coop/en/cooperatives/what-is-a-cooperative

Jha, S., & Hui, X. (2012). A comparison of financial performance of commercial banks: A case study of Nepal. *AFRICAN JOURNAL OF BUSINESS MANAGEMENT*, 6(25), 7601–7611.

Kagan, J. (2021, October 7). Understanding Commercial Banks. Investopedia. https://www.investopedia.com/terms/c/commercialbank.asp

Kandemir, T. ğ., & Arıcı, N. D. (2013). A Comarative Study on CAMELS Performance Evaluating Model in Deposit Banks (2001–2010). *The Journal of Faculty of Economics and Administrative Science*, 18(1), 61–87.

Karaca, S. S. & Erdoğan, S. (2018). TÜRK BANKACILIK SEKTÖRÜNÜN 2009-2016 DÖNEMİ CAMELS DERECELENDİRME SİSTEMİ İLE PERFORMANS ANALİZİ . *Journal of International Management Educational and Economics Perspectives* , 6 (3) , 23-39 .

Karapinar, A., & Dogan, I. C. (2015). An Analysis on the Performance of the Participation Banks in Turkey. *Accounting and Finance Research*, 4(2), 24-33.

Khatri, D. K. (2019). CAMELS Rating System for Banks a Magnifying Lens- An Empricl Study in Indıa. *Intertaional Journal of Tourism & Hotel Business Management*, 1(1), 15–27.

Öztürk Karaçor, Z. , Mangır, F. , Kodaz, Ş. S. & Kartal, M. (2018). Kamusal ve Özel Sermayeli Bankaların CAMELS Performans Analizi: Türkiye Örneği . *İstanbul Gelişim Üniversitesi Sosyal Bilimler Dergisi* , ICEFM 2017 Özel Sayısı , 47-65 .

Roman, A., & ŞArgu, A. C. (2013). Analysing the Financial Soundness of the Commercial Banks in Romania: An Approach based on the Camels Framework. *Procedia Economics and Finance*, 6, 703–712.

Spina, J. J. (2013). Investment and Commercial Banking - A Brief Survey. *SSRN Electronic Journal*, 3.

APPENDICIES

Appendix A: Reference Values

Reference Values of Commercial Banks

Ratios	2014	2015	2016	2017	2018	2019
CA1	0.08	0.08	0.10	0.07	0.07	0.06
CA2	0.14	0.15	0.19	0.16	0.18	0.18
CA3	0.87	0.83	0.84	0.87	0.81	0.76
AQ1	0.58	0.57	0.55	0.55	0.58	0.50
AQ2	0.04	0.05	0.04	0.04	0.04	0.06
AQ3	0.10	0.11	0.09	0.09	0.08	0.17
AQ4	-	0.82	0.06	0.05	0.04	0.05	0.13
AQ5	0.84	0.84	0.85	0.85	0.86	0.83
MQ1	0.10	0.11	0.09	0.09	0.08	0.17
MQ2	404,253.66	382,470.75	640,679.28	1,056,422.33	1,454,241.37	1,848,641.44
MQ3	43,916,140.05	52,365,530.20	58,694,883.04	77,503,091.53	98,097,502.05	126,317,685.54
MQ4	0.12	0.36	0.18	0.20	0.50	0.30
MQ5	0.69	0.69	0.68	0.75	0.73	0.78
EQ1	0.01	0.01	0.01	0.01	0.01	0.01
EQ2	0.12	0.08	0.15	0.23	0.24	0.29
EQ3	0.69	0.69	0.68	0.75	0.73	0.78
EQ4	0.10	0.10	0.08	0.08	0.10	0.10
EQ5	0.06	0.05	0.04	0.04	0.05	0.06
EQ6	0.04	0.04	0.04	0.04	0.04	0.04
L1	0.43	0.41	0.43	0.41	0.43	0.41
L2	0.47	0.44	0.49	0.45	0.47	0.44
L3	12.20	12.05	12.50	14.75	15.34	18.44
L4	0.45	0.43	0.43	0.41	0.47	0.43
SMR1	0.06	0.03	0.04	0.04	0.03	0.03
SMR2	0.97	0.96	1.00	0.97	0.98	0.94
SMR3	0.03	0.03	0.03	0.03	0.04	0.03
SMR4	1.01	1.01	1.00	0.99	1.01	0.98

