T.C.

BAHCESEHIR UNIVERSITY

THE EFFECTS OF BANKS CREDITS ON ECONOMIC GROWTH: THE CASE OF TURKEY

MASTER'S THESIS

GÖKTUĞ ŞABAN

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GRADUATE SCHOOL – MASTER OF BUSINESS ADMINISTRATION

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Supervisor: Assist. Prof. Serkan YESILYURT

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ABSTRACT

THE EFFECTS OF BANK CREDITS ON ECONOMIC GROWTH: THE CASE OF TURKEY

Göktuğ Şaban

Master of Business Administration

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In today's world, country economies have gained more importance than before. The main goal of all countries is to achieve economic growth and to make it sustainable. There are many factors and factors that determine economic growth for a country. With the importance of money and financial markets, the effects of banks on economic growth are increasing day by day. While banks are the bridge between the market and money, they play a determining role for long-term economic growth by supporting the financial markets.

In particular, the banking sector in Turkey to grow together with regulations since 2003 and began to develop. Partnerships purchased from abroad reveal the confidence level of the banking sector. the banking sector while examining Turkey's economy has largely importance. Because of the interaction between economic growth and banking sector for Turkey in this study aimed to uncover and examine the relationship. The time series to be examined is determined as 2003Q1 - 2020Q4, and it is made with quarterly data of GDP and bank loans for the periods covering this period.

Key Words: Gross Domestic Price, Economic Growth, Banks Credits

ÖZET

TÜRKİYE'DE BANKA KREDİLERİNİN EKONOMİK BÜYÜME ÜZERİNDEKİ ETKİSİ

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Günümüz dünyasında ülke ekonomileri eskisinden daha fazla önem kazanmıştır. Bütün ülkelerin temel amacı ekonomik büyümenin gerçekleştirilmesi ve bunu sürdürülebilir hale getirmektir. Bir ülke için ekonomik büyümeyi belirleyen bir çok etken ve faktör vardır. Para ve finans piyasalarının önem kazanmasıyla birlikte bankaların ekonomik büyüme üzerinde etkileri her geçen gün artmaktadır. Bankalar piyasa ve para arasındaki köprü olmak ile beraber, finans piyasalarını desteklemesiyle beraber uzun süreli ekonomik büyüme için belirleyici rol oynamaktadır.

Özellikle Türkiye'de bankacılık sektörü 2003 yılından itibaren regülasyonlar ile birlikte büyümeye ve gelişmeye başlamıştır. Yurtdışından alınan ortaklıklar bankacılık sektörünün güven düzeyini ortaya koymaktadır. Türkiye ekonomisi incelenirken bankacılık sektörü büyük ölçüde öneme sahiptir. Bundan dolayı bu çalışma içerisinde Türkiye için ekonomik büyüme ve bankacılık sektörü arasındaki etkileşimi ve ilişkiyi inceleyerek ortaya çıkarmayı amaçlamıştır. İncelenecek olan zaman serisi 2003:Q1 - 2020Q4 olarak belirlenmiş olup bu zaman dilimini kapsayan dönemlere ait GSYİH ile banka kredilerine ait üçer aylık veriler ile yapılmıştır.

Anahtar Kelimeler: Gayri Safi Yurtiçi Hasıla, Ekonomik Büyüme, Banka Kredileri

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ABBREVIATIONS

BDDK : Banking Regulatory and Supervisory Authority

GDP : Gross Domestic Price

GR_TR : Real GDP Growth of Turkey

IMF : International Monetary Fund

TBB : Turkish Banks Association

TC : Total Bank Credits

OECD : Organization for Economic Co-operation and Development

WB : World Bank

1. INTRODUCTION

Economic growth is of great importance for the protection and increase of the wealth of the countries. Economic growth; in an economy, it can be measured by the increase in the production of goods and services over time and the increase in national income. This growth can be measured in terms that are regulated for nominal or actual inflation. Traditionally, economic growth has been measured in terms of gross national product or gross domestic product. Generally, total gains in production are associated with increased average marginal productivity. This leads to an increase in revenues and encourages consumers to buy more and this incentive creates a higher material quality of life and standard of living. Growth is such a complex structure and it has many factors. The banking sector which has a high share in the financial sector has a great impact on growth.

The importance levels of financial markets in countries separated by development level are listed in the same way. Banks which are the most important members of financial markets are of greater importance for developing countries. Especially, the impact of the banking sector for emerging markets like Turkey is greater in todays. The new technology age makes it very easy for the markets to communicate with each other and also makes a great contribution to their continuous development. It is especially important for developing countries to transfer advanced banking technologies.

The banking sector has many roles in the economy. Banks help the activation of many projects that will help the development of the economy by collecting the resources and funds necessary for growth. It contributes to the increase of savings in the country by bringing individuals and institutions out of the system into the financial market. These savings are prepared by banks as loans and made available to individuals and institutions. Thus, together with the credit system, they directly contribute to growth and employment in the economy.

Positive and negative situations to be experienced in the banking sector have a direct impact on the economy. Banks normally contribute to the economy, and their impact on the economy may be negative in a crisis. Crises in the past are examples of these.

Financial crises have become an issue that needs to be carefully studied for countries. The integration of the world markets with each other has accelerated with technology and this integration causes the positive or negative effects of this integration to affect the whole world very quickly. The banking crisis which happened in 2008 is the most common example of this. This crisis which is in America has affected the whole world. It has shown how important the financial and banking sector is in international markets. The country's economies and growth were negatively affected with this banking crisis. After this situation, countries increased their control over banks and introduced new regulations. In fact, these events have led countries to better understand how interdependent the banking sector and country growth are.

The impact of the banking sector on the economy varies from country to country. The banking sector does not perform the same in developing and developing countries. While the researchers explained the reasons for this variable performance, they could not reach a consensus. Some researchers argue that the banking sector causes economic growth. Others think that economic growth helped the banking sector grow. Some academics, on the other hand, think that the banking sector has a restrictive effect on economic growth.

Turkey, especially in the banking sector together with the change of management and policy in the country following the 2001 crisis has opened a new page. These innovations and reforms, which took effect especially after 2003, preserved the banking system in a strong financial crisis like 2008. Turkish banking sector has re-entered a growth process, especially after 2008. Especially, the increase in the ratio of deposits collected and the increase in the loans given increased the dynamism of the economy. Therefore, the impact of banking on the economy has been a popular issue since 2003. Considering the economies largely funded by banks, it is clear how important the Turkish banking sector is for the economy. Especially having a bank-based financial system is strong and solid banks in order to ensure economic growth in Turkey is required.

This study consists of 2 main sections. In the first part, the banking sector and its structure will be discussed. The banking sector and its structure will be explained. According to the second part of the year, growth rates and the effects of the banking Turkey's economy will be discussed. Theoretically, approaches will be taken into consideration and then

econometric tests will be performed and the results will be evaluated. This study Turkey's 2003 - 2020, using data for the relationship between the banking sector and economic growth in loans and loan interest will examine variables using econometric methods. These variables will be evaluated by Granger Causality and Cointegration analysis.

2. BANKING SECTOR

The banking sector has more than one definition. The most widely used definition is financial institutions that collect monetary resources together with deposits and many products, use these resources in credit and other financial affairs, and continuously operate by creating recorded money in the economy (Akguc 1987, p. 7). In addition, banks are institutions that receive and give money in return for interest, and make loan and foreign exchange transactions. They can be described as institutions that meet the needs of private or corporate enterprises in terms of money, credit and capital as their main activity (Ayanoglu 2013, p. 3). Even though they have many definitions, they are generally organizations that collect and distribute resources.

The existence of banks that provide fund mobility between individuals and institutions dates back to ancient times of history. The first examples of banking in history were encountered in the Sumerian Civilization in very old years. As a result of the researches, documents were found that the priests gave loans to those in need at the temples on these dates (BDDK 2001, p. 65). The first banking laws were arranged in the 2000s before Christ and interest rates were determined as 20 percent. In the following years, it was determined that some basic transactions of banking, such as collecting deposits and granting loans, were stipulated by Hammurabi Laws and loan bills were written in two copies on clay tablets (BDDK 2001, p. 67).

As time progressed, societies needed more resources in line with increasing needs. Political instability and endless wars in the European region and the prohibition of credit and interest applications by the church negatively affected the economy and banking could not develop. The 11th century was different, it is seen that Italy was at the top of the commercially developed countries (Ocal & Colak 1999, p. 17). However, the prohibition of interest in these periods prevented Muslim and Christian bankers from working. For this reason, Jewish bankers, known as Lombards, carried out banking services by giving money to both parties with interest. Fairs established in Europe between the 12th and 14th centuries laid the foundations of today's banking system.

However, the real development important for banking has been achieved thanks to the new discoveries and discoveries brought by the renaissance and reform in Europe. Church law has been replaced by Roman Law. The establishment of the Bank of Amsterdam in 1609 is accepted as the beginning of modern banking. After a while, the use of checks and banknotes started with the opening of the Venice Bank in 1637. Central banking started with the establishment of the Bank of England in 1694 to finance the war between England and France. With the establishment of the Central Bank of America in 1907, the modern banking system has entered a period of maturation (Babuscu 2001, p. 8-10).

Turkey has started to be corrected for the effects of the global economic crisis since 2010. The degrading effect of the crisis on the economy has disappeared and economic growth studies have come back on the agenda. In order for the financial sector to become dynamic again, liquidity and capital support was provided to the sector (BDDK 2010, p. 65). This support was provided by expansionary fiscal and monetary policies. Central Bank of Turkish Republic whose strength is reflected in its balance sheet provided funds to banks through open market operations. As the financial sector improves, CBRT and BRSA increased their measures to ensure that the sector is strong against possible risks (BDDK 2010, p. 66).

Some uncertainties and risks in the financial sector, which started to rise, started to be in question in 2011. The financial problems of financial institutions in many EU countries and a few developed countries and the high borrowing rate of the public sector, as well as the distrust in economic policies, caused uncertainty and risk (BDDK 2012, p. 86). The increase in the public debt stock in this period has been defined as a debt crisis. Measures have been taken to reduce the negative effects of uncertainties in international markets and to slow down the credit acceleration. With these measures, a decrease in unemployment started in 2011 and a rapid growth occurred in domestic demand. In addition, there has been growth in banks (BDDK 2012, p. 88).

2.1 BANKING SECTOR FUNCTIONS

The financial system consists of two different players. The first is the fund owners with a savings surplus, the other is those who demand funds in need of liquidity. Banks are an

effective and comprehensive institution that brings these two segments together and can communicate between them. Banks, which have made a significant progress so far, have acquired qualifications with a financial system and tool to meet many needs of individuals and institutions (Bakdur 2003, p. 12). The functions of banks, which can be defined as financial institutions that collect resources from the large masses that make up the society through deposits and similar means, bring the collected resources back to the economy as loans, and create dematerialized money in the economy;

a) Financial Intermediation
b) Funding and Encouraging Foreign Trade
c) Ensuring Efficient Use of Resources
d) Affecting Income and Wealth Distribution
e) Creating Registration Money
f) Helping the Execution of Monetary and Fiscal Policies

2.1.1 Financial Intermediation

Banks act as an intermediary between individuals and institutions with savings surplus and people and institutions in need of funds. While banks are performing this intermediary role, they also bear a risk. While this transaction takes place, the money of the person who has a savings surplus is protected by a reliable institution and liquidity is provided to the person or institution with a fund deficit. Banks earn interest from these transactions (Altan 2011, p. 69). In this intermediation process, banks assume the risk that may arise if the funds they provide to the person or institution requesting funds are not repaid. The banking sector which works efficiently and effectively significantly contributes to the balance of savings and investments in the economy.

2.1.2 Funding Foreign Trade and Promoting Export

The development of the country's economy is directly proportional to the investments to be made in that country. In order for the investments to be realized, the resources to finance these investments must be in that country. The easiest way to find these resources

without using the external borrowing option is to increase savings and foreign exchange income across the country. Applications such as letter of credit, factoring, bank guarantee, cash payment and buyer company pre-financing, implemented by the banking sector, encourage exports and imports by financing foreign trade. With increasing imports, imported raw materials to be used in production will be more easily accessible and foreign currency inflow to the country will increase with the recovery in exports (Afsar & Afsar 2010, p. 342). Thus, efficiency in the economy will increase and the resources to be used in financing the investments will be provided through the bank

2.1.3 Ensure the Efficient Use of Resources

Efficient distribution of resources, which is one of the factors contributing to the economy, contributes to the maximum benefit from the economic order. It acts as an intermediary between banks who have excess liquidity and those who need liquidity. Banks provide this liquidity transfer by giving the deposits they collect as loans to their customers (Afsar & Afsar 2010, p. 345). After these steps, the choices made by banks in lending are very important because if loans can be provided to the right regions, people and sectors, it means that the loans are directed to the right areas. Thus, your resources are used effectively.

2.1.4 Affecting Income and Wealth Distribution

There is a strong relationship between lending policies and income and wealth distribution within the banking sector. Banks have the option of providing low-interest loans to priority areas or regions where development is desired. Thus, new employment and business areas will be opened in regions with low credit, and a wider audience will be able to get a share from the national income. However, in times of high interest, those who have great wealth will earn more interest income. They will tend to earn interest instead of creating investment or employment (Babuscu 2012, p. 8). This situation will cause distortion of income inequality in the society.

2.1.5 Creating Money Registered

Banks generate purchasing power for economies. Central banks are at the top of the system and coin production is the task of the treasury. Deposit and commercial banks rank after the central bank. The deposit money consists of 2 types. The first is the money deposited by deposit banks, the second is the paper money offered to the market by the central banks (Afsar 2011, p. 149). Creating money function is one of the most important functions of banks.

2.1.6 Supporting the Operation of Money and Financial Policies

The main purpose of monetary policies is to achieve price stability, accelerate economic development, balance payments and increase employment. These monetary policies are implemented by some tools used by the central bank (Akguc 1998, p. 4).

a) Open Market Operations
b) Rediscount Rate
c) Deposit Interest Rate
d) Deposit Required Reserve Ratio
e) Selective Credit Control
f) Minimum Payout Rate
g) Import Collateral Rate

These tools are used by the central bank when it wants to influence the money supply. For example, to control the money supply, the central bank affects interest rates. Thus, it tries to control the money supply and credit in the market.

Fiscal policies consist of tax collection, spending and borrowing. For example, by changing government tax rates, it affects people's savings by changing their spending habits (Alp 1998, p. 301). However, monetary or fiscal policy alone is not sufficient for economic growth and stability. The proper use and success of these two policies will only be possible with the existence of a strong banking system. Banks make a profit by

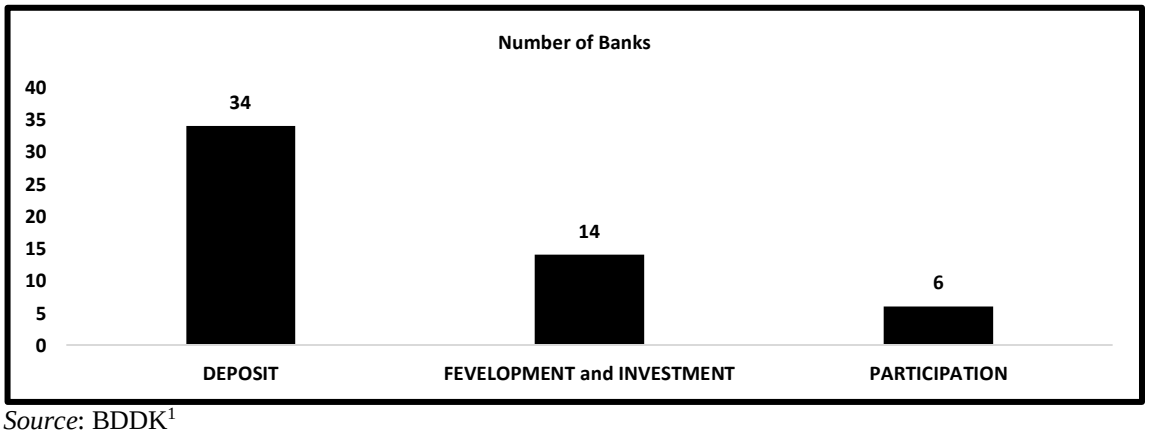
carrying out these activities. Banks continue their activities by gaining capital with the capital that they use.

2.2 TURKISH BANKING SECTOR STRUCTURE

The history of the Turkish banking sector goes back a long time ago. But the main thing is that banking in the modern sense began to build after the 2001 crisis. The banking sector, which entered a new path of change and transformation after the 2001 crisis, started a restructuring process within the framework of the program of transition to a strong economy (BDDK 2020, p. 3). In this period from 2001 to the present, some banks have left the sector, some banks have merged, and some new banks have entered the sector.

According to the Banking Law No. 5411, it is regulated that there is no obstacle to the establishment of banks if the conditions are met. Fulfill the conditions laid down in the law of the banks located outside this law it helped to open branches in Turkey and abroad requirement. Fifty-four active as there are banks in Turkey after the arrangements made at the end of 2020 (BDDK 2020, p. 5).

Figure 2.1: Bank types in Turkey

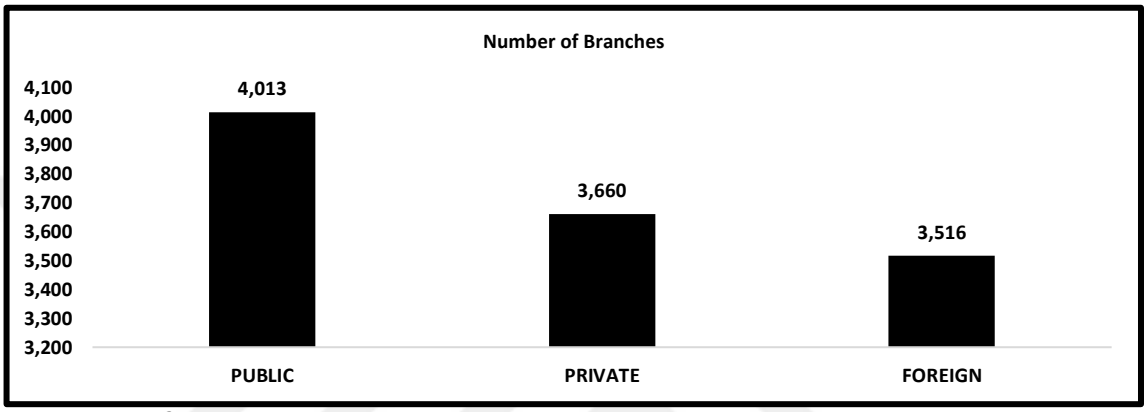


Source: BDDK[1]

[1] Türk bankacılık sektörü temel göstergeler raporu (2020), [https://www.bddk.org.tr/]

The number of banks was increased in Turkey and it has attracted the interest of foreign investors after 2001. Chart 1 shows that fifty-four banks are operating by the Turkish banking sector, according to the latest data of 2020 (BDDK 2020, p. 1). Fifty-four banks consist of thirty-four deposit banks, fourteen are investment and development banks, and six participation banks that have become popular in recent years.

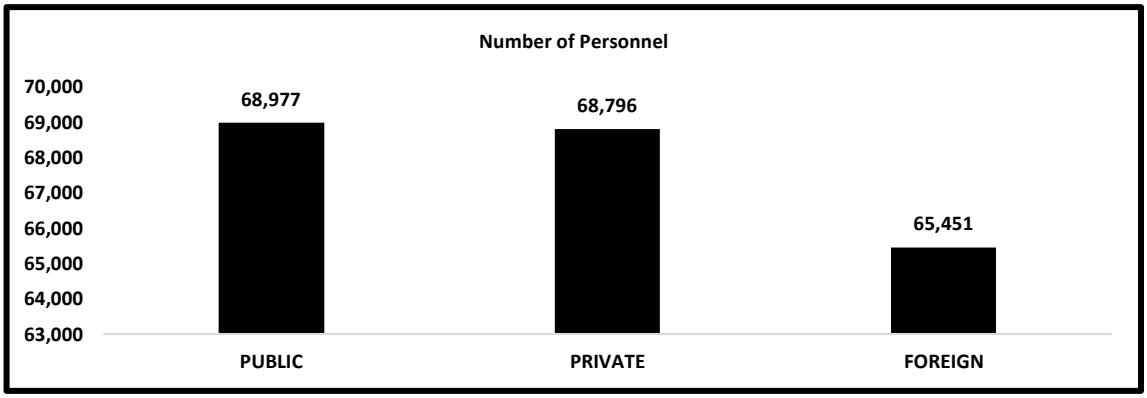
Figure 2.2: Turkish banking sector number of branches



Source: BDDK[2]

Figure 2.2 shows that there are more public branches than private and foreign branches. According to the latest data of 2020, the total number of branches is eleven thousand hundred and eighty nine. If it was compared to September 2020, a six percent decrease was observed in the number of branches (BDDK 2020, p. 1).

Figure 2.3: Turkish banking sector number of employees



Source: BDDK[3]

[2] Türk bankacılık sektörü temel göstergeler raporu (2020), [https://www.bddk.org.tr/]
[3] Türk bankacılık sektörü temel göstergeler raporu (2020), [https://www.bddk.org.tr/]

Figure 2.3 shows the number of employees in the banking sector in Turkey. The number of employees in public branches is higher than the others two hundred three thousand and two hundred fourteen. Compared to September 2020, there was a ten percent increase in the number of employees, although the number of branches decreased by six percent. While two of the thirty-four deposit banks are under the Savings Deposit Insurance Fund, three of them are state-owned banks, eleven of them are domestic private capital banks and eighteen of them are foreign banks. There are actually thirteen established in Turkey and there are only branches of foreign banks with foreign capital, although five. Three of the development and investment banks operate as state-owned, six with domestic private capital, and four with foreign capital. While three of the participation banks are state-owned banks, the other three are in the status of foreign-capital banks. Almost half of the Turkish banking sector consists of foreign banks (2020 BDDK, p. 2).

2.3 HISTORICAL DEVELOPMENT OF TURKISH BANKING SECTOR

There have been many developments in financial life in Europe since the past and the need of institutions similar to banks has been felt. In Europe, where banking activities accelerated again in the Roman period, today's banking started with the establishment of a Venice bank in 1157 (BDDK 2006, p. 32). When these developments were taking place in Europe that is looking to Anatolia in Turkey is seen as having an important place in the lives of the Turkish currency. Since it is located on the trade routes, it has minted money to facilitate the money trade between east and west. The use of gold and silver coins in the Seljuk period in Anatolia shows that there was a real money economy (Takan ve Boyacioglu 2011, p. 2). The high relationship with money until this period reached its peak in the Ottoman period. When these periods are examined, money and the use of money have been important in Turkish history and banking requirements have increased.

2.3.1 Ottoman Banking History

The Ottoman period did not develop much in terms of the banking period. It has been sufficient for the state to meet the needs of the increasing population with its large lands and the continuous expansion of land borders. One of the reasons why banking could not

develop during this period is the government's more emphasis on military service and management issues (Baykara 2004, p. 289). Agriculture and animal husbandry have been the most important sectors for many of the people living in Anatolia. Those who earn trading outside of these sectors are considered poor.

Since there was not much interest in monetary policies during the Ottoman period, it became the place where speculative gains were made in the Ottoman money markets for foreigners (Al 2012, p. 110). The birth of the banking idea and the idea of establishment emerged after the second quarter of the nineteenth century. The works of central banks were carried out by the mint, bankers, foundations and guilds during the Ottoman period (Afsar 2006, p. 2). In the early nineteenth century, the effects of the industrial revolution began to be felt much more and the Ottoman state could not adapt to this revolution because it was a closed economy. Other reasons that delay the development of banking are the shifting of the economy to other directions and being closed to innovation (BDDK 2006, p. 36).

When the Ottoman period is examined, it can be shown as another reason for the development of banking because Islam was widespread and this religion was against interest. Therefore, banking activities in the country have been carried out by minorities and foreign nationals. Especially Jews who carried out the money transactions of European trade created a new profession in the Ottoman state (Topluluk 2009, p. 3). This profession, called banker in Istanbul Galata district, started to be practiced in the early 1850s. It was repealed in 1957 by the Turkish Commercial Code. During this period, with the capitulations given to foreigners, the local people of Ottoman Empire could not accumulate capital or trade surplus. Capital constantly moved out of the country with low taxes (Oksay 2006, p. 16).

The banker system has developed over the years and has had an impact on every trade area the country operates in. For this reason, bankers controlled usury transactions in the country with the low-interest capital they received from abroad. Bankers, which turned into a monopoly after a while, prevented the development of banking in the Ottoman period and even caused the unofficial opening of Izmir Bank, which was established in Izmir in 1842, to be closed (Kazgan 2006, p. 14). In this period, with the increase in the

foreign trade deficit of the country, the state moved away from this sector and became more uncontrolled.

In 1844, gold and silver coins were standardized by a decree and the Ottoman state switched to the two-metal money system. The Ottoman gorvernment currency had to be kept constant against the British currency for this reform to be successful. Therefore, an agreement was made with two Galata bankers, Alleon and Baltazzi. According to this agreement, payments would be made to Britain and France at a fixed exchange rate by the bankers in return for a certain amount, thus ensuring stability in the value of the Ottoman currency. These two bankers received permission from the Ottoman government to establish Dersaadet Bank in 1847 (Hulkiender 2003, p. 6). The increasing trade deficit after 1852 and the inability to pay the debts tightened the state in 1875. The income sources of the Ottoman state, which could not pay its debts in 1881, were under the control of an international organization. Thus, many foreign banks were established in the Ottoman state (Akguc 1992, p. 10). After the Ottoman period, which went through difficult times, the first bank became Konya Iktisadi Milli Bankası in 1911 in order to support trade in Anatolian lands (Artun 1983, p. 40). Thus, a bank aimed at supporting trade in Anatolian lands was established for the first time since 1157.

