THE ACCESS TO FINANCE BY SMES IN TURKEY AND THE EU: A COMPARATIVE STUDY

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2019

THE ACCESS TO FINANCE BY SMES IN TURKEY AND THE EU: A COMPARATIVE STUDY

Thesis submitted to the

Institute for Graduate Studies in Social Sciences

in partial fulfillment of the requirements for the degree of

Master of Arts

in

International Trade Management

by

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Boğaziçi University

2019

The Access to Finance by SMEs

in Turkey and the EU: A Comparative Study

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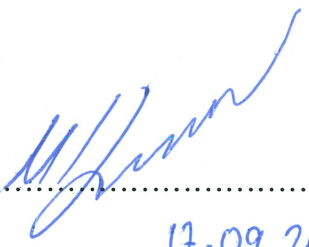

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ABSTRACT

The Access to Finance by SMEs

in Turkey and the EU: A Comparative Study

Access to finance is one of the major factors in the growth of Small and Medium-sized Enterprises (SMEs); which comprise 99% of companies in Turkey and the EU and have a large impact on GDP and unemployment. Therefore, this study aims to compare status and changes in the access to finance of SMEs in Turkey and the EU. Additionally, their access to finance is also evaluated according to their associate status, location, business area, exports, liquid assets, and establishment time. In developing the questionnaire used in this survey, some of the questions from the Survey on the Access to Finance of Enterprises (SAFE 2017) conducted in October 2017 on the EU SMEs, were modified. The questionnaire was sent to SMEs in Turkey through KOSGEB (Small and Medium-Sized Enterprises Development and Support Agency (*Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı*)) via e-mail. The responses obtained were compared with the responses from SAFE 2017 using analyses such as chi-square and regression (SPSS). Some key findings are: the second biggest issue for SMEs in Turkey is the access to finance, while this issue is the least important for SMEs in the EU; the increase in availability of financial sources for SMEs in the EU is much larger and they use them mostly for new investments, while SMEs in Turkey use them mostly for inventories; expenses for SMEs in Turkey such as labor and raw material cost increased more, which probably led to a decrease in profit and an increase in debts.

ÖZET

Türkiye’de ve AB’de KOBİ’lerin Finansa Erişimi: Karşılaştırmalı Bir Çalışma

Küçük ve Orta Büyüklükteki İşletmelerin (KOBİ`lerin), AB’deki ve Türkiye’deki tüm şirketlerin 99%’unu oluşturması nedeniyle işsizlik oranları ve GDP üzerinde büyük etkileri vardır. Finansa erişim ise KOBİ'lerin büyümesinde en önemli rollerden birine sahiptir. Bu sebeple, bu araştırma Türkiye’deki KOBİ’leri, finansa erişim durumları açısından AB’deki KOBİ’lerle karşılaştırarak incelemeyi amaçlamıştır. Bu tezde, Türkiye ve Avrupa’daki KOBİ’lerin 2017 yılının ilk yarısında, yaşadıkları finansa erişim ile ilgili durumları, değişiklikleri, tecrübeleri, ve sorunları iki anketi kullanarak karşılaştırılmıştır. Ayrıca bu tezde, KOBİ’lerin finansa erişimin durumlarının şirketlerin bulunan bölgelerine, tiplerine, sektörlerine, çalışan sayılarına, ciro miktarlarına, ihracat seviyelerine ve kuruluş sürelerine göre değerlendirmesine de yer verilmiştir. Karşılaştırma yapabilmek için, Avrupa Birliği’nde Ekim 2017 döneminde yapılan finansa erişim anketi SAFE 2017`den (KOBİ`lerin Finansa Erişim Araştırması 2017) alınan sorular Türkiye’ye uyarlanarak benzer bir anket oluşturulmuştur ve şirketlere KOSGEB (Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı) Kurumu üzerinden e-posta yolu ile gönderilmiştir. Elde edilen verilerin analizi yapılarak SAFE 2017 sonuçlarıile karşılaştırılmıştır. Ek olarak, bu ankette elde edilen veriler özelinde, SPPS uygulaması kullanılarak ki-kare testi ve regrasyon anlizi uygulanıp bazı faktörler arasındaki ilişkilerin durumu tespit edilmiştir. Tezin önemli sonuçları arasında: finansa erişim Türkiye’deki KOBİ’ler için en büyük ikinci sorun, fakat EU’daki KOBİ’ler için en küçük sorun olduğu; EU’daki KOBİ’lerin daha geniş

finansman imkanlarına ulaşabildikleri ve aldıkları finansmanı daha çok yatırım için kullandıkları, fakat Türkiye'deki KOBİ'lerin daha az finansman imkanlarına sahip oldukları ve aldıkları finansmanı genelde yatırım yerine envanter ve iş sermayesi için kullandıkları; ve Türkiye'de işçi ve hammadde maliyetlerinin oldukça yükseldiği ve tahminen buna bağlı olarak gelirin düştüğü ve borçların yükseldiği bulunmuştur.

ACKNOWLEDGMENTS

First of all, my heartfelt thanks to Ahmet Faruk Aysan, one of the most influential people in my entire life, who worked hard with impressive motivation and energy for the development of his students, science in general and our country and who instilled this deep motivation in all of us, and who made this thesis possible. Mr profound thanks also go to my advisor Ali Coşkun who guided me sincerely in this thesis journey of mine, who guided me where I stood, and who allowed my thesis to reach this point by tolerating and correcting my mistakes, and who struggled with me to perfect it when he realized that my thesis did not reach sufficient quality and quality, I am also sincerely grateful for my advisor Arzu Tektaş for her professional guidance, for creating a much higher-quality work than the first drafts. I would like to express my deepest gratitude to each of them. It would not have been possible to write this thesis for me without their guidance and help at all times.

I would like to thank my parents and my family, my love, and my friends, who have supported me financially so far, for enduring my hard times and tolerating my mistakes and motivating me.

A human becomes human only through the hands of other humans and I am grateful to them all for shaping me into a better human.

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ABBREVIATIONS

EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank Group
EU	European Union
GDP	Gross Domestic Product
IFC	International Finance Corporation
KOBİ	Small and Medium-sized Enterprise (*Küçük ve Orta Büyüklükteki İşletme*)
KOSGEB	Small and Medium-Sized Enterprises Development and Support Agency (*Küçük ve Orta Ölçekli İşletmeleri Geliştirme ve Destekleme İdaresi Başkanlığı*)
OECD	Organization for Economic Co-operation and Development
SAFE	Survey on the Access to Finance of Enterprises
SME	Small and Medium-sized Enterprise
U.S.	United States
UK	United Kingdom
UNDP	United Nations Development Program

CHAPTER 1

INTRODUCTION

The aim of this study is to compare status and changes in the access to finance of SMEs in Turkey and the EU. Additionally, it also evaluates access to finance according to their associate status, geographical location, business area, exports, liquid assets, and establishment time. The questionnaire used in this survey comprised of questions selected from the SAFE 2017 conducted in October 2017 on SMEs in the EU. Questions were modified and then sent to SMEs in Turkey through KOSGEB via e-mail.

1.1 Statement of the problem

SMEs have a very important role in the economies of all countries worldwide. They can positively affect the growth and gross domestic product (GDP), create employment and income opportunities, and even lead to social cohesion. There are numerous studies showing that one of the major obstacles in front of the growth of SMEs worldwide is the access to finance (World Economic Forum, 2009; Boachie-Mensah & Marfo-Yiadom, 2006; Organization for Economic Co-operation and Development (OECD), 2004; Beck, Demirguc-Kunt & Maksimovic, 2004). In addition, when talking about Turkey, Kaya and Alpkan (2012) show that access to finance remains the number one constraint for SMEs' growth and development.

1.2 SMEs worldwide

According to OECD (2004), the properties of SMEs in a country show a country`s economic, social, and cultural dimensions. In order to define SMEs, different countries have used different parameters. Even inside the same country, there might be different definitions used by different organizations (Dalberg, 2011; World Business Council for Sustainable Development, 2004). But, it can be summarized that the parameters used in most definitions are employee number, annual turnover, capital, assets` value, and the loan size, (Bitzenis & Nito, 2005; Holtz-Eakin, 2000; International Finance Corporation (IFC), 2009) or other categories such as ownership or management type (Voulgaris, Doumpos & Zopounidis, 2000). Many say that employment is the best parameter showing the size, since it is accessible, reliable, and can be easily used for the purpose of comparison (Voulgaris, Doumpos & Zopounidis, 2000). Therefore, some countries use the labor force size as the only basis in defining SMEs, while other countries use additional financial parameters like assets and/or turnover.

The United Nations Development Program (UNDP) for SMEs and large enterprises define small enterprises to have up to 20 employees, while medium enterprises have 21-99 employees, and large enterprises have more than 99 employees (UNDP, 2001). As cited by Bitzenis and Nito (2005), and in accordance with Klein (2002), most of the countries that are in transition, and the EU member countries, define small enterprises as those with less than 49 employees, medium enterprises as those with 50-249 employees, and large enterprises as those with more than 250 employees.

The European economy is based on SMEs; 20.7 million of the EU SMEs account for 98% of all enterprises, 58% of GDP, and 67% of employment (EC, 2013). At the same time, in the OECD area, 95% of all enterprises are SMEs, and they account for 60% of employment in the private sector (Dalberg, 2011).

1.3 SMEs in Turkey

SME definition varies in Turkey. The most widely known definition is the one by KOSGEB, which defines the enterprises with employee numbers less than 250, and an annual balance sheet or annual turnover of less than 25 million Turkish Liras (TL) as SMEs (KOSGEB 2012).

According to the Turkish Statistical Institute (2013), SMEs in Turkey comprise 99.9% of all enterprises, 53% of salaries and wages, 76% of employment, 63% of turnover, and 53.7% of gross investment in physical goods. 62.6% of exports in 2012 were from SMEs with 1-249 employees. When exports are divided across the SME groups; 20.6% was from micro-enterprises (1-9 employees), 24.3% was from medium-sized enterprises (50-249 employees), and 37.2% was from large enterprises (250+ employees).

1.4 Access to finance problem for SMEs worldwide

Although the contribution of SMEs is very high, numerous constraints are present that hinder their growth, performance, and sustainability. Among them are an unfavorable macroeconomic environment, administrative challenges, corruption in government, difficulty while accessing finance, and debilitating physical infrastructure (UNEP, 2007). However, according to many different studies, access

to finance was identified as the most common problem that SMEs face (IFC, 2009). This problem is mainly faced because of the risk perceived by lenders and the scarcity of resources (Cassar & Holmes, 2003). This represents a major concern for countries with such a problem since SMEs and entrepreneurship are recognized to be a key source of innovation, flexibility, and dynamism in advanced economies. They provide new markets and account for the biggest job opportunity creators in those economies (OECD, 2006a; 2006b). As Beck, Demirguc-Kunt, and Levine (2006) indicate, smaller enterprises constantly report larger financing obstacles when compared to medium and large firms. In addition; smaller, domestic, and younger enterprises report larger financing obstacles even once they fulfill all other required firm characteristics (Beck, et.al. 2006).

For some developed and most of the developing countries, the access to finance was defined as the biggest constraint according to different studies (Mina, Lahr & Hughes, 2012; Beck, 2007; Cassell, 2006). Also, according to Beck (2007), access to and cost of finance have been ranked as one of the features most constraining in the business environment for SMEs. Also, according to the OECD (2006b), since SMEs have a high contribution to national income and employment in developing countries, if they do not get access to finance, they cannot invest; therefore they are not able to raise competitiveness, generate employment, improve productivity, promote innovation, and add to economic development and growth.

According to the World Bank Enterprise Survey, in low-income countries, around 43% of companies with 20-99 employees point the access to finance as the biggest constraint in business operations; while just 11% of companies with 20-99 employees claimed the same (IFC, 2013).

1.5 Reasons behind the access to finance issue and the financing gap

According to Harvie (2010), the problem of access to finance by enterprises, or the financing gap, can be explained by the theory of non-perfect information in capital markets by Stiglitz and Weiss (1981). This financing gap represents the gap between the supply of funds and the demand for the funds by SMEs (Park, Lim & Koo, 2008). In addition, according to many different studies, a financing gap occurs when an enterprise has profitable investment opportunities, however, it cannot afford to exploit them (Cosh, Cumming & Hughes, 2009; Mina, Lahr & Hughes, 2013).

According to Sarapaivanich (2006), this financing gap can be a consequence of supply-side factors or demand-side factors. The supply-side factors relate to the willingness of fund suppliers to provide fund opportunities to SMEs on terms that are acceptable to them (Sarapaivanich, 2006). The demand-side factors relate to entrepreneurs that do not use the existing financing opportunities, due to a shortage of well-designed projects or lack of profitable business plans (OECD, 2004). These factors also include the unwillingness of entrepreneurs to make available funds due to reasons like loss of control over the business, perception, preferences, and knowledge. This is stressed upon by Zavatta (2008), who points to SMEs advocating the inaccessibility of finance, while venture capitalists complain about the shortage of investable firms.

Winker (1999) as cited in Roper and Scott (2007) did a study on reasons of financial constraints and discovered that these are affected by the age and size of the firm. Also, Momani, Alsharayri, and Dandan (2010) and Sorooshian, Norzima, Yusuf and Rosnah (2010) showed that factors which affect the financing decision of

SMEs include entrepreneurial characteristics and firm characteristics like the size and the age of the firm and the availability of business and collateral information. These factors were also brought up by Sarapaivanich (2006) and Olawale and Asah (2011).