Reference Values of Co-operative Banks

Ratios	2014	2015	2016	2017	2018	2019
CA1	0.21	0.19	0.14	0.12	0.10	0.09
CA2	0.30	0.26	0.21	0.19	0.17	0.17
CA3	0.02	0.02	0.02	0.02	0.02	2.64
AQ1	0.69	0.74	0.66	0.62	0.60	0.51
AQ2	0.00	0.00	0.00	0.00	0.00	0.00
AQ3	0.02	0.02	0.01	0.01	0.01	0.01
AQ4	0.02	0.02	0.01	0.01	0.01	0.01
AQ5	1.01	0.66	0.86	0.84	0.88	0.80
MQ1	0.02	0.02	0.01	0.01	0.01	0.01
MQ2	271,999.30	208,828.70	146,036.66	278,527.29	399,583.52	554,544.84
MQ3	5,479,002.17	6,280,636.65	7,943,854.75	9,364,214.36	11,974,597.95	15,978,754.34
MQ4	0.03	0.03	0.02	0.03	0.04	0.03
MQ5	0.34	0.38	0.35	0.50	0.56	2.03
EQ1	0.03	0.02	0.00	0.01	0.01	0.01
EQ2	0.13	0.08	0.02	0.09	0.11	0.12
EQ3	0.34	0.38	0.35	0.50	0.56	2.03
EQ4	0.12	0.28	0.11	0.11	0.11	0.13
EQ5	0.06	0.07	0.07	0.07	0.08	0.08
EQ6	0.07	0.13	0.05	0.05	0.04	0.05
L1	0.24	0.15	0.21	0.42	0.47	0.68
L2	0.29	0.17	0.23	0.46	0.51	0.76
L3	5.75	5.99	7.28	8.73	9.74	11.44
L4	0.05	0.06	0.05	0.42	0.61	0.52
SMR1	-	-	-	-	-	-
SMR2	1.32	0.80	1.08	1.02	1.06	0.95
SMR3	0.07	0.05	0.04	0.04	0.04	0.04
SMR4	0.33	0.33	0.33	0.67	0.67	0.67

Appendix B: CAMELS Scores of The Banks

CAMELS Points of Commercial Banks between 2014-2019

CRWB	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*
C	-8.17	-9.17	-10.85	-4.59	-6.87	-6.86
A	2.69	4.42	1.55	2.89	3.66	5.12
M	11.06	11.61	9.13	9.17	11.20	10.55
E	7.03	8.27	4.54	1.12	2.68	1.06
L	-4.05	-0.21	-1.89	0.64	-0.33	4.20
S	-0.91	-2.07	0.29	-0.47	0.24	-1.53
Total Score	7.65	12.84	2.76	8.75	10.58	12.55
Rank	5	2	7	4	4	4

NEB	2014	2015	2016	2017	2018	2019
C	-0.25	-1.61	-6.14	-5.73	-4.56	-5.97
A	-11.74	-1.17	0.08	2.47	3.54	5.53
M	-3.72	0.66	0.34	1.02	2.22	3.45
E	-6.30	4.10	-1.87	-3.67	-0.95	-0.21
L	1.49	0.23	-3.03	-4.50	-3.08	-3.84
S	-0.94	1.25	-0.71	-0.01	-0.36	-1.57
Total Score	-21.44	3.45	-11.34	-10.42	-3.19	-2.62
Rank	12	7	10	12	9	10