During the Ottoman period between 1856 and 1923, many banks were established, although banks with foreign capital were the majority. However, in 1908 the process of establishing a bank consisting of many single branches supported by national capital began. In the 1930s, attempts to increase the number of banks supported by domestic capital were accelerated (Artun 1983, p. 37). At the end of this period, the necessity of having domestic banks was understood and it was understood that there should be government incentives.

2.3.2 Republic Banking History

When the Republic was founded in 1923, the economy of the country had taken on the obligations from the Ottoman period. Compared to the country's economy with Europe, per capita income was about a quarter of Western European countries (Tokgoz 1997, p. 3). Early in the Republic it showed a total of 31 banks operating in Turkey, of which only

18 were established with domestic capital. Most of the domestic banks were single-branch banks and could not compete with foreign banks. The majority of the industry and especially the credit market belonged to foreigners. Steps were taken for the growth of national banking between 1923 and 1932, the first period of the Republic. In addition to these, when we came to 1928, a total of 57 banks in the country were actively working in the sector (Asom 2006, p. 3).

Turkey Is Bank was the first bank in the Republic and in 1924 the organization has been completed. The bank has solved the credit problems of the public and domestic investors experiencing capital shortages. It has also enabled the development of deposits as well as savings in Turkey (Cagdas 2006, p. 23). The banking sector continued to grow in the United States began spreading all over the world economic crisis has led to tough times are impermeable to Turkey in 1929. People who took out loans with high interest were unable to repay their debts with the acceleration of the depreciation of the Turkish lira and therefore five local banks had to be liquidated in 1938 and 1940 (Afsar & Afsar 2010, p. 62).

During this period, the most important moves have been made in the establishment of the Central Bank of the Republic of Turkey in 1930. In previous years, action was taken to establish the Central Bank, but it was established in 1930 due to the economic and political difficulties of the period (Akguc, 2014, p. 19). The first reaction of the bank was to find foreign exchange against gold in order to close the foreign trade deficit. However, since it was difficult to find such a foreign currency reserve in this period, the Bank made an agreement with Amerian-Turkish Investment Corporation to find the necessary resources. This corporation would provide a long-term loan to the Central Bank with this agreement and then Central Bank was financed. Approximately ten million dollar gold dollar loan was given for twenty five years (Bozkurt & Dursun 2006, p. 260). The concessions given while obtaining this loan played a negative role in the recovery of the country. Due to the lack of Turkish personnel and the fact that banking is constantly in the hands of foreigners, it was decided to integrate local personnel into the sector.

The number of local banks increased gradually and these banks started to meet the financing needs of the local people with loans during the Republic period. These banks were single-branch banks until 1929 and after the crisis they switched to national multi-branch banking (Ertuğrul & Zaim 1996, p. 60).

2.3.3 Private Banking History

Government supports increased to the private sector in the early periods of the Republic and this support became more than regular times after 1930 with the increase of private banks. The number of private banking branches increased after this period and its financial contribution to the country increased (Artun 1983, p. 42). The banking sector gained boost, however, the beginning of the second world war negatively affected the sector after 1930. Although Turkey did not participate during the war to fight the increase in defense spending has been increased borrowing through the banking. Twelve banks were closed during this period and five new banks were opened with the occurrence of problems in the payment of these increased borrowings (Artun 1983, p. 47).

Banks were used to support industrial production against the increasing inflation in the country during the war years, and this process accelerated between 1945-1959. The interest in private capital increased with the adoption of the liberalism principle in the 1950s. As a result of the increasing interest in the private sector, the banking sector continued to develop in this period (Zarakolu, 2011, p. 26). Turkey's first industrial bank which is Industrial Development Bank of Turkey was founded in 1925 and it was supported by supporting the development bank treasury. The industrial bank supported the development of the sector by providing both Turkish Lira and foreign currency loans to the manufacturing industry (Akguc 2007, p. 24).

2.3.4 Development Term Plan Banking

Turkey had stagnant economy at the end of the 1950s and then Turkey have been organized a Stability Plan in 1958. However, economy would not be fixed with Stability Plan. Therefore, mixed economic model was adopted in which the liberal economy order was effective in the 1950s and public interventions increased since the economy did not improve. It was determined that a planned development program will be prepared and action will be taken in line with this program in this period. This period was that regular five-year development plans are made. Even though this period prevailed in 1960 and 1980, the first attempt was made in 1963. It was aimed to increase the support given to the industry and to make the production regular in this time period (BDDK 2006, p. 38).

Public interventions in the banking sector have increased considerably during this time.

Seven new banks were established between 1960 and 1980, of which two are trade banks and five development banks. These banks; Tourism Bank, Industrial Investment and Credit Bank, Devlet Investment Bank, Turkey Mine Workers of Industry and Investment Bank and the State Bank, commercial banks while the American-Turkish Foreign Trade Bank and the Arab-Turkish Bank (Artun 1983, p. 50). American Turkish Foreign Trade Bank is the first bank to be established as a Turkish foreign partnership and then Arab Turkish bank followed. The purpose of the establishment of Arab Turkish Bank is to increase investments by attracting the capital in the Gulf to the country (Akguc 1997, p. 12).

2.3.5 Liberalization and Internationalization Period (1980-2000)

Foreign exchange savings were aimed with the new policy in the 1970s, however, the increase in foreign exchange demand and the distortions in the industrial policy caused problems (Er 2009, p. 137). Turkey has encountered another problem towards the end of 1970. The deterioration of the balance of payments and the decrease in foreign exchange reserves, it has become difficult for the country to finance itself with these problems. The radical path was drawn with the January 20 decisions for this reason. This new path has been described as financial liberalization (Incekara 2011, p. 88).

Turkey stopped importing goods for substitution with this model and a new industrial policy has been effective. The oil crisis that occurred in these years is one of the external factors that support the development of the free market. The free market economy rules have been effective on the market and the exchange rate has been released after this date. Moreover, a positive real interest understanding has developed to direct savings to banks and deposits have begun to increase (Er 2009, p. 138). Developments in this period have been more comprehensive and effective than the previous ones.

The country's economy has become open to the outside and foreign currency entry and exit transactions into the country have increased significantly with the open market economy. The new laws were needed for the regulation of capital markets with the movement of financial markets so high. Therefore, the capital market law was prepared

in 1982 and the Istanbul Stock Exchange was established in 1986 (Kaya 2012, p. 52). Many innovations were introduced in 1985 with the Banking Law and the Central Bank has started to implement open market operations since 1986.

There have been significant movements in deposit and loan rates with the release of interest rates. Investors and industrialists were creating capital by drawing loans from banks and investing with this capital. However, serious increases in interest rates significantly increased the capital costs. With low interest, many investors could invest in the country, but the increase in interest rates caused investors to have difficulty in repayments (Er 2009, p. 139). High interest rates and high inflation led those who want to save to buy real estate rather than deposits after a while. This tendency has caused banks to have difficulties in collecting deposits and decrease in the resources they use while lending. Investors preferred bankers with lower interest rates with banks increasing their interest rates even more (Uyar 2003, p. 102)., they decided to fix the one-year deposit interest at 30 percent with the agreement between banks, however, the bankers managed to attract investors to them by paying higher interest at that time. Thus, banks started to operate by establishing intermediary institutions affiliated with them (Binay & Kunter 1998, p. 11). Competition increased between bankers and banks in this period and interest rates were in an upward trend. Thus, both sides could not bear the constantly increasing interest and the period when the debt was paid with debt collapsed.

The decisions and regulations taken in 1989 put the banking sector in a difficult position and therefore deterioration in the financial structures of banks occurred in the 1990s. These new regulations directed banks to finance their liquidity deficit from foreign sources. Banks borrowed in foreign currency and then banks invested in Turkish Lira-yielding assets and lent Turkish Lira. This caused a difference between banks' foreign exchange assets and their debt obligations, and these problems caused a crisis in 1994 (Yagcilar 2010, p. 32). Most of its banks went bankrupt during this crisis period due to their high foreign exchange open positions. Turkey it has become a direct impact after applying free-market economic policy crises experienced in the world. The Asian crisis in 1997 was felt in all countries of the world due to the interdependence of the markets. The first impact of this crisis on Turkey have been on the bourses. Later, this crisis affected oil prices (Uzunses 2012, p. 53). Turkey's inflation was expected to fall with the

fall in oil prices, but with the increase in bank interest rates and resumed rising economic uncertainty. However, despite this factor, foreign capital started to emerge from the country, approximately six billion dollars came out of the country. This has made it difficult for the banking sector to find liquidity and put it in a difficult period (TBB 2019, p. 12). Turkish banking sector grew above inflation and in dollar assets of the bank increased by twenty-three percent despite the sluggish economy in Turkey in 1998. The main reason for this increase is the decrease in repo transactions and the shifting of the stable Turkish lira and foreign currency demand towards deposits (TBB 1998, p. 13).

The banking sector has become more efficient with the increasing demand for Turkish Lira in 1998. Banks' open positions grew by sixty-eight percent, reaching eight billion dollars during this period. The number of operating banks has reached seventy-five, of which sixty are commercial and fifteen development and investment banks. The economic stagnation continued and both inflation and interest rates continued to rise in 1999 (Turkoglu 2004, p. 9). The open positions of the public banks that lend to the production sector below the market interest rate have increased in order to keep the real economy strong. Public banks have used nearly two billion dollars of resources by taking advantage of the central bank's open market operations for this reason. The financial structures of banks have started to deteriorate since the costs of using the resources of the central bank are very high (Keskin 1999, p. 34). These negative factors caused the two banks to be transferred to the Savings Deposit Insurance Fund in the first months of 1999. After that, five banks were transferred to this Fund in the second half of the year, while one investment bank ceased operations (Keskin 2004, p. 32).

The transfer of banks to the Fund had a negative effect on the banking sector, while the losses of these banks were reflected in the entire sector with these developments. The approximate size of the damage is five hundred and sixty six billion dollars. This loss was caused by the introduction of new taxes and the increase in liabilities and the increase in borrowing costs (Keskin 1999, p. 35). The country was plunged into a deeper crisis and the banking sector was more affected with the earthquake that took place in 1999.

2.3.6 Banking Sector Restructuring Period (2000-2011)

A stand-by agreement was signed with the International Monetary Fund in 1999 to recover the economy affected by the great earthquake. The purpose of this agreement is to reduce high inflation in the country and to bring real interest rates to an acceptable level. It is aimed to grow the country again with these actions. Three main ideas are focused on reducing inflation. These ones (Er, 2009, p. 145);

a) Increasing size of privatization with structural reforms and tight fiscal policy
b) Fixing the income policy with the inflation target
c) Changing exchange rate and monetary policies to a level that can reduce inflation

It is aimed to bring the banking sector to an international level and changes have been made in the banking legislation with these regulations. Precautions have been taken to make stronger the banking financial situation. Especially in these years, the increase in regulations that distorted the competition equality between public banks and private banks was stopped. The Banking Regulation and Supervision Board was established on August 31, 2000 to manage the banking sector more efficiently. (Yagcilar 2010, p. 36). An institution that did not show much efficiency in the period when the country's economy was bad became stronger by incorporating the Savings Deposit Insurance Fund. However, despite the regulations made, inflation could not be reduced and the public domestic debt stock increased. Thus, problems in the banking sector continued to increase.

The country faced a crisis again in November 2000 and February 2001 with the devaluation. Banking sector experienced significant losses due to interest and exchange rate risks. Therefore, 8 banks were transferred to the Savings Deposit Insurance Fund in 2001. The new economic programs were developed to restore the economy in 2001 (Kaya 2017, p. 26). The new economic program aimed at improving inflation, reducing public debt, increasing fiscal reforms and strengthening the banking sector. Banks started to increase capital and those who could not increase capital were merged or transferred to the Savings Deposit Insurance Fund with the new process. As a result of mergers, the number of banks decreased from sixty-one to fourty-eight in Turkey (Yagcilar 2005, p. 107).

The new reforms and the new economic program has made steady growth and Gross Domestic Product growth rate has increased in 2002. However, Turkey growth rate suddenly fallen with US Financial Crisis in 2008. There has been a decrease in saving rates, imbalances in inflation and interest rates with this crisis. The crisis was tried to recover, however, the increasing budget deficit and the decrease in capital inflows negatively affected the sector with the intervention of central banks (Yaman 2010, p. 37). The number of banks decreased after the 2008 crisis. The effects of the crisis were tried to be overcome and growth targets were planned again between 2008 and 2010.

Expanding fiscal and monetary policies were followed in order for the banking and financial sector to finance the liquidity and capital gap. The Central Bank of the Republic of Turkey has tried to increase the power of the financial sector by providing funds to banks through open market operations. The Central Bank and the Banking Regulation and Supervision Agency wanted to take early action against the devastating effects of a possible crisis. Therefore, it has changed the reserve requirement ratios and minimum payment amounts (TBB 2011, p. 12).

The financial problems of the public sector and financial institutions in the European Union countries and a few developed countries have again increased the risks on the financial markets after 2011. The financial crisis has changed its place with the debt crisis, and loan growth has been slowed down in this period. New regulations were made in banking and monetary policies to increase savings and reduce domestic debt. Turkey reduction in unemployment thanks to the measures taken in this early period, the banking sector has grown to decline and public debt (TBB 2012, p. 32).

2.3.7 Banking Sector Current (2012-2020)

The importance given to the banking sector is much more than in previous periods after many crises and problems. It has become a sector that tries to fulfill modern banking requirements, its capital structures have been strengthened and continues to develop day by day (Sungur 2015, p. 246). Financial magnitudes in the banking sector increased more each year and reached the end of 2020. The banking sector's asset size surpassed the Gross Domestic Product, proving its strength in 2013.

Total of fifty-three banks operating in Turkey with the participation of six banks at the end of 2015. Interest in the participation banking began to rise all over the world and Turkey In 2012. The total number of banks increased to fifty four with the establishment of Vakif Participation Bank in 2016. There has been an increase in the amount of loans that can be given with the increase in the number of banks. Banks were extending loans from the deposits they collected and they could create extra loan volume by using non-deposit resources (Sumer 2016, p. 493). The banking sector has developed further with the increase in loan volumes by using foreign loans.

The banking sector loan volumes and asset sizes continued to increase between 2016 and 2019. There was not a new bank has been added to the system between these years. Thirty-four Deposit banks, thirteen development and investment banks and six participation banks operate at the end of 2019. Especially in this period, the loan volumes provided in the banking sector increased compared to 2010. Forty-one percent of the loans are in foreign currency and fifty-nine percent in Turkish Lira(TBB 2019, p. 10).

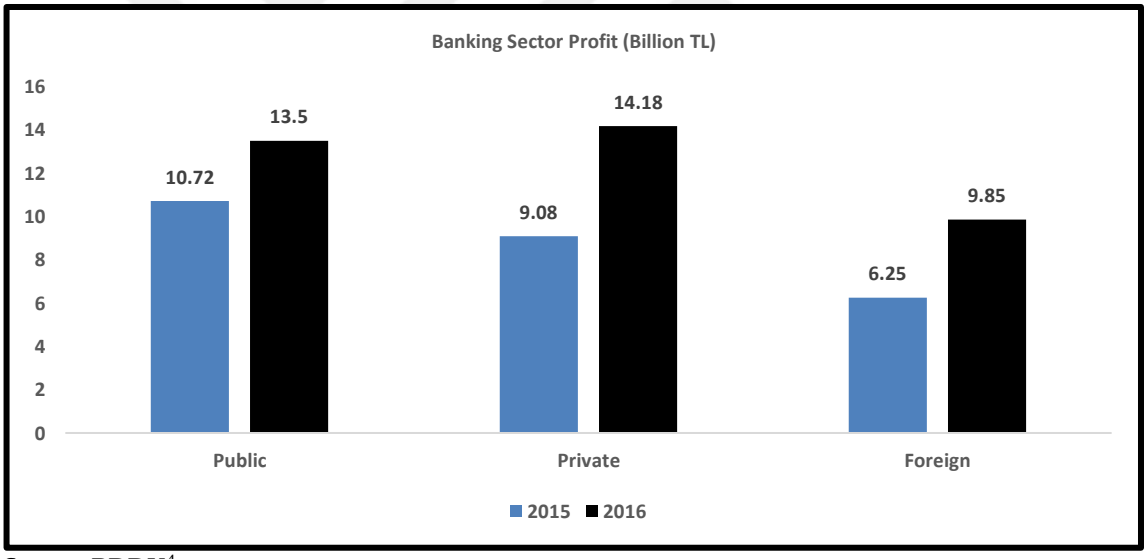
The number of banks reached fifty four in 2020. One new development and investment bank has been added. The market was supported by loans with the movement of the exchange rate in 2020 and low growth expectation. Loan rates have increased compared to 2019 and loans have increased by approximately thirty-four percent compared to the previous years. Repo transactions increased by sixty-seven percent, while deposits increased by eleven percent (TBB 2020, p. 2). Interest in the banking sector continued as of 2020.

2.4 TURKEY BANKING SECTOR FINANCIAL SIZE

Turkey is basically banking sector begin to rise with the restructuring program after 2001. The crises experienced and the measures taken during this period played a major role in the continuation of the growth of banking. Turkey's financial markets has been more successful with its innovative and development request. The financial markets, especially the banking sector, has grown over the years.

Turkey banking sector closed the year with fifty-two banks in 2016. However, it operated with approximately eleven thousand branches and two hundred thousand personnel. The development of mobile banking has had a negative effect on the number of personnel and branches. The total assets of the banking sector increased by approximately 7.8 percent to 2.7 billion Turkish liras (TBB 2016). The ratio of assets in foreign currency to total assets in the balance sheet was 40 percent. The share of loans in the banking sector was 63 percent, the share of securities was 13 percent and the ratio of required reserves was 7 percent in 2016. Deposit rates reached 53 percent during this period. 195 billion Turkish Liras of interest income and 103 billion Turkish Liras of interest expense were realized in the banking sector income statement during this period. The total profit of the sector for 2016 was announced as 38 billion Turkish Liras (BDDK 2016).

Figure 2.4: Total profit of Turkish banking sector (2016)



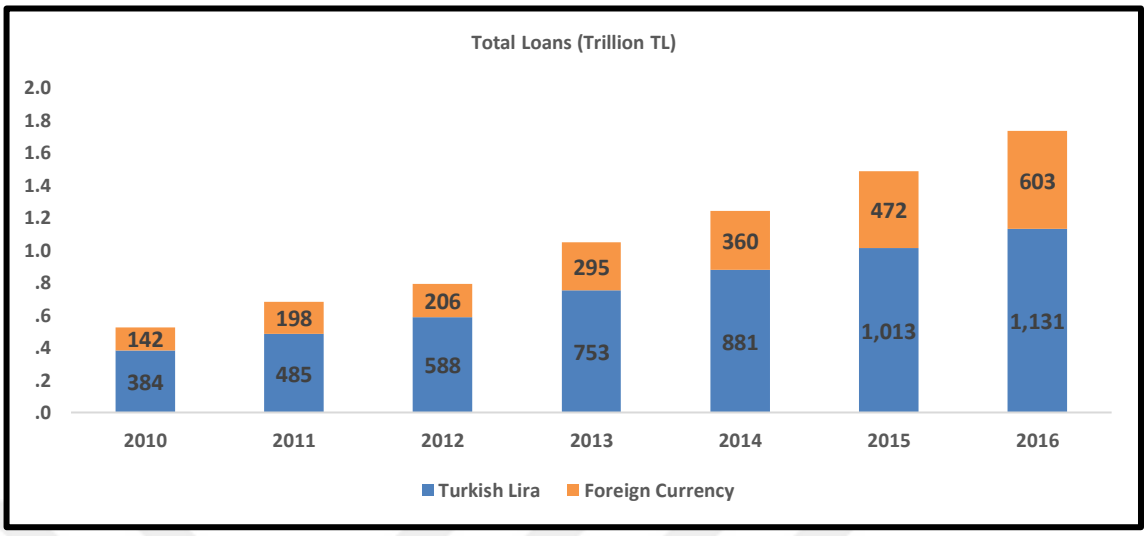
Source: BDDK[4]

Figure 2.4 shows that public sector increased 26 percent, private sector increased 56 percent and foreign banks profit increased 57 percent in 2016.

According to loan volume data, total loans amounted to 1.7 trillion Turkish Liras. These loans consisted of 1.1 trillion Turkish Liras in domestic currency and 603 billion Turkish Liras (Figure 2.5). The breakdown of loans consists of 52 percent commercial and corporate loans, 24 percent SME loans and 24 percent consumer loans (Figure 2.6).

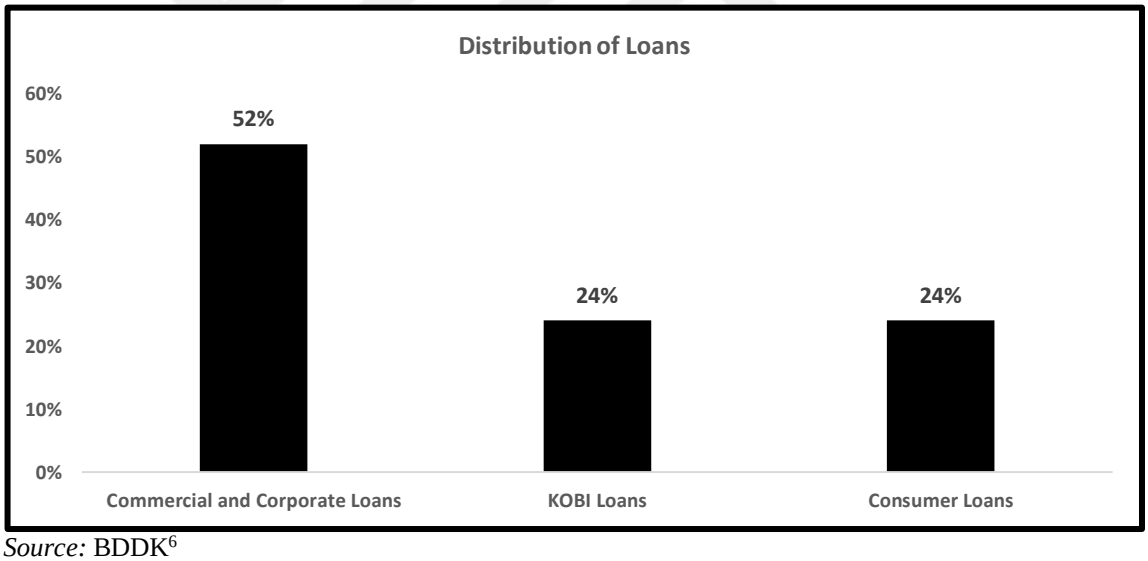
[4] Türk bankacılık sektörü temel göstergeler raporu (2016) [https://www.bddk.org.tr/]

Figure 2.5: Total loans of Turkish banking sector (2016)



Source: BDDK[5]

Figure 2.6: Distribution of loans (2016)

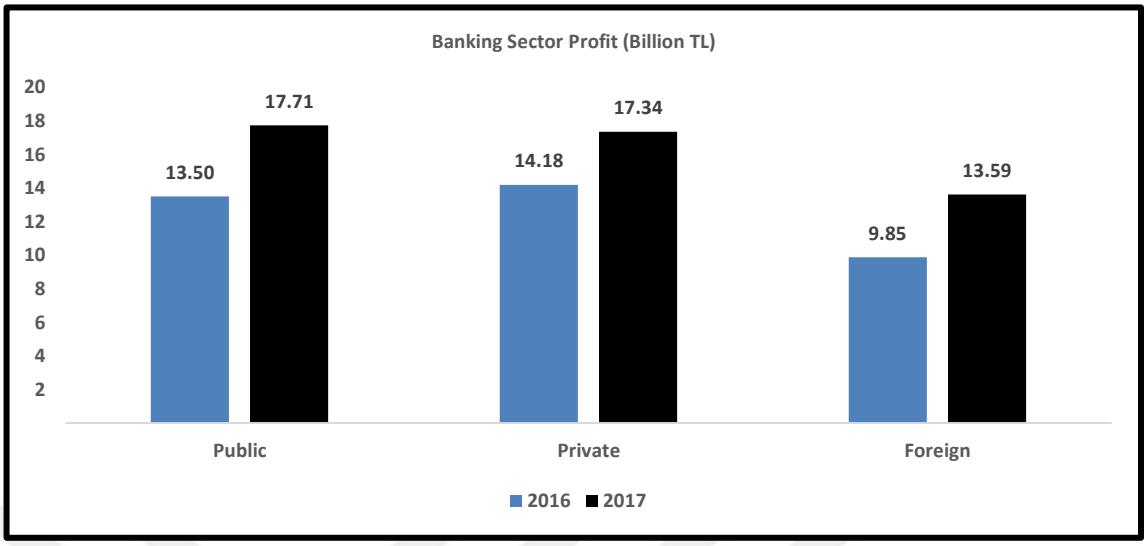


Source: BDDK[6]

Turkish banking sector net profit was 49 billion Turkish lira in 2017 (Figure 2.7). It is observed that the net profit has increased significantly when compared to the previous year. When credit data are analyzed, the total loan amount reached 2 trillion Turkish Liras (Figure 2.8). These loans consisted of 1.4 trillion Turkish Liras in domestic currency and 684 billion Turkish Liras in foreign currency loans (BDDK 2017).