1.6 Access to finance problem for SMEs in Turkey

SMEs in Turkey face different problems. According to Kaya and Alpkan (2012), the most prominent issues faced, after the constraints for meeting the financial requirements are the misuse of capital, managerial problems and lack of marketing. Issues coming after as less prominent ones are recruiting qualified staff, limited production capacity leading to high costs, managerial emotional decisions leading to organizational problems, not enough technological investment leading to labor-intensive manufacturing and having hardships in following up the international markets (Kaya & Alpkan, 2012), Also, Sener, Savrul and Aydin (2014) list different issues SMEs in Turkey are facing as financial problems, global competition, exploiting new technologies, institutionalization, marketing, internationalization, and managerial problems. Also, according to Ekinci (2003), if SMEs in Turkey could deal with difficulties related to accessing financial resources, they could address input procurement, manufacturing, training, and marketing problems more extensively. Therefore, although SMEs in Turkey face different types of problems, the issue of meeting the financial requirements stays the most important one, according to various studies referenced in this paragraph.

The latest Global Competitiveness Report (2018) lists Turkey at very low, 86th place among 140 countries surveyed, in the context of financing of SMEs. In addition, the Global Competitiveness Report (2018) reports the following:

> While its innovation performance is good, with strong research institutions (listed 19th among 140 countries) and a good publication record, ideas generated by Turkey's research community face many bottlenecks further down the value chain in terms of barriers to entrepreneurship and market functioning. Starting a business is relatively costly (listed 87th among 140 countries) and the business sector is cautious to embrace disruptive ideas (listed 74th among 140 countries). (pp. 31)

1.7 Organization of the study

This thesis is organized into six chapters. The first chapter, Introduction, is a quick overview of the problem addressed in this thesis, and the organization of this study. The next chapter represents the detailed literature review on the access to finance of SMEs in Turkey and worldwide. It explains the SMEs in general, their roles in a given economy, their ways of financing themselves, and the financial issues they face. The third chapter explains the methods used in data collection, sampling, and statistical analyses applied. At the same time, the size of the data collected is indicated. The fourth chapter presents the results of the questionnaire applied to the Turkish SMEs in this research. Using the SPSS chi-square and regression analyses of the obtained data, this chapter also attempts to arrive at statistically meaningful and significant results. Once the results of the survey are presented, the fifth chapter summarizes the key findings inferred from the previous chapter. After key findings are emphasized, the sixth chapter discusses few matters: the role of SMEs in the economy, the status and changes in the access to finance of SMEs in Turkey based on this study, and comparison of the SMEs in Turkey and the SMEs in the EU in

terms of access to finance. The sixth chapter concludes with the main findings of this thesis.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the detailed literature review on the access to finance of SMEs in Turkey and worldwide is presented. It explains SMEs in general, their roles in a related economy, their means of financing and the financial issues they face.

2.1 Why study SMEs

As explained in the previous chapter, small and medium-sized enterprises comprise a major part of the economies of developed and still developing countries. They add to economic growth by creating job opportunities and supporting balanced social and economic development. Because of these great contributions, many different countries are implementing policies that inspire establishing, protecting and developing SMEs.

Turkoglu (2002) pointed out that the 1930 crisis was the first to time the importance of SMEs in economic development in Turkey was realized. He explained that after the 1970 and petroleum crisis, an increase in the quantity of SMEs occurred. This had a positive effect on regional development due to the fact that SMEs usually can localize to rural areas and produce income in there. In this way, they create employment opportunities for non-qualified labor and reduce relocation to urban areas. This is reinforced by Ilhan (2006), which indicates the political and socio-economical transformation period after the 1970s. In addition, Catal (2007) also supports this fact, by indicating that SMEs do prevent regional variances, thus contribute to noteworthy regional development.

SMEs in Turkey comprise 99.9% of all enterprises, 53% of salaries and wages, 76% of employment, 63% of turnover, and 53.7% of gross investment in physical goods. 62.6% of exports in 2012 were from SMEs with 1-249 employees. (Turkish Statistical Institute, 2013) Therefore, in the case of Turkey, implementing new policies that will target SMEs is crucial. However, Basci and Durucan (2017) indicate that studies explaining the meaning of SMEs for the economy have started to emerge only after the 2000s.

2.2 Problems SMEs in Turkey face are various

Karadag (2015) groups the problems that SMEs in Turkey face in the following manner: innovation and technology, internationalization issues, financial limitations, entrepreneurship, green technologies, start-up costs and bureaucratic problems, information and communication technologies, and labor. Kaya and Alpkan (2012) also highlight the non-professionalized management issue, which arises due to the fact that business management and ownership in SMEs are usually done by the same individual and the owner is the only authorized person in the process of decision making. Willis-Ertur and Vader (2015) reveal owners as lacking formal business plans or well-studied strategies to help attain business goals. In addition, the family-run type of many SMEs leads to the conclusion that most owners do not have the needed training or expertise for strategic decisions in both financial management and human capital (Willis-Ertur & Vader, 2015).

2.2.1 Access to finance problem in Turkey

The access to finance problems for SMEs in Turkey has been and still continues to be a big burden and a constraint, especially the banking sector (Willis-Ertur &

Vader, 2015). Business owners report the prohibitive loan conditions, like high-interest rates and very strict collateral requirements. A mismatch lasts between expectations of banks and SMEs, resulting in SMEs continuing to be perceived as very high-risk investments and adding to a distrustful relationship, eventually harming both enterprises and banks. Greater access to capital, especially to long term financing, would most probably help SMEs to invest in expansion and better competitiveness (Willis-Ertur & Vader, 2015). Another study by Ayyagari, Demirgüç-Kunt, and Maksimovic (2006) also shows that SMEs are more restricted in their operation and expansion than larger enterprises and access to financial services is significant among the restrictions.

Güzeldere and Sarıoğlu (2014), in their İstanbul-based study on SMEs, show that 53% of SMEs in Istanbul use equity to finance their activities, 68% said the access to finance is a major problem for them, and just 7% indicated they do not have any financing problems. All respondents pointed to high-interest rates and the need for collateral as the major obstacle and these represent the main reasons for them preferring equity financing (Güzeldere and Sarıoğlu 2014, 235). Another survey on SMEs in Gaziantep shows that 67% of SMEs address access to finance like the biggest obstacle they face, and 46% are not able to use bank loans in their activities (Civan 2012). One other study yet, in Aksaray and Mersin, concludes that 60% of SMEs have funding problems (Çelik and Karadal 2007). The listed studies emphasize the challenges that Turkish SMEs face in access to finance and point to collateral requirements and high-interest rates as the biggest obstacle to access to finance.

2.3 Access to finance

Access to finance relate to the possibility of individuals or enterprises making use of financial services, that include credit, payment, deposit, insurance, and different other risk management facilities (Demirgüç-Kunt, Beck & Honohan, 2008).

Households and firms not considered bankable are those whose incomes are extremely low or those who pose an excessively high lending risk. There are also three other involuntarily excluded categories that are not bankable due to discriminatory policies, and deficiencies in the informational and informational frameworks (Beck, Demirgüç-Kunt & Honohan, 2009).

According to Hainz and Nabokin (2009), firms having a demand for external finance are firms accessing external finance, firms that applied for it but were rejected, and firms which were disheartened from applying for it.

Financial structure (capital structure) represents the composition of one firm`s capital with respect to various sources of funds (Gajurel, 2005). As Abor (2008) explains, the financial structure represents the specific mixture of equity and debt that a firm uses for financing its operations.

2.4 Capital structure determinants

Many different factors can affect the selection of financing sources by a company. Some of them are the size of the firm, age of the firm, asset structure, growth, profitability, and firm risk (Titman & Wessels, 1988; Abor, 2008). In the case of SMEs, other factors like location of the firm, industry, entrepreneur ‘s gender and educational background, export level of the firm, and form of business might explain SMEs` capital structure (Abor, 2008).

Kira (2013) showed that the industrial sector, age, incorporation, and ownership type are the most significant firm characteristics in access to finance for SMEs in East Africa. In addition, Wignaraja & Jinjarak (2015) also found that export participation, age, foreign ownership, financial audit, managerial experience, industry and having ISO certificate determine the source of financing and kind of collateral in East Asia.

According to Cakova and Önder (2011), the characteristics, like the industrial sector and size of the firm are significantly important when assessing the capital structure of Turkish SMEs.

2.4.1 Age of the firm

One of the main factors that define the financial structure of a company is its age. Firm age has important effect on the firms' financing decisions and access to finance; therefore, there is a direct link in between the age of a firm and firm`s capital structure (Berger & Udell, 1995; Bhaird & Lucey, 2010) According to Abor and Biekpe (2009), one standard unit of reputation in models of capital structure is the age of the firm. As a firm endures the business over a certain period, it establishes itself increasing its capacity to gain more debt. Diamond (1989) points to the use of a firm reputation to overcome problems related to creditworthiness evaluation. He explains the reputation as the reliable name a firm made over the years, that is recognized by the market due to its ability to finish its obligations on time. Abor and Biekpe (2007, 2009) and Abor (2008) also detected a positive correlation between the long-term debt percentage and the age of the firm among SMEs. Abor (2008) determined this to be an indicator that older SMEs will be more

dependent on long-term loans since they can address the issues of information asymmetry and depict a good credit history.

During the start-up phase, personal savings of the owner are used more as a source of financing for SMEs than external finance, but these do not usually fulfill the financial needs of the enterprise (Storey, 1994). Later, in the early growth phase, leasing and trade credits become more important financial sources, but they do not usually prevent liquidity problems. Towards the top of the growth phase, the means of longer-term financing convert to being more important (Storey, 1994).

The study of Mahmud and Akin (2019) shows that the age of the Turkish SMEs has a significant impact on choosing short-term and long-term financing models. Older firms showed to be more dependent on bank financing and their dependence on the internal model of financing is reduced (Mahmud & Akin, 2019). While discussing the age of the firms in Turkey, it would be appropriate to indicate that in Turkey, only 10% of established businesses last longer than three and a half years (Willis-Ertur & Vader, 2015).

2.4.2 Asset structure

Asset structure is another important factor related to SMEs' financial structure (Abor & Biekpe, 2009). Gajurel (2005) explains that physical assets act as collateral and give security to borrowers if financial distress happens. Thus, it can be concluded that companies with high levels of physical assets are able to offer collateral for debts (Pandey, 2001). At the same time, firms with more physical assets have a higher liquidation value (Harris & Raviv, 1991; Titman & Wessels, 1988), so they have bigger financial leverage as they take loans at lower interest rates since their debt is protected with the assets (Bradley, Jarrel & Han, 1984).

Abor and Biekpe (2009) show that there is a positive significant relationship between both short-term and long-term debt with an asset structure for SMEs in Ghana.

At the same time, one of the major issues for Turkish SMEs in the access to finance is the banking system which relies deeply on fixed-asset collateral when talking about SME finance and does not exploit movable assets for the same purpose. Furthermore, because of the short-term deposit base, long-term loans are not available to SMEs (OECD, 2016).

2.4.3 Firm risk

Firm risk is another important factor in SMEs' financial structure (Kale Thomas & Rameriz, 1991; Abor & Biekpe, 2009). Abor (2008) explains that the more unstable a firm‘s earnings flow, the bigger the chance of the firm bankrupting. Kim and Sorensen (1986) also found that firms with a high level of business risk cannot usually sustain financial risks and therefore, use less debt.

This problem is very important for Turkish SMEs also. They are not able to use bank loans due to the high risk they represent. Willis-Ertur and Vader (2015) highlight the fact that financial services providers in Turkey find financing SMEs extremely risky due to bankruptcy possibility since only 10% of SME businesses in Turkey manage to survive more than three and a half years. Derelioglu and Gürgen (2011) suggest that due to repeated economic fluctuations and the insecure nature of SME business, performing accurate credit risk analysis is very important; however, this analysis should not be too restrictive or too loose. Derelioglu and Gürgen (2011) compare various methodologies in the literature for investigating the credit risk of SMEs in Turkey like neural networks, logistic regression, support vector machines, and the algorithm of k-Nearest Neighbor. There are new intelligence-gathering

systems, Memzuç and the Credit Bureau (KKB), that collect information on SMEs to increase their transparency and help calculation of risk by banks: they act as an intermediary between banks and SMEs, they represent a new solution for risk management (KOSGEB, 2012).

The big size of the informal economy represents one another major key challenge that makes SMEs in Turkey highly risky. The informal economy comprises 31% of the Turkish economy in comparison with 18% in OECD economies (OECD, 2016). For this reason, Turkish SMEs usually cannot provide the correct revenue analysis. Therefore, banks see them as highly risky customers and charge them extremely high-interest rates.

2.4.4 Profitability

Firms choose to finance their business activities with internal funds more than debt if the internal equity seems sufficient (Gajurel, 2005). Therefore, profitable firms, that have retained earnings, can use them for financing their business activities more than reaching outside sources (Cassar & Holmes, 2003; Gajurel, 2005; Liu & Ren, 2009; Abor & Biekpe, 2009). Therefore, firms with more profitability will use more retained earnings and a smaller amount of debt (Pandey, 2001).