IB	2014	2015	2016	2017	2018	2019
C	-0.45	-3.84	-4.89	-4.10	-5.63	-6.35
A	-7.17	-0.23	-0.16	0.95	2.10	3.85
M	-3.74	-0.76	-5.94	-6.90	-7.34	-6.70
E	2.46	3.49	2.94	1.02	3.82	1.90
L	-3.34	-3.17	-2.59	-3.61	-4.70	-4.04
S	0.24	1.09	-1.27	1.18	1.12	-0.59
Total Score	-12.00	-3.43	-11.91	-11.45	-10.62	-11.92
Rank	10	11	11	13	12	12

UB	2014	2015	2016	2017	2018	2019
C	-5.27	-6.50	-9.24	-9.11	-8.63	-6.04
A	-12.06	-4.29	-5.81	-3.21	-1.89	-29.25
M	-4.85	-4.17	-3.76	-3.43	-3.13	-17.00
E	-7.09	-7.09	0.36	-3.14	-6.58	-4.61
L	2.34	-1.24	-5.40	-2.31	-5.23	-9.80
S	1.13	0.07	-0.41	-1.33	-3.03	0.53

Total Score	-25.80	-23.22	-24.25	-22.54	-28.50	-66.16
Rank	13	12	13	14	14	14

AFB	2014	2015	2016	2017	2018	2019
C	4.20	1.05	-1.66	0.59	-0.19	3.41
A	-1.54	3.91	0.08	1.52	-2.72	0.43
M	-2.16	-0.80	-3.18	-2.44	-4.32	-2.08
E	-3.61	0.69	-3.95	-2.85	0.73	-1.44
L	0.90	0.36	1.04	-1.40	-2.47	-0.49
S	2.71	2.19	1.82	1.59	1.82	1.47
Total Score	0.51	7.41	-5.86	-2.98	-7.15	1.30
Rank	7	6	8	8	10	8

ALB	2014	2015	2016	2017	2018	2019
C	-	-	39.07	-0.53	-1.98	-6.18
A	-	-	5.75	-2.24	0.74	6.44
M	-	-	-1.09	0.38	0.12	4.11
E	-	-	-10.38	6.50	3.00	3.41
L	-	-	18.10	5.19	6.89	8.90
S	-	-	0.03	-0.33	1.86	0.96
Total Score	-	-	51.48	8.97	10.62	17.64
Rank	-	-	1	3	3	2

ASB	2014	2015	2016	2017	2018	2019
C	-4.93	-2.60	-6.61	-5.71	-6.23	-7.21
A	-0.34	-0.48	1.34	3.02	2.26	4.85
M	2.68	0.13	5.18	2.74	2.60	4.26
E	2.83	-1.51	13.51	4.28	4.02	5.08
L	2.07	5.32	-0.71	2.36	1.03	-0.01
S	-3.80	-0.89	-1.06	-0.96	0.68	0.19
Total Score	-1.48	-0.02	11.65	5.74	4.37	7.15
Rank	8	8	4	6	5	6

CB	2014	2015	2016	2017	2018	2019
C	-3.11	-4.05	-9.70	-7.15	-9.89	-10.74
A	5.97	5.37	3.50	2.73	2.65	4.51
M	1.63	1.51	1.90	2.59	1.61	3.45
E	7.72	6.78	7.56	10.45	4.99	8.58
L	2.32	5.07	-1.12	-1.65	-3.71	-4.83
S	1.31	0.85	1.78	1.58	1.48	1.65
Total Score	15.85	15.54	3.91	8.55	-2.87	2.62

Rank	2	1	6	5	8	7
NB	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
C	5.06	3.70	-2.12	-2.49	-3.81	-4.66
A	3.42	-1.94	1.65	3.14	4.23	4.73
M	-0.25	-5.23	-2.41	-1.18	0.31	0.78
E	-3.39	-18.59	-10.11	-6.73	-3.60	-5.12
L	-0.87	-5.50	-0.77	-1.04	5.63	3.21
S	0.51	-1.42	-0.70	2.09	0.68	0.18
Total Score	4.48	-28.98	-14.46	-6.22	3.44	-0.88
Rank	6	13	12	10	6	9