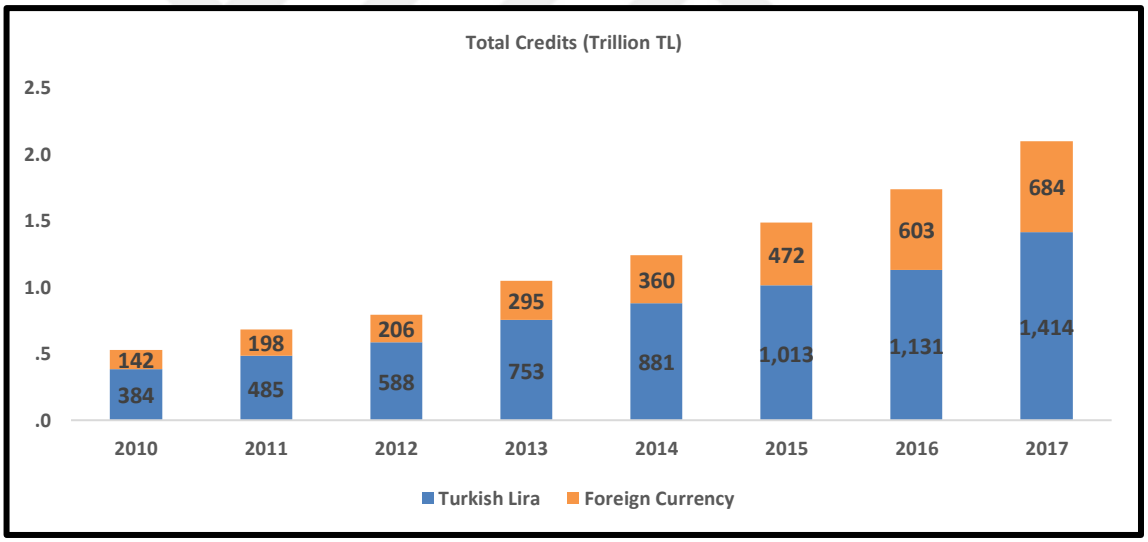
[5] Türk bankacılık sektörü temel göstergeler raporu (2016) [https://www.bddk.org.tr/]
[6] Türk bankacılık sektörü temel göstergeler raporu (2016) [https://www.bddk.org.tr/]

Figure 2.7: Banking sector profit (2017)



Source: BDDK[7]

Figure 2.8: Total loans of Turkish banking sector (2017)



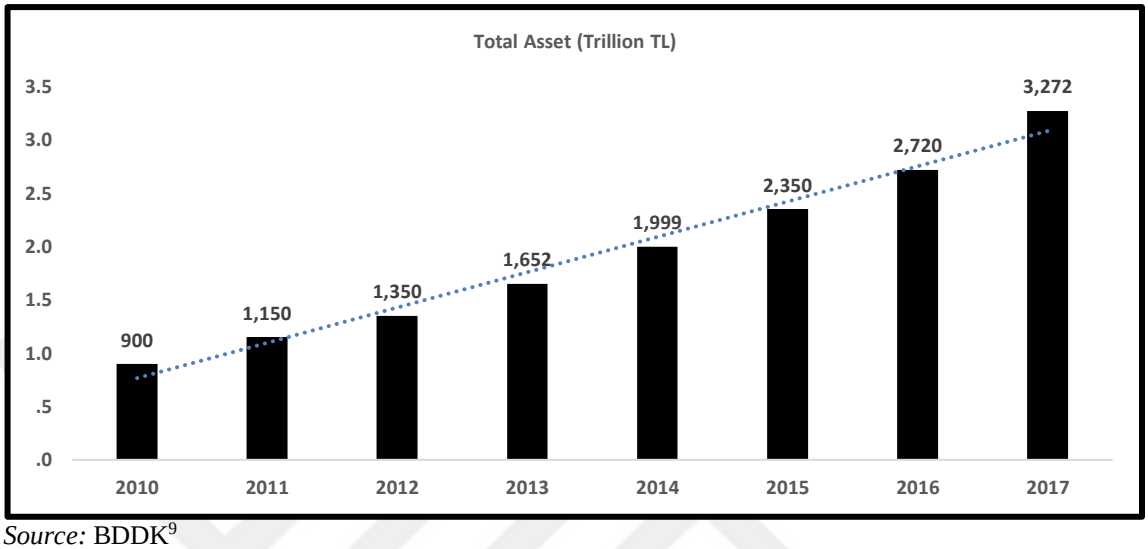
Source: BDDK[8]

According to Banking Regulation and Supervision Agency data, total of 51 banks operating in Turkey and these banks consist of 33 deposit baks, 13 development and investment banks and 5 participation banks. Decreasing in the number of employees and branches continues due to the widespread use of mobile banking in 2017 (BDDK 2017).

[7] Türk bankacılık sektörü temel göstergeler raporu (2017) [https://www.bddk.org.tr/]
[8] Türk bankacılık sektörü temel göstergeler raporu (2017) [https://www.bddk.org.tr/]

Banks' total assets increased by 6.7 percent in 2017 to 3.2 trillion Turkish Liras (Figure 2.9).

Figure 2.9: Total asset of Turkish banking sector (2017)



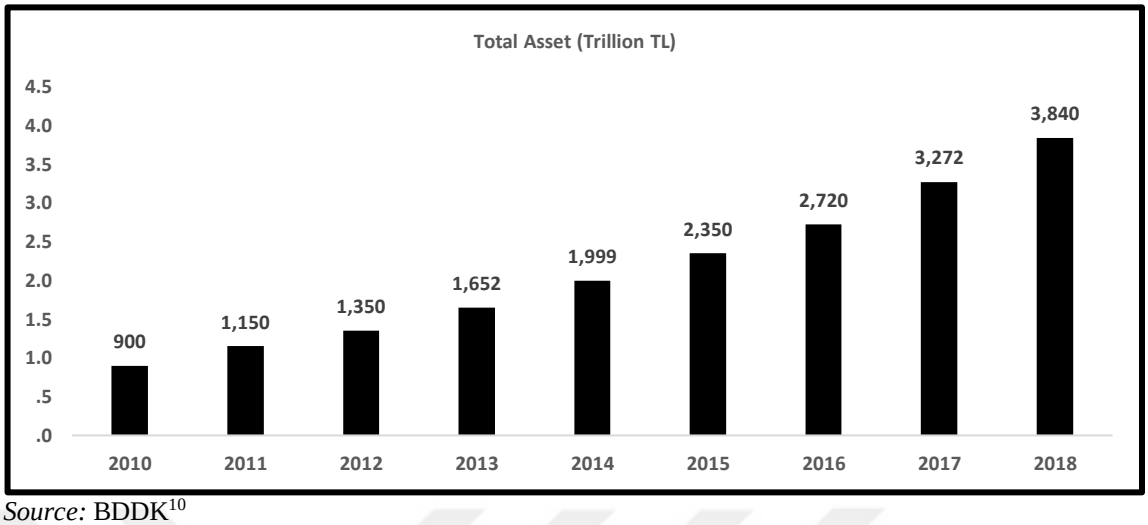
Source: BDDK[9]

The ratio of foreign currency assets to total assets in the balance sheet was 39 percent, while the total ratio of assets from domestic currency vins was 61 percent. The total of foreign currency loans was 33 percent, and the ratio of foreign currency deposits to total deposits was 44 percent (BDDK 2017).

The banking sector continued to grow in 2018. Turkish banking sector has grown by approximately 10 percent compared to 2017 with the enacted laws and incentives, thus increasing its 2018 profit to 53.52 billion Turkish Liras (Figure 2.11). The total assets of the banking sector amounted to approximately 3.8 trillion Turkish Liras (Figure 2.10). Total deposits, which directly affect the loan volume, increased by 19 percent to approximately 2 trillion Turkish Liras. In addition, the sector's loans increased by 14 percent to approximately 2.4 trillion Turkish Liras (BDDK 2018). Total loans were 53 percent of commercial and corporate loans, 26 percent were KOBI and 21 percent were consumer loans. The ratio of consumer loans decreased compared to 2017 and the ratio of commercial loans increased in 2018 (BDDK 2018).

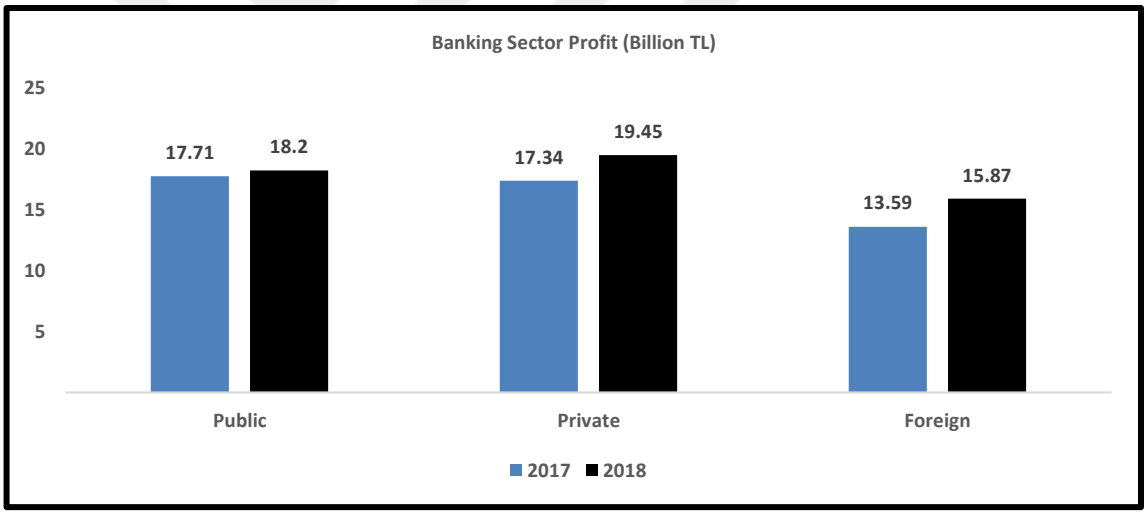
[9] Türk bankacılık sektörü temel göstergeler raporu (2017) [https://www.bddk.org.tr/]

Figure 2.10: Total asset of Turkish banking sector (2018)



Source: BDDK[10]

Figure 2.11: Banking sector profit (2018)

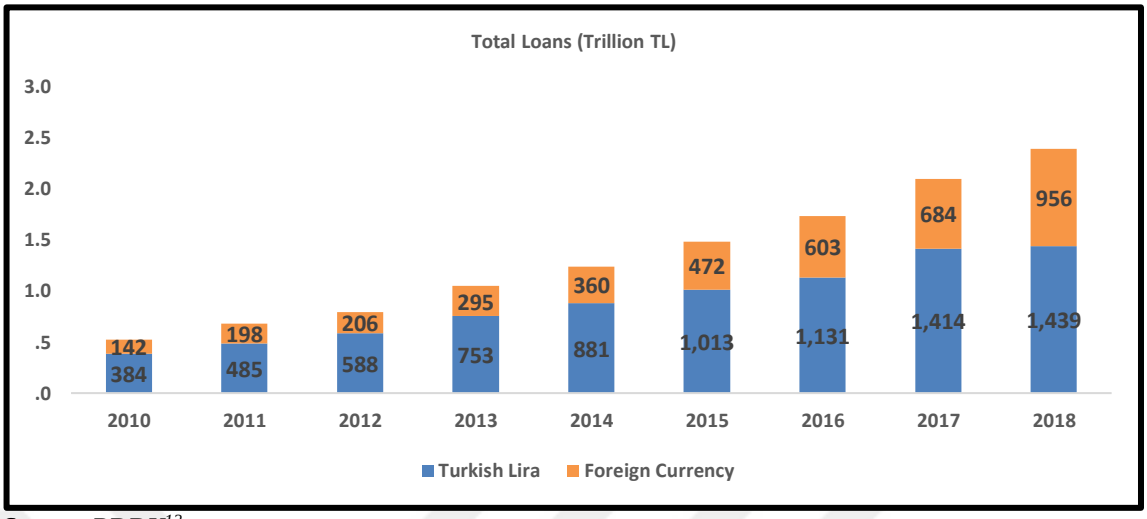


Source: BDDK[11]

[10] Türk bankacılık sektörü temel göstergeler raporu (2018) [https://www.bddk.org.tr/]

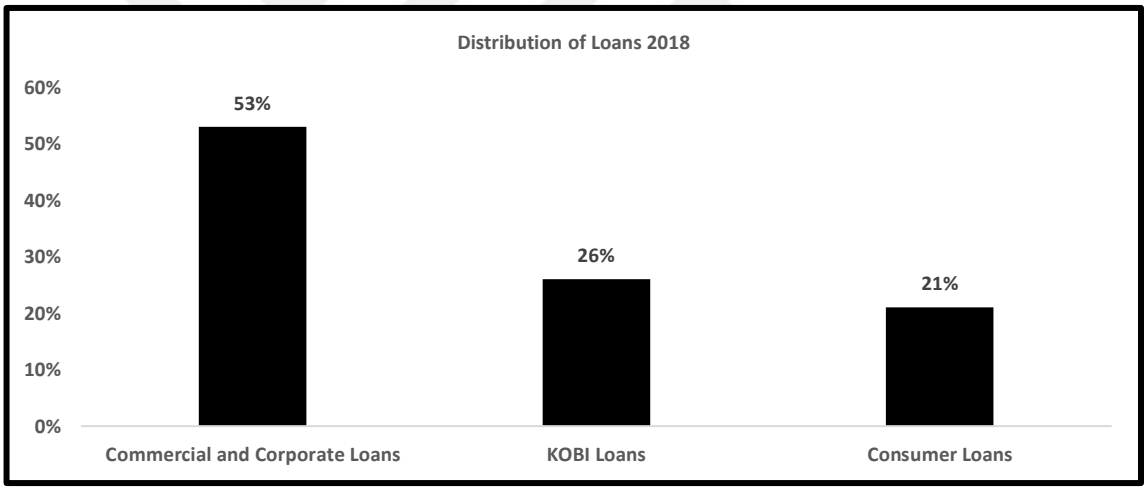
[11] Türk bankacılık sektörü temel göstergeler raporu (2018) [https://www.bddk.org.tr/]

Figure 2.12: Total loans of Turkish banking sector (2018)



Source: BDDK[12]

Figure 2.13: Distribution of loans (2018)



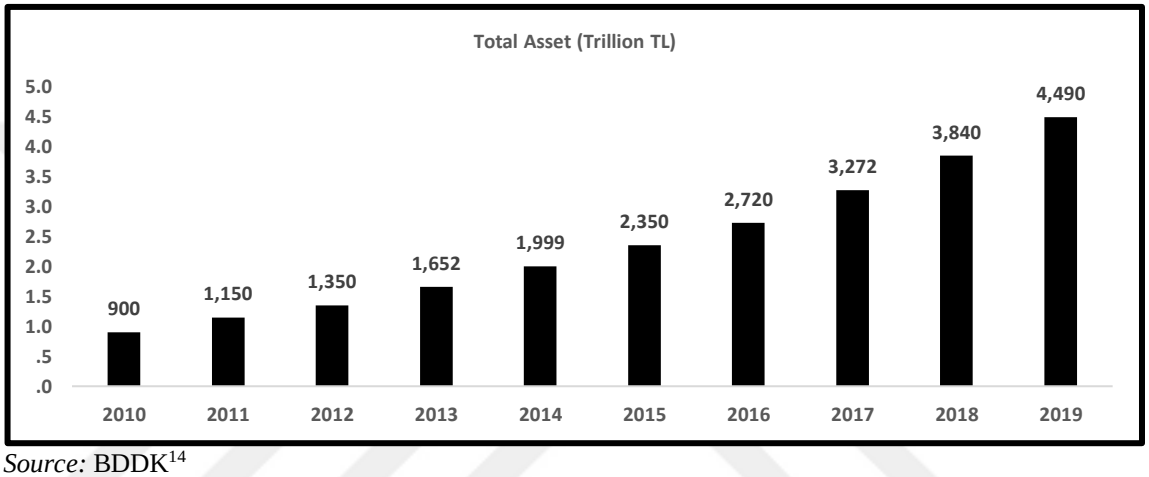
Source: BDDK[13]

The Turkish banking sector made a profit of 49.75 billion Turkish Liras in 2019 (Figure 2.14). It is seen that the sector's profit has decreased when it compared with 2018. However, banks' total assets increased by 16.1 percent to approximately 4.5 trillion Turkish Lira (BDDK 2019). Total deposits increased by 26.1 percent and reached 2.6 trillion Turkish Liras. Total loans increased by 11 percent (BDDK 2019).

[12] Türk bankacılık sektörü temel göstergeler raporu (2018) [https://www.bddk.org.tr/]
[13] Türk bankacılık sektörü temel göstergeler raporu (2018) [https://www.bddk.org.tr/]

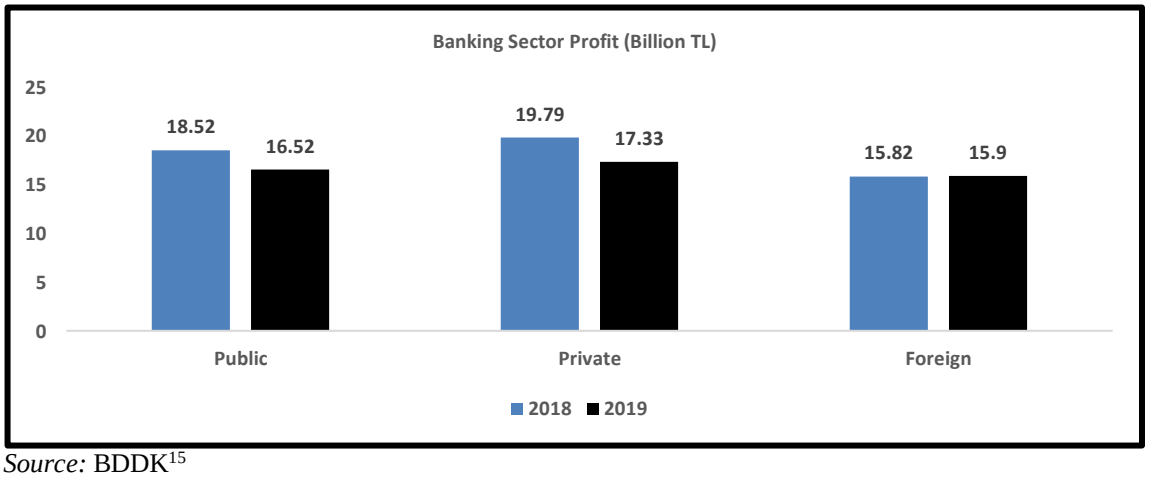
The growth power of the sector continued in 2019 as well. The main source of the increase in total assets in 2019 was the increase in Turkish lira loans and securities. It has achieved a growth of approximately 10 percent in 2019 when the growth of total assets is analyzed in terms of exchange rate effect. Especially on the securities side, there was an increase of 24 percent in the Turkish Lira securities portfolio and a 51 percent increase in the foreign currency portfolio (BDDK 2019).

Figure 2.14: Total asset of Turkish banking sector (2019)



Source: BDDK[14]

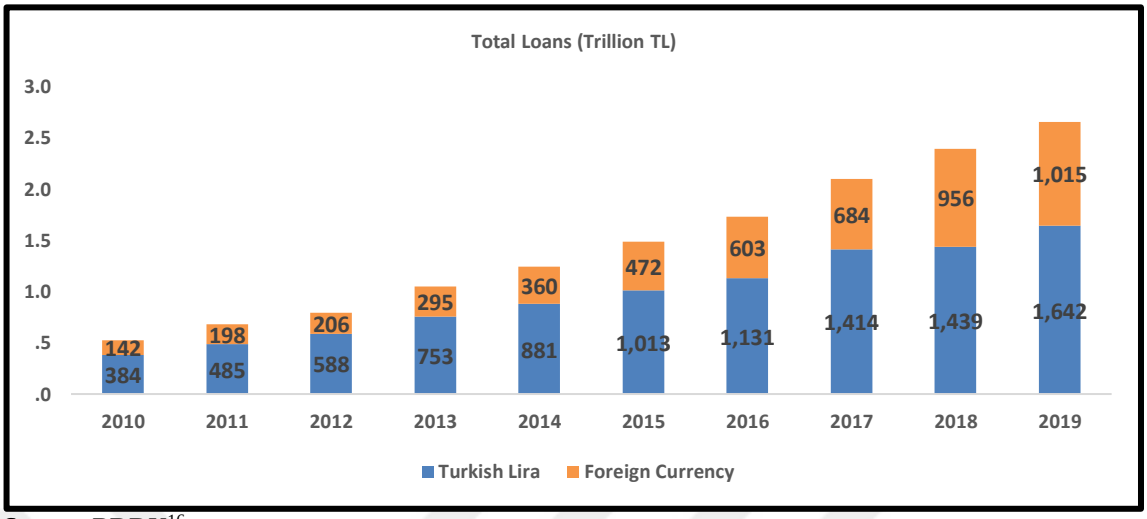
Figure 2.15: Banking sector profit (2019)



Source: BDDK[15]

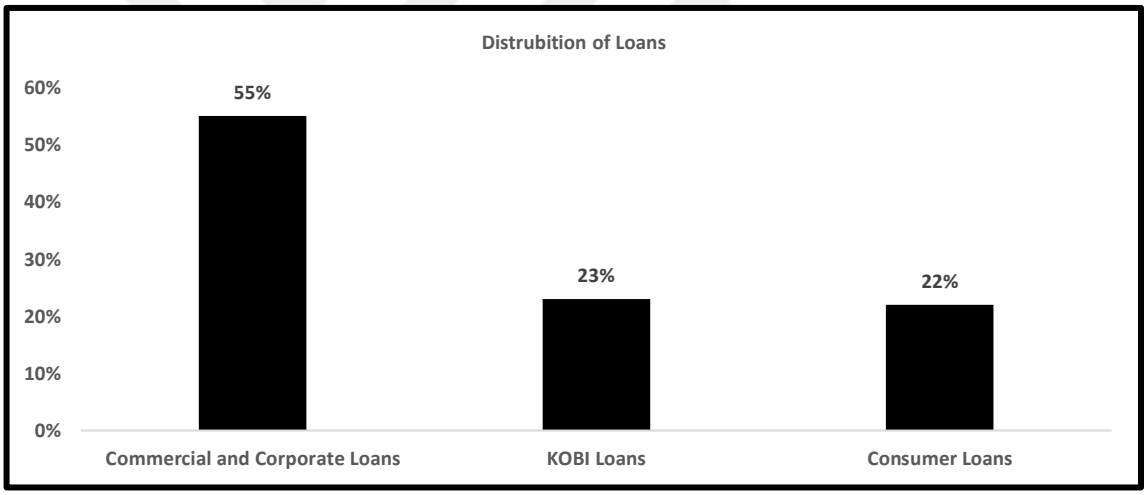
[14] Türk bankacılık sektörü temel göstergeler raporu (2019) [https://www.bddk.org.tr/]
[15] Türk bankacılık sektörü temel göstergeler raporu (2019) [https://www.bddk.org.tr/]

Figure 2.16: Total loans of Turkish banking sector (2019)



Source: BDDK[16]

Figure 2.17: Distribution of loans (2019)



Source: BDDK[17]

2020 has been an interesting year for the entire banking industry in the world because of COVID-19. The banking sector has made the highest profit of all time, with the provision of low-cost loans due to the new type of virus and the increase in banking activities. The Turkish banking sector made a profit of 59.9 billion Turkish Liras in 2020 (BDDK 2020). The total profit increased by approximately 22.3 percent when compared to this increase in 2019. Interest income of banks increased by approximately 0.7 percent and reached 423.5 billion Turkish Liras. Banks generated approximately 308 billion Turkish Liras of

[16] Türk bankacılık sektörü temel göstergeler raporu (2019) [https://www.bddk.org.tr/]
[17] Türk bankacılık sektörü temel göstergeler raporu (2019) [https://www.bddk.org.tr/]

interest income in 2020 (TBB 2020). 72.1 billion Turkish Liras interest income consisted of consumer loans, 10.5 billion Turkish Liras of interest from credit cards and the remaining 189.5 billion Turkish Liras from other loans (TBB 2020).

The total assets of the Turkish banking sector increased by 36 percent compared to 2019 and reached 6.1 trillion Turkish Liras. The largest share of total assets belongs to loans and securities. In addition to these, deposits, which are the biggest source of banks, increased by 34.6 percent compared to 2019 (BDDK 2020). The number of branches and employees continued to decrease in 2020. While a total of fifty-three banks were operating in 2019, a total of fifty-four banks were operating in 2020. Golden Global Investment Bank started its operations in January 2020(TBB 2020, p.1).

Table 2.1: Total number of banks (2019 - 2020)

	December 2019	December 2020
Deposit Banks	34	34
Development and Investment Banks	13	14
Participation Banks	6	6
Total	**53**	**54**

Source: TBB

Table 2.2: Total number of banking sector personnel (2019 - 2020)

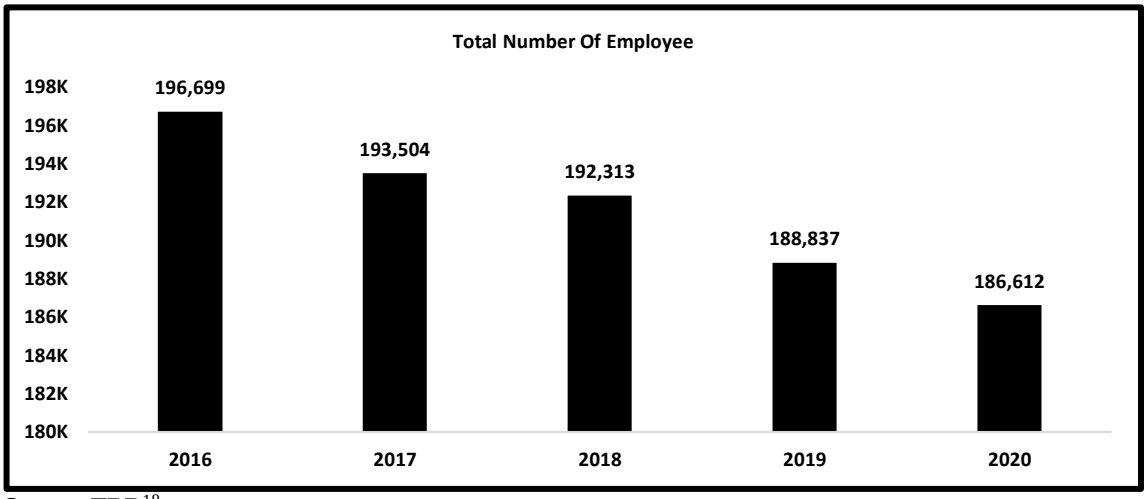
	December 2019	December 2020
Deposit Banks	183.659	181.488
Development and Investment Banks	5.178	5.124
Total	**188.837**	**186.612**

Source: TBB

Table 2.1 shows that a bank was added to increase the total number of banks to fifty four in 2020. The name of the new bank is Golden Investment Bank.

