

İSTANBUL BİLGİ UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
FINANCIAL ECONOMICS MASTER'S DEGREE PROGRAM

THE IMPACT OF ECONOMIC POLICY UNCERTAINTY ON
DOMESTIC CREDITS

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İSTANBUL
2019

THE IMPACT OF ECONOMIC POLICY UNCERTAINTY ON DOMESTIC CREDITS

EKONOMİK POLİTİKA BELİRSİZLİĞİNİN YURTIÇİ KREDİLER ÜZERİNDEKİ
ETKİSİ

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Tezin Onaylandığı Tarih: 13.06.2019

Toplam Sayfa Sayısı: 67

Anahtar Kelimeler

- 1) Ekonomik Politika Belirsizliği
- 2) Enflasyon
- 3) Kredi Verme Kararı
- 4) Bankacılık Tarihi
- 5) Regülasyon

Key Words

- 1) Economic Policy Uncertainty
- 2) Inflation
- 3) Lending Decision
- 4) History of Banking
- 5) Regulation

PREFACE

This study is submitted in fulfilment of the requirements of the Master's Degree of Financial Economics program in İstanbul Bilgi University. Although the economic policy uncertainty index is a new indicator, it has been used in many researches and its usage area gradually increases. The effects of EPU have been investigated in many cases such as stock market volatility and immigration fear. Since banks are intertwined with a country's economy, they are greatly influenced by the decisions taken in the economy and in particular by the uncertainty of the policy. Inasmuch as there was no measurement tool such as EPU previously, the factors affecting the lending decisions of banks were evaluated through the classical indicators such as GDP and inflation. All in all, the lending decision has been an important issue for both the banks and the people, at every stage of history.

In this study, 139 country, which is studied by Ahir at al. (2018) before, have been chosen in order to find out the impact of the economic policy uncertainty on domestic credits.

I would like to express my gratitude and thanks to my adviser Assoc. Prof. Ender DEMİR for his encouragement and help during my study.

Yağızcan Yücel ÇENDİK

Istanbul, May 2019

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LIST OF ABBREVIATIONS

USD	United States Dollar
UK	United Kingdom
GDP	Gross Domestic Product
BCBS	Basel Committee on Banking Supervision
BRSA	Banking Regulation and Supervision Agency
CMBT	Capital Markets Board of Turkey
BCPS	Bank Credit to Private Sector
IMF	International Monetary Fund
US	United States

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ABSTRACT

This study aimed to examine the factors affecting the lending decisions of the banks, which are seen as the main dynamos of the economy today and which are the triggers of economic growth, and especially to analyze the relationship between the recently announced economic policy uncertainty index and lending decision. Although this new news-based index has been used in many different areas, which has increased its importance in the recent times when populist policies and global trade discussions have been growing in the world, no studies have been conducted examining its impact on the decision to grant credit. Our study was put forward to fill the absence in this area.

Previous studies examining the determinants which have an impact on the lending decisions of banks have generally evaluated this through macroeconomic variables such as interest rates, inflation, unemployment and gross domestic product. In our study, in addition to real interest rate, inflation and GDP growth, economic policy uncertainty was also considered as variable, and effects of these variables on the banks' lending decisions were examined. The reason for the inclusion of the economic policy uncertainty index in the analysis is that banks are considered to be one of the institutions most affected by policy uncertainty and also economic policy uncertainty index is accepted as a successful indicator for measuring policy uncertainty.

When our research findings are examined, the increase in uncertainty makes it difficult to reach the credit.

Keywords: Economic Policy Uncertainty, Inflation, Lending Decision, History of Banking, Regulation

ÖZET

Bu çalışma, günümüzde ekonominin temel dinamosu olarak görülen ve ekonomik büyümenin tetikleyicisi konumunda bulunan bankaların, kredi verme kararlarını etkileyen faktörlerin incelenmesini ve özellikle yakın zamanda ortaya konulan ekonomik politika belirsizliği endeksi ile kredi verme kararı arasındaki ilişkinin irdelenmesini amaçlamıştır. Dünyada artış gösteren populist politikalar ve küresel ticaret tartışmalarının gün yüzüne çıktığı son dönemlerde önemini giderek arttıran bu yeni haber bazlı endeks bir çok farklı alanda kullanılmış olmakla birlikte kredi verme kararı üzerinde etkisini inceleyen çalışmalar sınırlıdır. Çalışmamız bu alanda eksikliği doldurmak üzere ortaya konmuştur.

Bankaların kredi verme kararları üzerinde etkili olan unsurları inceleyen daha önceki çalışmalar genellikle bunu gayrisafi yurt içi hasıla, enflasyon, işsizlik, faiz gibi makro ekonomik değişkenler üzerinden değerlendirmiştir. Bizim çalışmamızda ise GSYİH büyümesi, enflasyon, para arzı ve cari işlemler dengesine ek olarak ekonomik politika belirsizliği de değişken olarak ele alınmış, bu değişkenlerin bankaların kredi verme kararını üzerindeki etkilerine bakılmıştır. Ekonomik politika belirsizliği endeksinin analize dahil edilmesinin sebebi, bankaların politika belirsizliğinden en çok etkilenen kurumların başında gelmeleri ve EPU'nun politika belirsizliğinin ölçülmesinde başarılı bir gösterge olarak kabul edilmesidir.

Araştırma bulgularımız incelendiğinde belirsizliğin artması krediye ulaşmayı zorlaştırmaktadır.

Anahtar Kelimeler: Ekonomik Politika Belirsizliği, Enflasyon, Kredi Verme Kararı, Bankacılık Tarihi, Regülasyon

INDRODUCTION

It is not always possible for buyers and sellers to meet in barter economies. Confidence problems can also occur when a medium of exchange such as money is used in trade. In order to overcome such problems in early ages, structures have been established which can be defined as first banking activities. Therefore banking services are as old as trade. In consequence of the increasing globalization and development of technology in the recent years, banks become a multifunctional modern financial institutions.

Banks now serve as a mechanism which transfer funds from who have fund surpluses to those who need funding. At the same time, each transaction that occurs in the economy takes place through banks at some points, banks have been trying to integrate banking activities into whole economic system in addition to basic deposit collection and lending activities. For these reasons, an advanced banking system serves as the dynamics of economic growth.

In the recent past, access to credit was very difficult. When selecting the people they would lend to, the banks investigated every detail of applicant and served only to reliable customers with high credibility. But access to credit has become much easier nowadays. With the increase in consumption as a result of technological developments and abundance of money in the world, banks have reached a very important position.

Whether in their establishment or later, all companies need funding to become large company. However, they cannot always find these funds from their own resources. Therefore, all companies needs more or less credit. Considering that one of the most important financing sources of the companies is bank loans, the factors that affect the decision of lending are gaining importance.

GDP is very closely related to the lending decision as it is the most important indicator of economic activity in a country. Since GDP growth is an indicator of a country's economic growth, it is accepted that there is a positive relationship between GDP growth and loan volume. When economic activity is in an upward trend, loan supply and demand tend to increase in the same way. Another important factor affecting the supply and demand of loans is interest rates. Banks are generally free to set interest rates on deposit accounts and loans. However, price competition is very strong. Inflation is a representative of a common basket of goods and services. High inflation may depress the credit demand and restrict the supply of credit. Variable and relatively high inflation may cause challenges in negotiating and planning loans. As a result, it is expected that there is a negative relationship between inflation and domestic credit.

Apart from the variables affecting the loan decision mentioned above, different variables were also used. The effect of many different factors on credit volume has been examined in many different studies. Especially, there are new approaches that examine the credit volume through house prices. In our study, in addition to the above, broad money, current account balance and economic policy uncertainty (EPU) index is used as a variable too.

Politicians and regulators can have positive or negative effects on the economic activity with their decisions and statements. As is often seen in recent years, the decisions taken by politicians determine how the world economy will be shaped. These decisions can be about the economy or social and political issues. Many studies have been conducted to examine the uncertainty created by all these policies in the economy. The most important and most used these studies is economic policy uncertainty index which constructed by the Baker et. Al. (2016)

Economic policy uncertainty index is almost new term. It measure policy related economic uncertainty based on weighted average of three different component. The main component of the economic policy uncertainty is the search results conducted

in the newspapers. It was founded that enhanced policy uncertainty in the US and Europe in recent years may have caused damage on macroeconomic performance. In addition to the relationship between EPU and macroeconomic indicators, there are also studies conducted for firm level. Firms are also affected by frequently changing government policies. As a result, the uncertainty related to the future policy changes can considerably increase the uncertainty related to firms' future profitability. Whether or not the EPU has an impact on the decision to lend constitutes the basis of our work. As a result of our research, the EPU has a negative impact on domestic credit to private sector.

This study analyses the effects of economic policy uncertainty on the level of domestic credits using a panel of 139 countries for the period from 2000 to 2017. This thesis is planned as follows: In the first part of the study, the term of bank and the sector of banking were defined. Types of banks, historical development and future of banking sector were summarized. Then regulation in banking sector was mentioned. In the second part, the overall characteristics of the credit was mentioned. Concurrently, the attitudes of the determination of the lending decision have been assessed and literature about loan decision was quoted. Then variables which possibly affect the lending decision and mentioned in past studies such as GDP and inflation were summarized. In the third chapter, economic policy uncertainty was defined and previous studies in the literature have reviewed, the results of the previous studies and which variables were used to reach this conclusions are examined. In the fourth part, the data used in our study is explained and econometric model is given. On the other hand, it is explained why fixed-effects estimation technique is used. In the fifth part, data and econometric model used in the study were constructed. Then findings were interpreted. In the last part, the overall conclusions gained and the overall interpretations about the thesis are given.

1. BANKING SECTOR

A firm that needs to make investments, make payments due or need money for any reason, usually has to provide it from external sources. Institutions that meet this need are often limited. Banks are corporation that mediate the collection of funds from those with surplus funds as loans to those who request funds. In order for the exchange of money between the surplus fund and those in need of funding to occur, the lender must trust the borrower. Because the given fund is provided for a refund. No one chooses to lend to people they do not know due to the risk of non-repayment. One of the institutions providing this trust is the banks.

In addition to the transfer of funds, which are the basic duties of the banks, there are also duties such as mediating transactions in financial markets, ensure the safe storage of assets, assist the regulatory authorities in the implementation of monetary and fiscal policies, mediate foreign trade transactions, provide payment tools such as credit card and checks, investment consultancy and portfolio management, factoring and leasing. Due to these duties, banks have an important place in the economy. Thanks to the functions of facilitating the funding of those who are demanding funds, banks help transform idle funds into investments and thus have a tremendous impact on the growth and development of economies. In addition, the lack of confidence in foreign trade has been overcome thanks to the mediation of banks. For these reasons, an advanced banking system serves as the dynamics of economic growth.