ȘB	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
C	2.78	1.05	-2.01	1.11	2.23	2.46
A	-11.71	-1.74	-3.05	-2.45	-5.08	-1.72
M	-3.48	-0.81	-2.94	-3.29	-5.06	-2.58
E	1.52	5.41	0.37	-2.35	-4.93	-4.75
L	2.89	1.81	-0.60	0.73	-0.86	0.00
S	2.06	2.03	2.11	1.65	1.03	0.05
Total Score	-5.95	7.74	-6.13	-4.60	-12.66	-6.54
Rank	9	5	9	9	13	11

TB	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
C	10.13	21.96	14.16	37.70	45.56	48.15
A	32.46	-3.84	-4.93	-8.83	-9.49	-4.49
M	2.83	-2.13	2.77	1.34	1.78	1.76
E	-1.18	-1.55	-2.97	-4.62	-3.18	-3.91
L	-3.74	-2.66	-3.02	5.60	6.83	6.70
S	-2.32	-3.10	-1.87	-4.99	-5.52	-1.35
Total Score	38.18	8.67	4.14	26.20	35.98	46.87
Rank	1	4	5	1	1	1

CAMELS Points of Co-operative Banks between 2014-2019

ME-KOOP	2014	2015	2016	2017	2018	2019
C	14.22	13.29	10.95	11.10	9.49	5.80
A	-4.57	-6.22	-6.42	-4.83	-4.56	-2.38
M	2.02	2.40	4.08	3.17	3.49	1.61
E	5.04	11.70	37.31	6.92	5.18	4.22
L	-12.12	-14.21	-15.82	-16.80	-16.62	-2.90
S	5.23	3.40	5.33	4.87	4.65	5.86
Total Score	9.82	10.35	35.44	4.43	1.63	12.21
Rank	4	3	2	7	7	5

DAU-KOOP	2014	2015	2016	2017	2018	2019
C	-1.80	-1.61	-1.10	-0.88	-0.89	3.09
A	-1.27	-0.64	1.41	4.36	0.30	-2.51
M	-3.86	-5.33	-9.31	-5.84	-5.62	-6.06
E	-1.15	-7.10	-54.80	-6.86	-7.03	-10.27
L	22.17	13.13	13.89	-0.69	1.33	-5.99
S	-1.98	-0.68	-1.84	2.09	1.93	0.49
Total Score	12.11	-2.23	-51.75	-7.83	-9.98	-21.25
Rank	3	10	14	11	11	13