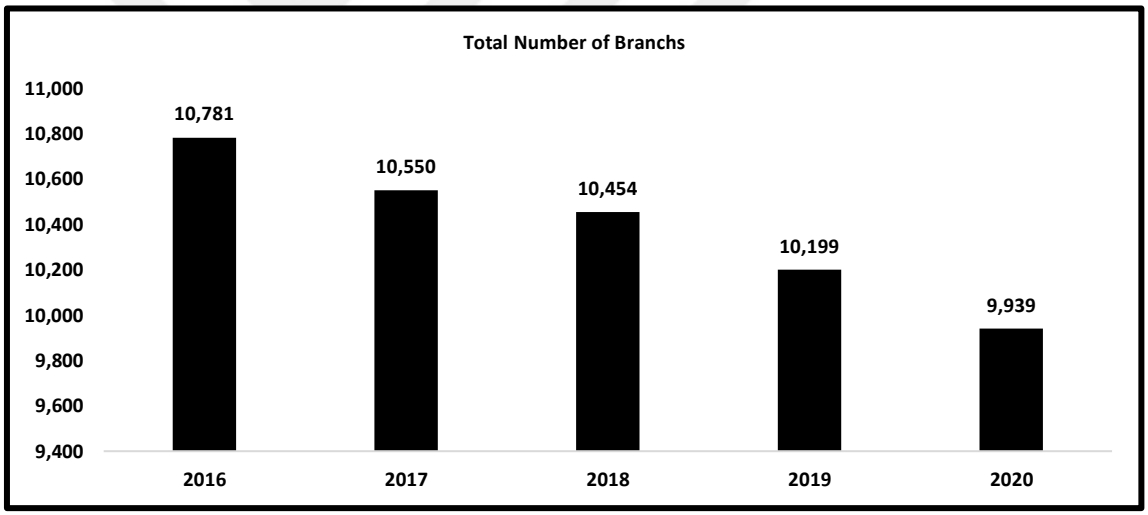
Table 2.2 shows that the number of employees decreased by 1.2 percent in 2020 compared to 2019.

Figure 2.18: Total numbers of employee in banks (2016-2020)



Source: TBB[18]

Figure 2.19: Total numbers of branchs (2016-2020)



Source: TBB[19]

Table 2.3: Total number of branchs (2019 - 2020)

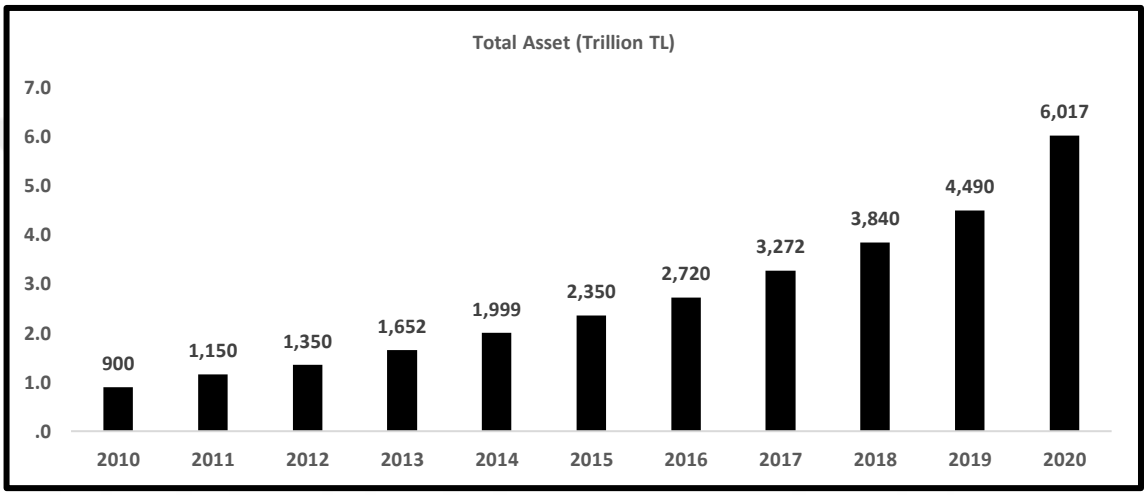
	December 2019	December 2020
Deposit Banks	10,137	9,875
Development and Investment Banks	62	64
Total	**10,199**	**9,939**

Source: BDDK[20]

[18] Türk bankacılık sektörü temel göstergeler raporu (2016-2020) [https://www.bddk.org.tr/]
[19] Türk bankacılık sektörü temel göstergeler raporu (2016-2020) [https://www.bddk.org.tr/]
[20] Türk bankacılık sektörü temel göstergeler raporu (2019-2020) [https://www.bddk.org.tr/]

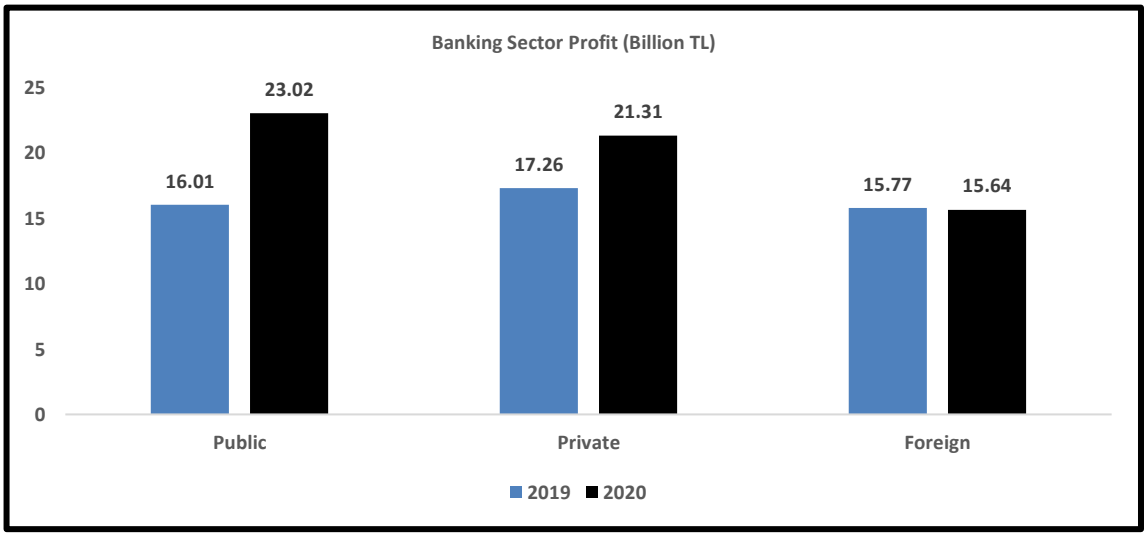
Table 2.3 and Figure 2.17 shows that total number of employees and branches in the banking sector has decreased over the years. The reason for this is the development of mobile banking and the provision of many services from support service institutions. The need for working personnel and the number of branches has decreased. Figure 2.18 shows that total number of branches has decreased over the years. This is due to the development of mobile banking and changes in people's consumer behavior.

Figure 2.20: Total asset of Turkish banking sector (2010-2020)



Source: BDDK[21]

Figure 2.21: Banking sector profit (2020)

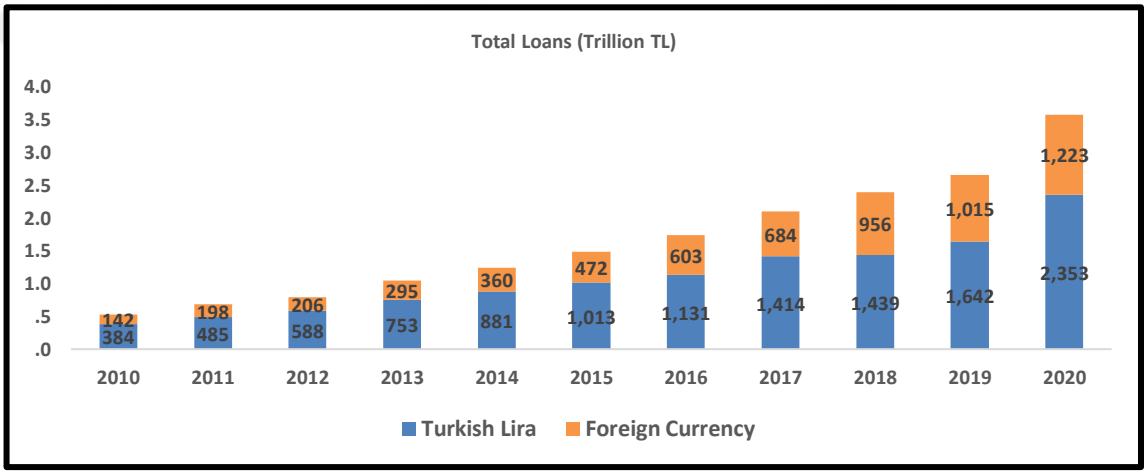


Source: BDDK[22]

[21] Türk bankacılık sektörü temel göstergeler raporu (2020) [https://www.bddk.org.tr/]
[22] Türk bankacılık sektörü temel göstergeler raporu (2020) [https://www.bddk.org.tr/]

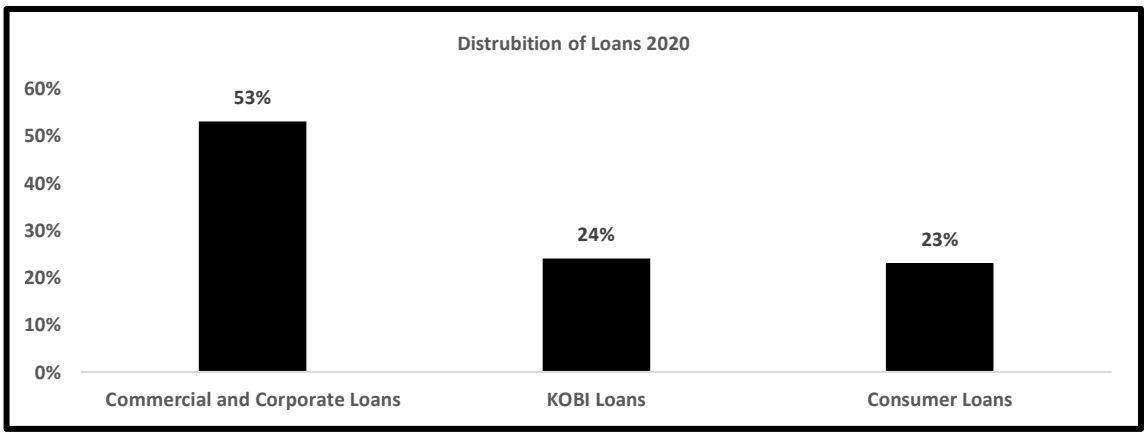
Figure 2.20 shows that how banks assets are growing in the years. Total assets growth ratio is higher than past years due to pandemic results. COVID-19 is the biggest problem for every economy in the world. Many country has started to announce more economic support for individuals. Especially in Turkey, government started a new credit campaign to support the economy. New campaign consists of many different credit products to cover all person in country. Therefore, credit interest rate was decreased by government via public banks to increase money supplu in country. That's why total banks assets has increased in 2020 due to lower credit cost.

Figure 2.22: Total loans of Turkish banking sector (2020)



Source: BDDK[23]

Figure 2.23: Distribution of loans (2020)



Source: BDDK[24]

[23] Türk bankacılık sektörü temel göstergeler raporu (2020) [https://www.bddk.org.tr/]
[24] Türk bankacılık sektörü temel göstergeler raporu (2020) [https://www.bddk.org.tr/]

Table 2.4: Turkish banking sector summary (2013 – 2020)

Trillion TL	2013	2014	2015	2016	2017	2018	2019	2020	Delta (%)
Loans	1.05	1.24	1.49	1.73	2.09	2.39	2.66	3.58	34.7
Securities	0.29	0.3	0.33	0.35	0.4	0.48	0.66	1.02	54.8
Assets	1.73	1.99	2.36	2.73	3.26	3.87	4.49	6.1	36
Deposits	0.95	1.05	1.25	1.45	1.71	2.04	2.27	3.46	34.6
Profit	24.7	24.6	26.1	37.5	48.6	54.1	49	59.97	22.3

Source: BDDK[25]

According to Figure 2.21, Turkish banking profit increased when it compared with 2019. Banking operations has increased in covid-19 period which is 2020. Low interest rates credits has boosted the demand of credits. It has important effect on banking sector profits. Figure 2.22 shows that how total credits are higher than 2019 for 2020. It was around 2.65 trillion Turkish Lira in 2019 and it increased from 2.65 trillion Turkihs Lira to 3.57 triliion Turkish Lira. It is the biggest indicator to explain low interest rate of credit. Table 2.4 explain that how Turkish banks profit and other products get bigger from 2019 to 2020. The biggest change in securities in 2020. COVID-19 effects the stock market positively. Many people has started to invest stock market in world. It happens in Turkey in same time. Therefore, securities value increased approximately 54 percent. Loans and deposits have increased approximately 34.6 percent in 2020 when it compared with 2019.

[25] Türk bankacılık sektörü temel göstergeler raporu (2013-2020) [https://www.bddk.org.tr/]

3. TURKEY ECONOMIC GROWTH HISTORY (2001-2020)

Turkey's economy at the beginning of the year economic indicators and the market has entered a period in which the order is broken in the 2000s. It shrank by 6 percent and inflation reached 70 percent while the country was shaking with the earthquake in 1999. Interest rates exceeded 100 percent while the budget deficit breaks new records (Egilmez 2009, p. 73). Turkey has embarked on a new agreement with the International Monetary Fund on a stabilization program this year. This program aimed to reduce inflation and reduce public debt. However, Turkey had the macroeconomic problems and these problems in this time period; continuous deficit of the public sector, efforts to cover the budget deficit through monetary expansion and borrowing, high inflation and current account deficit. These macroeconomic problems caused the stabilization program to collapse in 2001 and the country was plunged into a crisis (Basti 2006, p. 124).

Turkey began to grow with a new political and economic system after 2001. Global Financial Crisis which happened in 2008 has affected Turkey deeply. The effects of this crisis were felt deeply between 2008 and 2009, and the country shrank with the impact of this crisis. The crisis has deepened with the collapse of the Lehman Brothers Investment Bank, one of the giants of the American financial sector. However, Turkey has increased, especially after 2001, for structural reforms to strengthen the banking sector with a robust way out of this crisis (Avsar 2011, p. 54). Structural reforms since 2002 have directly affected the country's growth and stability. This stability has enabled foreign direct investment coming to Turkey (Egilmez 2011, p. 13).

Unemployment rates rose above 10 percent in 2008 and 2009. These rates were 11 percent in 2008 and 14 percent in 2009. In order to reduce the negative effects of unemployment, unemployment insurance payments have been improved and allowance periods have been extended. Insurance premiums have been reduced to reduce employers' costs and support employment (Coban 2015, p.189-190).

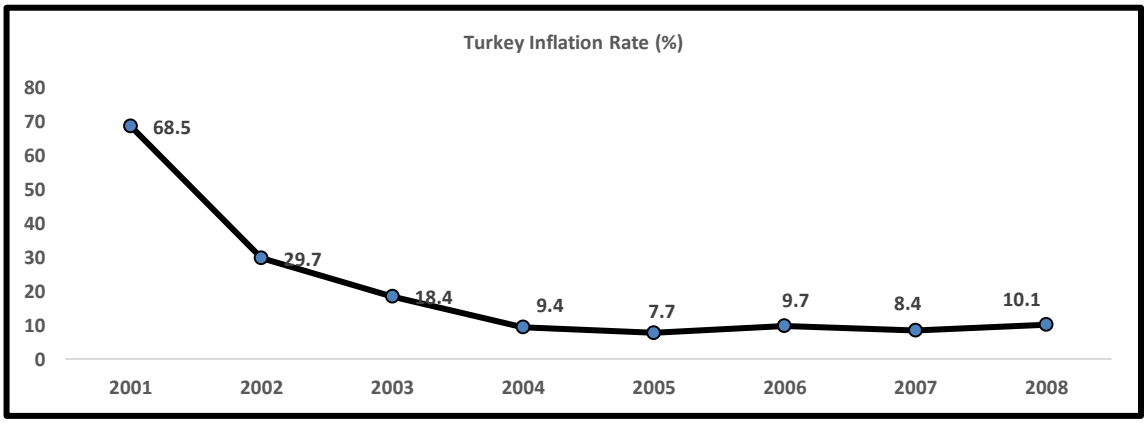
Economic problems of Turkey began in 2020 and these problems which were the depreciation of the Turkish Lira, instability in growth and the continuation of the current account deficit are some of the problems. Especially, the Turkish Lira depreciated and

inflation increased in between 2018 and 2020. Interest rates have increased and the country's CDS premiums have increased with rising inflation. When considering the high external debt has become Turkey's overall economic problems began in the beginning of 2020 (Egilmez, 2020).

3.1 TURKISH ECONOMY (2001-2008)

Turkish economy has been dragged into crisis and seriously affected after the earthquake in 2001. Turkish Lira depreciated and economic indicators deteriorated due to the economic and political problems of that period. The state administration changed with the general election and structural reforms were started in all areas in 2002. New structural reforms have been made and a tight monetary policy has been adopted with the agreement made with the IMF (Coban 2015, p. 2). The biggest problem of the new state government of Turkey's economy, which is aimed at curbing inflation. Inflation targeting was made between 2002 and 2006 and a tight monetary policy was applied by the central bank to achieve this. The fact that the budget deficit was very large in the past and the impact of this problem on the country's economy were determined and tried to be prevented. In this situation, budget discipline was ensured and inflation fell below 10 percent for the first time in 2004 (Pamuk 2014, p.87).

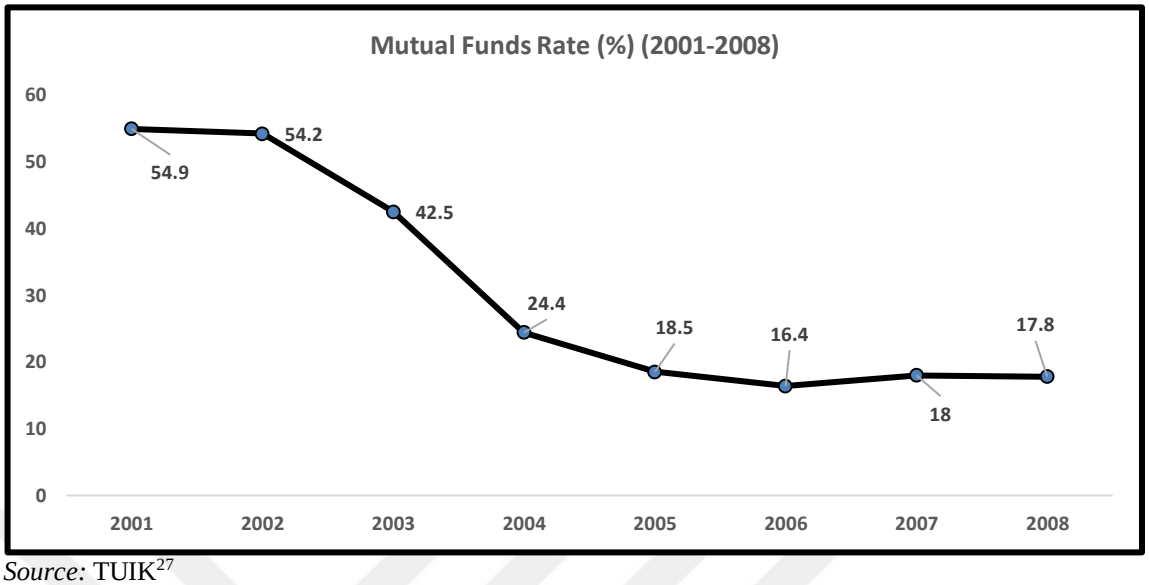
Figure 3.1: Inflation rate of Turkey (%) (2001-2008)



Source: TUIK[26]

[26] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

Figure 3.2: Mutual funds rate of Turkey (%) (2001-2008)



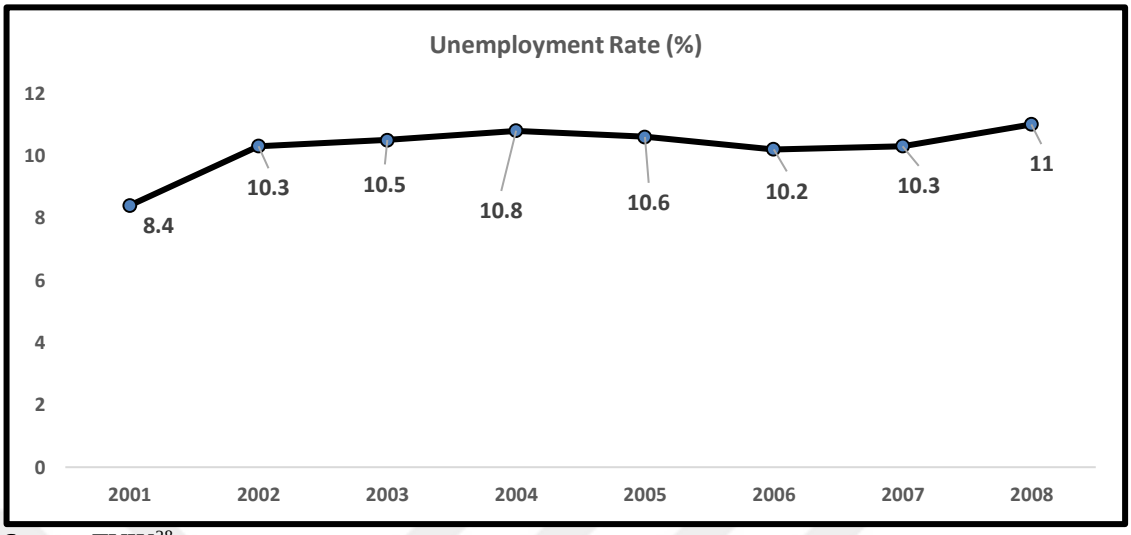
Source: TUIK[27]

It was observed that interest rates fell as inflation fell (Figure 3.2). Turkey has pursued a high interest rate policy in order to protect the Turkish lira due to the high inflation. Manipulative and speculative attacks brought about by low interest rates could affect the country's economy more. Interest rate cuts have not been applied in order to make investment in Turkish Lira attractive for this reason. The Central Bank implemented a tight monetary policy and the average interest rate was 16.3 percent in between 2002 and 2008. The existence of high interest rates in these years prevented the increase in inflation, but adversely affected the activities of the real sector (Egilmez 2009, p. 35).

Turkey began struggling with unemployment after 2001 because this was fundamental problem for growth and unemployment issues in Turkey. Turkey has realized rapid growth between 2002 and 2007 with the acceleration of the change of state administration and structural reforms. It increased the growth rate especially after 2003, however, the same positive image was not seen on the unemployment side. Turkey grew by 9 percent in 2005 and 9.6 percent in 2004, but in 2004 and the unemployment rate has remained above 10 percent in 2005 (Egilmez 2017, p.12).

[27] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

Figure 3.3: Unemployment rate of Turkey (%) (2001-2008)



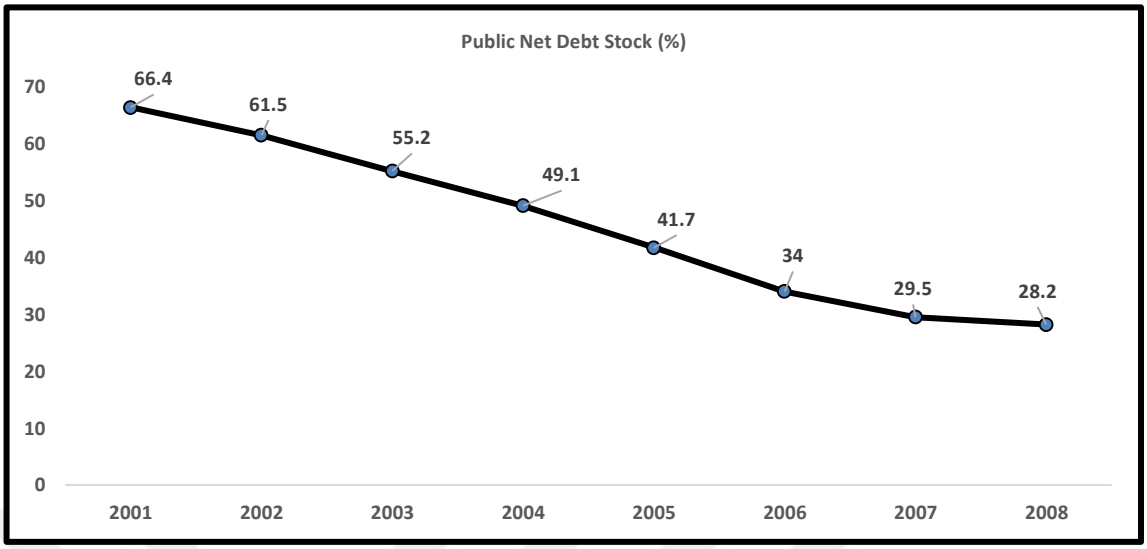
Source: TUIK[28]

Figure 3.3 shows that Turkey's unemployment problem lasted a year-long. Unemployment rates remained around 10 percent even on days of high growth. Turkey had positive growth in 2008, even though unemployment is seen to increase. This shows that a major problem in Turkey's unemployment problem.

Public finance and budget discipline are among the other problems tried to be solved in these years. In the past years the corporate structure of a corrupt countries structural reforms Turkey has made to rectify this situation. It aimed to establish the balance between public revenues and public expenditures, especially in order to ensure fiscal discipline. It narrowed the fiscal deficit by reducing public expenditures without increasing public revenues and continued to implement this policy in the following periods. Turkey relied growth model in the budget deficit and public spending before the 2000s, however, it changed this policy and built a growth model for current account deficit, private consumption and public debt after 2002 (Egilmez 2017).