As a consequence of the increasing globalization and development of technology in the world, banks are public and private institutions who conduct and regulate all kinds of money related transactions and meet all kinds of needs of businesses related to money.

We will examine and answer in detail the questions such as the progress of the banking system in the world and how it is today, how many different types of banking, and whether banks are free to do whatever they want.

1.1. TYPES OF BANKS

One of the most significant factors in the success of the banks, which is in an increasing competitive environment with the change of the financial markets and the understanding of banking, is to improve the quality of the service provided by a modern marketing approach and to implement them by identifying the differentiation in regional needs according to the services offered by competitors.

The fields of operation of the banks, which are subject to various regulations and have need for a large amount of capital, are very diverse. Within such a wide range of activities, each bank cannot be expected to serve in every activity. For this reason, the expertise of these banks which can operate in a wide range of fields is different. Not every bank can operate in every field. Some banks operate in fundraising, while others operate in the area of investment or trade. Some banks are organized regionally, some are national and even international. For this reason, banks can be classified according to their fields of activity, according to their fields of organization, according to their ownership structure and economic activities.

1.1.1. Banks by Field of Activity

1.1.1.1. One Purpose Banks

We have mentioned that banking activities are wide and varied. Especially nowadays banking activities can be integrated with every field. In addition to today's banks that do not have a service limit, there are also such banks that operate in a predetermined single or limited area. These are called single-purpose banks. They are the banks that specialize in the relevant fields and serve only those

customers in order to develop agriculture, animal husbandry or another designated line of business in line with the state policies.

1.1.1.2. Multipurpose Banks

As a result of the wide variety of services to be used through banks, customers prefer complex structures that they can handle all their operations in one place. A person entering the bank can pay his bills, make hospital appointments, rent a car and perform traditional banking transactions. Multi-purpose banks are banks that are organized in a structure that can see all kinds of banking services. They provide services such as lending, deposit collection, investment, brokering of commercial transactions and many other areas under the same roof. Today, the majority of banks are in this category.

1.1.2. Bank Types According to Forms of Organization

The banks with small volumes and a small number of branches operating in a particular province or district are called local banks. The primary purpose of these banks is to provide financing or intermediary activities to companies in need of financing in the regions where they operate.

Banks organized in certain regions of a country are called regional banks. Regional banking is becoming increasingly important in countries such as Russia and United States, where the surface is large.

Banks operating across the country and organized across the country with many branches are national banks. The most common type of bank is national banks according to the organization fields. On the other hand, international banks are banks that offer a wholesaler or retailer banking services to their domestic and foreign customers as a transaction volume.

In addition, there are banks that operate on convertible currencies and provide tax advantages in some regions where auditing and regulation remain very low. These are called off-shore banks. This type of banking is also widely used in crime elements such as money laundering due to weak audits.

1.1.3. Bank Types According to Capital Structures

Banks whose all capital is owned by state called state owned banks. Public banks are the institutions that pay attention to the public interest as well as the purpose of making profit as in every company. They mostly help in the fulfillment of state policies. Government grants are generally distributed through public banks. All of the capital belongs to private individuals and institutions are called private banks. The sole purpose of private banks is to maximize profits. In addition, there are mixed banks with a share of state and private individuals and organizations in their capital.

1.1.4. Banks According to Their Economic Activities

1.1.4.1. Commercial Banks

Commercial banking refers to banks that participate in all commercial activities. Commercial banks are generally defined as banks that collect deposits and provide loans in return. It has a multi-branch structure and is the most widely used banking form in the world.

1.1.4.2. Investment Banks

They are banks that generally do not have the authority to collect deposits, with fewer branches and products. Their main function is to help companies that need funds to provide these needs through financial markets. The basic requirement for the formation of an investment bank is the establishment of the capital market.

1.1.4.3. Development Banks

Within the framework of the development plans made by the government, development banks are established to provide financing for priority regions and sectors. The main function of these banks is to accelerate the process of industrialization with the incentives given. It seeks to provide medium- and long-term sufficient resources to investments in underdeveloped countries, particularly where capital markets are undeveloped and the banking system fails to provide resources in the form and extent required by investments

1.1.4.4. Participation Banks

As an innovation in the financial sector, participation banks have been established to bring funds to the economy, which are not utilized in conventional banks due to interest concerns, and to help savings holders to safely store and evaluate their funds. The basic idea of banking based on Islamic rules is the prohibition of interest. For this reason, instead of interest income, customers are promised a partnership with the banks activities. What is important in this system is the actual exchange of goods and services.

1.1.5. Central Banks

Central banks are institutions that regulate and control the money and banking sector of a country. They emerged long after the emergence of classical banking. They are become popular as a result of the abandonment of the use of precious metals as money, and the recognition of the process of creating bank money. Banks have created unlimited and indispensable money without any rules. The underlying logic behind the central banks emergence is that the state wants to regulate the money market.

Central banks have the power to issue money and regulate the money market through various instruments. It is also called the bank of banks because they are the last borrowing institutions for banks.

The most discussed issue associated with the central banks in the world and Turkey is independence of the central banks. The idea that the central bank policies are free from political influence and that the economic realities play a primary role in these policies have gained importance especially since the 1980s. It is possible to define the independence of the central bank in the most basic sense by choosing monetary instruments and implementing the monetary policy regime to be used while maintaining price stability. The type of independence that expresses the freedom of the central banks to choose its goals and choose the objectives it takes as the basis for its policies is called objective independence. Instrument independence refers that the central bank can freely choose and use the monetary policy instruments and methods that it will use in order to achieve its ultimate goal set by the law, without the approval of any authority and government. Independence in terms of central banks often refers to vehicle independence.

1.2. DEVELOPMENT OF BANKING SECTOR IN THE WORLD

The word “bank”, which expresses almost the same thing in the whole world, is thought to originate from the Italian word "banco". The reason for this is that the first bankers are doing their banking activities on a desk (banco) with transition to settled life, human beings have started to produce more goods than they need to consume. This system is called trading, which is based on the barter of this excess material with another goods that it needs. It is not always possible for buyers and sellers to meet in barter economies. Confidence problems can also occur when a medium of exchange such as money is used in trade. In order to overcome such problems in early ages, structures have been established which can be defined as first banking activities. Therefore banking services are as old as trade.

The Bank is an economic corporation that accepts deposits and intends to use this deposit in the most efficient manner in various credit transactions. Briefly; the main subject of its activities is to collect funds or provide loans on a regular basis. The main feature of banking in every age is based on the principle of entrusting or borrowing an item and lending, or keeping it. In this context, the development of banking throughout history is closely associated with the development of money. The concern of those who have accumulated wealth to protect their wealth has led to the emergence of banking.

Because of the nomadic life conditions, the number of people who had large amounts of valuable assets is limited in the first ages. Therefore they did not carry valuable assets with themselves. However, thanks to the transition to settled life and production of excess goods, wealth accumulation began to increase rapidly. As a result of this process, there is a need for wealth holders to store valuable goods. Banks are first thought of the need to prevent get harmed of assets as a consequence of natural disaster and theft. Banks are first thought of the need to prevent get harmed of assets as a result of theft and natural disaster. Since the temples were considered as the safest areas in the early days of the settled life, the valuable assets were usually kept in the temples. In Babylon at the time of Hammurabi, it is possible to see the first examples of the storage contracts between the temple priests and bailors. It has taken its place in the literature as the first records on the banking system. In the Ancient Greek and the Roman Empire, banking activity emerged as an activity of individuals besides temples.

However with the collapse of the Roman Empire trade slumped and banks temporarily vanished. However banking began to revive again in the 12th and 13th centuries in the Italian towns of Florence and Genoa. The banking activities, which date back to ancient times in the world, have become more modern with the Genovese and Florentine bankers.

The development of banking throughout history is closely related to the historical development of money. There are many researchers who say that banking has existed since the emergence of money as a medium of exchange. In parallel with the invention of money, the fast development of trade, especially shipping trade, banking has also begun to develop. Since the technological developments and the rapid globalization in the world necessitated the formation of money-related institutions, banks emerged in the modern sense after the 1900s. The banks, which had previously provide loans from their own capitals, began to provide credit to the markets under their guarantee in the following centuries. In this context, banks' acceptance of deposits has started to be implemented in the modern ways.

After the exploration of America, especially shipping trade has started to develop. The banking operations and organization also increased in parallel with this development and began to mediate foreign trade payments. The acceleration of industrialization moves has caused a great leap in production. As a result, the demand for funds and the importance of banking has increased day by day. On the other hand, from the beginning of the 20th century, issuing note were also added to the banks fund resources in addition to bank's capital and deposits. This opportunity continued until the state monopolize the right of issuing money.

The Taula de Canvi (municipal bank of deposit), which is accepted as the first example of central banks, was opened in 1401 by the municipality of Barcelona. This is the first bank owned by the municipality and is able to collect deposits and provide public credit. It was followed by the establishment of the bank named "Casa di San Giorgio" which was opened in 1407 and called Genova Bank. These are the recognized forerunners of modern commercial banks.

The start of modern banking began with the foundation of the Bank of Amsterdam in 1609 and reaching the maturity with the foundation of Bank of England in 1694 and foundation of Federal Reserve Bank in the US in 1907. The modern banking system actually developed only in the nineteenth century.

1.3 BANKING NOWADAYS

Today, banks are an integral part of the economic system. The diversification of economic activities has led to the development and specialization of banks. Banks have been trying to provide services in the intense competition environment. The justification for this is the rapid progress of technology in previous century, the rapid increase in the number of banks and the intense competitive environment of specialization in certain areas. Digital banking systems have become one of the most important factors determining competition among banks today.

Digital technologies and big data are very important for the future of the banks and thus financial system. Nowadays, most banks do not keep up with the developing technology and do banking with more conservative and conservative methods. However, in the future, the fact that banking can be realized in a very different way is expressed by many experts. However, several large banks in the world are trying to keep up with new technologies.

With the extraordinary increase in consumption in the last century, the banks have contributed to the revival of the economic system and the increase of expenditures through methods such as credit card that people can access at any time. In recent years, banks have been trying to integrate banking activities into whole economic system in addition to basic deposit collection and lending activities. Especially with the development of mobile phones and computers, people can access the banks at any time. Using this accessibility, banks are out of their core activities by cooperating with hospitals, telephone companies and many other institutions.