2.4.5 Size of the firm

The size of the firm is another important factor in SMEs' financial structure (Gajurel, 2005; Bas, Muradoglu & Phylaktis, 2009; Abor & Biekpe, 2009). Larger firms tend to have a smaller variance of earnings, thus being less prone to bankruptcy and being able to tolerate large debt ratios (Pandey, 2001; Gajurel, 2005; Abor & Biekpe, 2009). Cardone-Riportella and Cazorla-Papis (2001, pp 6-7) indicate that the size of

the firm makes available to lenders an indirect estimate of the credit risk. The bigger the number of employees and sales, the bigger the self-financing capacity and the capacity to encounter interest payments. This fact is also confirmed by many other studies (Booth, Aivazian, Demirgüç-Kunt & Maksimovic, 2001; Al-Sakran, 2001; Rajan & Zingales, 1995; Titman & Wessels, 1988).

2.4.6 Macroeconomic factors

Jenkins et al. (2014) define the relationship between credit growth for SMEs and the fluctuating macroeconomic environment in Turkey. They show that an increase in the growth rate of GDP and rivalry in the Turkish banking sector affect positively the availability of bank loans to SMEs. Furthermore, alleviating the high inflation rate and decreasing government domestic borrowings significantly help enlarge SME bank credits likewise (Jenkins et al., 2014). Cakova and Önder (2011) also show that firms decrease their average debt ratios as the macroeconomic conditions improve in Turkey.

Sahin et al. (2014) studied the issue of the ownership structure of banks, which represents the share of foreign ownership in that bank. They concluded that the higher the share of foreigners, the lower the credits given to SMEs. Such banks lend only to less risky customers. This might be due to foreign banks using risk analysis more efficiently (Sahin et al., 2014).

2.4.7 Export level

Export-oriented firms seem to have more trouble-free access to finance (Arráiz, Meléndez, & Stucchi, 2011). Additionally, export processing zones will be more likely to get bank loans when compared with other locations (Ayyagari, Demirgüç-

Kunt, & Maksimovic, 2010). Firms having better export performance have the sunk cost of foreign market access covered (Leitner & Stehrer, 2013).

In 2015, 55.1% of Turkish SMEs were included in export transactions, while 37.7% are included in imports as the main business model. In the export, 17.7% of them were micro, 20.3% were small, 17.1% were medium-sized, and 44.8% of them were large enterprises. In the import, 6.3% of them were micro, 13.1% were small, 18.2% were medium-sized, and 62.3% of them were large enterprises (Turkstat, 2016).

Ilgün and Muratovic (2013) show that most of the SMEs in Turkey will most likely fail to expand their market, especially internationally, due to the high costs of entering that market. Altintas and Ozdemir (2006) calculated the degree of internationalization for Turkish SMEs to be 1.622 on the scale of 5, which is much lower than the average. Yener et al. (2014) list the problems a firm in Turkey faces during its internationalization process as lack of ownership of marketed products, lack of managerial commitment to non-domestic markets, lack of knowledge on marketing and creating international networks, lack of cooperation and trust in the firm`s own network, and lack of trust to foreign markets. Still, Willis-Ertur and Vader (2015) emphasize that the major portion of Turkish SMEs are actually interested in expanding to international markets. Most of them showed interest in expanding to the Middle East and to Turkic nations. Therefore, there is a big potential to enlarge the competitiveness of Turkish SMEs in the international markets.

When considering the use of financing sources according to the export level, Mahmud and Akin (2019) found that SMEs in Turkey with a higher share in exports rely less on their internal funds.

2.4.8 Location

The location of the firm is another notable factor in SMEs' financial structure. Being far from the bank branches or financial centers is an important reason for not applying for a loan (Demirgüç-Kunt & Klapper, 2012). There also happens to be a positive association between being near to banks and obtaining external finance, bank loan or any other (Abdulsaleh & Worthington, 2013). Shinozaki (2012) also shows that urban SMEs record higher growth rates when compared to rural ones. However, SMEs are put into a dilemma, on one side SMEs want to work in urban areas to get external finance for their business operations; but on the other side, urban areas are more costly for SMEs in terms of rentals and operating costs (Abor, 2008).

2.4.9 Ownership structure

Elliott (1982) emphasizes that entrepreneurs are the major propellers of economic development. The ownership structure of the firm is another notable factor of SMEs' financial structure. Usually, incorporation is seen as a positive characteristic besides formality and credibility by banks and other finance institutions (Cassar, 2004). Therefore, incorporations access finance more easily when compared to sole proprietorships. Van Auken and Neeley (1996) point out the fact that entrepreneurs launching firms as a sole proprietorship must be prepared to look for different financing sources more than other firms.

Most of the enterprises (80.6%) in Turkey are operated by the owner of the enterprise (Ozar, 2004). The sole proprietorship proportion declines in the

manufacturing sector and reaches its peak (73.4%) in the hotels-restaurant sector (Ozar, 2004).

2.4.10 Sector

In accordance with the sectoral groups, 39.2% of SMEs in Turkey was reported as active in retail trade and wholesale and the repair of motorcycles and motor vehicles, 15.4% in storage and transportation, and 12.4% in manufacturing in 2014 (Turkstat, 2016). Citing an older statistics from 2012, 44% of SMEs in Turkey were reported as active in retail trade and wholesale, 17% in storage and transportation, 14% in manufacturing, 6% in professional, scientific, and technical activities, 10% in accommodation and food services, 1% in the information and communication sectors, and 6% in construction (Turkstat, 2012)

2.5 Sources of finance

There are multiple sources of finance that can be accessed by firms. They can be grouped as debt or equity, internal or external, and formal or informal. Equity finance in the case of SMEs represents the money put into the business by owners or/and investors for a proprietorship position in the enterprise. Debt finance represents the money borrowed which will be paid in an agreed time period with interest. Debt providers do not take proprietorship positions in the enterprise (Sarapaivanich, 2006). Sources of finance can be broadly grouped as internal or external sources of financing according to the place where it comes from. If the fund is taken from retained earnings, or the owners, it is called an internal source of finance (Holmes, Hutchinson, Forsaith, Gibson & McMahon, 2003; Sarapaivanich, 2006). Among external sources of finance are informal sources like family and

friends or business angels; and the formal ones like bank loans, trade credit, leasing, government schemes and venture capital (Ayadi, 2005; Kraemer-Eis & Lang, 2012).

In Turkey, most of the SMEs are dependent on bank financing. This dependence seems to be higher when compared to other countries (Şeker & Correa, 2010). Trade credit seems to be the second most popular source of finance for Turkish SMEs (SAFE, 2013) Also, the most frequent type of non-bank financing is leasing, with SMEs comprising 40% of leasing clients (OECD, 2016). At the same time; KOSGEB, a governmental institution for support of SMEs, offers grants and financial aid in few categories like project-based support, general support, loans of emergency support, entrepreneurship, and equipment and machinery support (Yagci, 2018). Some other alternative sources of finance for SMEs in Turkey include factoring, forfeiting, barter, venture capital, and international projects support (Ozer, 2016) However, most of the SME owners in Turkey do not have enough information on most of these alternative types of financing, utilization rate is very low and they usually depend on family loan or a bank loan (Ozer, 2016). There used to be an alternative for Turkish SMEs like loans with low-interest rates taken from international financing institutions, however, due to Turkish lira (TL) depreciation this option became abounded, it even increased the debt burden for the SMEs which already utilized such an option (OECD, 2018a).

2.5.1 Internal sources of finance

Internal sources of finance are comprised of retained earnings and owners‘ equity. The internal sources of finance are used extensively in the first stage of innovative start-ups` lifecycle since they are highly risky, lacking any physical assets to provide as collateral and being informationally opaque (Nguyen & Ramachandran, 2006;

OECD, 2004; Carpenter & Petersen, 2002; Coleman & Robb, 2010). The usage of internal sources enables the SMEs' owners to keep control of the firm and their managerial independence (Mac an Bhaird, 2010).

Guzeldere and Sarioglu (2014) found that SMEs depend on their own capital more than the larger enterprises in Turkey and no significant difference was found among different sectors. Additionally, Mahmud and Akin (2019) show that SMEs in Turkey prefer to use the internal sources of finance for working capital even if they are big and not in their initial stage.

2.5.2 External sources of finance

External sources of finance include angel financing, loans from family and friends, venture capital, leasing, trade credit, government schemes, and bank financing. They are discussed in detail afterward.

2.5.3 Loan from family and friends

Loans from family and friends are extensively used by SMEs, particularly at the start-up stage, when financial institutions do not provide funding due to the high risk involved (De la Torre, Martinez Peria & Schmukler, 2010; OECD, 2004). Korosteleva and Mickiewicz (2011) observed that empirical studies relating to start-up financing (such as Ravid and Spiegel, 1997; Huyghebaert 2001 and Bygrave, 2003) found that start-ups usually exhibit a very low ratio of formal external financing, thus mostly depending on their own equity and informal finance, especially loans from family and friends and investments from business angels.

OECD (2006) showed that approximately 75-90% of Asian SMEs depend on internal sources of finance and borrowing from their families and friends; opposite to

the 3-18% that have access to formal sources of finance. Also, SMEs in Bangladesh also mostly use loans from their families, friends, and close acquaintances (Haque and Mahmud, 2003).

2.5.4 Angel financing

As explained by Ayadi (2005), angel financing represents a non-intermediated market where the people, who want to invest in star-ups in their early stage of development, can do it through an equity contract, usually a common stock. This type of financing is very important for SMEs in the critical early stage (Ayadi, 2005). Angels take a great risk to obtain high returns; they also utilize their knowledge and expertise, offer their advice on the development of the products, help in marketing strategies` implementation and make sure there will be following financial deals (OECD, 2004).

In the United States, so-called angels were predicted to start ten times more deals than formal firms for venture capital (European Commission, 2001). In Europe, the angel investments were predicted to be between 10 billion euros to 20 billion euros per year, while venture capital investment in the early stage was 4.1 billion euros (OECD, 2004).

In Turkey, the Turkish Treasury provides tax incentives to angel investors, meaning that 75% of the invested amount can be reduced from taxes, and this rises to 100% if the SME is involved in government-supported technical projects. Angel investors can own a maximum of 50% of SME shares and must hold the shares for at least two years. They are also expected to give technical help to their SMEs. The amount that can be invested in 10,000 U.S. dollars – 475,000. U.S. dollars (Terzi,

2015) Ertürk and Öcal (2014) indicate that in the first year of the program, 182 business angels were licensed.

2.5.5 Venture capital

Venture capital represents equity or equity-linked investments in privately held, young companies, in which the investor can usually be active as an advisor, a director or maybe a manager of the firm (Kortum & Lerner, 2000). Venture capital addresses the funding needs of firms that usually do not have the assets, size, or operating histories that are necessary to get the capital from other more traditional sources like banks (Adhikary, 2009).

In Turkey there are several venture capital funds like Anatolian Venture Capital Fund, targeting SMEs in the developing provinces of Anatolia (KOSGEB, 2014); KOBI Venture Capital Investment Trust, which targets local SMEs in whole Turkey (Oktem, 2014); and Istanbul Venture Capital Initiative, which collects various funds underneath its roof (KOSGEB, 2014).

2.5.6 Trade credit

Trade credit refers to a firm purchasing goods and services that will be paid later (Huyghebaert, Van de Gucht & Van de Hulle, 2007). The trade-credit paying period is usually thirty to sixty days (Olawale & Akinwumi, 2010). Olawale and Akinwumi (2010) emphasized the factors influencing trade credit as business information, managerial competences, networking, age of the firm, location and size.

The usage of trade credit has been increasing among the European SMEs (Ayadi, 2005). SMEs, when compared to large firms, use trade credit more extensively, most probably due to transaction and financing motives (Elliehausen &

Wolken, 1993). Abdulsaleh and Worthington (2013) explain the transaction motive as the better ability for the seller and the buyer to foresee their short-term cash needs. The financing motive, on the other hand, is that SMEs rely on trade if when alternative sources of finance are not available or are more expensive (Abdulsaleh & Worthington, 2013)

2.5.7 Leasing

Leasing represents an agreement between the asset`s owner and the asset`s user, which gives the right to the user to use the asset but in return for paying payments over the decided time period (Scholz, 2007). This is a way of obtaining an asset without paying cash or taking loans. This type of financing is attractive for SMEs since it does not uptake the cash that would be given to fixed assets (Ayadi, 2009).

2.5.8 Bank financing

Banks have an important role in SME financing. Many studies have shown the banks as the main external financing source for SMEs in different countries (Beck, Demirgüç-Kunt & Maksimovic, 2008; Beck, Demirgüç-Kunt & Martínez Pería, 2008a). Banks also control the domestic financial structure in most countries, especially in developing ones, where different sources of external financing might not be available (Stephanou & Rodriguez, 2008). Calice, Chando, and Sekioua (2012) point out that a pivotal element in the growth of SMEs is access to finance, especially bank financing. IFC (2009) indicates that governments all around the world have started to recognize the importance of the SME sector. Additionally, it points to banks that have started to develop tailored approaches to defeat the challenges of high cost and credit risk to serve SMEs. The determinants of the level

of bank financing provided to SMEs are competition, demand factors, corporate strategy and regulatory, macroeconomic, and institutional factors (World Bank, 2007)

Beck, Demirgüç-Kunt and Martínez Pería (2008b) made a study on bank financing for SMEs based on 91 banks surveyed in 45 countries. They found that banks perceive the SME sector as highly profitable and try to serve it through numerous organizational setups and lending technologies. They reported that banks seem to reach out to SMEs according to their own status. Rocha, Farazi, Khouri, and Pearce (2011) studied the bank financing to SMEs in the regions of the Middle East and North Africa. Results show that the SMEs sector, although perceived as attractive, remains highly underserved. Martínez Peria (2009) tried to compare bank financing to SMEs in Africa to other countries. Results showed that the bank financing to SMEs in Africa is mostly short-term and not as significant as in other developing countries. Fees on SMEs loans in Africa are nearly twice as high as any other developing economy. Interest rates on SMEs happen to be five to six percent higher.