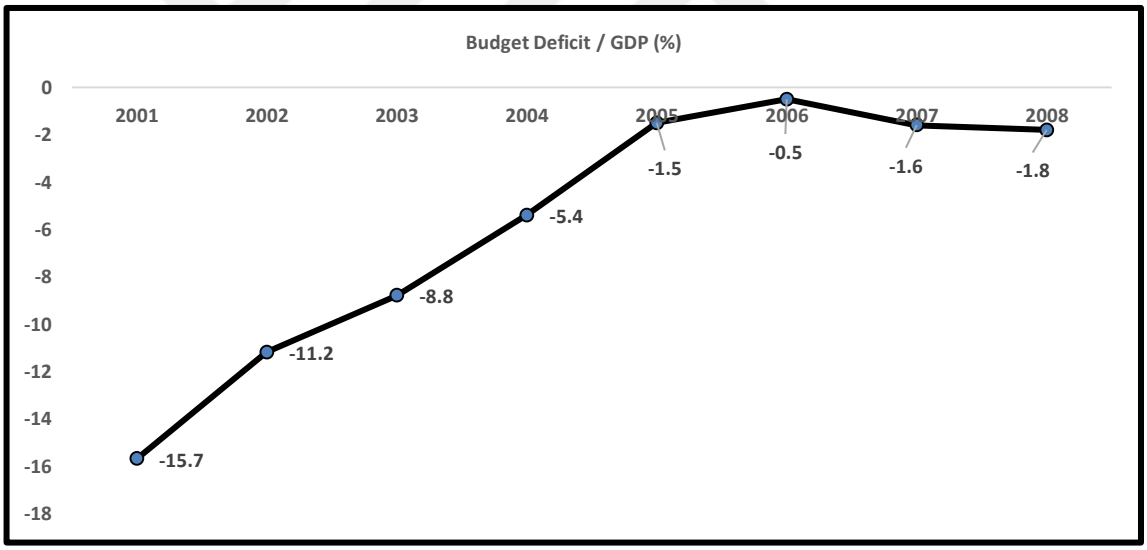
[28] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

Figure 3.4: Public net debt stock of Turkey (%) (2001-2008)



Source: TUIK[29]

Figure 3.5: Bugdet deficit of Turkey (%) (2001-2008)



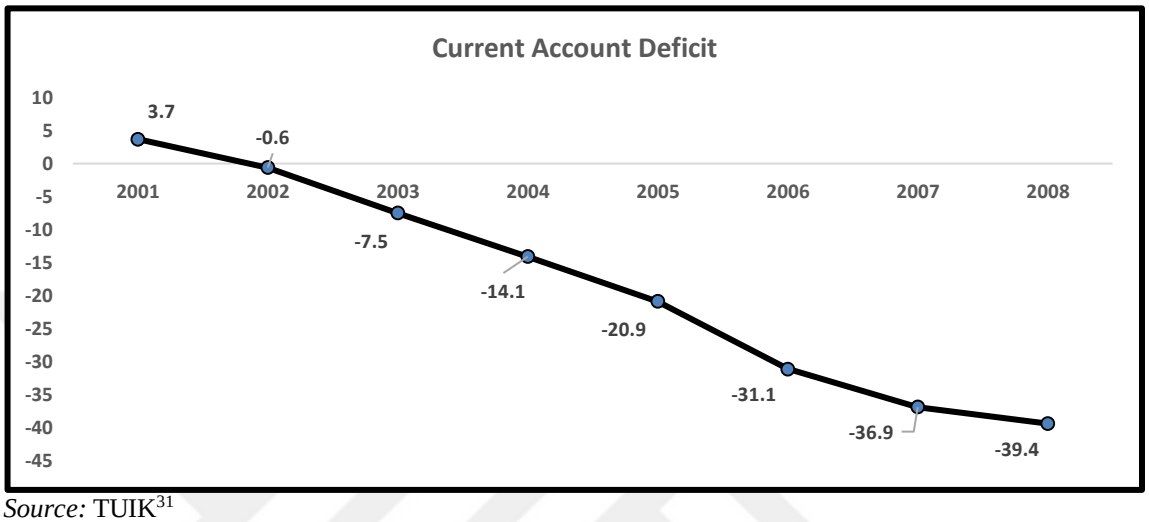
Source: TUIK[30]

Figure 3.5 shows that Turkey has reduced its budget deficit with structural reforms since 2002. The country's public sector debt was tried to be lowered, but other problems arose because the private sector growth model was chosen. The private sector's consumption

[29] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]
[30] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

and debt stock have continuously increased their share in the total debt stock. This caused the current account deficit to increase while the budget deficit fell (Cak 2013, p. 23).

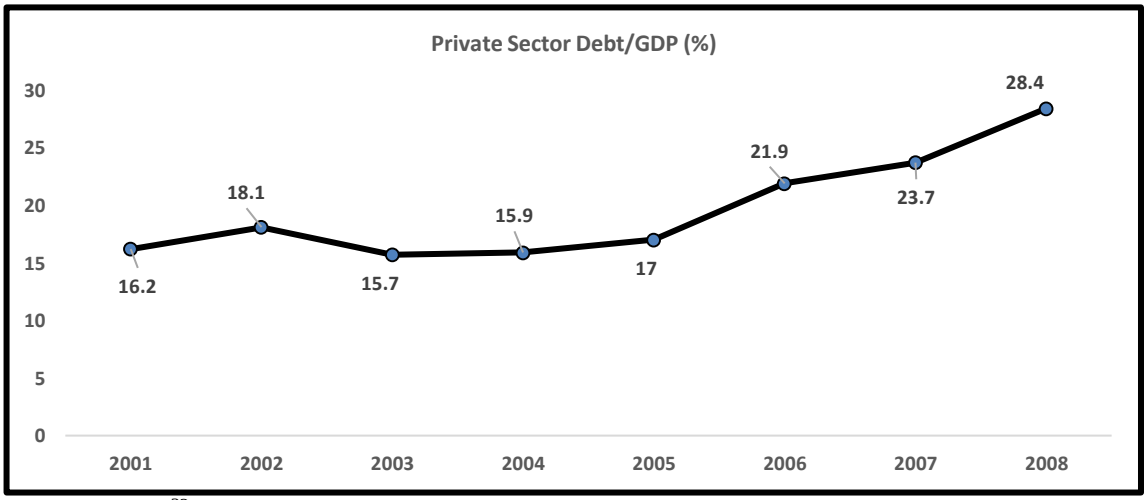
Figure 3.6: Current account deficit of Turkey (%) (2001-2008)



Source: TUIK[31]

It was aimed to close the budget deficit with the privatization revenues and additional taxes introduced especially during this period. The public sector became disciplined, while the private sector became undisciplined during this period (Egilmez 2017).

Figure 3.7: Private sector dept ratio in gdp (%) (2001-2008)



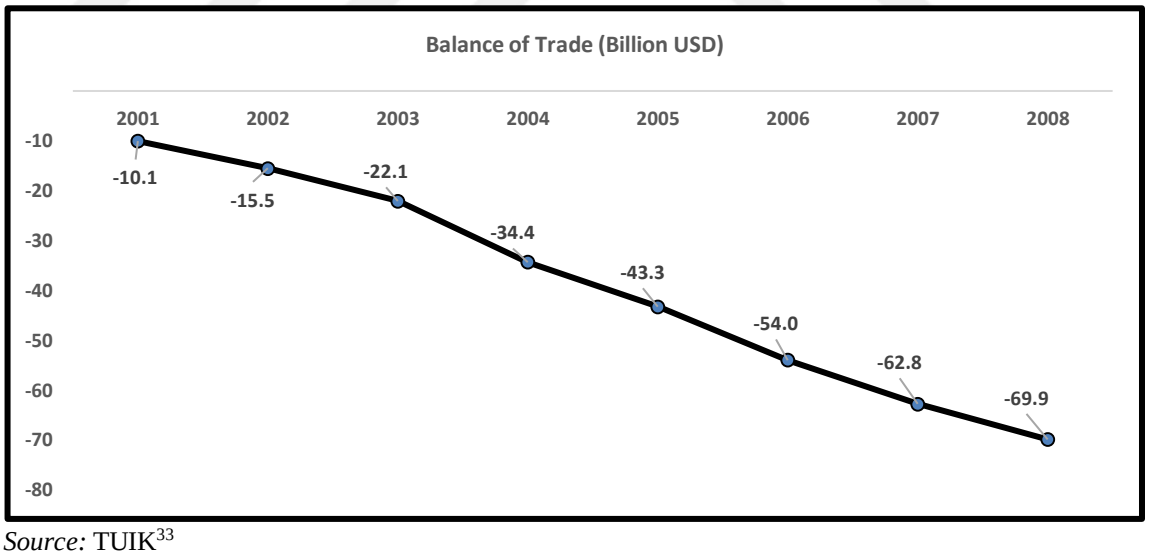
Source: TUIK[32]

[31] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]
[32] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

Saving rates has become not afford private sector investment savings with savings rates began to decline crises in Turkey. The private sector tried to close the savings deficit and caused an increase in the current account deficit by increasing borrowing for this reason. Deficits in the public sector and the decrease in private sector savings rates negatively affected domestic savings rates (Susam 2009, p.210).

Turkey is dependent on foreign countries for many years and is easily affected by the crisis because it has a fragile world economy. This crisis has slowed economic growth in Turkey and often disrupt the balance. Financial crisis which happened in America affected Turkey as it affects the whole world. Turkey were affected negatively by the reduction of the cessation of capital inflows and export earnings (Kaderli & Kucukkaya 2012, pp. 84-95). Turkey's annual growth was in average 6.8 percent between 2002 and 2007. There was a slowdown in the economy and when compared to the previous years, its growth decreased to 4.7 percent in 2007. However, when the global crisis took effect, growth in 2008 was 0.7 percent (Yildirim 2010, p. 36).

Figure 3.8: Balance of trade (2001-2008)



Source: TUIK[33]

The trade relationship between Turkey and European Union is very important for Turkey. Turkey is dependent to export values to refinance the current account deficit. The trade link with the European Union accounts for about half of the exports. However, Financial

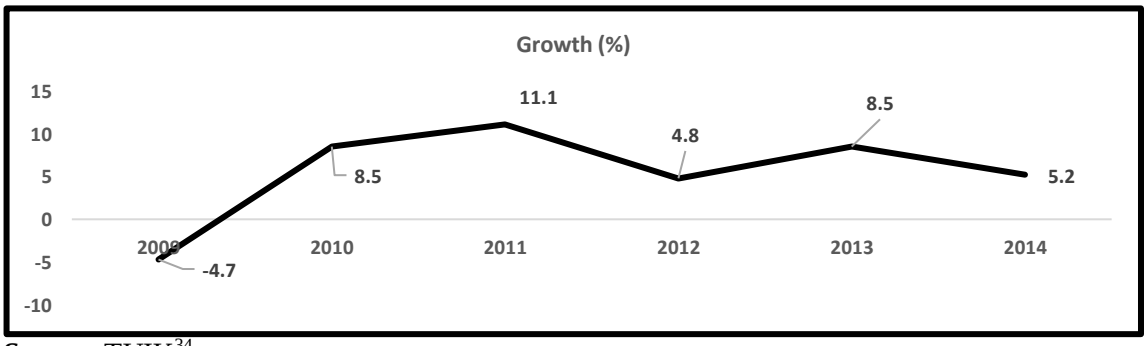
[33] Temel göstergeler (2001-2008) [https://www.tuik.gov.tr/]

Crisis of 2008 negatively affected European countries as well. This has directly led to a slowdown of economic relations between Turkey and Europe. Turkey balance of trade become worse in between 2007 and 2008 due to reducing relationship level between European Nations (Figure 3.8) Capital inflows due to the high interest rate policy in Turkey has been reduced and the effects of the crisis in this period (Eren 2014, p. 15).

3.2 TURKISH ECONOMY (2009-2014)

Many steps were taken to restore the foreign trade balance and the current account deficit was tried to be controlled for the growth of the economy after the 2008 crisis, however, the current account deficit could not be prevented from increasing since the growth model based on private sector consumption and borrowing was still valid. The increase in the current account deficit resulted in higher unemployment rates and along with it, employment decreased. Turkey has grown less than 1 percent in 2008 and growth rate decline -4.7 percent in 2009. The negative effects of the financial crisis continued to have an impact on 2009 (Avsar 2011, p. 22). Turkey's economy has started to recover in 2010 and it has been self-improvement in macroeconomic indicators. Turkey in 2010 with the economy showing two consecutive years of poor performance have eliminated bad image by performing the 8.49 percent growth. Supporting the real sector, increasing tax and investment incentives are factors that increase domestic demand in this period. All steps taken by the economy management to ensure stability have supported the growth of the economy by giving confidence to the consumer (Susam & Bakkal 2008, pp. 71-72).

Figure 3.9: Turkey growth rate (2009-2014)

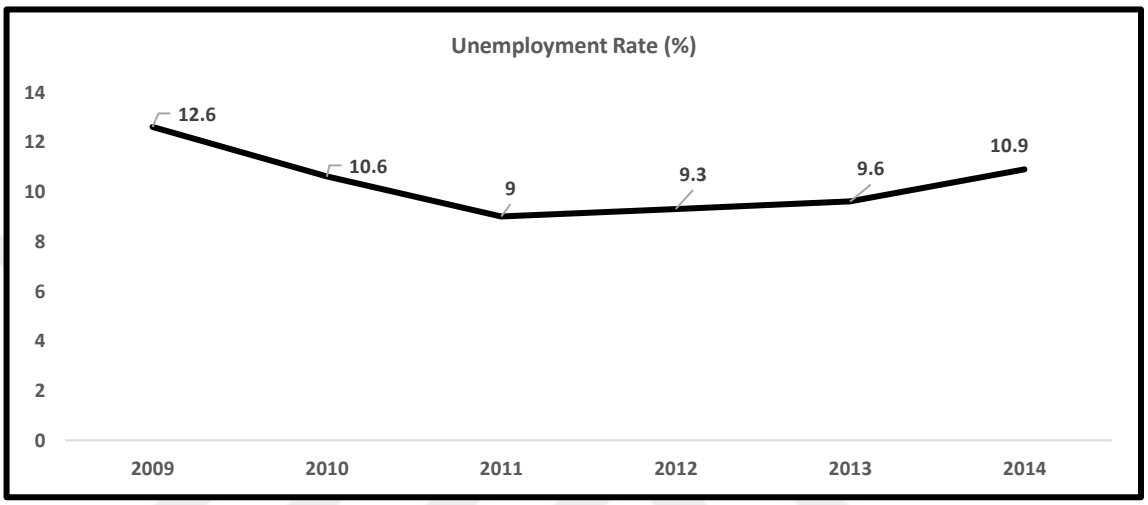


Source: TUIK[34]

[34] Temel göstergeler (2009-2014) [https://www.tuik.gov.tr/]

Figure 3.9 shows that Turkey's economy shrank in 2009 after the global financial crisis has made a rapid rise in 2010. When the effects of the crisis diminished, it grew by 11.1 percent and achieved great success in 2011. In the following periods, there were ups and downs.

Figure 3.10: Unemployment rate (2009-2014)



Source: TUIK[35]

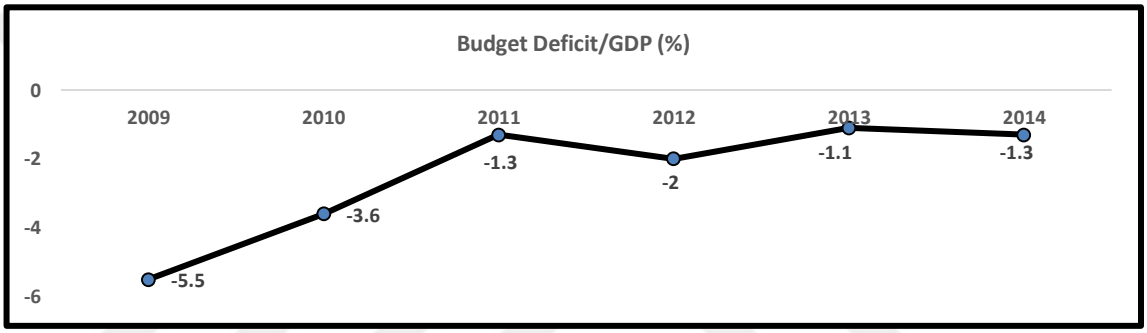
Figure 3.10 shows that unemployment rates were about 12 percent in 2009 with negative growth, and as the effects of the crisis waned, unemployment rates fell in 2010 and 2011. Even though the economic contraction negatively on employment in 2009, then in 2010 on Turkey's positive growth of unemployment has been shown to have the same effect. Turkey has been compared to 144 among 204 countries in the world in 2013. The unemployment rate (Karaca 2016, p. 17).

Turkey continued budgetary discipline program after the 2001 crisis that has continued in these years. It implemented the program more carefully, especially after the 2008 crisis. With the negative impact of the declining export rates on the current account deficit due to the financial crisis, savings also decreased. Decreasing export rates with the financial crisis had a negative effect on the current account deficit, and consequently savings decreased significantly. Even if exports decreased in 2009, the current account deficit did not increase as imports decreased more than exports. However, the budget deficit

[35] Temel göstergeler (2009-2014) [https://www.tuik.gov.tr/]

increased by approximately 3.7 percent this year compared to the previous year. The biggest reason for this is that foreign investors exit the country due to the crisis (Egilmez 2014, p.25). The economy model was established on growth by borrowing and consumption and growth in the next period. Turkey has increased its growth rate in 2010 and 2011 with this economic model. Turkey has broken the record current account deficit of the country despite the 11.1 percent growth in 2011. As a result of the economy built on borrowing, private sector debt was approximately 18.1 percent in 2002 and 34 percent in 2014 (Gursoy 2019, p.11).

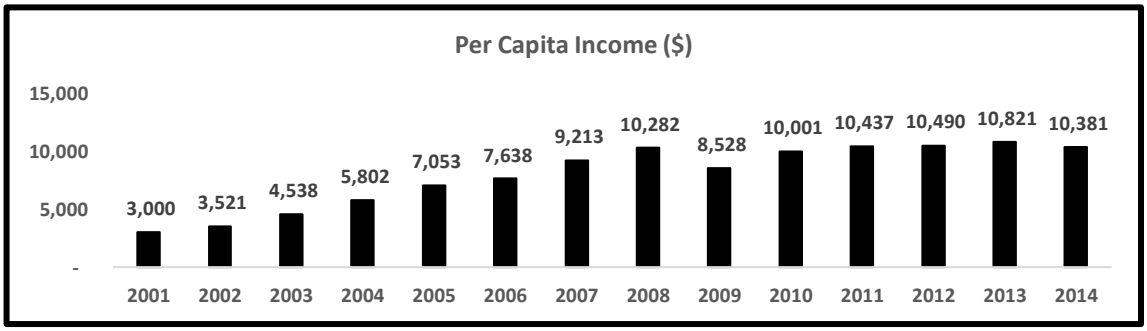
Figure 3.11: Budget deficit (2009-2014)



Source: TUIK[36]

Turkey's budget deficit in 2001 was -11.8 percent and this ratio has been steadily declined until 2006. This rate increased by -5.5 percent in 2009 and decreased in the following years to -1.3 percent in 2014 with the effects of the 2008 financial crisis (Figure 3.11).

Figure 3.12: Per capita ıncome (2009-2014)

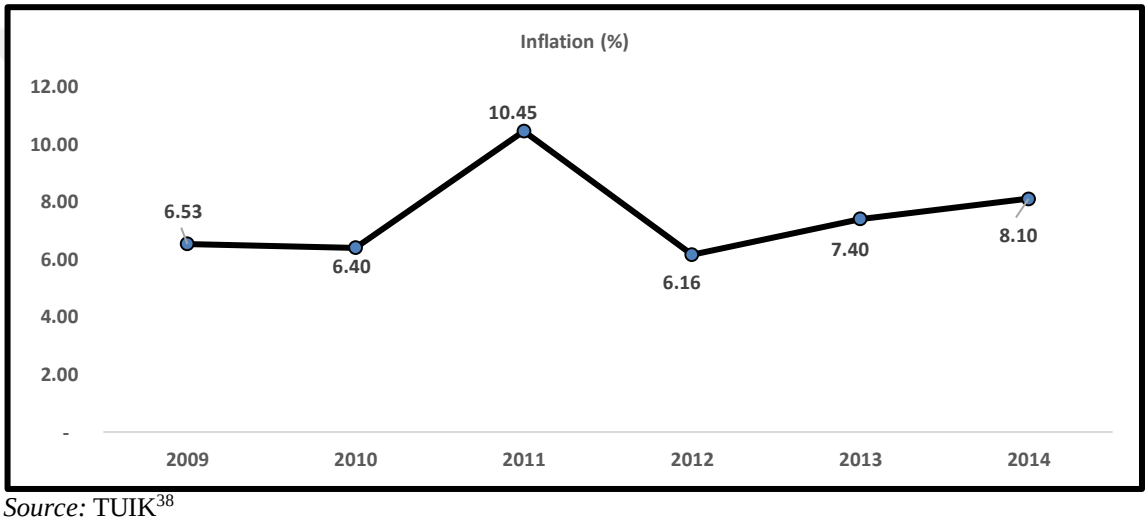


Source: TUIK[37]

[36] Temel göstergeler (2009-2014) [https://www.tuik.gov.tr/]
[37] Temel göstergeler (2009-2014) [https://www.tuik.gov.tr/]

Turkey has dwindled to three thousand dollars per capita national income after the 2001 crisis and declined to a total of 196 billion dollars. As a result of the change in the state administration after 2002 and the implementation of stable economic policies, national income increased year by year. National income per capita, which increased rapidly until 2008, exceeded the level of 10 thousand dollars. However, with the financial crisis, it decreased to less than 9 thousand dollars in 2009. And then, this income level was raised over 10 thousand dollars again with the economic and monetary policies taken between 2009 and 2014 (Figure 3.12).

Figure 3.13: Turkey inflation rate (2009-2014)



Source: TUIK[38]

Turkey has become the main issue of the year since inflation. The inflation problem, which has not been solved for years, progresses unevenly with its continuous ups and downs. Inflation would proceed at a level close to the targets in 2009 and 2010. However, inflation in Turkey in 2011, although growth was above the 10 percent level (Figure 3.10). Inflation, which decreased again in 2012, then started to increase again. The Turkish Republic Central Bank inflation target was 5.3 percent, however, it was 8.1 percent in 2014. Turkish government decided to add more extra tax on private consumption tax and it was the another reason for high inflation rate (Egilmez 2014, p. 3). The foreing currency rate has appricated against Turkish Lira and it had negative effect on inflation in 2014. However, despite the increase in the foreing exchange rate, the 50 percent drop in oil

[38] Temel göstergeler (2009-2014) [https://www.tuik.gov.tr/]

prices was one of the factors that prevented inflation from rising too much. Global political tensions in Russia began to increased export value from Turkey and this was another positive effect on inflation in 2014. This has had a positive effect on inflation by providing foreign currency input to the country (Karaca 2016, p. 32).

Turkey has grown by an average of 3.1 percent in 2012 and 2013, however, it showed a performance below expectations in 2014. The decline in investment expenditures continued in 2014 and remained at 18 percent. While 10 percent of these expenditures were public expenditures, 8 percent were private investment expenditures (Yuceol 2014, p. 25). The weakening of the increase in investment expenditures was one of the main reasons for the low growth in 2014. European countries had slow economic transaction in this period and this had negative effect on the trade relationship between Turkey and European countries. Therefore, economic growth slowed down due to low domestic and foreign demand. Turkey grew 8.5 percent in 2013, however, it grew only 4.2 percent in 2014 (Figure 3.6).

3.3 TURKISH ECONOMY (2015-2020)

Turkey had two elections in 2015 and has been a lot of development in the world. It has seen that oil prices continue to decrease and the income losses of oil exporting countries have increased when the developments in the world are examined. Therefore, geopolitical and political risks have increased in the Middle East. It was observed that the outlook for the Chinese economy was worse and commodity prices fell. The American economy continued to recover, and the Bank of America realized its first rate hike. There were no signs of recovery in the economy although the European central bank implemented the monetary expansion policy. The Russian economy, on the other hand, weakened with the fall in oil prices and embargoes (BDDK 2015).

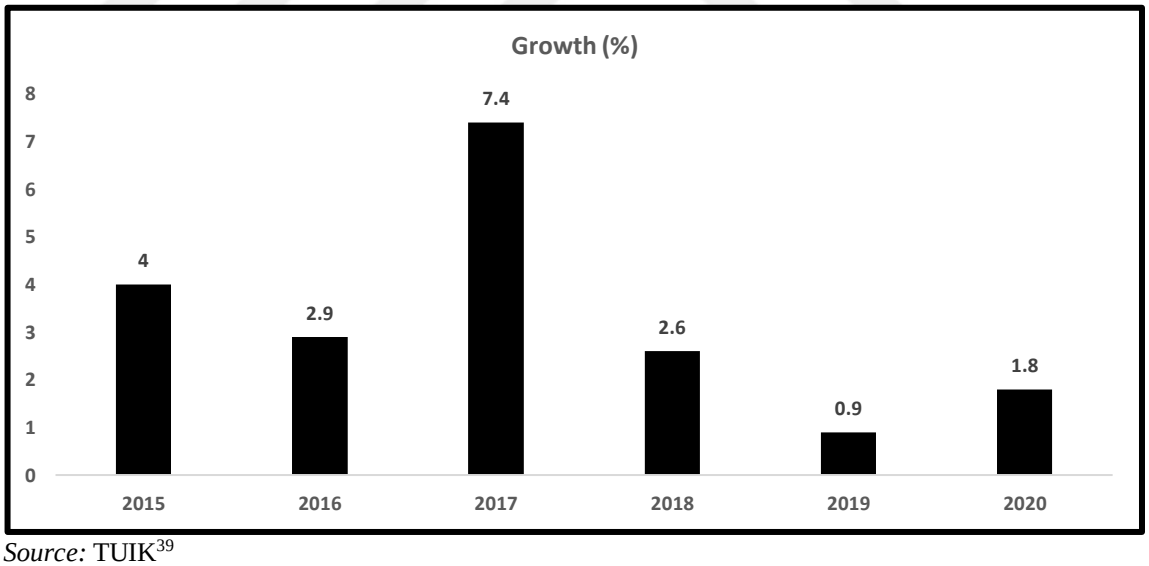
Turkey has been a difficult year for the economy in 2015. Two general elections were held in the country and investments were delayed due to election uncertainty. It has been said that the public expenditures promised before the elections will continue to increase after the election. Central bank interest rates were not further lowered after they were lowered in January and February (BDDK 2015). The overnight borrowing rate has been

reduced to 7.25 percent and the overnight lending rate to 10.75 percent. Budget discipline has been maintained this year, and the budget deficit has remained at around 1 percent.