Nowadays, banks are operating in the sub sectors as well as classical banking services and offer a single integrated channel service to meet the many different financial needs. For example, most of the insurance policies made in many countries are made through banks. Similarly, banks offer services under a single

roof in different fields by establishing or purchasing subsidiary companies such as factoring companies, leasing companies and consulting firms.

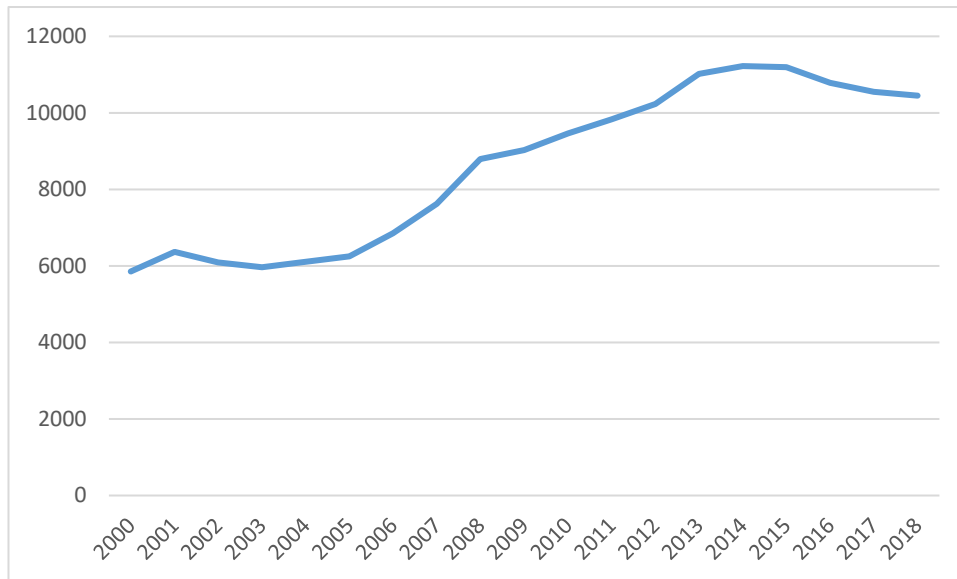
According to evry's "big data in banking for marketers how to derive value from big data" report, companies have found new opportunities to interact with their customers thanks to the accelerated development of technology, especially social media. For example, Nedbank, a large bank in South Africa, gained a huge advantage by using social media analysis. Analyzing various social media platforms in almost real time provides Nedbank's marketing department information about the marketing campaign, customer preferences and complaints. Banks can now make personalized offers to each of their customers thanks to the data they gain. American Express is using multifaceted predictive models to analyse historical transactions to estimate customer pattern. Citibank offers customer discounts at retailers and restaurants based on the customer transactional patterns. By offering this service, Citibank has a significant increase in its card usage loyalty, retention and overall improvement of customer satisfaction.

In the recent past, access to credit was very difficult. Those who demand credit should properly explain their projects and why they need money, have a stable financial background, and convince bankers that they will repay their credit. However, people can now use credit instantly from the places where they are with help to digital bank technologies. The quick access to credit is undoubtedly one of the most important reasons for the increase in consumption in the world. Perhaps not in the present but in the upcoming years, banks will be able to close their branches completely or will minimize the number of branches. Some banks in the world have started to adapt to this system and rapidly reduce the number of branches. In this way, banks that reduce their operational costs can offer loans that are more suitable for creditors.

With the increase in consumption as a result of technological developments and abundance of money in the world, banks have reached a very important position.

Number of bank branches until the 2010s in Turkey has increased very quickly as shown in figure 1. However, with the developments in digital banking, the number of bank branches has been decreasing in recent years.

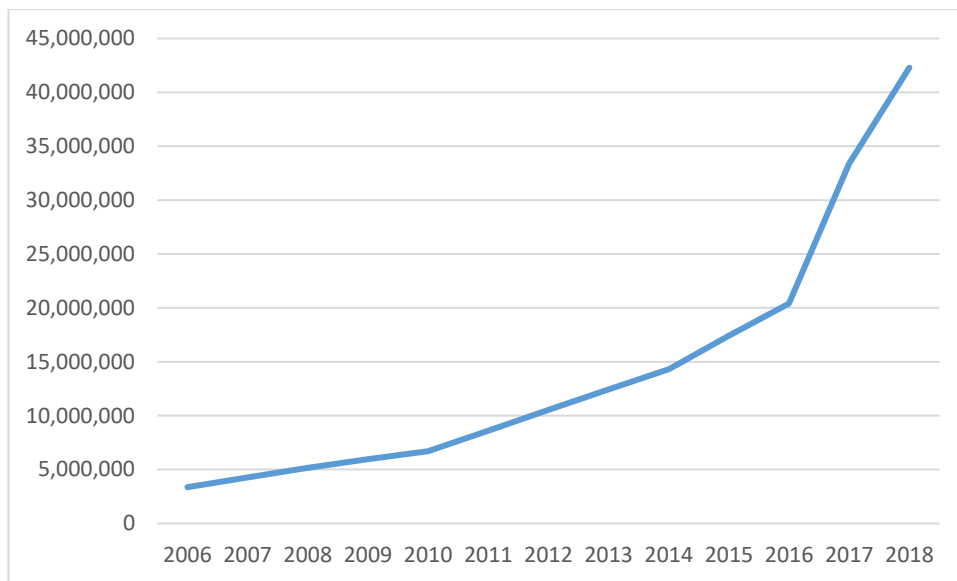
Figure 1. The Total Number of Bank Branches in Turkey



Source: Banking Regulation and Supervision Agency of Turkey

Figure 2 shows the use of digital banking in turkey. The number of people who use digital banking has been increasing at a great pace since the 2000s, when the Internet became widespread. These developments indicate that branch banking will be replaced by digital banking in the coming years. According to the Elizabeth Daniel (1999), modern and online banking is a new channel in which banks start to serve in many countries. There is a wide agreement that this channel, which has had a significant impact on banking so far, will have a significant impact on the market in the future.

Figure 2. The Total Number of Customers Using Digital Banking Services in Turkey



Source: Banking Regulation and Supervision Agency of Turkey

Banks now increasingly intertwine with the financial system. Problems arising from the banks which is the most important actors in the financial markets and national economy, caused a very enormous financial crisis both in Turkey and in the world. After 11 years of closure of the Lehman brothers, The Global Financial Stability Report which is published by IMF, The global financial stability report which is published by the IMF assesses the main risks facing the global economic structure. According to the report, banks are now stronger than ever due to quality and quantity of capital has increased steadily because of regulatory applications, and minimum liquidity standards have been phased in around the world. Regulatory stress testing has been precisely adopted. But the global inequality has risen and economic recovery has been changeable, fueling inward looking policies and contributing to increased policy uncertainty. Trade tensions have emerged, and a further escalation may damage market sentiment and significantly harm global growth.

According to the deloitte's banking reimagined report, many banks and capital market firms, have been facilitating their operating models and business over the

last few years for reduce to economic complexity. Outsourcing is not a new trend in banking and capital markets, particularly it has been used in information technology so far. In the broader ecosystem, the increasing adoption of cloud services by financial services firms and the growing popularity of industry utilities have made it more attractive for financial institutions to rely on third parties.

1.4. REGULATIONS ON BANKING SECTOR

There are many reasons for the regulation of banking sector. Banks can gain extraordinary economic strength through mergers and acquisitions or by following extremely aggressive policies and become monopoly in the financial arena. However, the fact that the financial sector depends on a single monopoly has the potential to create major problems for the future of the economy. Moreover, the fact that banks with foreign capital have such an extraordinary effect in a country's economy can cause security concerns. For this reason, the rules that restrict the merger and acquisition of banks and prevent the formation of monopoly are established.

On the other hand, the failure of banks has had detrimental effects on the economy. Banking is in a very close relationship with the economy and today serves as the main dynamo of the economy. The bankruptcy of a bank can lead to a decrease in investments in the economy by not finding funds for those who need funds. In addition, banks are generally fragile structures. Negativity in a bank can reduce the confidence of people in banks and cause a spreading effect to cause problems in the banking system in general. Other banks will also be affected if all depositors demand their money because there is no supportive asset behind the bank moneys. In such a case, the economy will enter into a great depression. Therefore, this is one of the most important motivations of the regulation of banks.

Also, the principal job of the central banks should be to manage the nation's money supply. If banks other than central banks had the authority to supply money, states

would have difficulty to managing their economic policies, which would have consequences such as the depreciation of money and high inflation.

States also regulate banking sector for prevent a bit ahead of aggressive competition among banks by setting interest rates, determine the required reserves that banks will hold, and the maturities and amounts that banks can lend. In addition to this, the state establishes insurance funds and guarantees that the depositors can get their money in the bank in case of bankruptcy. These are the measures taken by states to protect consumers.

The fact that banking has such an important role in the economy has necessitated a number of arrangements in banking sector. In addition, globalization makes individual country financial systems much more closely linked. The acceleration of the phenomenon of globalization and technological progress required the monitoring of international financial movements in particular, bring under control of country banking systems and the reduction of the differences between regulations on a global scale.

Throughout history, the relationship between banks and states has been very close. In the early times, banks lent money to the states and later on, especially in Europe, some of the banker families became politically empowered and had a say in the country's governments. However, the actual arrangements in the banking sector gained momentum as banks began to serve public. Generally, the regulation of banks took place in the form of introducing certain conditions for the establishment of banks and not giving the license to establish a bank for those who did not meet these conditions. Many different banking regulations have been applied in different countries of the world. For example, the bank of Scotland was established in 1695 and it was banned from lending to the state. The bank has only served public and government did not restrain competition. In other respect Bank of England served as the official state bank in England. In United States, a very large number of banks were chartered, but they were not allowed to branch across state lines.

There are significant differences in the regulatory and supervisory frameworks across countries. "Bank of International Settlements" was established in 1930 in Basel, Switzerland by the Central Banks of the developed economies to prevent these differences and to dominate a common banking approach in the world. In 1974, Bank of International settlements established a "Basel Committee on Banking Supervision" to regulate banking in the world. In 1988, this committee published the Basel Capital Accord, which was briefly known as Basel 1. With this consensus, it aimed to provide the resilience of the financial institutions of the banks against the crises in the economy.

Risks affecting banks were weighted and categorized at specific rates in Basel I standards. The purpose of these is to determine how much the capital they have in their hands and how much they should have and to secure the banks against possible risks. Basel I has helped strengthen the soundness and stability of the international banking system and the development of competition among international banks.