In 2014, banking assets comprise 94% of all types of financial assets in the Turkish economy (IMF 2017c, 27). Therefore, SMEs depend mostly on the banking sector for accessing finance (Gültekin-Karakaş 2005). Almost all 49 banks, from public, international and private sectors, that operate in Turkey have founded SME departments or at least units to give customized financial services to SMEs (Willis-Ertur & Vader, 2015). Moreover, government agencies, international finance institutions, local administrations, and occupational organizations interfere in the credit markets by tools like interest subsidy, credit guarantee, and regulative subsidies. The most important such domestic actors are KOSGEB, regional

development agencies, and Exim Bank. Also, there are EU actors like the European Bank for Reconstruction and Development (EBRD) and the European Investment Fund (Willis-Ertur & Vader, 2015).

The percentage of SME loans has improved from 4% during 2004 to 37.5% in 2012 (Willis-Ertur & Vader, 2015). Despite all these, according to Willis-Ertur and Vader (2015), 42% of interviewed SMEs still said access to finance is one of the most important issues. The main reasons for such a situation are indicated as very high-interest rates, the hard finding of collateral and misunderstandings between banks and SMEs. However, in this same study, 12% of the participants also admit manipulation of their financial statements to get the best offer from the bank, which represents the deliberate damaging of the risk assessment by the bank. Most of the SMEs were clients in multiple banks and were working with a couple of them which represents the opposite contrast to the preference of the bank towards loyal and long-term relationships (Willis-Ertur & Vader, 2015). For the Eastern Mediterranean and Southern regions of Turkey, Ayadi and Gadi (2013) specify three major factors for the exclusion of SMEs from credit markets: suitable collateral, information asymmetries, and suitable track record.

Mahmud and Akin (2019) found that while SMEs worldwide that are experiencing problems with access to finance does not depend on bank financing but depend much more on their internal funds, Turkish SMEsdepended more on bank financing compared to internal funds. This shows a more dominant position of banks in Turkey when compared to other countries (Mahmud & Akin, 2019)

2.5.9 Grants and government incentives

Lately, governments worldwide started to recognize the importance of SMEs. Accordingly, governments have created several different schemes like direct loans, loan guarantees and interest subsidies (Ingólfsson, 2011) to support the elimination of the financing gap faced by SMEs due to market limitations on the supply side. In some cases, government funds are facilitated by financing coming from bilateral donors or International Financial Institutions (Zavatta, 2008). According to Bakker, Klapper and Udell (2004) governments worldwide invest billions of dollars annually in equity and loan guarantee schemes, soft loan schemes, venture capital trusts, equity investments, grants, and other agendas to face the funding disparities in their economies. Governments can also indirectly help SMEs' financing. Calice, Chando, and Sekioua (2012) state that changing the legal environment can contribute to greater involvement of banks with SMEs. The legal framework for secured lending and creditor rights should be addressed since the collateral definition has been found as the major constraint to the growth of the lending market for SMEs.

Some of the initiatives across different countries to support SME financing include public guarantee funds and government-subsidized credit lines (De la Torre, Martinez Peria & Schmukler, 2010). Concrete examples worldwide are Chile‘s Fondo de Garantía para Pequeños Empresarios (FOGAPE) which promotes lending to SMEs by auctioning of the partial government guarantees (Beck, 2007); Brazil‘s Inovar initiative and National Venture Fund for Software and Information Technology in India (Zavatta, 2008); Fondo Nacional de Garantías in Columbia (De la Torre, Martinez Peria, & Schmukler, 2010) and also Bancóldex and FNG (Stephanou & Rodriguez, 2008) in Columbia; and partial credit guarantee schemes

(PCGs) in Middle East and North African (MENA) countries (Rocha, Farazi, Khouri & Pearce, 2011).

Turkish government introduced a variety of measures to support SMEs which need financing loan guarantees, interest rate subsidies and direct lending. In 2012, the regulatory framework for factoring and leasing was introduced. In 2013, tax incentives, legal support for the business angels, and a new law aiding the pledge of movable property were presented. Additionally, the Turkish Treasury promised to input over 2 billion TLs to funds in the venture capital industry in the period between 2015 and 2018. Also, the Turkish Government introduced specialized bodies for midsized and small stocks on the Istanbul Stock Exchange. The impact of these measurements remains to be seen (OECD 2016). However, according to Ozar (2004), all organizations targeting the growth of SMEs in Turkey, almost always target better-off companies, bigger SMEs and specific sectors as manufacturing.

2.6 Research gap

There is a limited number of studies focusing on access to finance for SMEs in Turkey. They mostly tend to concentrate only on problematic supply-side factors and miss to show the significant relationship between demand-side factors, meaning SMEs' characteristics, and access to finance. Even the studies which do explore access to finance with respect to SMEs' characteristics in Turkey do not cover a large scope of factors. At the same time, to our best knowledge, there is not any study directly comparing Turkish SMEs to the European SMEs except SAFE reports, which take only 300 SMEs in Turkey into consideration. This study aims to fill these research gaps to provide a better insight into access to finance of SMEs in Turkey. In this thesis, a diverse pallet of different SMEs characteristics representing finance

demand-side factors is identified and its relationship with respect to access to finance is statistically inspected. Therefore, this study provides a detailed skeleton of Turkish SMEs' characteristics and their relationship to access to finance. On the other hand, this is the first study of this scope, to our best knowledge, with 1500 SMEs in Turkey taken into consideration, that compares SMEs in Turkey and the EU according to their characteristics and access to finance. Therefore, this study provides an up-to-date and comprehensive comparative research that can be used in developing new regulations and reconstructing finance models addressing access to finance of SMEs in Turkey.

CHAPTER 3

DATA AND METHODOLOGY

In this chapter, methods used in data collection, sampling, size and characteristics of the data collected and the related statistical analyses are explained.

The questionnaire used in this survey comprised of questions selected from the SAFE 2017 conducted in October 2017 on SMEs in the EU. Questions were slightly modified and adapted to Turkey. Up to the best knowledge of the author of this thesis, there is not any software that saves the answers of the survey if the person answering does not fill all the questions. Therefore, such software was developed by the author of this thesis before the questionnaire was distributed.

SAFE is developed and conducted by the EC to keep track of the access to finance of SMEs during a certain period. SAFE is monitored jointly by the European Central Bank (ECB) and the EC. (ECB, n.d.) From 2008 on, they have worked together on a SAFE survey. The first report was published in 2009. The EU Commission started publishing the report annually in 2013. (ECB, n.d.) The SAFE report covers all of the EU countries. It is conducted twice a year: the first time by the ECB itself on the countries in the euro area and the second time in cooperation with the EC on all of the EU countries with some neighboring countries. In March and October every year, thousands of companies in Europe are contacted and asked about their financial experiences and how easily they manage to access finance. The respondents are mostly interviewed over the phone; however, they can also do the online survey (ECB, n.d.).

The flowchart of data collection and analysis performed in this study is shown in Figure 1. In the survey performed in this thesis, a questionnaire was sent to the

SMEs in Turkey through KOSGEB, a state institution in Turkey that is responsible for providing finance, incentives, and legal and logistical support to SMEs. The questionnaire was emailed in June 2017 and was answered by 1,518 firms.

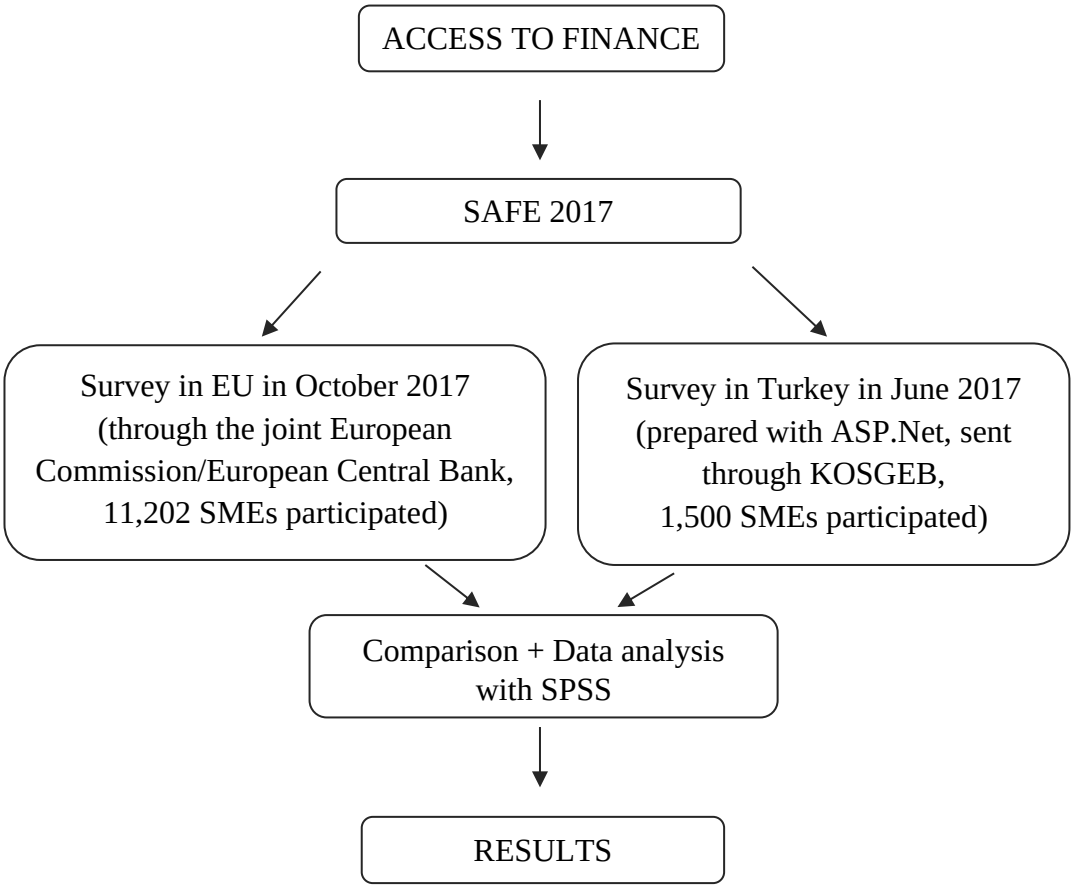

Fig. 1 Scheme of the steps followed in data collection and analysis in this study

The results of the survey performed in this thesis were compared to the results of the SAFE 2017, conducted in October 2017 on 11,202 SMEs, sampled from all of the EU and a couple of neighboring countries. Out of the 11,202 SMEs that replied, 15.4% answered online, while 84.6% answered through a telephone interview.

Finally, the data collected from the survey performed in this thesis was evaluated for the presence of any relationship among answers to different questions in the questionnaire. Therefore, in order to detect any statistically relevant

connection, chi-square and regression analyses were performed, using the SPSS software. All analyses were performed at a 95% significance level.

CHAPTER 4

RESULTS AND COMPARISON

In this chapter, the 22 questions of the SAFE questionnaire that were selected, modified and asked SMEs in Turkey, are pointed out in terms of the answers given to them, indicated in percentages. Distributions obtained are then compared to the results presented in SAFE 2017. In addition, according to the data obtained from the SMEs in Turkey, chi-square and multiple regression analyses were performed through SPSS software to determine the relationship between some of the distributions.

This chapter has three parts. The tables in the first part represent the distributions of all questions in the questionnaire of this survey, shown as frequencies and percentages. The tables in the second part represent the results of the chi-square analyses that were used to compare the company information with their access to finance. The significance level was 95%, $p < 0.05$. The tables in the third part show the results of the regression analyses.

4.1 Turkish SMEs distribution and comparison with SMEs in the EU in 2017

The following section of this chapter deals with the distribution of the answers given to the survey of this study and their comparison with the SAFE report where applicable.

As Table 1 indicates, out of the 1452 companies that answered the first question in this survey, 45.3% have more than half of the shares belonging to one partner, 51.5% were a family company or a joint venture, 2.3% were affiliated to another Turkish company and 0.9% were connected to another foreign company.

Table 1. Distribution of the SMEs in Turkey According to Their Associate Business Status

Associate Status	*n*	%
More than half of the shares belong to a shareholder	658	45.3
Family company or multi-stakeholder	748	51.5
Connected to another Turkish company	33	2.3
Connected to a foreign company	13	0.9

Note: Question one in this survey - How would you characterize the company subject to the survey?