Turkey's current account deficit is losing value with chronic problems decreased with the decrease in imports along with Turkish lira. The decrease in oil prices also supported the decrease in the current account deficit. The Central Bank of the Republic of Turkey was 8.81 percent, although the actual inflation rate of 5 per cent inflation target. The depreciation of the Turkish Lira and the low growth rate caused a decrease in per capita national income. The political crisis had effects on the declining in tourism and lower export values effected negatively Turkey's economy (Egilmez 2015).

Turkey's overall economic problems of the Turkish lira depreciation in 2015, the fall of the rise and growth of the unemployment rate, higher than targeted inflation rate, decline in export rates, despite the depreciation of the currency and the economy worsened, rising interest rates (Egilmez 2015).

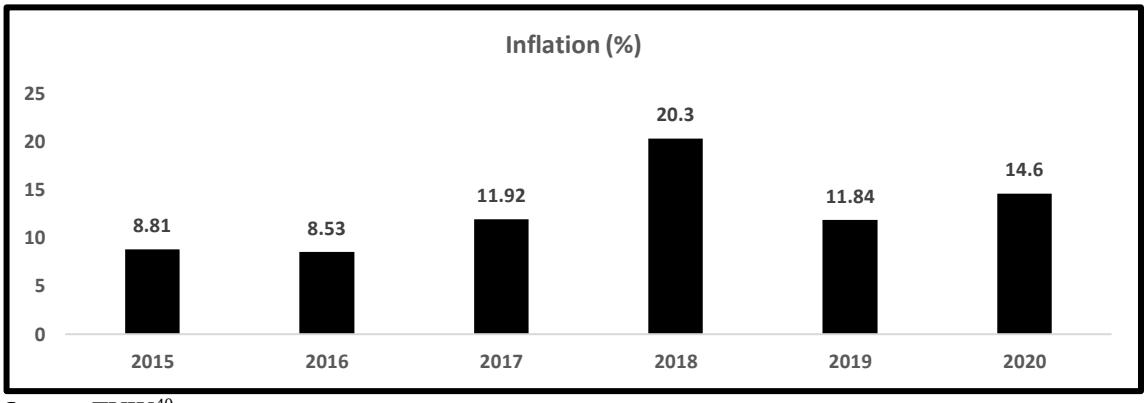
Figure 3.14: Growht rate of Turkey (2015-2020)



Source: TUIK[39]

[39] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

Figure 3.15: Inflation rate of Turkey (2015-2020)



Source: TUIK[40]

Turkey has grown by an average 4 per cent in recent years but it has grown 2.9 percent in 2016 (Figure 3.11). Turkey has emerged signs of slowing growth with this data. The economy contracted in the third quarter for the first time in a long time. In the first half of 2016, there was growth with strong domestic demand, but this growth was cut with the military coup attempt in the third quarter (Ozdemir 2016). The tourism sector has been hit hard with this incident. Unemployment rate started to rise as of April 2016. The currencies of the developing countries started to lose value with the election of Donald Trump in the American elections. Turkish Lira has broken a record by constantly losing value due to increasing the interest rate of the Central Bank of America and military coup attempt. This depreciation was around 20 percent annually.

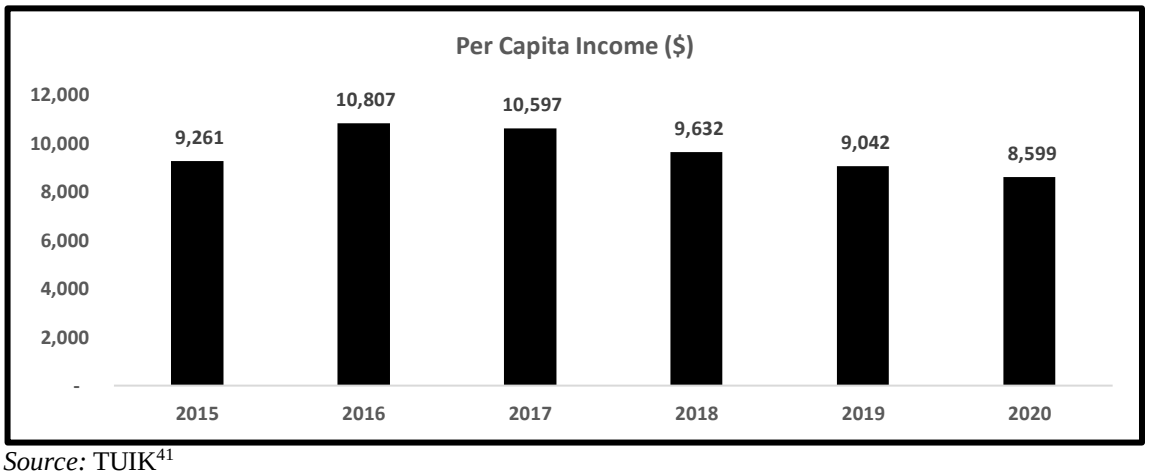
Chairman of the Central Bank of Turkey Governor Erdem Başçı's tenure ended on April 19 in 2016 and Murat Çetinkaya, the vice-president, has replaced him. The central bank made changes in the interest rate policy with the new president,. The Central Bank has decided to cut interest rates six times in 2016. However, interest rate cuts were suspended in October due to the increase in the negative outlook in inflation rates and the depreciation of the Turkish Lira (Egilmez 2016). The dollar began to strengthen with the end of the American election uncertainty and in addition to this, the Turkish Lira came under pressure with increasing interest rate of the American Central Bank. Therefore, the Central Bank of the Republic of Turkey has been forced to increase interest rates in November (Ozdemir 2016).

[40] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

Credit rating agencies from three international organizations before the Standard & Poor's (S & P), Moody's and Fitch lowered the credit rating of Turkey. Political and political developments in the country, the negative view of the economy, worsening economic indicators and negative scenarios for developing countries in the world economy have been effective in lowering the credit rating (Egilmez 2016). Standard & Poor's announced that downgraded the credit rating of Turkey after 5 days from military coup. It reduced the credit rating from BB +, which is below the investmentable level, to BB. Then Moody's in September 2016 as Turkey's credit rating outlook from Baa3 investment level, which can be lowered to Ba1. Fitch has been no change in Turkey's credit rating as BBB- and updated in August 2016,, but has changed the outlook of the country as negative.

Turkey-Russia crisis that began in 2015 with the reduction also reflected in the 2016 Russian jets. It was found that the number of Russian tourists dropped significantly in 2016 (TURSAB 2016). In addition to that, the growth of the civil war in Syria has increased geopolitical risks and security threats after an attack in Turkey is composed of experienced. The number of tourists visiting the country in 2016 decreased by approximately 30 percent and this decrease caused a loss of approximately 7.6 billion dollars in tourism revenues with all these effects (TURSAB 2016). The number of tourists who visited the country in 2016 was 24 million while visiting Turkey in 2015 about 34.5 million tourists.

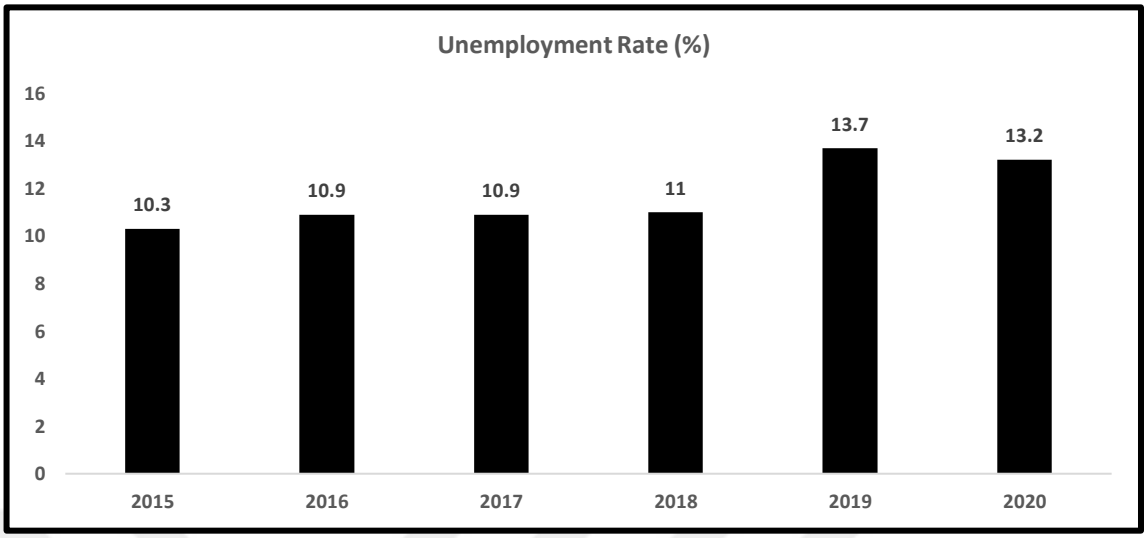
Figure 3.16: Per capita income of Turkey (2015-2020)



Source: TUIK[41]

[41] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

Figure 3.17: Unemployment rate of Turkey (2015-2020)



Source: TUIK[42]

Inflation remained at the same level in 2016 as in 2015. Per capita income increased compared to the previous year (Figure 3.13).

The decline in oil prices has been one of the positive developments for the decrease in the current account deficit. Unemployment rates increased by about 0.6 percent in 2016 to 10.9 percent (Figure 3.14).

Turkey's economy after growing below average in 2016 grew more than forecast to grow 7.4 percent in 2017 (Figure 3.11). Turkey to increase the weight given to public spending growth in 2017 and led to the revival of the domestic demand loan interest rates low to keep working. It has provided incentives in tax rates in order for the sectors to grow and increase their economic activities. In many sectors, they have been able to support growth by reducing taxes (TOBB 2017).

Turkey has very important in this period of the employment opportunities of the previous year to compensate for lower growth. Economic decisions were taken to make it easy for investors' access to finance in order to stimulate economic activities. Thus, it is aimed to revive domestic demand by supporting production. Household expenditures were increased by 6.1 percent (TOBB 2017). Economic growth was supported by increasing the expenditures of the state together with the household expenditures. Government

[42] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

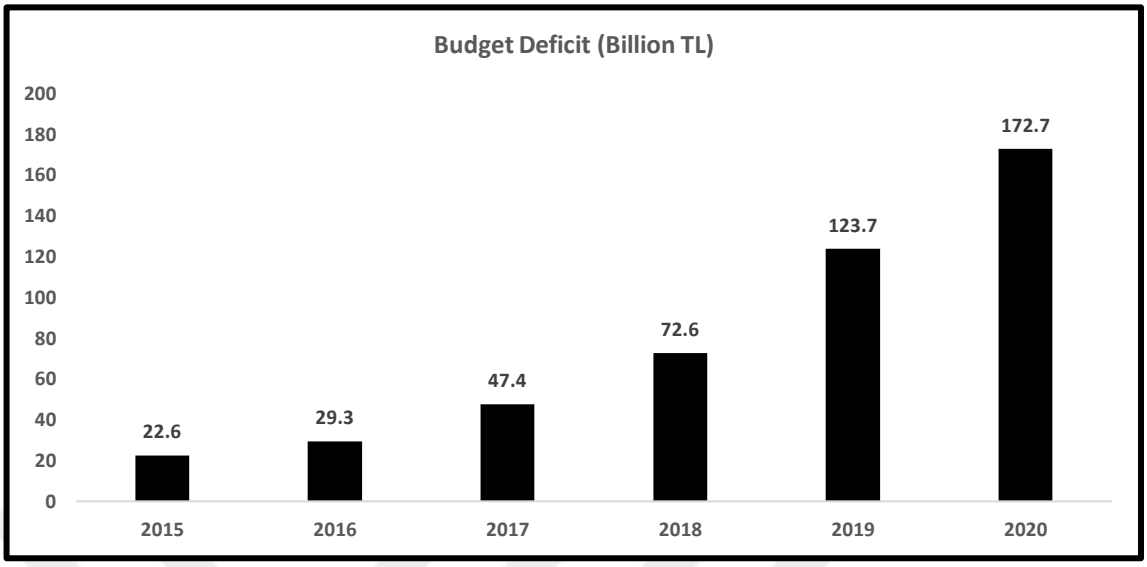
expenditures increased by 5 percent in this period. Turkey became the fastest growing countries in 20 developing countries.

Turkey has increased its GDP growth rates, but on the basis of dollars per person has fallen since 2014. National income per capita of Turkey was 10.597 usd in 2017. The main reason for this decline was the constant depreciation of the Turkish Lira (Egilmez 2017). Construction activities started under the name of urban transformation in Turkey has accelerated in 2017 and increased approximately by 31 percent. Housing sales increased by about 5.1 percent due to the cuts in loan rates. 2016 was closed with an uncertain and poor performance in the tourism sector, but with the end of the tensions with Russia and the disappearance of the wars on the geographical borders, the tourism sector became active again in 2017. The number of tourists visiting Turkey increased by about 23 percent and tourism income increased by 24 percent (TOBB 2017).

Turkey has made 5 percent inflation target in the medium-term plan for 2017, however, inflation was 11.92 percent in 2017 (TUIK 2017). The main reasons for the increase in inflation; Increase in the depreciation of Turkish Lira, increase in imports, rise in food prices and deterioration in economic activities. In addition to that, the depreciation of the Turkish Lira was reflected in producer costs and the producer price index increased by 15.47 percent.

The Central Bank of the Republic of Turkey continued its tight monetary policy tight fiscal policies were implemented in previous years. However, fiscal policies loosened in 2017 to prevent slowdown in economic activities. It was aimed to increase production, investment and employment with the new tax incentives and tax reductions. However, the cost of loose fiscal policies has led to an imbalance in budget revenues and expenditures (TOBB 2017). In 2017, budget revenues increased by 13.8 percent, while budget expenditures increased by 16 percent. Thus, the ratio of budget revenues to meeting budget expenditures was 93 percent (Egilmez 2017). This unbalance in the budget increased the budget deficit much more than the previous year and the budget deficit increased by 60 percent compared to the previous year and reached 47.4 billion TL (Figure 3.15).

Figure 3.18: Budget deficit of Turkey (2015-2020)



Source: TUIK[43]

Twenty percent depreciation of the Turkish Lira caused an increase in its exports and imports despite the global commercial stagnation in 2017. The increase in the euro-dollar parity had a positive effect on exports with the recovery of European countries in 2017. Shrinking export value in Turkey for last two years increased at a high rate in 2017 and it was close to the level reached in 2014. However, domestic demand has revived again with the recovery of economic activities and this has caused an increase in import values. In addition to that, the increase in import values was supported by the increase in commodity and oil prices (Egilmez 2017).

The current account deficit increased by 42.1 percent in 2017 compared to the previous year and reached 47 billion USD due to the fact that imports are higher than exports. The increase in imports and the negative effects of the crisis with Russia on tourism revenues had an impact on the current account deficit. Despite the high growth performance of the economy in 2017, unemployment rates remained the same as the previous year, reaching 10.9 percent (Figure 3.14).

Turkey's economy has been shaken in August 2018 with the excessive depreciation of the Turkish lira. Increasing uncertainties in global markets and the effects of depreciating Turkish Lira caused the Central Bank to implement a tight monetary policy. Turkey tight

[43] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

monetary policy of the negative impact on domestic demand and investments grew by 2.6 percent compared to the previous year (Figure 3.11). The negative effects of the decline in domestic demand and investments were greatly reduced by the increase in exports. Household spending increased 1.1 percent in 2018, and government spending increased 3.6 percent. It decreased by approximately 4.3 percent compared to the previous year (Yuksel 2018, p. 2).

The slowdown in the economy negatively affected the per capita income. The national income per capita, which has increased for many years, decreased by 9.2 percent in 2018 to 9632 dollars (TOBB 2018, p.27). This decline was explained by the depreciation of Turkish Lira. The Turkish lira lost approximately 28.4 percent of its value against the dollar in 2018. These developments in the economy made it difficult for the real sector to access finance and increased financing costs. These cost increases raised inflation by raising producer prices (Egilmez 2018, p.3). Inflation was 20.3 percent in 2018 (Figure 3.12). Domestic demand contracted due to the high price increases.

The slowdown of the economy and the tight monetary policy making it difficult to access finance negatively affected the construction sector. The construction permit application rate of the construction sector, which has a high impact on the economy, decreased by about 40 percent in 2018. Again during this period, housing sales decreased by 2.5 percent (TOBB 2018, p.31).

The tourism sector started to recover in 2017 and this recovery continued in 2018. The normalization of relations with Russia and the USA has had a positive effect on the sector. The high of exchange rates has led them to prefer Turkey of locals and tourists. the rise in exchange rates for foreign tourists in Turkey has done more attractive. The number of tourists increased by about 20 percent and tourism net revenues increased by 16.4 percent to approximately $ 24 billion (TURSAB 2018).

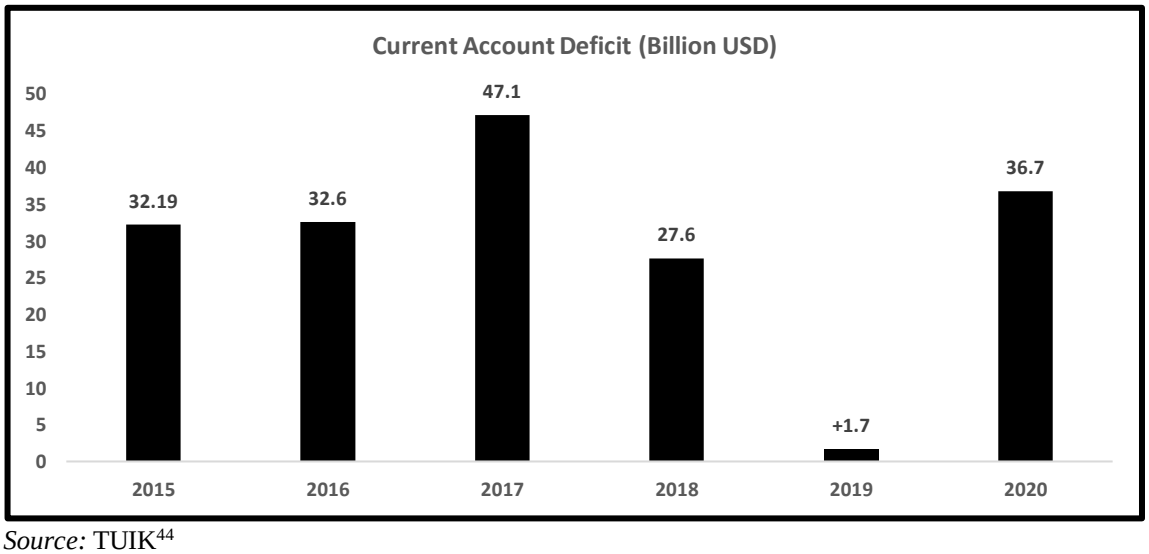
The Central Bank of the Republic of Turkey in response to rising inflation and the exchange rate has continued to implement tight monetary policy. Interest rates were 13.5 percent in April and 16.5 percent in May. However, inflation and volatility in exchange rates were disrupting price stability. Therefore, in June 2018, the interest rates were increased from 16.5 percent to 17.75 percent. With the increase in volatility in financial

markets and the continuous increase in prices, measures were taken to support liquidity in August (TOBB 2018, p.35). The Central Bank took measures to support liquidity in August 2018 with the increase in volatility of financial markets and the continuous increase in prices (TOBB 2018, p. 35).

The unhealthy price movements in the Turkish Lira became more evident in September. Therefore, the Central Bank increased the interest rates from 17.75 percent to 24 percent. It was aimed to maintain price stability and reduce inflation pressure with such an increase in interest rates within a year (Yuksel 2018, p.4). Therefore, the interest rate was kept constant at 24 percent until the end of the year. The high surplus negatively affected domestic loans and the rate of increase in bank loans decreased by approximately 8.8 percent compared to the previous year.

The slowdown of the economy and the high interest rates caused increases in government expenditures. When the budget income expenditures are analyzed, it was realized above the estimates in 2018. Budget revenues increased by 20.2 percent in 2018, however, budget expenditures increased by 22.4 percent. The budget deficit increased by 50 percent compared to the previous year and reached 72.6 billion Turkish Liras (Figure 3.15). The budget deficit continued to increase every year with the deteriorating balance in the economy.

Figure 3.19: Current account deficit of Turkey (2015-2020)



Source: TUIK[44]

[44] Temel göstergeler (2015-2020) [https://www.tuik.gov.tr/]

The increase in foreign exchange rates continued to have positive effects on exports in 2018 as well. The depreciation of the Turkish lira stimulated exports and the slowdown in domestic demand caused imports to decline. Therefore, the foreign trade deficit decreased by 28.3 percent in 2018 (Egilmez 2018, p.4). The current account deficit increased significantly in 2017, however, the recovery was observed in 2018. The recovery of the tourism sector and the increase in exports and decrease in imports caused the current account deficit to decrease. The current account deficit decreased by 41.3 percent to 27.6 billion dollars in 2018 compared to the previous year (Figure 3.16). The lowest current account deficit after 2009 was in 2018.

The unbalanced time in the economy affects the employment market negatively. Turkey has positive export growth to the labor market. The depreciation of the Turkish Lira, global uncertainties and risks, tight monetary and fiscal policies and unemployment figures remained above 10 percent. Unemployment rates were the same in 2016 and 2017, but increased by 0.1 percentage points to 11 percent in 2018 (Figure 3.14).

Turkey's credit rating has been updated again in 2018 by the international organizations. Fitch revised Turkey's credit rating to BB + BB revised in 2018. Moody's while before lowering the credit rating of Turkey in 2018 was later lowered to Ba3 to Ba2 twice. Standard & Poor's reduced its credit rating from BB twice, first to BB-then to B + (Yuksel 2018, p. 4). These rating reductions made it harder to access financing by reducing the reliability of the investable.

Turkey's economy has started to stabilize in 2019. and support of the Republic of Turkey in the global market starting the economy through expansionary monetary policy the Central Bank's interest rate cut recovery has started. However, the economy contracted 2.3 percent and 1.6 percent in the first 2 quarters (Egilmez 2019, p.2). With the increase above average growth in the last quarter, Turkey has grown 0.9 percent in 2019 (Figure 3.11). Turkey shrank for the first 9 months of 2019 and has been shown to decrease spending. Public expenditures decreased by approximately 5.6 percent and private consumption decreased by 1.4 percent. A greater contraction was expected as spending fell in the stagnant economy. However, the increase in exports and increase in tourism revenues prevented the economy from contracting further (Yuksel 2019, p.1). The poor economy also reflected on the employment market, with unemployment rates at 13.7

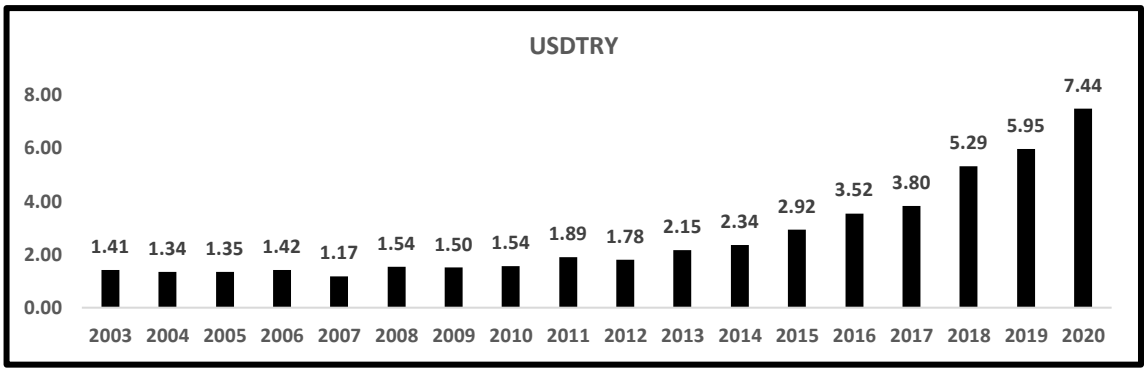
percent in 2019 (Figure 3.14). It has had difficulties in creating employment with the decrease in savings and investments, and this problem has worsened with the weakening of the construction sector.

Turkey export values started to increase with the depreciation of the Turkish Lira in 2018, and exports continued to increase in 2019. Exports increased by about 2 percent in 2019, and imports declined by about 12.8 percent. Therefore, the foreign trade deficit decreased by 52.5 percent to 24.5 billion dollars (TUIK 2019). The current account deficit decreased significantly with this positive development and even the current surplus was given. Turkey +1.7 billion current account surplus in 2019, giving a surplus of the current account for the first time since 2002 (Figure 3.16).

The inflation rate was 11.84 percent in 2019 (Figure 3.12). With the excessive depreciation of the Turkish Lira in 2018, the increasing prices caused the domestic demand to slow down. The stabilization was observed in the prices in the domestic market With the decrease in demand. Domestic demand slowed down in 2019 compared to previous years (Yuksel 2019, p. 1).