However, in line with the new developments, Basel I has been replaced by Basel II standards in 2004. The new Basel capital accord, which is known as Basel II in short, is the set of standards applied by the Basel Committee on Banking Supervision (BCBS) for measuring and assessing the capital adequacy of banks. The Basel II text includes provisions on how to calculate the capital requirement, how to manage the risks that are exposed, how to assess capital adequacy, and how to publicly disclosure. The final version was first published in 2004 and continues to be updated dynamically in line with the needs.

Basel III is a comprehensive reform measure developed by the Basel Committee on Banking Supervision to consolidate risk management and auditing and financial arrangements in the banking sector following the global financial crisis. Basel III brings a range of new application such as to increase the minimum capital and to make changes in the quality and to make a minimum capital requirement standard based on the accounting in addition to the existing practice, to bring the capital

requirement to be increased or decreased according to the cycle periods and to arrange minimum liquidity ratios. These applications are planned to be gradually shifted from 2013 to 2019.

The Basel Committee prepares and publishes a progress report on Basel Committee on Banking Supervision (BCBS) members in 6-month periods as of January 2011. This report is designed to monitor the adoption progress of all Basel standards agreed to date. For each member country, it categorizes the 28 criteria and reveals the progress of these countries. 15th Progress report was last published in October 2018.

Turkey was the one of the first countries that forms capital adequacy regulations in the framework of the Basel I criteria in the world. Basel II criteria adopted in 1989 in Turkey, has been fully implemented since the end of 1992, with a gradual transition process. Basel I Criteria included only the regulation of capital adequacy. Although it was effective in strengthening the structure of the banking sector, the fact that the criteria could not respond quickly to the increasing needs of the sector and the economic problems brought up necessitated a new regulatory standard. In accordance with this need and the dynamic nature of the markets, the Basel Committee published Basel II in 2004. Within the scope of compliance with the Basel II Criteria, the Banking Law No. 5411 was put into force in Turkey. The Banking Law No. 5411 is intended to be comprehensible and open to transparency within the framework of the principle of transparency, in accordance with the international principles and standards.

There are some studies that show different perspectives in the regulation of financial markets. For instance, according to the Keen (2011) There are broadly two main ways in which one can address any externality. The first of these by regulating aspects of behavior directly, second by using tax measures to influence that behavior indirectly. In relation to financial activities, regulation has long been

dominant and taxation has played no significant role. But in some cases the corrective tax policy can be more effective in regulation of financial activities.

1.5. HISTORY OF THE BANKING IN TURKEY

The banking in Turkey unfortunately did not make significant progress till ottoman empire's late stages. With the effect of both general customs and religious reasons, it was too late for Turks to meet with banking and to engage in banking activities compared to other countries and societies. In addition, banking activities have remained at very low levels in the Ottoman society, which earn livelihood by agriculture and animal husbandry rather than an advanced commercial life. In the time of the Ottoman Empire, the non-institutionalized minorities served primitive banking activities.

In the time of Ottoman Empire, industrial revolution didn't show up, for this reason the institutionalization of the banks could not be realized as same as european countries. Thus, the first banks established by foreigners. The first bank established in the Ottoman state was Istanbul Bank and it established in 1847 after the imperial edict of Gülhane. Istanbul Bank was composed of foreign capital.

First credit institution established in the Ottoman Empire as a commercial and credit bank in the modern sense was the Ottoman Imperial Bank, which composed of British and French capital stock, in 1856, with the authority of note issuing as well as other banking transactions. Ottoman Imperial Bank held the authority of note issuing until Central Bank of the Republic of Turkey established.

Because of the security risk risen from the usage of credit from banks with foreign capital and the security risk risen from that banks has the authority of issuing note, and additionnaly thanks to the rising nationalist ideology, foreigners owned banks was fallen very sharply in the end of the ottoman empire. on the other side, although few and small-scale Turkish banks have started to be established. The first initiative

with domestic capital in the modern sense is the "Ziraat Bankası" founded by Mithat Pasha in 1888.

Between 1908 and 1923, a total of 24 domestic banks were established, 11 of which were located in Istanbul and 13 of them were located in Anatolia (Tokgöz, 2009), but most of them were too small and could not resist foreign banks.

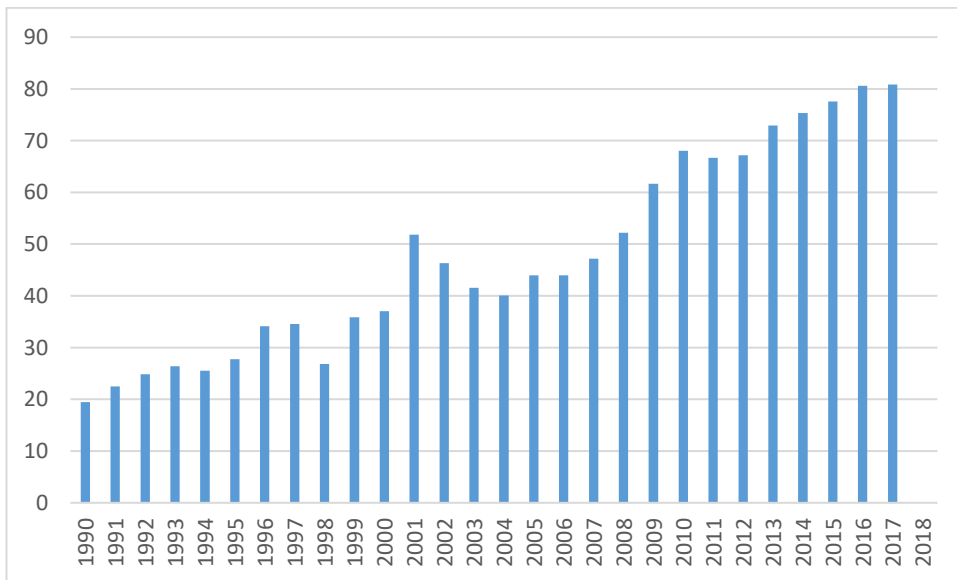
With the proclamation of the young republic, banks have been formed to accelerate development in many areas such as the industrialization activities in the agriculture and livestock based economy and the localization of money and banking activities. With the broad participation, Izmir Economic Congress organized in 1923 and the foundation of the economic policies of the young republic of Turkey was created. In this respect, "Türkiye İş Bankası" was founded in 1924. In 1924, "Ziraat Bankası" was rearranged and its capital was increased. In 1926, "Emlak Bankası" was established and the construction of the country was aimed to be realized rapidly.

But undoubtedly the most important step taken in the banking sector in the republic's first year on June 11, 1930 was the establishment of the Central Bank of Turkey. Duties of the central bank was to determine the rediscount rates, to regulate the money market, to perform the treasury transactions and to preserve the value of the Turkish money.

Turkey has been signing stand-by agreement with the IMF in 1999. With this agreement, inflation prevention program has been implemented and public deficits have been tried to be reduced. With the application of exchange rate anchor, foreign borrowing was made at a lower interest rate and this led to an increase in consumer loans. As of December 1999, consumer loans increased more than 4 times within 1 year. With the increase in consumer loans, expenditures increased and this caused the inflation to be realized more than expected and the Turkish Lira was over-valued. Banks in high open position have caused liquidity shortage in the market

with the concern of closing these deficits. While all these processes were taking place, the seizure of the some banks by Savings Deposit Insurance Fund of Turkey caused the crisis to be triggered. In November 2000, the overnight borrowing rate in the interbank market increased by threefold and a significant decrease in the Central Banks's foreign reserves was observed. According to Dornbusch (2001), this is a banking crisis. In a situation involving a large number of bad banks, a withdrawal of credit lines triggered a banking crisis. The central bank financed the run on the banks by pumping in credit, only to repurchase the liquidity by selling foreign exchange. Consequently, balance sheet problems become currency crisis issues. As can be seen in the table below from the World Bank, domestic loans provided by the financial sector were 37% of GDP in 2000 and reached to 52% in 2001 after 1 year. In the following years, with the financial crisis experienced, banks withdrew to their 40% level in the following years due to their hesitancy to recall their loans and to give credit. With the financial crisis that followed, with the banks' withdrawal of loans and their hesitancy to lend to loans, domestic loans provided by the financial sector decreased to 40%.

Figure 3. Domestic Credit Provided by Financial Sector in Turkey



Source: World Bank

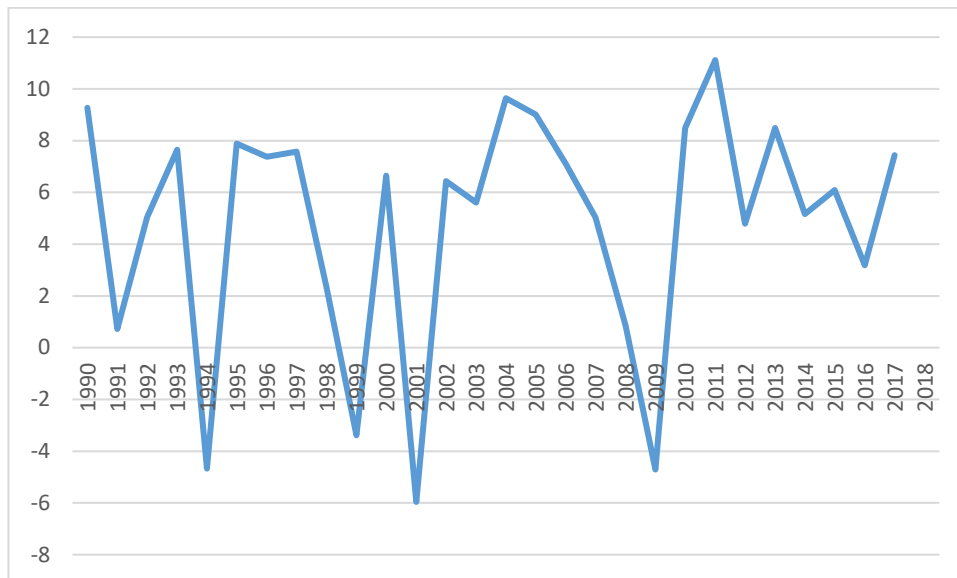
Turkey, after economic constriction in 2001, made the proper regulations for the banking sector and implement the right policies. As a result of this good practice, a significant improvement process has begun. The most important difference of the transition program to the powerful economy, which was announced in 2001, is that it aims at the very radical financial, economic and legal changes and transformations. The most important objectives stated in this program is to establish a fast and comprehensive restructuring in the banking sector, especially in the Savings Deposit Insurance Fund of Turkey and public banks, thus establishing a healthy relationship between the banking sector and the real sector.