As Table 2 indicates, out of the 1399 companies that answered the second question in this survey on are of business they are having activity in, 11.9% companies were construction companies, 20.4% companies were industrial (production, mining, electricity, gas, and water supply) companies, 17.7% companies were engaged in trade, 2.6% companies in transport, 1.6% companies in agriculture, 1.3% companies in financial services, 12.4% companies in other services (hotel, restaurant, IT informatics, etc.), and 32% companies declared that they were operating in other areas.

Table 2. Distribution of the SMEs in Turkey According to Their Area of Business

Area of Business	*n*	%
Construction	167	11.9
Industry (production, mining, electricity, gas, and water supply)	286	20.4
Trade	247	17.7
Transportation	37	2.6
Agriculture (vegetables, fruits or other plants production)	23	1.6
Financial services	18	1.3
Other services (hotel, restaurant, IT services)	173	12.4
Other	448	32.0

Note: Question two in this survey - What is the field of activity of the company subject to the survey?

As Table 3 indicates, out of the 1292 companies that answered the third question in this survey on export level, 67% did not make any exports in the previous year (mid 2016 – mid 2017), 17.7% stated that less than 25% of all the sales were exported, while 9.4% declared the ratio to be 25-50% of all sales, and 5.9% of the companies exported more than 50% of all their sales.

Table 3. Distribution of the SMEs in Turkey According to Their Export Level in The Preceding Year

Export Level	*n*	%
The company performed no export in the preceding year	866	67.0
Less than 25% of all the sales	229	17.7
Between 25% - 50% of all the sales	121	9.4
More than 50% of all the sales	76	5.9

Note: Question three in this survey – What is the level of exports in the preceding year of the company subject to the survey?

As Table 4 indicates, out of the 1291 companies that answered the fourth question in this survey, 42.8% were from the Marmara region, 17.3% were from Central Anatolia, 7% were from the Black Sea region, 4.4% were from Eastern Anatolia, 15.6% were from the Aegean region, 9.2% were from the Mediterranean coast of the country and 3.7% of the companies were from the Southeast Anatolia.

Table 4. Geographical Distribution of the SMEs in Turkey

The Region in which the SME is located	*n*	%
Marmara Region	552	42.8
Central Anatolian Region	223	17.3
Black Sea Region	90	7.0
Eastern Anatolian Region	57	4.4
Aegean Region	202	15.6
Mediterranean Region	119	9.2
Southeast Anatolian Region	48	3.7

Note: Question four in this survey – In which region of Turkey is the company subject to the survey located?

As Table 5 indicates, 41.4% out of 1,158 companies in Turkey that answered the fifth question on turnover in this survey, and 45% of all SMEs in the EU according to SAFE 2017, reported that their turnover had increased in the preceding six months, 35.3% of SMEs in Turkey (this survey) and 17% of SMEs in the EU (SAFE 2017) reported a decrease in turnover in the preceding six months. The net effect is a 6.04% increase in turnover in Turkey (this survey) and a 28% increase in turnover in the EU (SAFE 2017).

As Table 5 indicates, 72.4% out of 1,140 companies in Turkey that answered the fifth question on labor cost in this survey and 56% of SMEs in the EU according

to SAFE 2017 reported that their labor cost increased in the preceding six months, 4.5% of SMEs in Turkey (this survey) and 4% of SMEs in the EU (SAFE 2017) stated that their labor cost depleted in the preceding six months. The net effect is a 67.9% increase in labor cost in Turkey (this survey) and a 52% increase in labor cost in the EU (SAFE 2017).

Table 5. The Changes in the Financial States of SMEs in Turkey in The Preceding Six Months

	Decreased		No Change		Increased	
Value	*n*	%	*n*	%	*n*	%
Turnover	409	35.3	270	23.3	479	41.4
Labor Costs	51	4.5	264	23.2	825	72.4
Other Costs (Energy, Raw Materials)	26	2.3	170	15.2	924	82.5
Interest Expenses	30	2.7	283	25.9	781	71.4
Investments	402	35.7	442	39.3	282	25.0
Inventories	367	33.2	489	44.2	250	22.6
Number of Workers	279	24.5	519	45.5	342	30.0
Debts	64	6.1	252	24.2	727	69.7
Profits	592	53.9	289	26.3	217	19.8

Note: Question five in this survey - Have the following company indicators decreased, remained unchanged or increased over the preceding six months? (Figure 101 in SAFE 2017, Page 124)

As Table 5 indicates, 82.5% out of 1,120 companies in Turkey that answered the fifth question on other costs (energy, raw materials) in this survey and 54% of SMEs in the EU according to SAFE 2017 reported that their labor cost increased in the preceding six months, 2.3% of SMEs in Turkey (this survey) and 4% of SMEs in the EU (SAFE 2017) stated that their labor cost depleted in the preceding six months. The net effect is an 80.2% increase in other costs (energy, raw materials) in Turkey (this survey) and a 50% increase in other costs (energy, raw materials) in the EU (SAFE 2017).

As Table 5 indicates, 71.4% out of 1,094 companies in Turkey that answered the fifth question on interest expenses in this survey and 14% of SMEs in the EU according to SAFE 2017 stated that their interest expenses increased in the preceding six months, 2.7% of SMEs in Turkey (this survey) and 13% of SMEs in the EU

(SAFE 2017) stated that their interest expenses depleted in the preceding six months. The net effect is a 68.7% increase in interest expenses in Turkey (this survey) and a 1% increase in interest expenses in the EU (SAFE 2017).

As Table 5 indicates, 25% out of 1,126 companies in Turkey that answered the fifth question on investment in this survey stated that their investment increased in the preceding six months, 33% of SMEs in the EU according to SAFE 2017 stated that their fixed investment increased in the preceding six months, 35.7% of SMEs in Turkey (this survey) stated that their investment depleted in the preceding six months, 26% of SMEs in the EU (SAFE 2017) stated that their fixed investment depleted in the preceding six months. The net effect is a 10.7% decrease in investment in Turkey (this survey) and an 18% increase in fixed investment in the EU (SAFE 2017).

As Table 5 indicates, 22.6% out of 1,106 companies in Turkey that answered the fifth question on inventories in this survey and 21% of SMEs in the EU according to SAFE 2017 stated that their inventories increased in the preceding six months, 33.2% of SMEs in Turkey (this survey) and 11% of SMEs in the EU (SAFE 2017) stated that their inventories depleted in the preceding six months. The net effect is a 10.6% decrease in inventories in Turkey (this survey) and a 9% increase in inventories in the EU (SAFE 2017).

As Table 5 indicates, 30% out of 1,140 companies in Turkey that answered the fifth question on the number of employees in this survey and 26% of SMEs in the EU according to SAFE 2017 stated that their number of employees increased in the preceding six months, 24.5% of SMEs in Turkey (this survey) and 12% of SMEs in the EU (SAFE 2017) stated that their number of employees depleted in the preceding six months. The net effect is a 5.5% increase in the number of employees in Turkey

(this survey) and a 14% increase in the number of employees in the EU (SAFE 2017).

As Table 5 indicates, 12% out of 1,043 companies in Turkey that answered the fifth question on debts in this survey and 69.7% of SMEs in the EU according to SAFE 2017 stated that their debts increased in the preceding six months, 6.1% of SMEs in Turkey (this survey) and 21% of SMEs in the EU (SAFE 2017) stated that their debts depleted in the preceding six months. The net effect is a 63.6% increase in debts in Turkey (this survey) and a 9% decrease in debts in the EU (SAFE 2017).

As Table 5 indicates, 33% out of 1,098 companies in Turkey that answered the fifth question on profits in this survey and 19.8% of SMEs in the EU according to SAFE 2017 stated that their profits increased in the preceding six months, 53.9% of SMEs in Turkey (this survey) and 26% of SMEs in the EU (SAFE 2017) stated that their profits depleted in the preceding six months. The net effect is a 34.1% decrease in profits in Turkey (this survey) and a 6% increase in profits in the EU (SAFE 2017).

As Table 6 indicates, out of the 1170 companies that answered the sixth question in this survey, 2.6% have a higher than normal (high), 38.6% a normal level, and 58.8% a lower-than-normal cash asset rate.

Table 6. Distribution of SMEs in Turkey According to the Number of Assets in Cash

Number of Assets in Cash	*n*	%
More than normal (High)	30	2.6
Normal level	452	38.6
Less than normal (Low)	688	58.8

Note: Question six in this survey – What is the number of cash assets in the company subject to the survey?

As Table 7 indicates, out of the 492 companies with high liquid assets that answered the seventh question in this survey, 9.15% stated the high transaction volumes as to

the reason for holding high liquid assets. Moreover, 16.87% specified that they are not being able to be sure about the total cash flow as the reason, 5.67% pointed to the difficulty of monetizing the assets in times of need as a reason, 8.94%, said the reason was the planned investments, 17.89% showed the low income from the investments as the reason, and 41.46% stated "other" for the reason.

Table 7. Distribution of the Reasons for Keeping High Amounts of Liquid Assets Among SMEs in Turkey

Reasons for Keeping High Amounts of Liquid Assets	*n*	%
The cash amount is high because of the high amount of our trade volume	45	9.15
We keep high amounts of cash due to not being able to be sure about our future cash flow	83	16.87
We keep high amounts of cash since it is hard to monetize our assets in times of need	28	5.69
Because of our planned investments	44	8.94
The revenue from our investments is low	88	17.89
Other	204	41.46

Note: Question seven in this survey – Does the company subject to the survey have high liquid assets? If yes, what is the reason? If not, please proceed.

As Table 8 indicates, out of the 816 companies with low liquid assets that answered the eighth question in this survey, 36.5% stated the high transaction volumes as the reason for holding low liquid assets, 22.1% specified that they are not being able to be sure about the total cash flow as the reason, 2.5% pointed the easiness of monetizing the assets in times of need as a reason, 18.9%, said the reason was the planned investments, and 0.7% showed the high return coming from investments as the reason, and 19.4% stated "other" for the reason.

Table 8. Distribution of the Reasons for Keeping Low Amounts of Liquid Assets Among SMEs in Turkey

Reasons for Keeping High Amounts of Liquid Assets	*n*	%
Cash is low due to low transaction volume	298	36.5
We are not sure of our future cash flow	180	22.1
Easy to convert assets into cash if needed, no need to keep cash	20	2.5
High income comes from our investments, no need to keep cash	6	0.7
Less cash due to recent investments	154	18.9
Other reasons	158	19.4

Note: Question eight in this survey – Does the company subject to the survey have low liquid assets? If yes, what is the reason? If not, please proceed.

As Table 9 indicates, 72.1% out of 870 companies in Turkey that answered the ninth question on bank loans in this survey reported the usage of bank loans at least once since established. According to this survey, bank loans are the most used type of finance for SMEs in Turkey, 48% of SMEs surveyed through SAFE 2017 in the EU, reported the usage of bank loans in the preceding six months.

As Table 9 indicates, 54.1% out of 711 companies in Turkey that answered the ninth question on trade credits in this survey reported the usage of trade credit at least one time in the period since establishment, while 34% of SMEs surveyed through SAFE 2017 in the EU, reported the usage of trade credit in the preceding six months.

Table 9. Distribution of Usage of the Sources of Finance Among SMEs in Turkey

	Related but Did Not Use		Used	
Source of Finance	*n*	%	*n*	%
Credit from the family or friends	238	36.3	418	63.7
Grants and government subsidies	386	43.8	496	56.2
Bank loans	243	27.9	627	72.1
Leasing	421	76.1	132	23.9
Trade credits	326	45.9	385	54.1

Note: Question nine in this survey - Is the following resource related to the company subject to the survey; if yes, has it ever been used? (Figure 4 in SAFE 2017, Page 15)

As Table 9 indicates, 63.7% out of 656 companies in Turkey that answered the ninth question on credits from the family or friends in this survey reported the usage of credit from the family or friends at least once since established, 21% of SMEs surveyed through SAFE 2017 in the EU, reported the usage of credit from family and friends, a related enterprise or shareholders in the preceding six months.

As Table 9 indicates, 23.9% out of 553 companies in Turkey that answered the ninth question on leasing reported the usage of leasing at least once since established, 42% of SMEs surveyed through SAFE 2017 in the EU, reported the usage of leasing, in the preceding six months.

As Table 9 indicates, 56.2% out of 870 companies in Turkey that answered the ninth question on grants or governmental subsidies reported the usage of grant or governmental subsidy at least once since established, 31% of SMEs surveyed through SAFE 2017 in the EU, reported the usage of grant or governmental subsidy, in the preceding six months.

As Table 10 indicates, out of the 845 companies, not able to use a bank loan, that answered the tenth question in this survey, 29.3% specified insufficient guarantees as the reason, 36.4% indicated the high-interest rates or expenses, 1.8% pointed too much paperwork, 3.6% said no bank loans were available, 14.3% mentioned that they did not need such a financial source, and 14.6% stated that they did not benefit from bank loans due to other reasons.