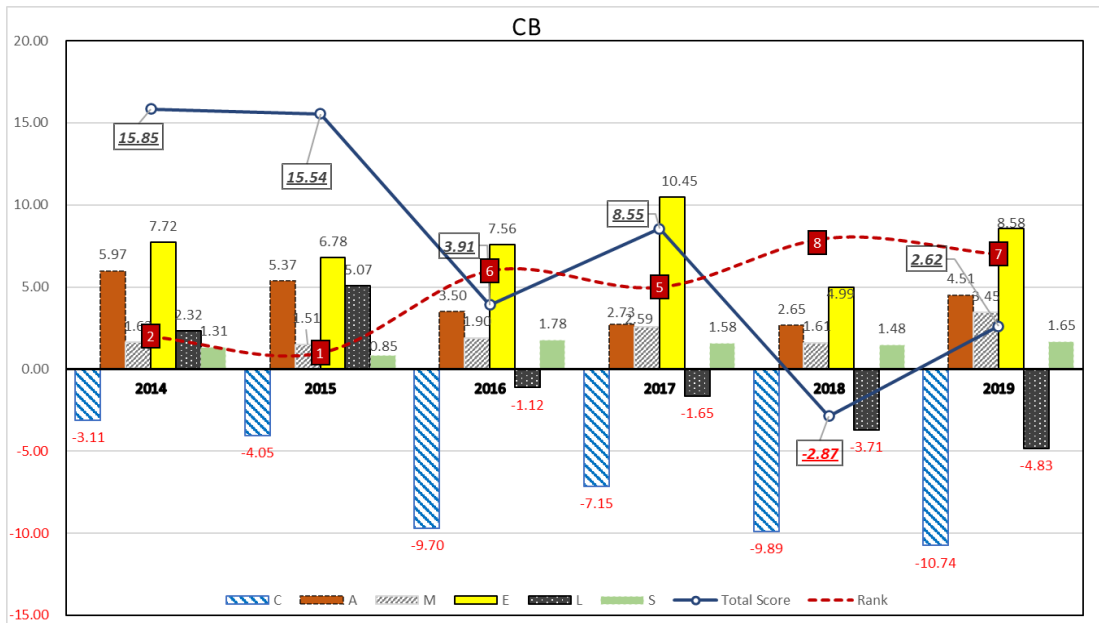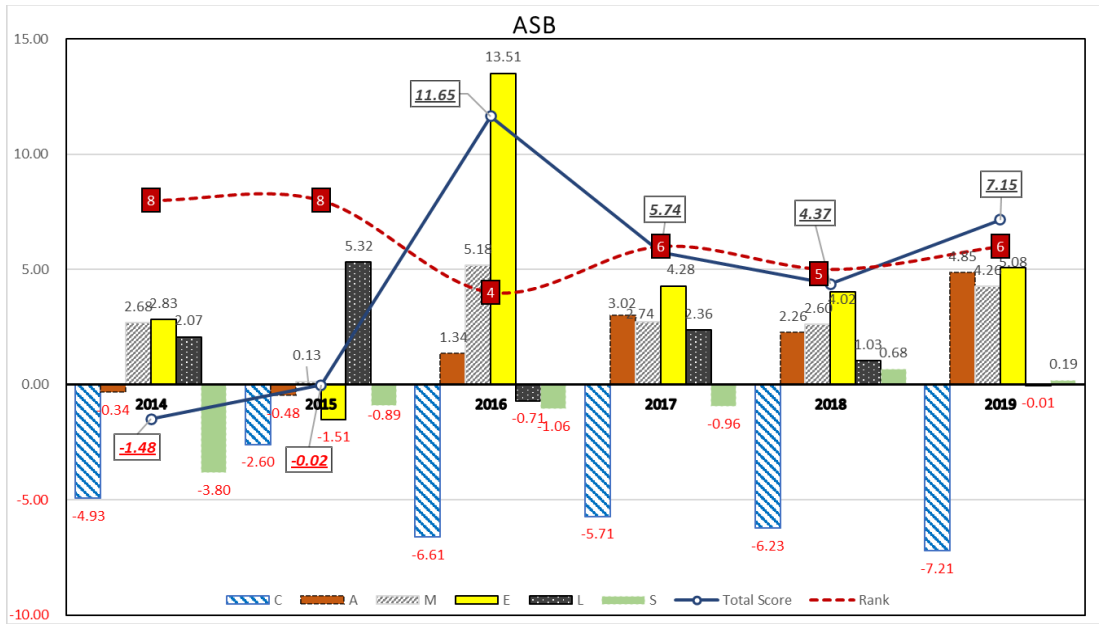| OYAK	2014	2015	2016	2017	2018	2019
C	-12.42	-11.68	-9.85	-10.22	-8.60	-8.89
A	5.84	6.86	5.01	0.47	4.26	4.90
M	1.84	2.93	5.23	2.68	2.13	4.45
E	-3.89	-4.59	17.48	-0.06	1.85	6.05
L	-10.05	1.08	1.94	17.49	15.28	8.89
S	4.25	4.78	4.01	0.54	0.93	1.15
Total Score	-14.44	-0.62	23.81	10.89	15.85	16.54
Rank	11	9	3	2	2	3