In 2008, the crisis in the American financial sector spread all over the world and spread to the real sector. As the American economy is of a magnitude to the world economy, this crisis has adversely affected the world economy. Banks financed mortgage loans regardless of whether or not they were risky. They have issued mortgage backed securities based on these loans, which they see as a profitable area. Over time, these securities prices was higher than the fair value and the balloon effect has emerged. Also these balloon effect have made a negative impact on American Economy. Mortgage loans have ceased to be a profitable investment vehicle since housing prices started to decline. After that, the banks that provide mortgage loans and the investment banks that have funded them faced to the difficulties.

In Turkey, there has not been an American type of mortgage crisis. The main reason for this is that the mortgage loans in the two countries are different. There is no subprime loans in Turkey. Moreover, the decisions taken on the regulation of banks after the 2001 banking crisis helped Turkish banks overcome the crisis with relatively less damage than other banks in the world. The reduction of the interest rates by 900 basis points by the Central Bank of the Republic of Turkey from 2008 to 2009 decreased the cost of financing. However, the real sector did not overcome this crisis with as little damage as the banking sector. Loans provided by the

domestic financial sector was increase 17% from 2008 to 2009, however GDP in the year 2009 in Turkey, as can be seen from the table below shrank 4.7%.

Figure 4. Turkey GDP Growth (Annual %)



Source: World Bank

With the sign of improvement in global financial markets, banking sector and real sector was relieved in Turkey. Turkey has overcome the negative effect of the global economic crisis very fast.

It has established a number of institutions for the regulation of banks in Turkey. The most important institution on regulation and supervision of financial markets is the Banking Regulation and Supervision Agency (BRSA) established by the law issued in 1999. BRSA's main objective is to create a favorable environment for the functioning of banks and private financial institutions in a market structure that is healthy, effective and competitive in a global scale.

Capital Markets Board of Turkey (CMB) are another supervisory board operating within the financial markets. Founded in 1981, the CMB works to ensure that the

capital market works in confidence, clarity and determination, and that the rights and benefits of savings holders are respected.

If we look at the Turkey's banking sector data, according to BRSA, 50 bank serves in Turkey with 11.491 branches and 48.555 ATM's. The total employment created by the banking sector is 206.771 people. The total assets of the banking system amounted to TL 3,860,882 million as of 27.03.2019, and shareholder's' equity reached TL 425,714 million.

2. DETERMINANTS OF CREDIT

In the banking literature, loan is the lending of a certain amount of money or the reputation of a bank to a company or a person that is trusted to repay it, for a certain price and for a certain period of time. The term "lending money" refers to the lending of a loan at a previously agreed term and at a previously agreed interest rate and the term "lending reputation of a bank" means that the bank guarantees a company or a person's business. More simply, banks give loans to the people and institutions that need financing.

Whether in their establishment or later, all companies need funding to become large company. However, it is not always easy to find funding and the resources for finding funds are restricted. Companies can obtain their financing needs from their partners, from the market through investors, or by borrowing money. Nevertheless, partners do not want to put their own money as capital to firms. It is also not a very accurate approach to finance the firm with shareholders equity. Also finding money from the market through investors is not possible under all circumstances because it requires an advanced equity and bond market. On the other hand it provides relatively expensive financing. For this reason, firms usually meet their financing needs through banks. Considering that one of the most important financing sources of the companies is bank loans, the factors that affect the decision of lending are gaining importance.

The loan volume of banks is determined by loan supply and loan demand. Therefore, in order to understand the development of loan volume, the factors affecting the loan demand and supply should be determined. The factors affecting the loan demand and loan supply are explained in the economic literature within the framework of "monetary transmission mechanisms".

We can examine the factors affecting the decision making process in terms of micro variables and macro variables. Micro variables are variables that can be seen from

banks' balance sheets and affect the credit decision of each bank for themselves. Examples of such factors as capital adequacy ratio, resources held by depositors in the bank and sources provided from abroad.

If we look at the factors that determine the amount of the loan that banks can lend to the banks, the most important factor is whether there is sufficient resources to provide loan. Banks create the resources they can give loans through their own funds, savings in the bank as deposits and syndicated loans obtained from abroad.

Shareholders' equity is generally not affected by market conditions and uncertainty. Savings held as a deposit in banks, which are another source, are very important because they are the main source of the credit provided by the banks. In the simplest form, banks profit from the spread between the interest rate on deposits and the interest rate on loans. As the deposits held in the bank increase, the amount of credit the banks can provide to the market is increasing theoretically. Therefore, deposits are significantly affected by market conditions and uncertainty. Moreover, savings have a very important function at macroeconomic level. They are seen as the main dynamics of growth by many economists. As a result of the lack of savings seen as the basic problem of developing countries, banks cannot meet the requested amount of credit and use syndicated loans from abroad.

Syndicated loan is a combination of one or more banks to give credit to another bank. Often known as the most expensive resource used by banks. Syndicated loans are also the most affected source of uncertainty. Confidence in the bank and the country in which the bank operates affects the costs of syndicated loans.

In addition to this, there are many macroeconomic variables such as interest rate, monetary policy, exchange rate, asset prices, inflation, which affect the lending decisions of banks and which constitute the field of study of this thesis.

2.1. GDP

Gross domestic product means that the total monetary value of all final goods and services produced within a certain period of time within the borders of the country. It contains public and private investment, public and private consumption, and exports less imports. GDP is also very closely related to the credit decision as it is the most important indicator of economic activity in a country. Especially, it is remarkable that when credit volume growth accelerates, correspondingly GDP increases. The study of the effects of credit volume growth on the GDP has been problematic because of identification issues. Credit volume affects economic variables, at the same time, economic situations generate credit shocks. But it is clear that these two variables have a positive correlation.

The relationship between credit volume and GDP was examined by many researchers. Studies are taken from around 2 main approaches. A number of researchers examined the relationship between loan demand and GDP, while some examined the relationship between credit supply and GDP. Calza et al. (2001) conducted an econometric investigation of loans to the private sector in the euro area. The researchers, who examined the relationship between GDP in terms of credit demand and credit, concluded that: This relationship refers that in the long-run real loans are positively related to real GDP.

Cotarelli et al. (2003) classify the countries in 3 groups depending on how much the bank credit to the private sector increased compared to gross domestic product. In some economies (the early birds), bank loans to the private sector have been escalating substantially quicker than GDP for a few years, thus the bank credit to private sector ratio has increased at an average pace of some 2½% of GDP per year; in others (the late risers), the bank credit to private sector ratios have started rising only more recently; finally, in a third group of economies (the sleeping beauties), there is still no explicit increase in the bank loans to the private sector, but credit to some sectors, especially to households, has accelerated sharply.

Hoffman (2004) treat loans as a function of property prices, economic activity and interest rates. He is able to find positive relationships between loan growth and GDP.

Egert et al. (2006) investigates the determinants of domestic credit to the private sector as a percentage of GDP in 11 European countries. They recognize that regarding the relationship between credit and growth, there are strong empirical indications of a positive interaction between the two, usually with elasticity higher than one in the long run. Similarly, in the 2004 world economic Outlook report, the IMF stated: Real GDP usually falls about 5 percent below trend after a credit boom. It is important to recognize that credit-to-GDP levels rise as per capita GDP increases, a process which is known as financial deepening.

Determinants of bank loan in emerging market economies examined by Guo and Stepanyan (2011). They identified both demand and supply factors that affect credit growth, with a focus on the supply side. They reveal that foreign and domestic funding contribute symmetrically and positively to loan growth.

2.2. INTEREST RATE

The most important factor affecting the supply and demand of loans is undoubtedly interest rates. Interest is defined as the time value of money in terms of economics. In terms of banking, it is the price required in return for the idle money given to those in need. Banks are viewed as intermediaries that demand deposits and supplies loans. Credit demand and supply are directly affected by interest rate. If the interest rates required by banks to extend loans are relatively high, the credit volume decreases. This is due to the fact that those in need of financing are interested in alternative financing instruments instead of the expensive loan. Besides in terms of credit supply, interest rates and credit volume are closely related. As mentioned above, banks earns a spread on the funds it lends out from

those it takes in as a deposit. This spread, which is simply the difference between what it earns on loans versus what it pays out as interest on deposits.

Banks are generally free to set interest rates on deposit accounts and loans. However, price competition is very strong because the conditions of competition in the market necessitate to give the highest interest rates to deposits and to give the lowest interest rate in loans. Competitive banking markets have been identified by the literature as a factor that increases the welfare of borrower by reducing loan interest rates.

In addition, monetary policy is effective in determining the interest rates of banks. Central banks influence and direct interest rates through monetary policy instruments. According to the Central bank of Turkey, Monetary policy refers to decisions taken to influence the availability and cost of money in order to achieve targets such as economic growth, employment growth and price stability. Predominantly, the responsibility for the implementation of monetary policy belongs central banks. Bernanke and Blinder (1990) found that the nominal interest rate could be used as a good forecaster for the real variables of the economy. Another important findings of their work is monetary tightening could results in a short run sell off of banks security holdings, with little effect on loans. Over time, tight monetary policy is felt on loans as banks terminate old loans and refuse to give new ones. To the extent that some borrowers are dependent on bank loans for credit, this reduced supply of loans can depress the economy. Bank loans are sensitive to changes in monetary policy. For instance, an increase in the money market interest rate, is generally followed by increase in the lending interest rate.

One of the important factors affecting the loan interest rates is the cost of the money for banks which mentioned above. Since banks make as much profit as the spread between interest on deposits and interest on loans, and the purpose of companies including banks is to increase their profits, banks try to keep the spread among the broadest range possible. One way to do this is to set high interest rates on credit,

but market competition hampers this. Because, those who demand loan will go to banks with lower loan rate than the bank with high interest rates. Another way to keep the spread between Deposit and loan wide is to find cheaper resources. As mentioned earlier, banks create the resources they can give loans through their own funds, savings in the bank as deposits and syndicated loans obtained from abroad. If the bank finds costly resources, it sells at high cost.

While some banks find relatively favorable resources, some banks find more expensive resources because of the credibility of banks and countries. Countries with worsening economic indicators or banks whose financial conditions deteriorate find more expensive resources. Increased uncertainty in the economy will often lead to high resource costs. High resource costs and uncertainty return to the economy as a high interest rate. Because banks are exposed to the risk of higher non-repayment loan for the high-cost funds and as a result, the loan rates are increasing. Consequently, increase in the loan rates decreases the loan volume.