Table 10. Distribution of the Reasons for not Being Able to Use Bank Loans of SMEs in Turkey

The Reason for Not Using Bank Credits	*n*	%
Insufficient Guarantee	248	29.3
Too high-interest rates or costs	308	36.4
The high amount of paperwork	15	1.8
No bank credits available	30	3.6
I do not need such a financing source	121	14.3
Other	123	14.6

Note: Question 10 in this survey - What is the main reason if the company subject to the survey cannot benefit from bank loans? (Similar to Question 32 in SAFE 2017, Figure 4)

As Table 11 indicates, 40.1% out of 714 companies in Turkey that answered the eleventh question on credit from family or friends in this survey and 22% of SMEs in the EU according to SAFE 2017 stated that their need for credit received from family and friends has increased in the preceding six months, 19.9% of SMEs in Turkey (this survey) and 10% of SMEs in the EU (SAFE 2017) stated that their need for credit received from family and friends has decreased in the preceding six months. The net effect is a 20.2% increase in the need for credit received from

family and friends in Turkey (this survey) and a 12% increase in the need for credit received from family and friends in the EU (SAFE 2017).

As Table 11 indicates, 64.4% out of 818 companies in Turkey that answered the eleventh question on state grants and incentives in this survey stated that their need for credit received from family and friends has increased in the preceding six months, 7% of SMEs in Turkey (this survey) stated that their need for credit received from family and friends has decreased in the preceding six months. The net effect is a 57.4% increase in the need for state grants and incentives in Turkey (this survey).

Table 11. Distribution of the Changes of the Need for Sources of Finance of SMEs in Turkey in the Preceding Six Months

	Decreased		Remained Unchanged		Increased	
Source of Finance	*n*	%	*n*	%	*n*	%
Credit from Family or Friends	142	19.9	286	40.1	286	40.1
Grants and Government Incentives	57	7.0	234	28.6	526	64.4
Bank loans	79	9.3	253	29.7	519	61.0
Leasing	71	13.0	290	53.0	186	34.0
Trade Credits	53	7.8	269	39.6	357	52.6

Note: Question 11 in this survey - How much has the need for the following, of the company subject to the survey, changed in the preceding six months? (Figure 71 in SAFE 2017, Page 87)

As Table 11 indicates, 61% out of 854 companies in Turkey that answered the eleventh question on bank loans in this survey and 18% of SMEs in the EU according to SAFE 2017 stated that their need for bank loans has increased in the preceding six months, 9.3% of SMEs in Turkey (this survey) and 17% of SMEs in the EU (SAFE 2017) stated that their need for bank loans has decreased in the preceding six months. The net effect is a 43% increase in the need for bank loans in Turkey (this survey) and a 1% increase in the need for bank loans in the EU (SAFE 2017).

As Table 11 indicates, 34% out of 548 companies in Turkey that answered the eleventh question on leasing in this survey and 19% of SMEs in the EU according to

SAFE 2017 stated that their need for leasing has increased in the preceding six months. 13% of SMEs in Turkey (this survey) and 14% of SMEs in the EU (SAFE 2017) stated that their need for leasing has decreased in the preceding six months. The net effect is a 21% increase in the need for leasing in Turkey (this survey) and a 5% increase in the need for leasing in the EU (SAFE 2017).

As Table 11 indicates, 52.6% out of 681 companies in Turkey that answered the eleventh question on trade credits in this survey and 18% of SMEs in the EU according to SAFE 2017 stated that their need for trade credits has increased in the preceding six months. 7.8% of SMEs in Turkey (this survey) and 8% of SMEs in the EU (SAFE 2017) stated that their need for trade credits has decreased in the preceding six months. The net effect is a 44.8% increase in the need for trade credits in Turkey (this survey) and a 10% increase in the EU (SAFE 2017).

As Table 12 indicates, out of the 619 companies, that answered the twelfth question on loan received from family or friends in this survey, 44.2% applied and received it, 6.1% applied but got rejected, 27.9% of them did not apply because of fear of rejection, and 20.5% of them did not apply because of other reasons.

Table 12. Distribution of Applications in the Preceding Six Months of SMEs in Turkey for Finance Sources, and Distribution of Results of Those Applications

	Applied, Received		Applied, Denied		Didn`t Apply (Denial Possibility)		Didn`t Apply (Other Reason)	
Source of Finance	*n*	%	n	%	*n*	%	*n*	%
Loan received from family or friends	271	44.2	39	6.1	178	27.9	131	20.5
Grants and Government Incentives	402	52.8	123	16.2	136	17.9	100	13.1
Bank Loans	451	56	111	14	151	18.7	91	11.3
Trade Credit	300	46.4	57	8.8	162	25.1	127	19.7

Note: Question 12 in this survey - Have you applied for the following types of financing in the preceding six months? If yes, was your application approved? If not, why not? (Figure 28 in SAFE 2017, Page 40)

As Table 12 indicates, out of the 761 companies, that answered the twelfth question on grants and government incentives in this survey, 52.8% applied to grants and government incentives and received it, 16.2% applied to grants and government incentives but got rejected, 17.9% of them did not apply because of fear of rejection, and 13.1% of them did not apply because of other reasons.

As Table 12 indicates, out of the 806 companies, that answered the twelfth question on bank loans in this survey, 56% applied to bank loans and received it, 14% applied to bank loans but got rejected, 18.7% of them did not apply because of fear of rejection, and 11.3% of them did not apply because of other reasons.

As Table 12 indicates, out of the 646 companies, that answered the twelfth question on trade credits in this survey, 46.4% applied to trade credits and received it, 8.8% applied to trade credits but got rejected, 25.1% of them did not apply because of fear of rejection, and 19.7% of them did not apply because of other reasons.

As Table 13 indicates, out of the 974 companies, that answered the thirteenth question in this survey, 41.6% had the turnover level less than 500,000 TL in 2016, 15.6% between 500,000 TL - 1 million TL, 12.8% between 1 million TL-2 million TL, 18.1% between 2 million TL- 10 million TL, 0.6% between 10 million TL-50 million TL, and 1.3% more than 50 million TL.

Table 13. Distribution of the SMEs in Turkey According to Their Turnover Level in 2016

Turnover Level	*n*	%
More than 500,000 TL	405	41.6
Between 500,000 – 1,000,000 TL	152	15.6
Between 1,000,000– 2,000,000 TL	125	12.8
Between 2,000,000 – 10,000,000 TL	176	18.1
Between 10,000,000 – 50,000,000 TL	103	10.6
More than 50,000,000	13	1.3

Note: Question 13 in this survey - Please indicate the turnover level of the company subject to the survey in 2016?

As Table 14 indicates, out of the 999 companies, that answered the fourteenth question in this survey, 27.8% have been established for less than 2 years, 21.8% for 2-5 years, 16.6% for 5-10 years, and 33.7% for more than 10 years.

Table 14. Distribution of the SMEs in Turkey According to the Time of Establishment

Time of Establishment	*n*	%
Less than 2 years	278	27.8
Between 2-5 years	218	21.8
Between 5-10 years	166	16.6
More than 10 years	337	33.7

Note: Question 14 in this survey - How many years ago was the company subject to the survey established?

As Table 15 indicates, out of the 938 companies, that answered the fifteenth question in this survey, 19% received a credit between 0 – 25,000 TL in the preceding six months, 29.7% between 25,001 - 100,000 TL, 15.2% between 100,001 - 250,000 TL, 14% between 250,001 - 1,000,000 TL, 9.2% between 250,001 - 1,000,000 TL, 12.9% between 250,001 - 1,000,000 TL, and 12.95% of the companies did not want to share information.

According to SAFE 2017, 11% of SMEs in the EU stated that they received a credit between 0 – 25,000 Euro in the preceding six months, 21% between 25,001 - 100,000 Euro, 15.2% between 100,001 - 250,000 Euro, 14% between 250,001 - 1,000,000 TL, 23% between 250,001 - 1,000,000 Euro, and 17% more than 1,000,000 Euro (Figure 45 in SAFE).

Table 15. Distribution of the SMEs in Turkey According to the Amount of the Last Credit They Received in the Preceding Six Months

Amount of the Last Credit Received in the Preceding Six Months	*n*	%
0 - 25,000 TL	178	19.0
25,001 - 100,000 TL	279	29.7
100,001 - 250,000 TL	143	15.2
250,001 - 1,000,000 TL	131	14.0
More than 1 million TLs	86	9.2
No Information	121	12.9

Note: Question 15 in this survey - Select the size of the last loan received or applied for, by the company subject to the survey, in the preceding six months? (Figure 45 in SAFE 2017, Page 57)

As Table 16 indicates, out of the 914 companies, that answered the sixteenth question in this survey; 29.1% used financial sources for property, equipment and factory investments (fixed investments) in the preceding six months; 43.4% used financial sources for inventories and business capital (paying bank loans, paying suppliers, etc.); 4.5% used financial sources for expenditures for the training and education of the staff and workers; 12.5% used financial sources for research and development, and new product or service research; and 10.5% used financial sources for other purposes.

According to SAFE 2017, 38% of SMEs in the EU stated that they used financial sources for property, equipment and factory investments (fixed investments) in the preceding six months; 33% used financial sources for inventories and business capital (paying bank loans, paying suppliers, etc.); 15% used financial sources for expenditures for the training and education of the staff and workers; 14% used financial sources for research and development, and new product or service research; and 12% used financial sources for other purposes.

Table 16. Distribution of the SMEs in Turkey According to the Purpose of Using of Financial Sources in the Preceding Six Months

Purpose of Using Financial Sources in the Preceding Six Months	*n*	%
Property, equipment and factory investments (fixed investments)	266	29.1
Inventories and Business capital (paying bank loans, paying suppliers, etc.)	397	43.4
Expenditures for the Training and Education of the Staff and Workers	41	4.5
Research and Development, new product or service research	114	12.5
Other	96	10.5

Note: Question 16 in this survey – For what purposes did the company subject to the survey use the financial sources in the preceding six months? (Figure 50 in SAFE 2017, Page 62)

As Table 17 indicates, out of the 952 companies, that answered the seventeenth question in this survey, 40.1% companies have the number of employees between 1-9, 16.3% companies have the number of employees between 10-49, 6% companies

have the number of employees between 50-249, and 0.4% companies have the number of employees more than 250.

Table 17. Distribution of the SMEs in Turkey According to the Number of Employees

Number of Employees	*n*	%
Between 1-9	608	40.1
Between 10-49	247	16.3
Between 50-249	91	6.0
More than 250	6	0.4

Note: Question 17 in this survey – How many employees does the company subject to the survey have?

As Table 18 indicates, 26.6% out of the 862 companies in Turkey, that answered the eighteenth question on the general economic outlook in this survey, and 23% of SMEs in the EU according to SAFE 2017 stated that their general economic outlook improved in the preceding six months, 34.2% of SMEs in Turkey (Table 18) and 14% of SMEs in the EU (SAFE 2017) stated that their general economic outlook worsened in the preceding six months. The net effect is a 7.6% decrease in the general economic outlook in Turkey (this survey) and a 9% increase in the general economic outlook in the EU (SAFE 2017).

As Table 18 indicates, 26.8% out of the 818 companies in Turkey, that answered the eighteenth question on access to government financial support in this survey, and 6% of SMEs in the EU according to SAFE 2017 stated that their access to government financial support improved in the preceding six months, 21.2% of SMEs in Turkey (Table 18) and 10% of SMEs in the EU (SAFE 2017) stated that their access to government financial support worsened in the preceding six months. The net effect is a 5.7% increase in access to government financial support in Turkey (this survey) and a 4% decrease in access to government financial support in the EU (SAFE 2017).

Table 18. Distribution of the SMEs in Turkey According to the Changes of Their Financial Status in the Preceding Six Months

	Improved		Remained Unchanged		Worsened	
Financial Status	*n*	%	*n*	%	*n*	%
General economic outlook	229	26.6	338	39.2	295	34.2
Access to government financial support	219	26.8	426	52.1	173	21.1
Institutional outlook (sales-profitability)	262	31.5	323	38.8	247	29.7
Equity Capital of the enterprise	182	21.7	443	52.7	215	25.6
Credit history/score of the enterprise	226	27.8	444	54.7	142	17.5
Willingness of the banks to provide loans	252	30.7	399	48.6	170	20.7
The willingness of other companies to provide trade credits	148	19.8	466	62.3	134	17.9

Note: Question 18 in this survey – How did the following change in the preceding six months in the company subject to the survey? (Figure 55 in SAFE 2017, Page 68)

As Table 18 indicates, 31.5% out of the 832 companies in Turkey, that answered the eighteenth question on institutional outlook (sales-profitability) in this survey, and 35% of SMEs in the EU according to SAFE 2017 stated that their institutional outlook (sales-profitability) improved in the preceding six months, 29.7% of SMEs in Turkey (Table 18) and 14% of SMEs in the EU (SAFE 2017) stated that their institutional outlook (sales-profitability) worsened in the preceding six months. The net effect is a 1.8% increase in institutional outlook (sales-profitability) in Turkey (this survey) and a 21% increase in institutional outlook (sales-profitability) in the EU (SAFE 2017).

As Table 18 indicates, 21.7% out of the 840 companies in Turkey, that answered the eighteenth question on institutional outlook (sales-profitability) in this survey, and 30% of SMEs in the EU according to SAFE 2017 stated that their equity capital of the enterprise improved in the preceding six months, 25.6% of SMEs in Turkey (Table 18) and 8% of SMEs in the EU (SAFE 2017) stated that their equity capital of the enterprise worsened in the preceding six months. The net effect is a

3.9% decrease in the equity capital of the enterprise in Turkey (this survey) and a 22% increase in the equity capital of the enterprise in the EU (SAFE 2017).