Credit rating agencies have re-evaluated the rating for Turkey in 2019. Fitch did not change its BB score in 2018 in 2019. In Turkey, Standard & Poor's B + rating in 2019 did not make any changes. Moody's announced that Turkey credit note is Ba3 in 2018 and then Moody's decreased the notes from Ba3 to B1 in 2019 for Turkey (Yuksel 2019, p. 2).

Figure 3.20: Usd/Try parity (2003-2020)



Source: TUIK[45]

[45] Dolar TürkLirası paritesi (2003-2020) [https://www.tuik.gov.tr/]

Economies of 2020 has been much different from previous years with the Covid-19 outbreak, it had separate damages on the world economies. As the spread rate of the virus increased, the economies that were shut down sequentially and the extra costs brought by the shutdown put economies in a difficult situations. The epidemic negatively affected the employment market and household savings began to be spent (Yuksel 2020, p.2). World countries resorted to expansionary monetary policies in this difficult period of the economy. The Central Bank of America has cut its interest rates to zero and has begun to give more liquidity to the market. The European Central Bank has tried to give liquidity to the market by increasing its bond purchases. Turkey central bank to stimulate the economy through low-interest loans of state banks were distributed. Low-interest loans started to increase inflation after a while (Egilmez 2020, p.3).

The Turkish Lira continued to depreciate in 2020. The Turkish Lira completed the year 2019 at the level of 5.95 against the dollar. However, it broke a new record in 2020 and reached the level of 8.57. It has put pressure on the Turkish Lira with the effect of the American elections and the continuation of the danger of Covid-19 (Egilmez 2020, p. 2). The economy management was changed and the interest rates were increased from 10.25 percent to 15 percent with the excessive depreciation of the Turkish Lira. Tight monetary policy messages restricted the movements of the Turkish Lira, albeit a little. Dollar Turkish Lira parity closed the year 2020 at the level of 7.44 (Figure 3.17). Thus, the Turkish Lira lost about 23.5 percent against the dollar within a year.

The extra liquidity given to the market for the increase in the exchange rate and the revival of the economy caused inflation to rise in 2020. Inflation increased by about three points compared to the previous year, reaching 14.6 percent in 2020 (Figure 3.12). Turkey's central bank has set the inflation forecast but 8.2 percent was 14.6 percent at end-2020. Domestic demand was slowed to lower inflation in 2019, but this domestic demand accumulated in 2019 and led to more inflation with lower loan rates in 2020 (Yuksel 2020, p.3).

There was an expectation to increase in exports with the depreciation of the Turkish Lira in 2020, however, the negative effects of the Covid-19 epidemic brought a global slowdown in trade activities. Many countries have switched to lockdown positions due to the epidemic problem. Turkey exports are down about 10 percent compared to the

previous year and import values increased 5 percent (TUIK 2020). The current account deficit problem arose again with the deterioration of macroeconomic balances. Turkey has current account surplus in 2019, however, current account deficit was 36.7 billion dollars in 2020 (Figure 3.16). The Covid-19 outbreak negatively affected the trade balance and tourism revenues. The number of tourists visiting Turkey has decreased by approximately 69% compared to the previous year in 2020. Tourism revenues decreased by approximately 65 percent to 12 billion dollars due to the decrease in the number of tourists (TURSAB 2020). State support has increased as the epidemic continues to increase and vaccination studies are not finished in 2020.

Turkey announced additional incentives packages in this period and the budget deficit has grown even more with the aid of her employees. There has been a decrease in tax earnings with the reduction of tax rates. However, the closed sectors in the economy due to the epidemic made it difficult for the state to collect taxes. Turkey has increased spending and decreased revenues in 2020 budget deficit was 172.7 billion Turkish lira (Figure 3.15). The dimensions of the epidemic continued to increase in 2020 and credit rating agencies made a decision by examining the current and financial situations of the countries. Fitch and Standard & Poor's did not change Turkey's credit rating. However, Moody's lowered its credit rating from B1 in 2019 to B2 in 2020. Turkey's investment can not be taken as credit notes in 2020 and suggests that speculative level (Yuksel 2020, p. 6).

4. BANK CREDITS EFFECT ON TURKISH ECONOMIC GROWTH

Economic growth has been very important for all countries in the world. The continuity and sustainability of growth is an important building block for countries to realize their economic activities. The economic system is divided into those who seek funds for their investments and those who want to utilize the funds they have. The financial system fulfills the fund needs of investors. The savings collected in the country are directed to those seeking liquidity in various ways. Production and employment increase in the country is supported by directing savings to investors. For these activities to work as a healthy system, it is important that financial systems are working properly (Oztekin 2010, p.26). The importance of financial markets is of great importance for developed and developing countries. Financial systems of developed countries are better than developing countries. Financial system of Turkey which is an emerging country consists largely of the banking sector. The banking sector has grown every year with technology facilitating access to information.

There are many factors that affect economic growth and the banking sector is very important factor in the financial system. Lack of savings in developing countries makes it difficult to finance investments. Realization of investments is possible with external financing, however, the financial system in the country is preferred. Financial market brings together savers and those who need liquidity in capital and money markets., Investors' financing needs are met with investment products such as bonds, bills and shares in the capital markets. Banks meet the financing needs of the private sector and investors with the deposits they collect in the money markets (Baltaci 2012, p. 1). Banks indirectly met the financing needs of investors by converting the deposits they collected into loans. The supply and demand of funds takes place through capital markets in some countries,. The financial structure of Germany is close to the money market, but the American financial part consists mostly of the capital market. On the other hand, Turkey has a money market-oriented financial system like Germany. Fund transfer transactions are carried out through the money market in with banks in Turkey. Transfer of funds in

Turkey is provided by turning the deposits collected by banks into loans (Karahan 2018, p. 27).

The loans provided by banks have an important place in the fund transfer system. Policies implemented to control the money supply and maintain balance affect the credit channels and the economy. The strong and developed banking sector reduces the risks of credit crises that may occur in the credit market (Federici & Caprioli 2009, p. 28). Bank loans facilitate real sector funding and help small funds turn to large investments. The health of the banking sector supports economic growth and increases employment by expanding the fund supply. Hence, banks contribute to economic growth as much as they can meet the loan demands of financial institutions (Pagano & Pica 2012, p.32).

The banking sector's relationship with economic growth has not always been positive, and this has been supported by recent financial crises. Financial crises have become a major threat to countries. As the world becomes globalized, it has become easier for the financial crisis in any country to affect other countries with the increase in interaction and integration (Ceylan & Durukaya 2010, p. 35). The 2008 financial crisis which affected the whole world was the best example of this. After this crisis, all countries increased their control over the banking sector and took new measures. Therefore, all countries realized that the banking sector could affect economic growth positively as well as negatively.

Turkey was exposed to an economic crisis in 2001 and the basis of this crisis was the banking crisis. This financial crisis has been more effective, triggered by the problems in some banks (Kartal 2018, p.20). The fact that banks affect each other in such a situation creates a chain effect, further increasing the risk level. Therefore, the Banking Regulation and Supervision Agency published a Regulation on Systemically Important Banks in 2016. This regulation aims to identify important banks in the system and it is aimed to reduce the risk in the system by keeping these important banks additional capital (Karahan 2018, p. 32).

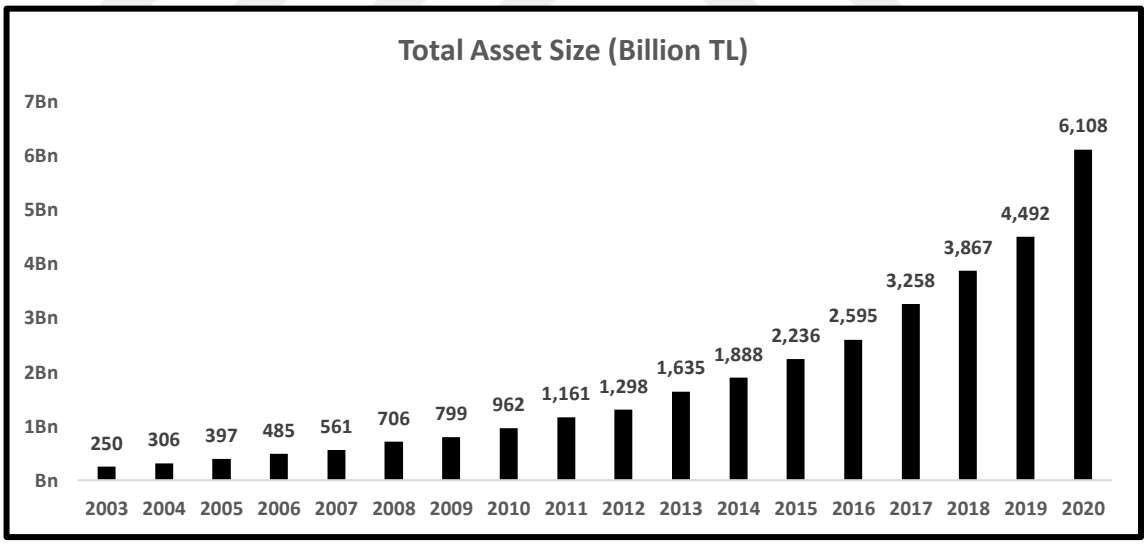
The banking sector created competition and supported the economy in different ways. New institutions participating in the banking sector had to use the funds they collected more effectively and efficiently as competition increased. Thus, companies and investors

funded by banks have facilitated access to various fund supplies. Loan costs decreased and thus the reflection of costs on prices decreased with the increase in the supply of funds (Kartal 2018, p.21).

4.1 TOTAL SIZE OF TURKISH BANKS (2003-2020)

The rapid transformation Turkey experienced after the 2001 crisis was also reflected in the banking sector. Trust in the financial system decreased in those years as the main reason for the crisis was the banking sector (Peker and Mercan 2013, p. 94). However, with the measures and regulations taken later, the banking sector was tried to be developed. Especially after 2003, the development of banks accelerated and the level of trust in the financial system started to rise again. The harmonious functioning of central bank monetary policies and fiscal policies helped the system to become operational again (Gocer & Mercan 2015, p.65).

Figure 4.1: Total asset size of Turkish banks (2003-2020)



Source: BDDK[46]

Its total assets increased over the years after the development of the banking sector accelerated (Figure 4.1). In the period up to the financial crisis, the total assets of the Turkish banking sector increased approximately 2.5 times. However, there was a

[46] Türk bankacılık sektörü temel göstergeler raporu (2003-2020) [https://www.bddk.org.tr/]

slowdown until 2009 along with the financial crisis. Banks' total assets increased by 50 percent at the end of 2012 compared to 2009 with the implementation of loose monetary policies to limit the effects of the financial crisis (Figure 4.1).

Public revenues have decreased with the contraction of the Turkish economy in 2009 and public spending was increased to stimulate the economy. There has been a decrease in the loan demands of investors and individuals in the stagnant economy. The contraction in the economy reduced the appetite for lending in banks and caused investors to turn to government debt securities. The decrease in the rate of increase in total assets in this period is the negative effects of the financial crisis (BDDK 2010, p. 22).

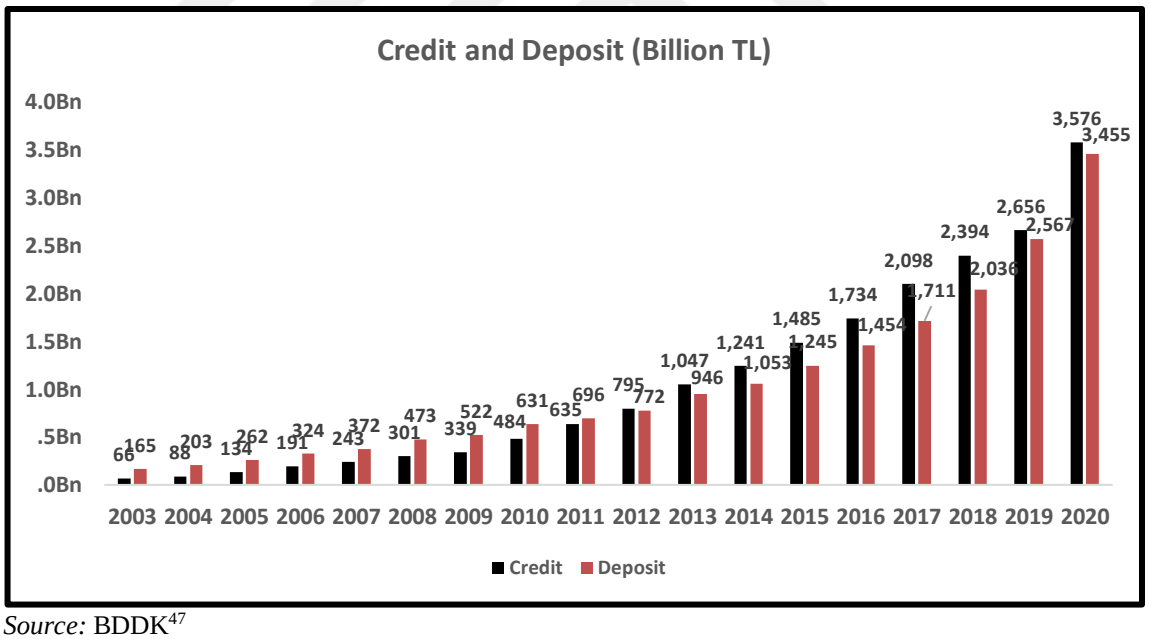
Turkey aimed to grow again by switching to a loose monetary policy between 2010 and 2016. Loan demands increased with the effect of low interest rates in this period when investments and individual expenditures increased. However, the military coup attempt in 2016 negatively affected the banking sector. Therefore, the banking sector, which performed well until 2016, performed below expectations in 2016 (Egilmez 2017, p. 4). Turkey implemented incentives and additional packages to revive the stagnant economic activities in 2016. The liquidity that the banking sector provides to the financial system through loans has increased with these steps taken for growth and production. Thus, economic growth was supported.

The Covid-19 epidemic, which was effective in the world and in Turkey, deeply affected the financial markets. The epidemic has come to a point where it will spread to all countries and stop financial activities. Many countries' economies suffered and shrunk. In this period, Turkey announced loan packages through public banks in order for economic activities to become active again. It has provided liquidity in order to meet the needs of individuals by lowering the interest rates (Ertürk 2020). Banks have provided great liquidity to the financial system with the increasing demand for low loans. Thus, the total assets of banks increased by approximately 35 percent in 2020 compared to the previous year (Figure 4.1).

4.2 TOTAL CREDIT SIZE OF TURKISH BANKS (2003-2020)

Interest rates are high and loan usage rates are low due to the lack of development of the banking system before the 2000s in Turkey. The shortage of banks number, inadequate supply to the financial system and excessive credit risks affected the development of the banking sector in this period negatively. Turkey has experienced a development in the financial markets with its new system after the 2001 crisis. Necessary precautions and protections were taken for the banking sector after the 2001 crisis which was based on banking. Supply and demand are low due to the distrust in the financial system at these times. However, especially after 2003, the banking sector has entered a rapid development process. The Banking Regulation and Supervision Agency was established for a more orderly development of the banking system. The integration of foreign banks into the country has been initiated and efforts have been made to increase bank diversity.

Figure 4.2: Total credit size of Turkis banks (2003-2020)



Source: BDDK[47]

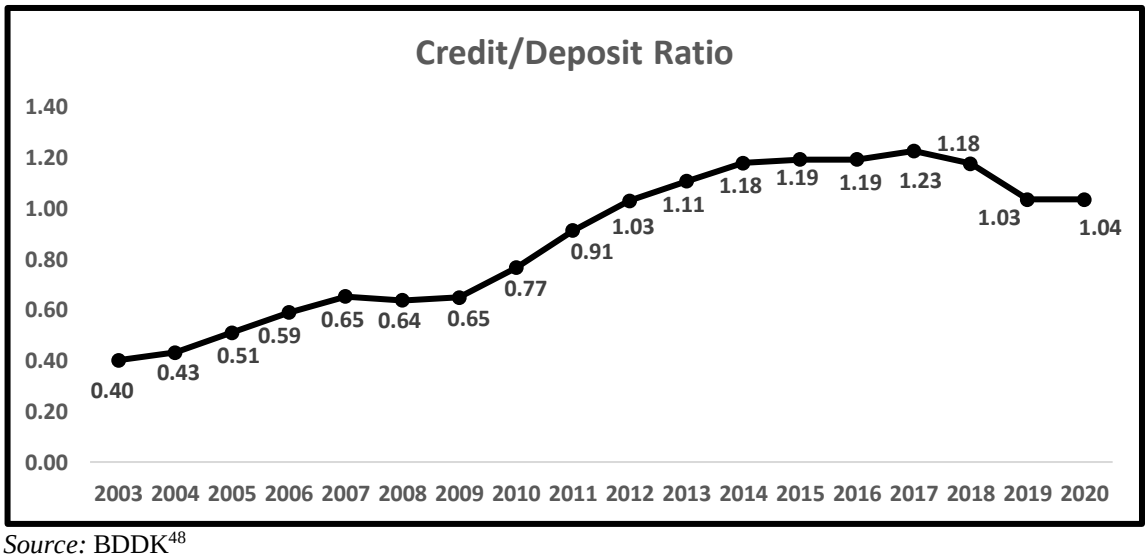
The economic crises in Turkey before 2001 were caused by the very high government debt and the crises in the banking sector. It could not fulfill its real duty due to the deficit in public finance, structural problems and capital insufficiency although the main task of

[47] Türk bankacılık sektörü temel göstergeler raporu (2003-2020) [https://www.bddk.org.tr/]

the banking sector is to provide loans to the real sector. Banks preferred to lend to the public, since the returns of the debts given to the public were higher than the loans given to the real sector. Therefore, banks provided more financing to the public sector than the real sector in these years (Seyidoglu 2003, p. 148). In addition to that, the low risk of non-payment of public debt instruments and low real interest yields led banks to the public. Thus, banks have reduced their relationship with the real sector by filling their assets with public debt instruments (Yigitoglu 2005, p. 32). There has been a decrease in loan demands after the Turkish economy contracted in 2009. The shrinkage of the economy caused banks to lose their appetite for lending. During this period, the conversion rate of deposits to loans remained constant (TBB 2010, p. 10).

Loan and deposit rates started to increase especially after 2010. The financial crisis began to diminish after 2008 and the Turkish banking sector left this crisis behind with its strong structure. The credits used increased approximately 6 times from 2003 to 2010. With the increase in confidence in the financial system, total deposit amounts started to rise. Banks earn income by funding the deposits they have collected into the financial system as loans (Egilmez 2019, p.5). Turkey loans exceeded deposits collected for the first time in 2012. Banks' use of leverage allowed them to lend more than deposits collected.

Figure 4.3: Credit to deposit ratio (2003-2020)



Source: BDDK[48]

[48] Türk bankacılık sektörü temel göstergeler raporu (2003-2020) [https://www.bddk.org.tr/]

The conversion rate of deposits to loans is an important indicator for the banking sector. After the crisis, with the increase in confidence in the financial system and the decrease in interest rates in Turkey, the rates of loans have increased. The loan to deposit ratio remained below 100 percent until 2012 (Figure 4.3). The total value of loans started to exceed deposits After 2012 and the Turkish banking sector started to lend more than the deposits they collected. The low interest rates have directed the savings of individuals and investors to other investment areas rather than deposits (Sarikale & Kayahan 2018, p.8). However, a tight monetary policy has been followed in Turkey, which was affected by the military coup attempt since 2016. The rate of conversion of deposits to loans started to decrease as individuals direct their savings to deposit with the increase in interest rates. High interest rates decreased demand for loans and increased demand for deposits.

Covid-19 outbreak has been effective in Turkey as well as in the whole world. It negatively affected the financial system and caused the country to slow down economically as the country entered the lockdown process. Low-interest loan packages were encouraged by the government and a significant increase in loan rates occurred to prevent this (Figure 4.2). Increasing interest rates due to the economic problems of the country caused individuals to direct their savings to deposits. Therefore, while total loan rates increased by approximately 40 percent, there was no significant increase in the ratio of deposit to loan. Compared to the previous year, the ratio remained almost the same (figure 4.3).

5. LITERATURE REVIEW

The structure and level of development of the banking system play an important role in the development of the economic system. Economists, who argue that the development of the banking sector is related to economic growth, have investigated indicators such as loan volume, deposits and money supply. The relationship between bank loans and economic growth has become an important part of the financial literature in this context. Aslan and Küçükaksoy (2006) has analyzed the relationship between bank loan volumes and economic growth in Turkey for the period 1970 and 2004. Granger causality analysis has been used and it has been determined that there is a one-way relationship from developments in credit volumes to economic growth in Turkey.

According to Disibudak (2010), the relationship between bank loans and economic growth of Turkey between 1961 and 2008 was examined and according to the ARDL limit test results, it was concluded that bank loans affect economic growth positively. According to Ceylan and Durkaya (2010), granger causality test was used for data from 1998 and 2008 to examine the relationship between credit volume and economic growth and found that the increase in loan volumes was a one-way causality relationship towards economic growth.

According to Guven (2002), the relationship between economic growth and bank loans is analyzed. Data which are between 1987 and 2000 were used in the analysis. The granger causality test and VAR analysis was used in the study and the result was obtained as a result of the research that bank loans affect economic growth.

According to Shan and Jianhong (2006), the relationship between banks credits and economic development was analyzed. In this study, VAR method was used to determine the significant level of releationship. According the study results, there is a positive relationship between economic growth and banks credit.

Ozturkler and Cermikli (2008) used the VAR model and the granger causality test to investigate the relationship between bank loans and economic growth. Data which consists of the years 1990 and 2006 were used in the study and according to the results of

the study, it was determined that there is a two-way relationship between economic growth and bank loans.

Kaygusuz (2008) examined the relationship of corporate and retail loans to economic growth for the periods 1998 and 2008. Granger causality test was used in the study by using 3-month data. According to the results of the research, it has been determined that the relationship is one-way and the one-way relationship is correct for loans without growth.

According to Ozcan ve Ari (2011), the VAR Model was used to analyze the relationship between financial development and economic growth in the Turkish economy for the 1998-2009 periods. In the model, the real GDP series represented economic growth and financial development represented by the banking sector and private sector loan volume. It has been found that there is a one way relationship for Turkey. According to the Granger causality test results, the direction of the relationship is revealed to be from economic growth to financial development.

Sahin (2011) used data from 1995 and 2010 for research on Turkey's economic growth and bank loans. Unit root test, cointegration test, regression analysis and Granger causality analysis were performed in the study. According to the results of the research, a one-way relationship was found between the two variables and it was concluded that the direction of the relationship was bank loans from economic growth.

According to Vurur and Ozen (2013) research, Granger causality test was used to determine the relationship between economic growth in Turkey and bank loans. Data of 1998 and 2012 were used in the research and it was concluded that economic growth affects bank loans according to the results of the research.

Tuna and Bektas (2013), the relationship between loan volumes of banks in Turkey and economic growth was examined by cointegration and causality test. According to the results of the study, a causal relationship between the two variables could not be determined.

According to Gocer vd. (2015), the effect of the increase in loan volumes on economic growth in Turkey has been analyzed with the VAR method. According to the results of

the research, there is a positive relationship and it was determined that a 1 percent increase in loan volumes increased economic growth by 0.28 percent.

Mercan (2013) examined the effect of the change in the loan volume in the Turkish economy on economic growth with the data of 1992 and 2011. Unit root test, cointegration test, Granger causality test and boundary test approach were used in the study. According to the results of the research, a bidirectional relationship has been determined. The effect of credit volume on economic growth in the long run has been found to be statistically significant, and the effect of credit volume in the short term has turned out to be more significant and more positive.

According to Alshammary (2014), the effects of banks credits on econonmy was analyzed for Saudi arabia for 1993 and 2009 years. VAR method was used to analyze negative or positive relationship between banks credits and economic growth. According to study results, there is positive relationship between banks credits and gdp growth.

According to Gocer, Mercan and Bolukbas (2015), research has investigated the effect of total loan volume on economic growth in Turkey by unit root test, cointegration test and small squares methods. The data of the study belong to the years 2000 and 2012 and it was found that the loan volume positively affected the economic growth.

Turgut and Ertay (2016) have studied the effect of Turkey's bank loan volumes on economic growth was analyzed with the causality test. According to the results of the research, one-way causality relationship from bank loans to economic growth has been determined.

Umit (2016) has investigated the effect of loan volumes on economic growth for Turkey with a causality test. The data of 1989 and 2014 were used in the research. According to the results of the research, a bidirectional causality relationship between credit volume and economic growth has been determined.

According to Karamelikli and Keskingoz (2017), the relationship between credit volume and economic growth was investigated by using data from Turkey for the years 1998 and 2014. As a result of the research, a bidirectional causality relationship between loan volumes and economic growth has been determined.

Pehlivan vd. (2017), study has examined the relationship between total loan volumes and economic growth in Turkey. Research used the cointegration and causality test. According to the results of the research, a bidirectional causality relationship between bank loans and economic growth has been determined.

Conkar, Canbaz, and Arifoğlu (2018) investigated the relationship between banks' total loan volumes and economic growth. Granger causality test was applied in the study and they found a bidirectional relationship between loans and growth.

According to Karahan vd. (2018), study has examined the relationship between banking loan volumes and economic growth in Turkey for the time duration which is between 2002 and 2016. Cointegration and causality test was used in the study. According to the results of the research, a bidirectional causality relationship between the developments in bank loan volumes and economic growth has been determined.