The study by Kiss et al. (2006) used a dynamic panel model including GDP-per-capita, real interest rate and inflation of 11 euro area countries to generate estimates for private sector credit-to-GDP ratio. They find that the major determinants of credit are GDP per capita, inflation rate and interest rate. In a similar way, Calza et al. (2001) investigate of the determinants of loans to the private sector and they suggest that the behavior of real loans can be related short-term and long-term real interest rates. They are confirming the existence of a long run relationship linking real loans to real GDP and real interest rates.

2.3. INFLATION

Inflation is defined as the percentage increases of a consumer price index, which is a representative of a common basket of goods and services. Ordinarily, the impact of inflation on an economy takes the form of restricting of income. Inflation have a several negative effects on the economy. First of all inflation lower the purchasing

power of the individuals and leads to a reduction in economic activity. Also High inflation is destructive to real credit growth. Guo and Stepanyan (2001) suggest that strong growth and low inflation conducive to credit growth while high inflation dampens real credit growth. Therefore, policies that lower inflation boost credit growth and further strengthen economic activity.

There are some difficulties that banks face in the high inflation environment. Inflation has important effects on banks under different aspects. High inflation may depress the credit demand and restrict the supply of credit. High and variable inflation may cause difficulties in planning and negotiation loans. As a result of inflation, there is a risk that people with reduced income due to inflation will not be able to pay their loan debts. Therefore bank's non-performing loans could increase. Erb et al. (1995) reveal that there is a significant correlation between credit risk and inflation. Also higher inflation implies less financial activity. According to the Gambetti et al. (2017) loan supply shocks have a significant effect on inflation, credit markets and economic activity.

However, a decrease in credit volume does not always mean that banks are harmed. Inflation is an important determinant of banks performance. Because profitability is affected by inflation. A lot of research has been conducted to examine the effect of inflation on bank profitability. Many researchers ascertain that there is a negative relationship between inflation and bank profitability. According to Perry (1992) the relationship between inflation and banks performance depends on whether the inflation is anticipated or unanticipated. If inflation is anticipated inflation, banks can adjust interest rates in correct time and consequently revenues increase rapidly compared to costs, with a positive impact on profitability. But if inflation is unanticipated inflation, banks may be late in adjusting interest rate. Hence costs increase rapidly compared to revenues. This will consequently have a negative impact on bank profitability.

In general, high inflation are associated with high loan interest rates. For this reason, some studies it is mentioned that inflation creates opportunities for banks. High inflation rates lead to higher bank profitability. This is consistent with the findings by Pasiouras and Kosmidou (2007). While there was a positive relationship between inflation and profitability for domestic banks, a negative relationship was found for foreign banks.

2.4. OTHER VARIABLES

In addition to the factors affecting the credit supply determined above, the effect of many different factors on credit volume has been examined in many different studies. Especially, there are new approaches that examine the credit volume through house prices. Studies examining the impact of property prices on bank loans have been very limited. There are only a few studies which examine relationship between property price and loan volume. Hofmann (2004) investigate the determinants of bank loan to the private sectors and assert that house prices are an important determinant of the long-run borrowing capacity of the private sector. Innovations to house prices appear to have a highly meaningful and strong positive effect on bank lending. One reason for this is the possibility of house prices giving an idea about the future of the economy. Egert et al.'s (2006) findings also consistent with Hofmann's. They suggest that rise in house prices is usually accompanied by an increase in credit to the private sector. In the articles published by Egert et al. In the European Central Bank working paper series, it was found that the increase in house prices played an important role in private credit growth in the countries where house prices increased continuously. The main reason for this is that people who want to buy commodity should use more credits to buy a house.

The studies examining the factors affecting the lending decisions of banks in terms of the internal dynamics of the banks were also carried out. One of the example of this is study revealed by Mcguire et al. (2008). They used banks equity returns, banks' average expected default frequencies and the volatility of the market value

of banks' assets to measure banks health. They exhibited that while banks' average expected default frequencies or volatility increases, bank health deteriorate and while banks equity returns increase, bank health rise too. As a result of their work, they showed that a deterioration in the health of the banks reduced the credit volume.

Another study which examine banks' lending decision by banks internal dynamics is Kashyap et al.'s (2000) research. In this study, the levels of monetary policy depression were measured according to the banks' internal liquidity positions. Monetary policies affect more severe the banks which has less liquid balance sheet or banks with lower ratios of securities to asset.

We stated that the banks are trust corporations and that they give the credits to get back after a certain time. However, the credits given in this intention may not always be returned. Non-performing loans are loans that the banks are no longer able to collect. Non-performing loans may give an idea of the general situation of the economy and can be used as a variable in terms of the credit volume provided by banks. Guo et al (2011) investigated the effects of non-performing loans on lending decisions of banks as well as other variables. In proportion to the findings of Mcguire and Tarashev, banks' non-performing loan rates increase, in other words, when banks' health starts to deteriorate, the amount of loans they give decreases. The research conducted by Caglayan et al (2019) showed that the increment in uncertainty increases non-performing loans and this led to a decrease in credit contracts made by banks.

Cotarelli et al. (2003), which approached banks credit decisions from a different window, examined the effects of financial liberalization and entry restriction to the banking sector on banks' lending decisions. 6 different dimensions such as interest rate controls, regulations, privatization in the financial sector have been used in the measurement of financial liberalization. When measuring the bank entry restriction, they used the index which constructed by Barth et al (2002) and depend on legal

submissions required to obtain a banking license. According to this, there is a positive relationship between the financial liberalization and the credit volume, and there is a negative relationship between credit volume and entry restriction to the banking sector index.

3. ECONOMIC POLICY UNCERTAINTY

3.1. DEFINITION AND MEASUREMENT

Financial crisis has recently occurred in the United States has gained global dimension because of the recession and the economic downsizing in the United States. One of the reason behind that long-standing monetary tightening is the uncertainty of the policy makers' arrangements for budget, rescue packages and reforms. Economists and policy makers acknowledge that the policy uncertainty is the most important consequences of the recently occurred trade war and global recession. Thus economic policy uncertainty came to a much more important subject for the researchers.

In recent years, with the increasing populism in the world, the uncertainty created by the governments' decisions and policies has become more important for the global economy. From this point of view it is much more significant to gauge economic policy uncertainty index for taking forward looking decisions and understand past crisis reasons.

Measuring the impact of uncertainty on the economy is hard. Predicting the impact of uncertainty on the economy in the future is even harder. Its effects are complicated and work through much more than just business investment. Heightened uncertainty can have different effects. It can not only weaken demand, but also the supply potential of an economy. Economic uncertainty is the first to blame for any weaknesses expected from corporate earnings or wider economic growth. Some types of uncertainty might affect businesses, while other types might affect consumers. It can come in many forms such as political uncertainty, geopolitical uncertainty, and economic policy uncertainty.

It has been questioned very long time that what the measure of economic policy uncertainty is. Volatility is often taken as the indicator of market uncertainty, but

the uncertainty that matters may not be reflected in measures such as the VIX. Economic policy uncertainty index which was developed by Baker et al. is currently more relevant than market volatility.

Due to the importance of uncertainty, Baker, Bloom and Davis developed an index, which firstly comprise United States, then expand to cover 23 more countries like Germany, China, United Kingdom, Canada and others. It is important to mention that economic policy uncertainty index for our research. Later on, we are going to speak of past researches related to economic policy uncertainty.

Economic policy uncertainty index made a tremendous impression around the World when it was published by Baker, Bloom and Davis and it creates a new field of study in the economics. Economic policy uncertainty was first measured for United States since 1985.

Many studies have commentated about difficulties in measuring economic policy uncertainty. The political uncertainty in a country can be characterized as stable or unstable according to the definition of political uncertainty. The economic policy uncertainty index made by Baker et al. (2016) led to a measure of uncertainty.

Economic policy uncertainty is a weighted average of three different component. The main component of the economic policy uncertainty index includes the search results conducted in the large 10 newspapers. The index represent the frequency of articles in 10 large newspapers that include the following terms “regulation”; “white house”; “congress”; “federal reserve”; “uncertainty”; “economy”; and other specified terms such as. The second component is related to the number of tax liabilities that are due. The third component gauges the discrepancies between economists' forecasts on inflation and public spending. According to the newly developed index, they realize that the index spurts near tight presidential elections, Gulf Wars I and II, the 9/11 attacks, the 2011 debt ceiling dispute, and other major battles over fiscal policy.

3.2. LITERATURE REVIEW

Baker et al. (2016) find that enhanced policy uncertainty in the US and Europe in recent years may have caused damage on macroeconomic performance. Besides, they refer to effects of policy uncertainty on the employment growth, investment rates and stock price volatilities. They showed that the increase in economic policy uncertainty followed by increasing in the stock price volatility and decrease in investments. Moreover, policy uncertainty increases unemployment in some sectors.

Isterfi and Pilou (2014) studied relation between economic policy uncertainty and inflation expectations and they find that while economic activity contracts, long-term inflation expectations rise in response to a policy-related uncertainty shock.

Bordo et al. (2016) analyze the effect of economic policy uncertainty on bank loan growth, and they examine the effects of policy uncertainty on banks' lending decisions. They showed that economic policy uncertainty is vigorously associated with slower loan growth at both an aggregate level and individual banks in the US.

Japan's efforts for a long time to revive growth, raise wages, and minimize the risk of deflation have proved a challenge. Arbatli et al. (2017) study policy uncertainty in Japan and develop economic policy uncertainty indices for Japan based on the approach of Baker et al. Their EPU index rise at the time of the election year and it peaks during the Asian financial crisis. They find that high policy uncertainty undermines macroeconomic performance in Japan. Their study suggest that credible policy plans and strong policy frameworks can influence macroeconomic performance by, in part, reducing policy uncertainty.

Causality between Economic policy uncertainty and exchange rate in China is analyzed by Dai et al. (2017) and its refer to the relationship between Economic policy uncertainty and exchange rate is more likely exist in extreme situations like

exchange rate are too low or too high. Also high policy uncertainty in China would lead to a reduction on stock market returns.

With the exception of Baker, Bloom and Davis' economic policy uncertainty index, there are various uncertainty index corresponding with the economy. Jurado et al. (2015) combine stock market volatility series and their econometric estimated macro uncertainty. Their objective is to create a measure of economic policy uncertainty that can be tracked over time and related to fluctuations in real activity and asset markets. They ascertain that high policy uncertainty cause large declines in economic activity.