As Table 18 indicates, 27.8% out of the 812 companies in Turkey, that answered the eighteenth question on credit history/score of the enterprise in this survey, and 25% of SMEs in the EU according to SAFE 2017 stated that their credit history/score of the enterprise improved in the preceding six months, 17.5% of SMEs in Turkey (Table 18) and 5% of SMEs in the EU (SAFE 2017) stated that their credit history/score of the enterprise worsened in the preceding six months. The net effect is a 10.3% increase in credit history/score of the enterprise in Turkey (this survey) and a 20% increase in credit history/score of the enterprise in the EU (SAFE 2017).

As Table 18 indicates, 30.7% out of the 882 companies in Turkey, that answered the eighteenth question on the willingness of the banks to provide loans in this survey, and 27% of SMEs in the EU according to SAFE 2017 stated that the willingness of the banks to provide loans improved in the preceding six months, 20.7% of SMEs in Turkey (Table 18) and 10% of SMEs in the EU (SAFE 2017) stated that the willingness of the banks to provide loans worsened in the preceding six months. The net effect is a 1% increase in the willingness of the banks to provide loans in Turkey (this survey) and a 17% increase in the willingness of the banks to provide loans in the EU (SAFE 2017).

As Table 18 indicates, 19.8% out of the 74 companies in Turkey, that answered the eighteenth question on the willingness of other companies to provide trade credits in this survey, and 18% of SMEs in the EU according to SAFE 2017 stated that the willingness of other companies to provide trade credits improved in the preceding six months, 17.9% of SMEs in Turkey (Table 18) and 5% of SMEs in the EU (SAFE 2017) stated that the willingness of other companies to provide trade credits

worsened in the preceding six months. The net effect is a 1.9% increase in the willingness of other companies to provide trade credits in Turkey (this survey) and a 13% increase in the willingness of other companies to provide trade credits in the EU (SAFE 2017).

As Table 19 indicates, 15.5% out of the 862 companies in Turkey, that answered the eighteenth question on other credits (family, friends, relevant institutions, shareholders) in this survey stated that the availability of other credits (family, friends, relevant institutions, shareholders) increased in the preceding six months, 69% of SMEs in Turkey (Table 19) stated that the availability of other credits (family, friends, relevant institutions, shareholders) decreased in the preceding six months. The net effect is a 0% increase in the availability of other credits (family, friends, relevant institutions, shareholders) in Turkey (Table 19).

Table 19. Distribution of the Changes of the Availability of Financial Sources for SMEs in Turkey in the Preceding Six Months

	Improved		Remained Unchanged		Worsened	
Source	*n*	%	*n*	%	*n*	%
Other credits (Family, friends, relevant institutions, shareholders)	105	15.5	467	69.0	105	15.5
Bank loans	204	27.2	377	50.3	169	22.5
Trade credits	183	25.5	375	52.2	161	22.4
Equity capital	169	22.6	374	50.1	204	27.3
Leasing or purchasing through renting	57	9.4	440	72.6	109	18.0

Note: Question 19 in this survey – How did the availability of the following change in the preceding six months in the company subject to the survey? (Figure 61 in SAFE 2017, Page 75)

As Table 19 indicates, 27.2% out of the 750 companies in Turkey, that answered the eighteenth question on bank loans in this survey, and 20% of SMEs in the EU according to SAFE 2017 stated that availability of bank loans increased in the preceding six months, 22.5% of SMEs in Turkey (Table 19) and 8% of SMEs in the EU (SAFE 2017) stated that the availability of bank loans decreased in the preceding six months. The net effect is a 4.7% increase in the availability of bank loans in

Turkey (Table 19) and a 12% increase in the availability of bank loans in the EU (SAFE 2017).

As Table 19 indicates, 25.5% out of the 719 companies in Turkey, that answered the eighteenth question on trade credits in this survey, and 18% of SMEs in the EU according to SAFE 2017 stated that availability of trade credits increased in the preceding six months, 22.4% of SMEs in Turkey (Table 19) and 6% of SMEs in the EU (SAFE 2017) stated that the availability of trade credits decreased in the preceding six months. The net effect is a 3.1% increase in the availability of trade credits in Turkey (Table 19) and a 12% increase in the availability of trade credits in the EU (SAFE 2017).

As Table 19 indicates, 22.6% out of the 747 companies in Turkey, that answered the eighteenth question on equity capital in this survey, and 17% of SMEs in the EU according to SAFE 2017 stated that availability of equity capital increased in the preceding six months, 27.3% of SMEs in Turkey (Table 19) and 6% of SMEs in the EU (SAFE 2017) stated that the availability of equity capital decreased in the preceding six months. The net effect is a 4.7% decrease in the availability of equity capital in Turkey (Table 19) and an 11% increase in the availability of equity capital in the EU (SAFE 2017).

As Table 19 indicates, 9.4% out of the 606 companies in Turkey, that answered the eighteenth question on leasing or purchasing through renting in this survey, and 20% of SMEs in the EU according to SAFE 2017 stated that availability of leasing or purchasing through renting increased in the preceding six months, 18% of SMEs in Turkey (Table 19) and 6% of SMEs in the EU (SAFE 2017) stated that the availability of leasing or purchasing through renting decreased in the preceding six months. The net effect is an 8.6% decrease in the availability of leasing or

purchasing through renting in Turkey (Table 19) and a 14% increase in the availability of leasing or purchasing through renting in the EU (SAFE 2017).

As Table 20 indicates, 27.9% out of the 696 companies in Turkey, that answered the eighteenth question on interest rate in this survey, and 17% of SMEs in the EU according to SAFE 2017 stated that the interest rate increased in the preceding six months, 1.8% of SMEs in Turkey (Table 20) and 22% of SMEs in the EU (SAFE 2017) stated that the interest rate decreased in the preceding six months. The net effect is a 26.1% increase in the interest rate in Turkey (Table 20) and a 5% decrease in the interest rate in the EU (SAFE 2017).

Table 20. Distribution of the Changes of the Terms and Conditions of Bank Financing in Turkey in the Preceding Six Months

	Increased		Remained Unchanged		Decreased	
Costs of Financing	*n*	%	*n*	%	*n*	%
Interest rate	423	27.9	246	16.2	27	1.8
Non-interest costs of financing; commission, file charges and other fees	440	29.0	231	15.2	29	1.9
Size of loans available	280	18.4	301	19.8	124	8.2
Loan maturity; available repayment period	152	10.0	456	30.0	66	4.3
Other (required guarantees, information requirements, procedures, loan approval time)	150	9.9	404	26.6	83	5.5

Note: Question 20 in this survey – How did the following change in Turkey in the preceding six months according to the company subject to the survey? (Figure 79 in SAFE 2017, Page 96)

As Table 20 indicates, 29% out of the 700 companies in Turkey, that answered the eighteenth question on non-interest costs of financing in this survey, and 33% of SMEs in the EU according to SAFE 2017 stated that the non-interest costs of financing increased in the preceding six months, 1.9% of SMEs in Turkey (Table 20) and 7% of SMEs in the EU (SAFE 2017) stated that the non-interest costs of financing decreased in the preceding six months. The net effect is a 27.1% increase

in the non-interest costs of financing in Turkey (Table 20) and a 26% increase in the non-interest costs of financing in the EU (SAFE 2017).

As Table 20 indicates, 18.4% out of the 705 companies in Turkey, that answered the eighteenth question on available loan size in this survey, and 19% of SMEs in the EU according to SAFE 2017 stated that the available loan size increased in the preceding six months, 8.2% of SMEs in Turkey (Table 20) and 8% of SMEs in the EU (SAFE 2017) stated that the available loan size decreased in the preceding six months. The net effect is a 10.2% increase in the available loan size in Turkey (Table 20) and an 11% increase in the available loan size in the EU (SAFE 2017).

As Table 20 indicates, 10% out of the 674 companies in Turkey, that answered the eighteenth question on loan maturity in this survey, and 8% of SMEs in the EU according to SAFE 2017 stated that the loan maturity increased in the preceding six months, 4.3% of SMEs in Turkey (Table 20) and 5% of SMEs in the EU (SAFE 2017) stated that loan maturity decreased in the preceding six months. The net effect is a 5.7% increase in loan maturity in Turkey (Table 20) and a 3% increase in loan maturity in the EU (SAFE 2017).

As Table 20 indicates, 9.9% out of the 637 companies in Turkey, that answered the eighteenth question on other costs of financing (required guarantees, information requirements, procedures, loan approval time) in this survey, and 19% of SMEs in the EU according to SAFE 2017 stated that the other costs of financing increased in the preceding six months, 5.5% of SMEs in Turkey (Table 20) and 4% of SMEs in the EU (SAFE 2017) stated that the other costs of financing decreased in the preceding six months. The net effect is a 4.4% increase in the other costs of financing in Turkey (Table 20) and a 15% increase in the other costs of financing in the EU (SAFE 2017).

As Table 21 indicates, out of the 710 companies in Turkey, that answered the eighteenth question on issues faced as finding customers in this survey; 36% stated that this issue was very important for the company in the preceding year, 17.9% said this issue was important, and 5.1% indicated this issue as not very important. On the other hand, 24% of SMEs in the EU, according to SAFE 2017, stated that this issue was the most important one faced in the preceding six months.

Table 21. Distribution of The SMEs in Turkey According to the Issues They Faced in the Preceding Year and Their Importance Level

	Not Very Important		Important		Very Important	
Issues	*n*	%	*n*	%	*n*	%
Finding customers	36	5.1	127	17.9	547	36.0
Competition	73	10.5	219	31.6	400	26.4
Access to finance (finding the money for your business, credit, capital, debts, etc.)	54	8.0	222	32.7	403	26.5
Costs of production or labor	48	7.3	237	36.0	374	24.6
Legal rules and regulations (within trade or industry)	69	11.0	227	36.3	330	21.7

Note: Question 22 in this survey – How important was the following issue for the company in the preceding year? (Figure 112 in SAFE 2017, Page 136)

As Table 21 indicates, out of the 692 companies in Turkey, that answered the eighteenth question on issues faced as competition in this survey; 26.4% stated that this issue was very important for the company in the preceding year, 31.6% said this issue was important, and 10.5% indicated this issue as not very important. On the other hand, 13% of SMEs in the EU, according to SAFE 2017, stated that this issue was the most important one faced in the preceding six months.

As Table 21 indicates, out of the 679 companies in Turkey, that answered the eighteenth question on issues faced as access to finance in this survey; 26.5% stated that this issue was very important for the company in the preceding year, 32.7% said this issue was important, and 8% indicated this issue as not very important. On the other hand, 7% of SMEs in the EU, according to SAFE 2017, stated that this issue was the most important one faced in the preceding six months.

As Table 21 indicates, out of the 659 companies in Turkey, that answered the eighteenth question on issues faced as costs of production or labor in this survey; 24.6% stated that this issue was very important for the company in the preceding year, 36% said this issue was important, and 7.3% indicated this issue as not very important. On the other hand, 12% of SMEs in the EU, according to SAFE 2017, stated that this issue was the most important one faced in the preceding six months.

As Table 21 indicates, out of the 626 companies in Turkey, that answered the eighteenth question on issues faced as regulations in this survey; 21.7% stated that this issue was very important for the company in the preceding year, 36.3% said this issue was important, and 11% indicated this issue as not very important. On the other hand, 12% of SMEs in the EU, according to SAFE 2017, stated that this issue was the most important one faced in the preceding six months.

4.2 Chi-square analyses results

The data collected from the SMEs in Turkey, during this survey, was also evaluated for the presence of any relationship among answers to different questions in the questionnaire. Therefore, in order to detect any statistically relevant connections, chi-square analyses were performed, using the SPSS software. All analyses were performed at a 95% significance level.

As Table 22 indicates, it is calculated that the status of usage of credit from family and friends did not differ significantly according to the partnership status of the company ($p > 0.05$, 95% significance level).

As Table 23 indicates, it is calculated that the status of usage of grants and government incentives did not differ significantly according to the partnership status of the company ($p > 0.05$, 95% significance level).

Table 22. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Use of credit from Family or Friends			
Partnership Status of the SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
More than half of the shares belong to a partner	*n*	110	214	1.07	0.585
	%	34.0	66.0		
Family business or venture (with several partners)	*n*	118	194		
	%	37.8	62.2		
Affiliated with another company	*n*	5	8		
	%	38.5	61.5		

Table 23. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
Partnership Status of the SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
More than half of the shares belong to a partner	*n*	189	215	2.87	0.237
	%	46.8	53.2		
Family business or venture (with several partners)	*n*	183	259		
	%	41.4	58.6		
Affiliated with another company	*n*	9	15		
	%	37.5	62.5		

As Table 24 indicates, it is calculated that the status of usage of bank loans did not differ significantly according to the partnership status of the company ($p > 0.05$, 95% significance level).

Table 24. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Partnership Status of the SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
More than half of the shares belong to a partner	*n*	118	287	3.43	0.180
	%	29.1	70.9		
Family business or venture (with several partners)	*n*	112	319		
	%	26.0	74.0		
Affiliated with another company	*n*	9	12		
	%	42.9	57.1		

As Table 25 indicates, it is calculated that the status of usage of leasing did differ significantly according to the partnership status of the company ($p < 0.05$,

95% significance level). Out of the 256 companies, in which more than half of the shares belong to a partner, 19.1% already used the leasing. Out of the 279 companies, which are family business or venture, 28.7% already used the leasing. Out of the 14 companies, which are affiliated with another company, 21.4% already used the leasing.