Appendix C: Detailed CAMELS graphs of the banks

Detailed Graphs of Commercial Banks

CRDW

NEB

AKF

12.00
10.00 — 10
8.00 — 7.41 | 8 | 8 | 8
6.00 — 6
4.20
4.00 — 3.91 | 3.41
2.00 — 0.51 | 2.71 | 0.90 | 1.05 | 0.69 | 0.36 | 2.19 | 0.08 | 1.04 | 1.82 | 0.55 | 1.52 | 1.59 | 0.73 | 1.82 | 0.43 | 1.30 | 1.47
0.00 — 2014 | 2015 | 2016 | 2017 | 2018 | 2019
-2.00 — -1.54 | -2.16 | -0.80 | -1.66 | -0.19 | -2.72 | -2.08 | -0.49
-4.00 — -3.61 | -3.18 | -3.95 | -2.44 | -2.85 | -1.40 | -2.47 | -4.32 | -1.44
-6.00 — -5.86 | -2.98
-8.00 — -7.15
-10.00

Legend: C | A | M | E | L | S | Total Score | Rank

ALB

60.00
51.48
50.00
40.00 — 39.07
30.00
20.00 — 18.10 | 17.64
10.00 — 5.75 | 8.97 | 6.50 | 5.19 | 10.62 | 6.89 | 6.44 | 4.11 | 8.90 | 3.41 | 0.96
0.00 — 2014 | 2015 | 2016 | 1 | 0.03 | -0.53 | 0.38 | 3 | 5.00 | -0.33 | 0.74 | 3 | 8.00 | 1.86 | 2
-10.00 — -1.01 | -2.24 | -1.98 | -6.18
-10.38
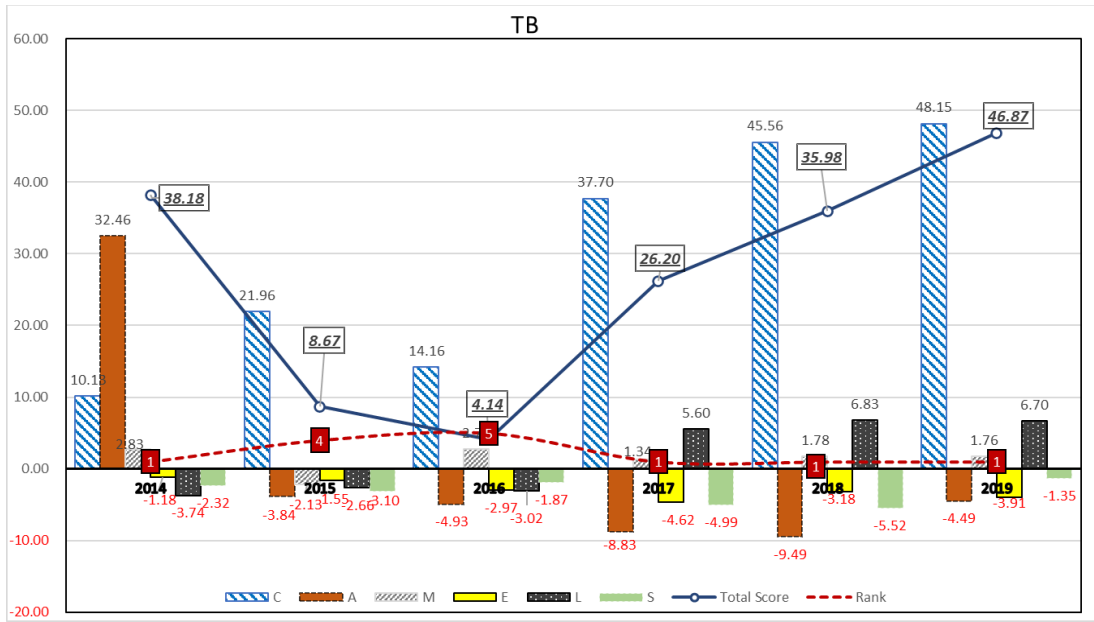-20.00

Legend: C | A | M | E | L | S | Total Score | Rank

ASB

CB

NB

ŞB

TB

94

Detailed Graphs of Co-operative Banks

ME-KOOP

DAU-KOOP

OYAK