Another one is Caldara et al.'s (2018) works which gauge the geopolitical uncertainty based on the economic policy uncertainty index. Geopolitical risk index represent the frequency of articles in 11 large newspapers that include the following terms "terrorism"; "military threat"; "nuclear war"; "geopolitical threats"; and other specified terms such as. It is found by them that there are negative correlation between geopolitical risk index and economic performance.

Investment decisions of market participants can be effected by several different factor. First and foremost, investor's estimation of financial assets performance is primarily important. In general, investors use traditional forecast methods for this purpose. But recently investors attach great importance to economic policy uncertainties effects on asset prices and usage of economic policy uncertainty index for estimation purposes have a tendency to increase. Researches driven in this field demonstrate that correlation between policy uncertainty and stock market returns is consistently negative over time. During the periods of high economic policy uncertainty, market participants sell the stock market indices. In contrast, during the periods of high economic policy uncertainty, investors buy the stock market indices. Goldman Sachs analyst Krag Gregory and Jose Gonzalo Rangel discover a strong positive correlation between policy uncertainty and the level of S&P 500 variance across maturities. In a firm level, Gülen et al. (2015) investigate the effect

of policy-related uncertainty on the capital investments of United States corporations. They document a strong negative relationship between policy uncertainty and investment. Corporate investment rates drop in relatively high uncertainty years. In short, politics do appear to matter for firms' real investment decisions.

Zhang et al (2015) draw a research about china and analyze the relationship between the firms' capital structure choice and economic policy uncertainty. They show that firms' usage of trade credit is positively related to EPU, suggesting that firms tend to adjust their financing structures as a response to economic policy uncertainty.

The analyze drawn by Scarcioffolo (2018) examined effects of economic policy uncertainty on the energy market volatility and revealed that there is spillover effects between economic policy uncertainty and oil prices and natural gas prices.

Economic policy uncertainty index getting much more important for the field of economics because of the several recent developments. First, world economies finds themselves ensnared in a larger trade battle between the United States and China over the broad imposition of tariffs. The potential for more tariffs, can keep tensions high. Also United States economic policies became less predictable in recent decades. The US has suffered a slow recovery from the biggest output drop in the post-war period. Some research suggests that economic policy uncertainty partly explains the heavy going nature of the recovery.

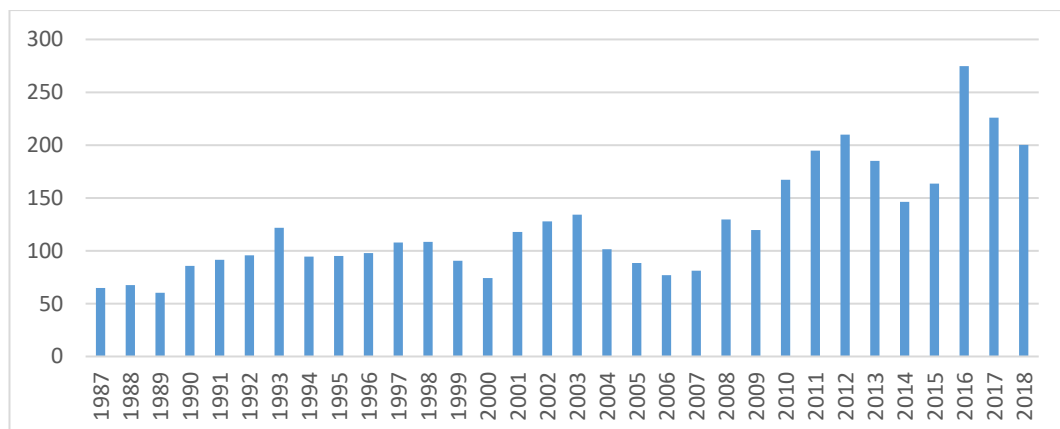
Second, the recent throng of refugees to Europe has created anxiety about the social and economic consequences. European worries about the effects of large immigration flows on social services, labor markets and government spending's. This anxiety increase support to far-right political parties and populist politicians. Halla et al. (2017) emphasis that there is a high correlation between the election success of far-right parties and immigration. Whether immigration is necessary for

developed countries due to certain reasons, it has potentially critical political and economic consequences.

Third, The United Kingdom’s vote to leave the European Union came as a surprise to financial markets. Brexit decision created uncertainties about economic policies. According to survey driven by Delloite, Following the Brexit referendum, just 8% of CFOs say that now is a good time to take greater risk onto their balance sheets. In contrast, a great majority of CFOs thinks it is not a good time to take risk in the time of uncertainty. However, markets have not interpreted Brexit as a financial crisis, but the vote has had a profound effect on perceptions of uncertainty.

Because of the Brexit referendum and rising populism in some countries, Economic policy uncertainty index is all time high in Europe. To illustrate these, chart 1 presents the evolvement of the European EPU index from 1987 onwards. Moreover, the period of broad economic policy consensus in Europe took a damage with the Brexit referendum. In addition, increased domestic political risks due to elections in the largest euro area countries have raised concerns about future economic policies. Because according to Bernal et al. (2016) largest Eurozone countries’ and United States’ economic policy uncertainty has spillover effects on the whole European countries.

Figure 5. Europe EPU



Source: www.policyuncertainty.com

In the high economic uncertainty period, economic agents' behavior vary. Because of the objective of this research is reveal how economic policy uncertainty affect firms and consumers through bank channel, it is important to mention about economic agents behavior in the times of uncertainty. For this purpose, we will classify economic agents three main category as financial sector, real sector and consumers. Then mention this categories one by one.

In the time of escalation tendency of uncertainty, usually consumers cut down on their expenses. Especially they postpone their high amount consumptions. According to Gudmundsson et al. (2012), especially durable consumption, which is seen big and expensive by consumers, decreases more than other consumption items when uncertainty increases. Also they try to increase their savings. As a result of this manner total consumption and economic growth is decrease.

Likewise firms can be incapable of forecast their future sales and cash inflows in uncertainty period and consequently firms show a delay tendency for their investment. Besides they are cut down on their unnecessary expenses too. Uncertainty can hamper economic performance by leading firms to 'wait and see' before investing. Similarly it is possible to occur the exchange rate shock when economic policy uncertainty risen and importers are affected negatively by this situation. Thus, economic policy uncertainty accompany downsizing of production and increased unemployment.

Financial sector exhibits more conservative approaches in times of uncertainty. As we will examine in our study, banks tend to receive their current loans rather than lending new credit to firms in periods of high uncertainty. In such periods, the growth rate of banks slows down and non-performing loan rates increase. According to the banking regulation and supervision agency of Turkey (BDDK), non-performing loan rates is almost constant until 2011 and that was realized as 19 Billion TL in 2011. Since then, non-performing loans have increased rapidly depending upon high uncertainty and reached 74 billion TL in 2018. Likewise, bank

non-performing loans to gross loans ratio in United States (FRED) was increased 0.70 to 5 through 2005 to 2008.

Turkey is known for closeness of both Europe and Middle East. Turkey's this geopolitical position makes turkey vulnerable to the geopolitical risks. The country has long been threatened by terrorism. Besides there are many important developments which heightened uncertainty such as situation in Syria, ongoing uncertainties in Europe and United States, recent coup attempt, subsequent dismissal and detention of many public employees and constitutional referendum. From this point of view this risks and uncertainties making Turkey an ideal case study.

Unfortunately there was no economic policy uncertainty index for turkey until recently. Existing studies have also experienced difficulties to measure economic policy uncertainty due to limited sources of local newspapers. One of the earliest research in Turkey is Ermişoğlu and Kanık's (2013) study which examined the usefulness of economic policy uncertainty as a leading indicator. In this study, they generate news based economic policy uncertainty index for turkey. Due to the inadequate archives of newspaper, they could only use 3 newspapers. As a result of the study, they accepted that EPU is a good indicator for measuring economic uncertainty.

Another study being done for turkey is Coşar and Şahinöz's (2018) study's. In this study they generate new uncertainty index such as firms' uncertainty index, consumers' uncertainty index, financial uncertainty index and economic policy uncertainty index. Subsequently they constitute aggregate economic uncertainty index. They conclude that aggregate economic uncertainty has negative effects on growth, consumption and investment.

The most comprehensive study for Turkey is executed by International Monetary Fund (IMF) in 2018. IMF measure news based EPU index for 1996 to 2017 and

reveal the results. IMF's EPU index is different from most of the EPU indices developed for other countries. Usually, measuring economic policy uncertainty index based on a local newspaper. But in Turkey, due to the inadequate newspaper archives, EPU index based on foreign newspapers rather than local newspapers. This is important because it could be more relevant given the connection between the economy and foreign perception.

IMF examines effects of EPU on Turkish companies in respect to investment decisions, employment decisions and leverage strategies. According to the study, an increase in the EPU index lowers real investments. Also, the results indicate that uncertainty may increase employment, suggesting that, in the short term, firms may substitute labor for fixed capital when there is uncertainty. Also, firms reduce short-term borrowings in periods of uncertainty.

4. DATA AND METHODOLOGY

4.1. DATA

This paper analyses the effects of economic policy uncertainty on the level of domestic credits using a panel of 139 countries for the period from 2000 to 2017. In the study, domestic credit to private sector, economic policy uncertainty index, inflation, current account balance and broad money data were used.

Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits that establish a claim for repayment.

Economic policy uncertainty (EPU) provided by Ahir et al. (2018). Ahir et al. (2018) construct the indices of EPU so-called the "World Uncertainty Index" (WUI) for 143 countries starting from 1996 by using frequency counts of "uncertainty" (and its variants) in the Economist Intelligence Unit (EIU) country reports. We use this index for 139 countries starting from 2000 to 2017.

Inflation can be defined as the continuous rise in the general level of prices in an economy. Therefore, it is the loss of purchasing power of the local currency. It measured by the consumer price index represent the annual percentage change in the cost to the average consumer of acquiring a predetermined basket of goods and services.

Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income. And broad money is the sum of currency outside banks; demand deposits other than those of the central government; the time, savings, and foreign currency deposits of resident sectors other than the central government; bank and traveler's checks; and other securities such as certificates of deposit and commercial paper.

We provide a summary of the data sources that used in this study in Table 1.