6. DATA AND THE MODEL

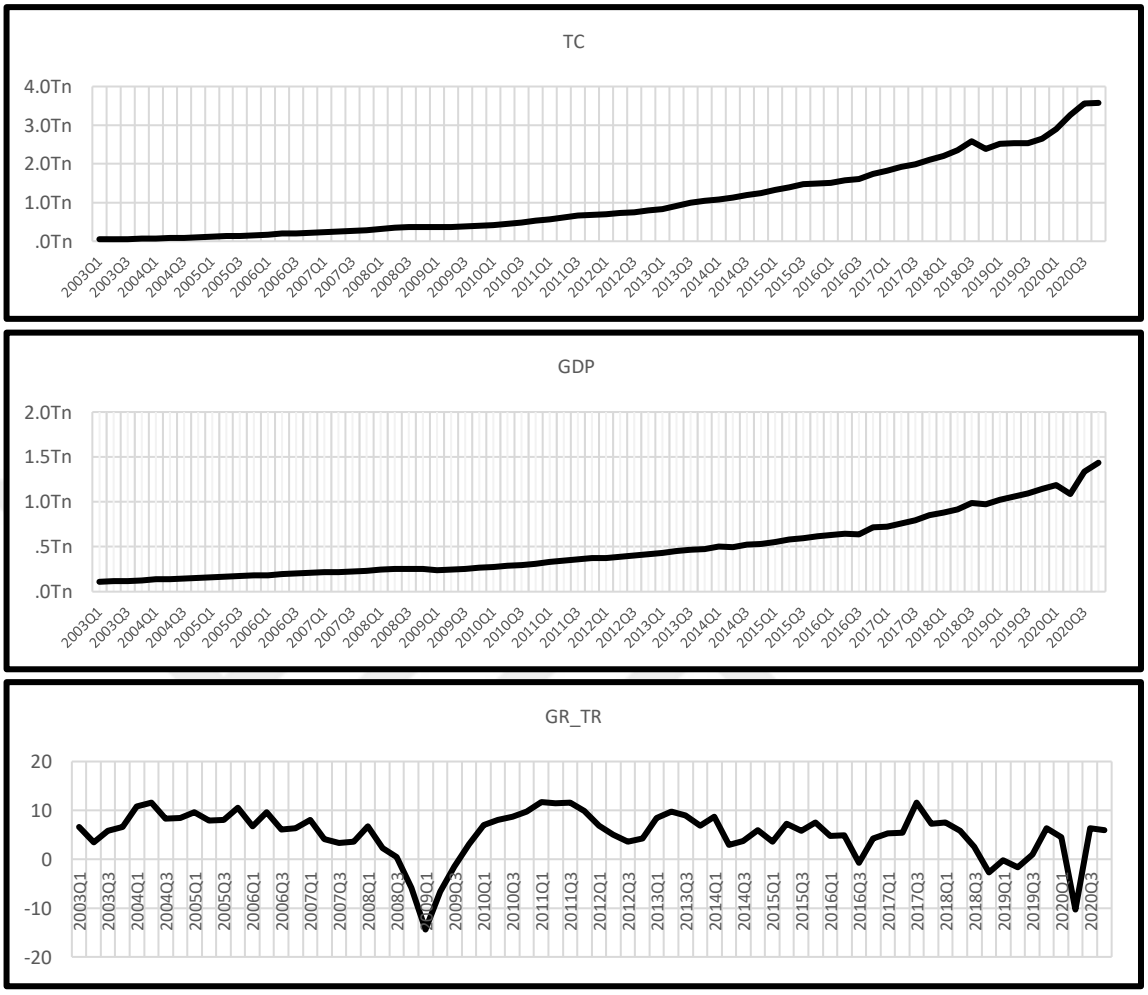
6.1 DATA SET

In this study, we use quarterly data for total banks credits and domestic growth covering the period 2003q1–2020q4. The data are compiled considering numerous domestic and foreign studies on the determinants of current account deficit such as Guven (2002), Kaygusuz (2008), Sahin (2011), Mercan (2013), Ozturkler and Cermikli (2008), Karahan vd. (2018), Umit (2016), Pehlivan vd. (2017), Turgut and Ertay (2016) among others. The variable abbreviations, definitions, sources graphs of the variables are provided in Table 6.1 and Figure 6.1.

Table 6.1: Data definition and sources

Abbreviation	Variable Definition	Units	Source
gdp	Gross Domestic Product of Turkey	Turkish Lira	OECD
gr_tr	Growth Rate of Turkey	Percentage	WB
tc	Total Banks Credits	Turkish Lira	BDDK

Figure 6.1: CA and determinants of CA



There are many studies to analyze the relationship between tc and gdp. According to Ceylan and Durkaya (2010), the study has used the VAR method to analyze the relationship between tc and gdp with data that is between 1998-1 and 2008-4. The expected sign of analysis was positive and the results were significant. According to Alshammary (2014), the study has used the data between 1993 and 2009 with the VAR model, the expected sign of analysis was positive and the results were significant. According to Ozturkler and Cermikli (2008), study has used the VAR model and the granger causality test to investigate the relationship between bank loans and economic growth and results of the study is positive relationship between growth and banks loans. Our expected sign is positive for the study.

Table 6.2: Expected signs of the variables

Variable Name	Expected Sign
gdp	+
gr_tr	+
tc	+

6.2 ECONOMETRIC METHODOLOGY

The quarterly data of Turkey between 2003 and 2020 are analyzed using standard Vector Autoregression model (VAR). VAR is generally used for analyzing the system including interrelated time series variables and for figuring out the dynamic impacts of random shocks on this system.

If we assume a bivariate system the model can be represented as follows:

$$y_{1,t} = c_1 + a_{11}y_{t-1} + a_{12}y_{t-2} + \cdots + a_{1q}y_{t-q} + \varepsilon_{1,t} \quad (6.1)$$

$$y_{2,t} = c_2 + a_{21}y_{t-1} + a_{22}y_{t-2} + \cdots + a_{2q}y_{t-q} + \varepsilon_{2,t} \quad (6.2)$$

More compactly, the model can be represented as follows:

$$y_t = c + \sum_{i=1}^{q} A_i\, y_{t-1} + \varepsilon_t\,,\ t = 1,2,3,\dots,T \quad (6.3)$$

where c is the vector of constants, y_t is the vector of variables, A is the coefficient matrix, ε_t is the vector of identically and independently distributed error terms, t is the time subscript and q is the number of the lags. In the VAR model, all variables are assumed to be endogenous and each variable is explained by its own and other variables' lags. Because the coefficients generated by VAR are uninterpretable, the model is interpreted using tools such as impulse response function (IRF) and variance decomposition. IRFs enable to trace the effects of a shock to a variable on the rest of the variables in the model.

Variance decomposition separates the variation in the target variable into its subcomponents and enables revealing the relative importance of each component.

In order to analyze a dataset using VAR methodology, the general procedure includes several steps: Specifying the model, conducting stationarity tests, determining optimal lag length, estimating the VAR model, performing diagnostic tests, estimating impulse responses and employing variance decomposition. However, in this thesis, the main aim is estimating the impulse response functions to capture the dynamic responses of current account balance due to shocks in the remaining variables in the system. Because we are not interested in point estimates of the endogenous variables in the system, we can ignore these procedures i.e. examining the stationarity properties of the data (Sims, 1980; Stock, and Watson, 1990). There are number of ways to estimate impulse response functions. In this thesis, generalized impulse responses (GIRFs) proposed by Pesaran and Shin (1998) are used. Because GIRFs are invariant to the ordering of the variables. In order to check the results, the impulse response of VARs with lags 1, 5, 9 and 13 lags are estimated.

Among the variables required to create the VAR model, in the constant trendless model of the series, the level value is stationary and the degree of integration is I (0). For this reason, there was no need for an integration test (Granger, 1988).

$$tc_t = \alpha_1 + \sum_{i=1}^{n} \beta_{1i}\, tc_{t-i} + \sum_{i=1}^{n} \gamma_{1i}\, gdp_{t-i} + u_{1t} \quad (6.4)$$

$$gdp_t = \alpha_1 + \sum_{i=1}^{n} \beta_{1i}\, gdp_{t-i} + \sum_{i=1}^{n} \gamma_{1i}\, tc_{t-i} + u_{1t} \quad (6.5)$$

$$tc_t = \alpha_1 + \sum_{i=1}^{n} \beta_{1i}\, tc_{t-i} + \sum_{i=1}^{n} \gamma_{1i}\, gr\_tr_{t-i} + u_{1t} \quad (6.6)$$

$$gr\_tr_t = \alpha_1 + \sum_{i=1}^{n} \beta_{1i}\, gr\_tr_{t-i} + \sum_{i=1}^{n} \gamma_{1i}\, tc_{t-i} + u_{1t} \quad (6.7)$$

In this study, the causality relationship between gross domestic product, which has a stationary structure, and credit indicators Granger (1988) causality test was performed based on the estimation of the following equations using the least squares method (OLS).

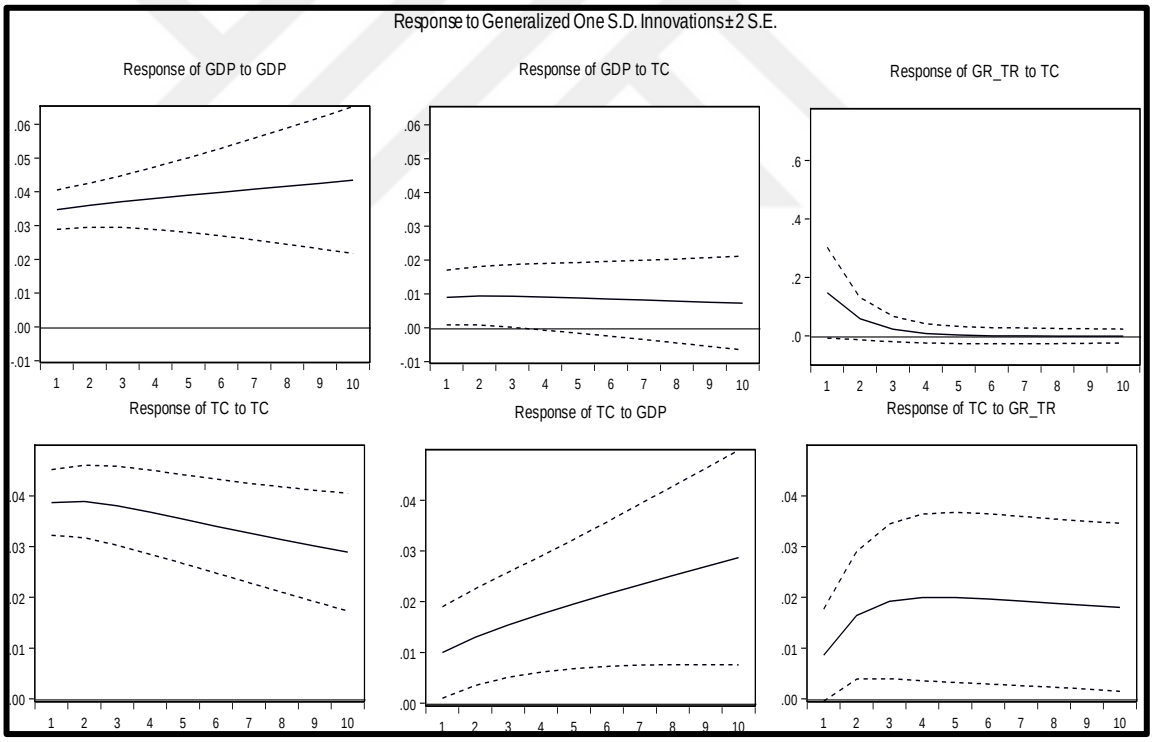
7. EMPIRICAL RESULTS

The impulse responses produced by different VARs with different lag lengths provide similar results. The results are summarized in Table 7.1.

Table 7.1: VAR results

Variable Name	VAR (1)	VAR (5)	VAR (9)	VAR (13)
gdp	+	+	+	+
gr_tr	+	+	+	+
Tc	+	+	No significant effect	+

Figure 7.1: Impulse responses of VAR (1)

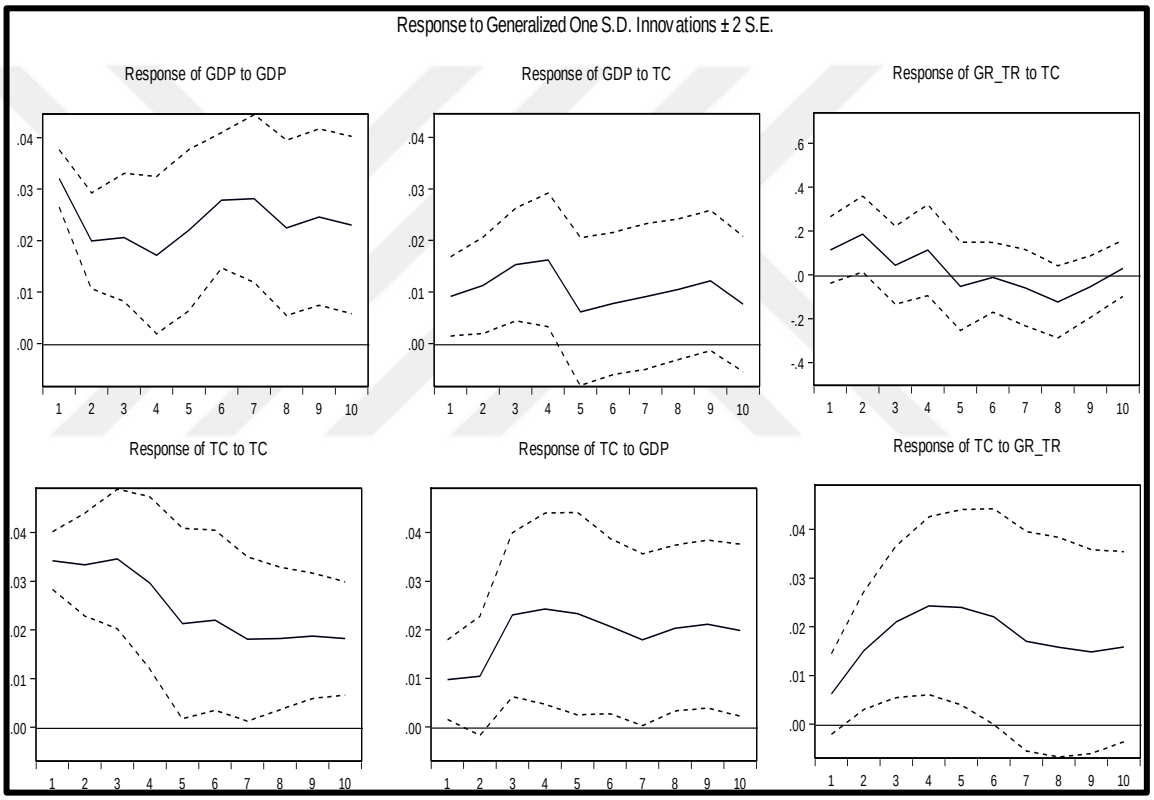


It is observed that there is a positive effect of one-unit standard deviation shock in TC on GDP. The responses in the GDP are determined as significant for TC from 1st up to 4th periods. It is observed that there is a positive effect of one-unit standard deviation shock in TC on GR_TR which is initially increasing and then descending. The responses in the

GR_TR are determined as significant for TC until 1st up to 2nd periods. It is found that there is a positive effect of one-unit standard deviation shock in GDP on TC. The responses in the TC are evaluated as significant for GDP until 1st up to 10th periods. The analysis is found that one-unit standard deviation shock in TO has a positive effect on CA which is initially increasing and then descending. The responses in the CA are determined as significant for TO until 1st up to 10th periods

.

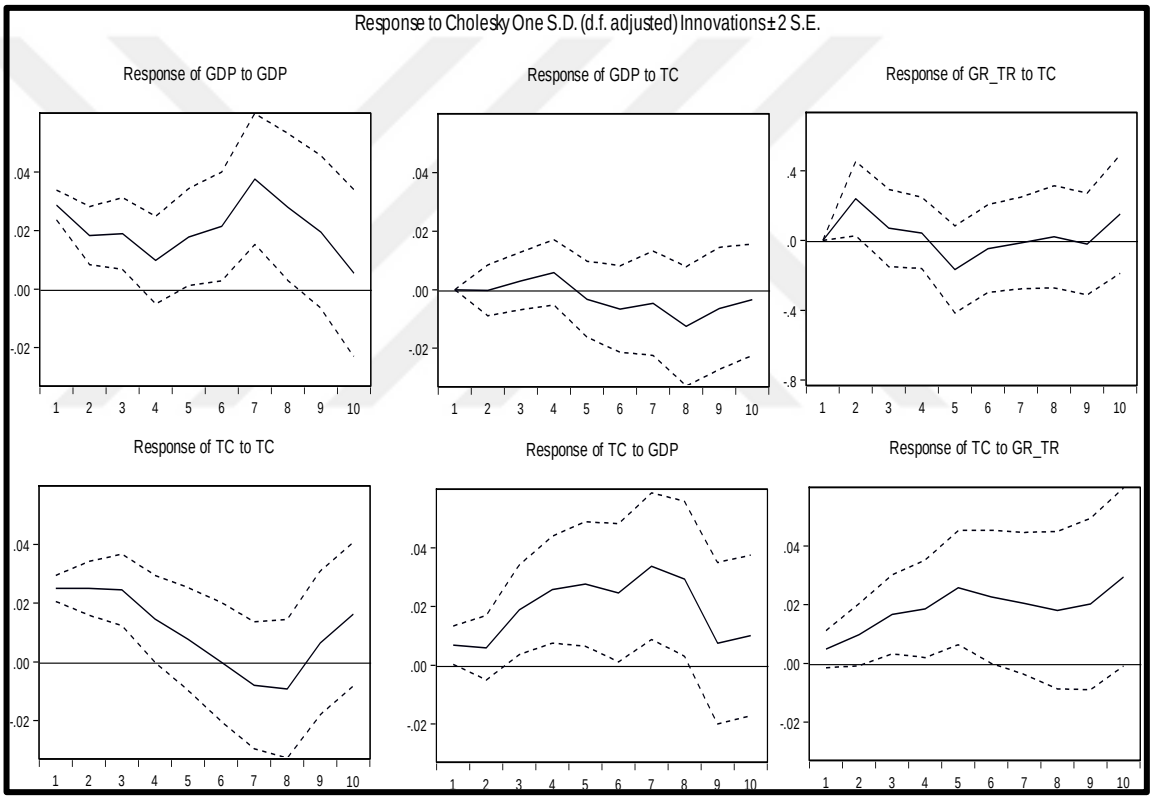
Figure 7.2: Impulse responses of VAR (5)



It is observed that there is a positive effect of one-unit standard deviation shock in TC on GDP which is initially increasing and then descending. The responses in the GDP are determined as significant for TC until 1st up to 4th periods. It is observed that VAR (1) and VAR (5) has the same result at the beginning. The result is that there is a positive effect of one-unit standard deviation shock in TC on GR_TR which is initially increasing. The responses in the GR_TR are determined as significant for TC until 1st period. According to VAR (1), VAR (5) has a smaller period. The result is that there is a negative

effect of one-unit standard deviation shock in GDP on TC which is initially increasing and then decreasing. The responses in the TC are determined as significant for GDP until 2nd up to 10th periods. According to VAR (1), VAR (5) has less positive effects in smaller periods. The result is observed that there is a positive effect of one-unit standard deviation shock in GR_TR on TC which is increasing. The responses in the TC are determined as significant for FR_TR until 1st up to 5th periods. According to VAR (1), VAR (5) has smaller periods.

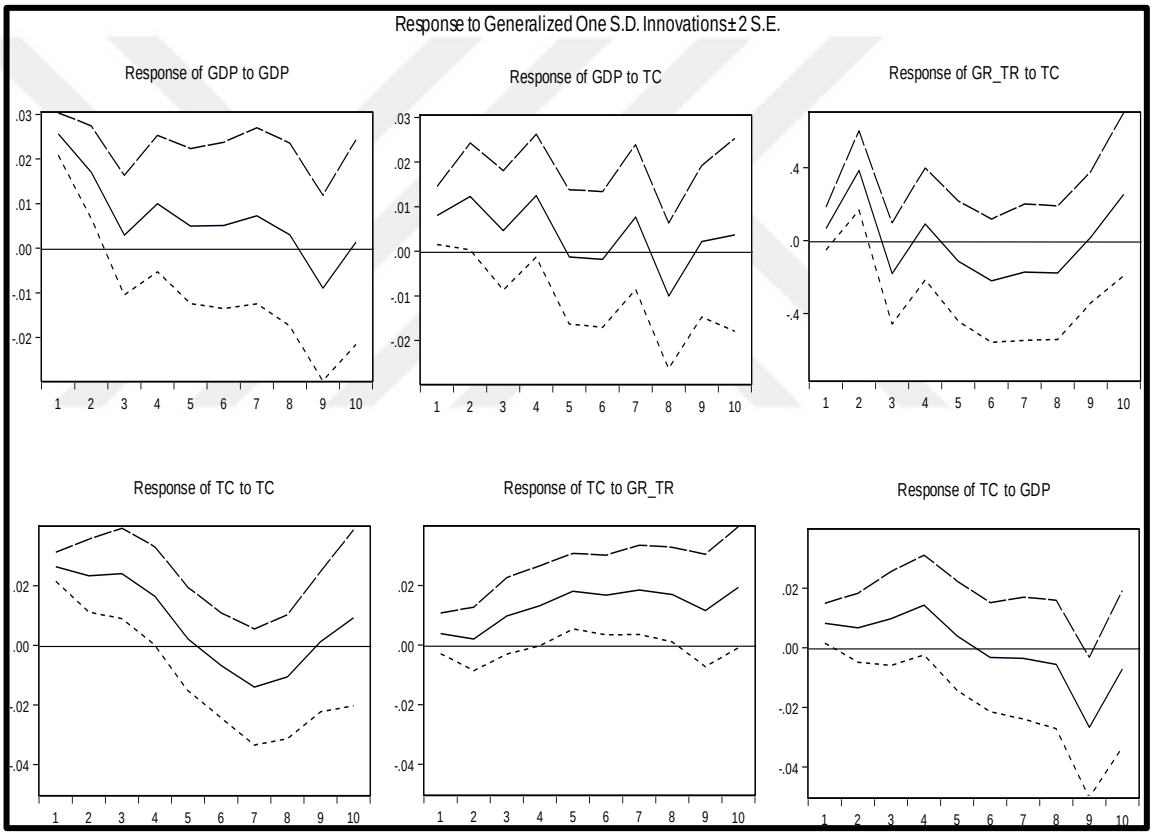
Figure 7.3: Impulse responses of VAR (9)



It was observed that the responses are insignificant in VAR (9) when the one-unit standard deviation shock in TC on GDP. In comparison to VAR (1) and VAR (5), there is no significancy in VAR (5) result for GDP to TC. It is observed that there is a negative effect of one-unit standard deviation shock in TC on GR_TR which is initially increasing. The responses in the GR_TR are determined as significant for TC until 1st period. According to VAR (1) and VAR (5), VAR (9) has similar results. It is found that there is a negative

effect of one-unit standard deviation shock in GDP on TC which is increasing and then decreasing. The responses in the TC are evaluated as significant for GDP until 2nd up to 8th periods. According to VAR (1) and VAR (5), VAR (9) has similar results for TC to GDP. The result is that there is a positive effect of one-unit standard deviation shock in GR_TR on TC which is initially increasing and then reducing. The responses in the TC are determined as significant for GR_TR until 1st up to 6th periods. The response is VAR (9) has a smaller significant period than others.

Figure 7.4: Impulse responses of VAR (13)



It is observed that one-unit standard deviation shock in shock in TC has a positive effect on GDP which is initially increasing. The responses in the GDP are determined as significant for TC until 1st period. The results are similar with VAR (1) and VAR (5). It is observed that there is a positive effect of one-unit standard deviation shock in TC on GR_TR which is initially increasing and then decreasing. The responses in the GR_TR are determined as significant for TC until 1st period. According to the VAR (13), results

are similar with other VAR results. VAR (13) analyze is observed that there is a positive effect of one-unit standard deviation shock in GR_TR on TC which is initially increasing and then falling. The responses in the TC are determined as significant for GR_TR until 3rd up to 7th periods. The analysis found that one-unit standard deviation shock in GDP has a positive effect on TC which is initially increasing. The responses in the TC are determined as significant for GDP until 1st period. According to the impulse response analysis, the results produced by VAR models with different lags show considerably similar results.

According to the impulse response analysis, the results produced by VAR models with different lags show considerably similar results.

Table 7.2: Granger test results

Lag Number: 13	
Dependent Variable: GDP	**Prob.**
TC	0.0267
Dependent Variable: GR_ TR	**Prob.**
TC	0.0000
Dependent Variable: TC	**Prob.**
GDP	0.0011
GR_TR	0.1254

AIC criterion was used to determine the optimal lag length in the Granger Causality Test based on VAR. According to Granger test results, bank credits are the reason of the gdp because it is significant at less than five percent probability. In addition to that, according to results, bank credits are the reason of the growth because it is significant at five percent probability area. However, study has found that gross domestic price and growth are the reason of the credits. Because the probability levels are lower than five percent. Therefore, granger test results show that two-way causality relationship was determined between gross domestic price, growth and banks credits.

8. CONCLUSION

In this thesis, the effect of shocks on variables on gross domestic price and growth rate is examined for Turkey. As a result, total banks credits volume has positive effect on the gross domestic price. On the other hand, according to granger casuality results, there is two-way relationship between banks credit and gross domestic price and growth rate. However, there is no relationship in VAR leg 9 for total banks credits. According to the result of the thesis, total bank credits effect results are compatible with Ozcan and Ari (2011) and Guven (2002). In addition to that, the study of Sahin (2011) has found the same direction as a result. Empiric studies of Tuna-Bektas (2013), Mercan (2013), Turgut and Eray (2016) and Umit (2016) support the results that banks credits have a positive effect on gross domestic price and growth rate. On the other hand, the result of the study is that there is two-way relationship between variables. In literature, many studies found one and two-way relationship. As a result, two ways relationship are compatible with Pehlivan vd. (2017), Conkar, Canbaz and Arifoglu (2018), Karahan vd. (2018) and Karamelikli and Keskingöz (2017). Especially, ın last year, it can be observed with how banks credits effect the growth rate in time period of covid-19. Therefore, these results are compatible with literature.

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