Table 1. Summary of Data

Variables	Definition	Data Source
Domestic Credit to Private Sector	Percentage of GDP	World Bank, World Development Indicators
GDP per Capita (Current US\$)	Logarithmic Form	World Bank, World Development Indicators
Broad Money	Percentage of GDP	World Bank, World Development Indicators
Current Account Balance	Percentage of GDP	World Bank, World Development Indicators
Inflation, Consumer Prices (Annual %)	Percentage	World Bank, World Development Indicators
Economic Policy Uncertainty	Level of Index	The World Uncertainty Index of Ahir et al. (2018)

4.2. METHOD

Panel data analysis is the method of estimating economic relations by using the cross sectional data of time dimension. Panel data method can be defined as bringing together countries, companies, households, etc. cross sectional observations within a certain period of time. In other words, panel data combines time series analysis with cross sectional analysis. The number of observations is greater as the panel data method combines cross section and time series observations. First of all, it should be noted that because of it includes cross section and time series data simultaneously, increase of the number of observations in the panel data methods cause increase in the degree of freedom on the one hand and cause decrease in the possibility of the existence of a high degree of linear relationship between explanatory variables on the other hand.

Panel data analysis carries characteristics of both cross section and time series. Panel data analysis has many advantages over time series and cross sectional analyzes. The number of observations is higher as the panel data method combines the cross section and time series observations. The results of the research based on the cross section data demonstrate only the discrepancies between the units, while

the researches using the panel data can demonstrate changes in time in both units and a single unit. Panel data analysis, in other respects, allows for the establishment and testing of more complex behavioral patterns than the time series or cross section. This advantage avoids the problem of omitted variables that cause notable deviations in estimation outcomes in researches using only cross sectional data or only time series. In this way, panel data analysis ensures more realistic, accurate, and comprehensive predictions for each result.

There are two approaches to estimating the panel data model: fixed effects and random effects. The fixed effects approach is based on various assumptions made on the intercept, slope coefficients and error term. In this model, conditional expectation is made by taking the sample effects into consideration. In this model, the differences between the cross sectional units are explained by the differences in the fixed term and the panel data model is estimated by dummy variable. Therefore, the fixed effects model is also referred to as the dummy variable model.

Despite the extensive use of the fixed effects model, a large number of cross-sections (depending on the use of dummy variables) causes a loss of degree of freedom. The reason for using fixed effects model is the failure to include explanatory variables related to the subject in the definition of the model over time and the inclusion of dummy variables in the model cover this ignorance.

In studies conducted with panel data, it is seen that the model of random effects is used as well as the fixed effects model. In the case of the random effects model, it is assumed that the differences in the cross section units are random as the error term. In these models, changes in the cross section units or changes occur in regard to units and time are included in the model as a component of the error term. The most important reason for this is the prevention of loss of degree of freedom in the random effects model. Because it is important in the random effects model that unit or unit and time specific error components are found, rather than presence of unit or unit and time specific coefficients.

In addition to all the models described, there are two other types of panel data models: balanced and unbalanced. Since there is no missing data state in the balanced panel, there are the same number of observations for each cross section unit. On the other hand, the unbalanced panel has a missing data state and the number of observations for each cross section unit is not equal.

In this paper, we estimate the following equations:

$$Domestic\ Credit_{i,t} = \beta_0 + \beta_1 Domestic\ Credit_{i,t-1} + \beta_2 EPU_{i,t} + \beta_3 X_{i,t} + \vartheta_t + \vartheta_i + \varepsilon_{i,t}$$

(1)

In Eq. (1) $Domestic\ Credit_{i,t}$ and $Domestic\ Credit_{i,t-1}$ are the current and the lagged domestic credit to the private sector in country i at time t . $EPU_{i,t}$ is index of economic policy uncertainty (EPU) of Ahir et al. (2018). $X_{i,t}$ represents the control variables which are log per capita GDP, money supply, current account balance, and inflation rate. Equation 1 is estimated by the fixed-effects estimation technique according to the Hausman test. We provide a summary of the descriptive statistics in Table 2.

Table 2. Descriptive Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Domestic Credit to Private Sector	48.7479	44.786	0.000823	233.211
Broad Money	55.57718	45.91374	0.001461	376.524
Current Account Balance	-1.87956	9.690379	-80.0514	45.4542
Economic Policy Uncertainty	0.175319	0.150813	0	1.343
Inflation, Consumer Prices (Annual %)	6.673048	17.79662	-10.0675	513.907

5. FINDINGS AND DISCUSSIONS

5.1 FINDINGS

It is concluded that the relationship between domestic credit to private sector and economic policy uncertainty is high and negative. In broader point of view, it is seen that these results in table 3, which are excessively determinative and excessively significant for the economy, give the same knowledge about the general trend of the economy. This thesis reveal that increases in economic policy uncertainty is vigorously associated with slower loan growth. This indicates that economic policy uncertainty affects the economy through a bank lending channel.

It was observed that the current account balance and inflation, had a statistically significant negative effect on the domestic credit to private sector in the observed period of 2000-2017. Our findings show that banks are visibly decreasing their lending decisions in periods of high inflation. And vice versa, they tend to grant more loans because they can better estimate the returns of loans in periods of low inflation. This observation refer that, when inflation is high, bank resources will not be allocated efficiently.

Table 3. Regression Estimations

	m1	m2	m3	m4
EPU	-1.786* (-1.89)	-2.515** (-2.42)		-2.520*** (-3.04)
Lag Domestic Credit to Private Sector		2.424*** (4.52)	2.414*** (4.51)	1.811*** (5.68)
Broad Money		0.198*** (3.13)	0.199*** (3.19)	0.254*** (17.89)
Current Account Balance		-0.089*** (-2.98)	-0.086*** (-2.94)	-0.116*** (-6.26)
LagEPU			-3.487*** (-3.71)	
Inflation				-0.040** (-2.34)
Constant	7.717*** (14.88)	-15.132*** (-5.02)	-15.010*** (-5.00)	-11.979*** (-5.35)
N	2208	1798	1798	1740
R ²	0.78	0.84	0.84	0.84

According to existing literature, it is anticipated that there is bidirectional relationship between domestic credit to private sector and broad money. On one hand, higher domestic credit to private sector have positive impacts on the economy, such as higher investment or higher GDP growth. On the other hand, broad money positively affects banks' lending decisions. Considering that reduced broad money cause a downward pressure on domestic credits. Thus, lower domestic credit means lower economic activity.

These results are very important for banks as well as for firms and even policy makers. To be clearer, it is important for firms to understand that during unsteady periods, attention should be drawn to economic policy uncertainty, considering the fact that the latter affects the market in which they operate. On the other hand, policy makers should be more prudent when formulating macroeconomic policies. Bad economic conditions may put pressure on policy makers to mitigate the negative effects of increased uncertainty, which it turn, may raises concerns regarding the success of economic policies.

5.2. POLICY IMPLICATIONS

In this study, we found that there is a negative correlation between the lending decisions of banks and economic policy uncertainty. In this respect, we will put forward our views on what policies can be implemented to eliminate the negative impact of policy uncertainty on credit volume. The most fundamental and successful way to eliminate the negative impacts of policy uncertainty is undoubtedly to establish an economically and politically stable system where access to information is at high levels. However, this is not always possible. Especially in a political and financial environment that has been intertwined in the last century, any policy makers or countries cannot be fully successful in eliminating economic policy uncertainty. However, there are still certain policies that can be applied to reduce uncertainty.

First of all, access to information and free circulation of information will have a diminishing impact on policy uncertainty. The fact that all players in the market are at the same level of knowledge will prevent economic externalities and prevent uncertainty. Because, if there are restrictions on access to information and a lack of transparent information flow, different economic agents, including those with and without knowledge, will apply different behaviors and policies. Besides, this situation will have negative consequences in terms of equality in opportunity.

In addition, a transparent monetary policy and a transparent tax policy will have a positive effect on uncertainty. If firms do not expect to encounter shock policy changes, they will be able to make more accurate forecasts and plans for the future. Companies whose estimates and policies are consistent will be less affected by the financing needs shocks. Another advantage of transparent policies is to create an environment of trust and increase the likelihood of monetary and tax policies to be effective. The independence of central banks is also very important in order to make rational decisions without being influenced by populist policies. The existence of

an independent decision-making central bank will protect the economy against uncertainty shocks.

The Economic policy uncertainty stems from the future uncertainties. Banks may face difficulties such as choosing who they will lend to during periods of uncertainty. For this reason, following open and transparent policies will reduce the uncertainty and lead to more sound decisions made by banks.

The timing of actions taken to overcome the financial crisis is also very important. Policies that are not implemented in a timely manner will increase the impact of the shock and will create a greater uncertainty.

Regulation is another tool that policy makers can use to reduce uncertainty. In an unregulated economy, the damage caused by companies acting for profit will be very high. Accurate and rational regulations will help prevent those uncertainties. In particular, the regulations to be made in the financial sector will prevent banks from over-growing and will prevent banking crises. Thus, uncertainty arising from banks will be minimized.

There are some precautions to be taken by firms in order to minimize the difficulty of finding financing that may occur in uncertainty periods and the negative impact related to this. Firms should diversify their types and source of financing, and develop relationships where they can find financing from abroad. Thus, they will not face any difficulties caused by lack of financing sources in periods of uncertainty in which domestic credit volume declines.

6. CONCLUSION AND RECOMMENDATION

Banks are one of the institutions that significantly affected by policy uncertainty. In particular, the positions to be taken against policy changes cause banks to face considerable uncertainty. These policy uncertainties may have significant effects on banks' risk taking behaviors and lendings. Rapidly growing literature suggests that uncertainty has negative effects on economic activity. In our study, we achieve results consistent with these findings. In the high economic policy uncertainty periods, economic activity is decline and credit volume shrinks.

We demonstrate that loans would decrease after economic policy uncertainty increases, making it harder for bank dependent firms to rely on external sources. Therefore, in times of uncertainty, banks will adopt a more conservative approach, review the lending decisions more closely, and reduce the loans they grant. As a result, firms may face increased challenges for high return volatility, long payback period and securing funds to invest on projects with high capital cost. Consistent with past researches, we notice that inflation takes a negative coefficient, indicating that as banks' lending decisions becomes more difficult when inflation increases. For instance, in periods of high inflation, the balance sheets of firms are deteriorating and this puts pressure on banks. Moreover, since high inflation is a factor that increases uncertainty, firms faces difficulties in estimating cash inflow and cash outflows. This lack of estimation increases the financing needs of firms, but as a result of the increase in loan rates, which depends on a high inflation, firms may be face a shortage of financing.

In this thesis, we investigate the impact of economic policy uncertainty on the domestic credit to private sector for 139 countries. We indicate that the rise in economic policy uncertainty index led to a remarkable decrease in the availability of private loans. Evidence is obtained from a large cross country data set. Our findings show the importance of political stability in the proper functioning of financial markets.

Finally, investigating the relationship between domestic credit to private sector and economic policy uncertainty, broad money, current account balance and inflation, can constitute potential avenues for further researches.

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