Table 25. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Partnership Status of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
More than half of the shares belong to a partner	*n*	207	49	6.70	0.035
	%	80.9	19.1		
Family business or venture (with several partners)	*n*	199	80		
	%	71.3	28.7		
Affiliated with another company	*n*	11	3		
	%	78.6	21.4		

As Table 26 indicates, it is calculated that the status of usage of commercial credit did differ significantly according to the partnership status of the company (X^2 = 6.90, $p < 0.05$, 95% significance level). Out of the 333 companies, in which more than half of the shares belong to a partner, 49.2% already used the commercial credit. Out of the 353 companies, which are family business or venture, 58.9% already used the commercial credit. Out of the 16 companies, which are affiliated with another company, 62.5% already used the commercial credit.

Table 26. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and Their Usage of Commercial Credit

		Commercial Credit			
Partnership Status of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
More than half of the shares belong to a partner	*n*	169	164	6.90	0.032
	%	50.8	49.2		
Family business or venture (with several partners)	*n*	145	208		
	%	41.1	58.9		
Affiliated with another company	*n*	6	10		
	%	37.5	62.5		

As Table 27 indicates, it is calculated that the status of usage of credit from family or friends did differ significantly according to the field of activity of the company ($X^2 = 17.00$, $p < 0.05$, 95% significance level). Out of the 73 companies in the construction field, 72.6% already used the credit from family or friends. Out of the 137 companies in the industry area 70.1% already used the credit from family or friends. Out of the 108 companies in the trade area 65.7% already used the credit from family or friends. Out of the 18 companies in the transportation area 44.4% already used the credit from family or friends. Out of the eight companies in the agriculture area 50% already used the credit from family or friends. Out of the six companies in the financial services area 100% already used the credit from family or friends. Out of the 94 companies in other services (hotel, restaurant, IT services, etc.) area, 64.9% already used the credit from family or friends. Out of the 211 companies in other areas 56.4% already used the credit from family or friends.

Table 27. Results of the Chi-Square Analysis of the Relationship Between the Field of Activity of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Credit from Family or Friends			
Field of Activity of the SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Construction	*n*	20	53	17.00	0.017
	%	27.4	72.6		
Industry (manufacturing, mining, electricity, gas, and water supply)	*n*	41	96		
	%	29.9	70.1		
Trade	*n*	37	71		
	%	34.3	65.7		
Transportation	*n*	10	8		
	%	55.6	44.4		
Agriculture (vegetable, fruit, other plant production)	*n*	4	4		
	%	50.0	50.0		
Financial Services	*n*	0	6		
	%	0	100		
Other Services (hotel, restaurant, IT services, etc.)	*n*	33	61		
	%	35.1	64.9		
Other	*n*	92	119		
	%	43.6	56.4		

As Table 28 indicates, it is calculated that the status of usage of grant and government incentives did not differ significantly according to the field of activity of the company ($p > 0.05$, 95% significance level).

Table 28. Results of the Chi-Square Analysis of the Relationship Between the Field of Activity of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grant and Government Incentives			
Field of Activity of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Construction	*n*	50	52	9.38	0.200
	%	49.0	51.0		
Industry (manufacturing, mining, electricity, gas, and water supply)	*n*	73	125		
	%	36.9	63.1		
Trade	*n*	76	75		
	%	50.3	49.7		
Transportation	*n*	8	7		
	%	53.3	46.7		
Agriculture (vegetable, fruit, other plant production)	*n*	6	8		
	%	42.9	57.1		
Financial Services	*n*	6	4		
	%	60	40		
Other Services (hotel, restaurant, IT services, etc.)	*n*	51	62		
	%	45.1	54.9		
Other	*n*	116	162		
	%	41.7	58.3		

As Table 29 indicates, it is calculated that the status of usage of bank loans did not differ significantly according to the field of activity of the company ($p > 0.05$, 95% significance level).

As Table 30 indicates, it is calculated that the status of usage of leasing did differ significantly according to the field of activity of the company ($X^2 = 21.22$, $p < 0.05$, 95% significance level). Out of the 65 companies in the construction field, 23.1% already used the leasing. Out of the 133 companies in the industry area 36.8% already used the leasing. Out of the 93 companies in the trade area 19.4% already used the leasing. Out of the 16 companies in the transportation area 18.8% already used the leasing. Out of the 10 companies in the agriculture area 40% already used the leasing. Out of the five companies in the financial services area 0%

already used the leasing. Out of the 53 companies in other services (hotel, restaurant, IT services, etc.) area, 13.2% already used the leasing. Out of the 178 companies in other areas 20.2% already used the leasing.

Table 29. Results of the Chi-Square Analysis of the Relationship Between the Field of Activity of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Field of Activity of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Construction	*n*	33	63	7.42	0.386
	%	34.4	65.6		
The industry (manufacturing, mining, electricity, gas, and water supply)	*n*	45	145		
	%	23.7	76.3		
Trade	*n*	40	119		
	%	25.2	74.8		
Transportation	*n*	5	16		
	%	23.8	76.2		
Agriculture (vegetable, fruit, other plant production)	*n*	7	9		
	%	43.8	56.3		
Financial Services	*n*	3	9		
	%	25	75		
Other Services (hotel, restaurant, IT services, etc.)	*n*	34	72		
	%	32.1	67.9		
Other	*n*	76	193		
	%	28.3	71.7		

Table 30. Results of the Chi-Square Analysis of the Relationship Between the Field of Activity of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Field of Activity of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Construction	*n*	50	15	21.22	0.003
	%	76.9	23.1		
The industry (manufacturing, mining, electricity, gas, and water supply)	*n*	84	49		
	%	63.2	36.8		
Trade	*n*	75	18		
	%	80.6	19.4		
Transportation	*n*	13	3		
	%	81.3	18.8		
Agriculture (vegetable, fruit, other plant production)	*n*	6	4		
	%	60.0	40.0		
Financial Services	*n*	5	0		
	%	100	0		
Other Services (hotel, restaurant, IT services, etc.)	*n*	46	7		
	%	86.8	13.2		
Other	*n*	142	36		
	%	79.8	20.2		

As Table 31 indicates, it is calculated that the status of usage of commercial credit did differ significantly according to the field of activity of the company (X^2 = 19.70, $p < 0.05$, 95% significance level). Out of the 81 companies in the construction field, 48.1% already used commercial credit. Out of the 170 companies in the industry area 65.3% already used the commercial credit. Out of the 125 companies in the trade area 61.6% already used the commercial credit. Out of the 16 companies in the transportation area 56.3% already used the commercial credit. Out of the 13 companies in the agriculture area 46.2% already used the commercial credit. Out of the four companies in the financial services area 50% already used the commercial credit. Out of the 77 companies in other services (hotel, restaurant, IT services, etc.) area, 45.5% already used the commercial credit. Out of the 225 companies in other areas 47.1% already used the commercial credit.

Table 31. Results of the Chi-Square Analysis of the Relationship Between the Field of Activity of SMEs in Turkey and Their Usage of Commercial Credit

		Commercial Credit			
Field of Activity of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Construction	*n*	42	39	19.70	0.006
	%	51.9	48.1		
The industry (manufacturing, mining, electricity, gas, and water supply)	*n*	59	111		
	%	34.7	65.3		
Trade	*n*	48	77		
	%	38.4	61.6		
Transportation	*n*	7	9		
	%	43.8	56.3		
Agriculture (vegetable, fruit, other plant production)	*n*	7	6		
	%	53.8	46.2		
Financial Services	*n*	2	2		
	%	50	50		
Other Services (hotel, restaurant, IT services, etc.)	*n*	42	35		
	%	54.5	45.5		
Other	*n*	119	106		
	%	52.9	47.1		

As Table 32 indicates, it is calculated that the status of usage of credit from family and friends did differ significantly according to the company`s volume of exports in 2016 (X^2 = 11.38, $p < 0.05$, 95% significance level). Out of the 469

companies with no exports in 2016, 64.4% already used the credit from family and friends. Out of the 105 companies with an export volume of less than 25% of all sales, 69.5% already used the credit from family and friends. Out of the 48 companies with an export volume between 25%-50% of all sales, 60.4% already used the credit from family and friends. Out of the 26 companies with export volume greater than 50% of all sales, 34.6% already used the credit from family and friends.

Table 32. Results of the Chi-Square Analysis of the Relationship Between the Volume of Exports of SMEs in Turkey in 2016 and Their Usage of Credit from Family or Friends

		Use of Credit from Family or Friends			
The Volume of Exports of SMEs in Turkey (2016)		Related but Did Not Use	Used	X^2	p
The company engaged in no exports last year	*n*	167	302	11.38	0.010
	%	35.6	64.4		
Less than 25% of all sales	*n*	32	73		
	%	30.5	69.5		
Between 25% - 50% of all sales	*n*	19	29		
	%	39.6	60.4		
More than 50% of all sales	*n*	17	9		
	%	65.4	34.6		

As Table 33 indicates, it is calculated that the status of usage of grants or government incentives did differ significantly according to the company`s volume of exports in 2016 ($X^2 = 9.78$, $p < 0.05$, 95% significance level). Out of the 598 companies with no exports in 2016, 53.8% already used grants or government incentives. Out of the 147 companies with an export volume of less than 25% of all sales, 54.4% already used grants or government incentives. Out of the 79 companies with the export volume between 25%-50% of all sales, 69.9% already used grants or government incentives. Out of the 49 companies with export volume greater than 50% of all sales, 67.3% already used grants or government incentives.

Table 33. Results of the Chi-Square Analysis of the Relationship Between the Volume of Exports of SMEs in Turkey in 2016 and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
The Volume of Exports of SMEs in Turkey (2016)		Related but Did Not Use	Used	X^2	*p*
The company engaged in no exports last year.	*n*	276	322	9.78	0.021
	%	46.2	53.8		
Less than 25% of all sales	*n*	67	80		
	%	45.6	54.4		
Between 25% - 50% of all sales	*n*	24	55		
	%	30.4	69.6		
More than 50% of all sales	*n*	16	33		
	%	32.7	67.3		

As Table 34 indicates, it is calculated that the status of usage of bank loans did differ significantly according to the company`s volume of exports in 2016 (X^2 = 11.51, $p < 0.05$, 95% significance level). Out of the 578 companies with no exports in 2016, 68.5% already used bank loans. Out of the 156 companies with an export volume of less than 25% of all sales, 80.1% already used bank loans. Out of the 76 companies with an export volume between 25%-50% of all sales, 76.3% already used bank loans. Out of the 53 companies with export volume greater than 50% of all sales, 81.1% already used the bank loans.

Table 34. Results of the Chi-Square Analysis of the Relationship Between the Volume of Exports of SMEs in Turkey in 2016 and Their Usage of Bank Loans

		Bank Loans			
The Volume of Exports of SMEs in Turkey (2016)		Related but Did Not Use	Used	X^2	*p*
The company engaged in no exports last year.	*n*	182	396	11.51	0.009
	%	31.5	68.5		
Less than 25% of all sales	*n*	31	125		
	%	19.9	80.1		
Between 25% - 50% of all sales	*n*	18	58		
	%	23.7	76.3		
More than 50% of all sales	*n*	10	43		
	%	18.9	81.1		

As Table 35 indicates, it is calculated that the status of usage of leasing did differ significantly according to the company`s volume of exports in 2016 (X^2 = 40.55, $p < 0.05$, 95% significance level). Out of the 355 companies with no exports

in 2016, 15.5% already used leasing. Out of the 102 companies with an export volume of less than 25% of all sales, 32.4% already used leasing. Out of the 59 companies with an export volume between 25%-50% of all sales, 45.8% already used leasing. Out of the 35 companies with export volume greater than 50% of all sales, 42.9% already used leasing.

Table 35. Results of the Chi-Square Analysis of the Relationship Between the Volume of Exports of SMEs in Turkey in 2016 and Their Usage of Leasing

		Leasing			
The Volume of Exports of SMEs in Turkey (2016)		Related but Did Not Use	Used	X^2	*p*
The company engaged in no exports last year.	*n*	300	55	40.55	0.000
	%	84.5	15.5		
Less than 25% of all sales	*n*	69	33		
	%	67.6	32.4		
Between 25% - 50% of all sales	*n*	32	27		
	%	54.2	45.8		
More than 50% of all sales	*n*	20	15		
	%	57.1	42.9		

As Table 36 indicates, it is calculated that the status of usage of commercial credits did differ significantly according to the company`s volume of exports in 2016 ($X^2 = 40.55$, $p < 0.05$, 95% significance level). Out of the 466 companies with no exports in 2016, 46.8% already used commercial credits.

Table 36. Results of the Chi-Square Analysis of the Relationship Between the Volume of Exports of SMEs in Turkey in 2016 and Their Usage of Commercial Credits

		Commercial Credits			
The Volume of Exports of SMEs in Turkey (2016)		Related but Did Not Use	Used	X^2	*p*
The company engaged in no exports last year.	*n*	246	216	35.60	0.000
	%	53.2	46.8		
Less than 25% of all sales	*n*	50	85		
	%	37.0	63.0		
Between 25% - 50% of all sales	*n*	24	41		
	%	36.9	63.1		
More than 50% of all sales	*n*	6	39		
	%	13.3	86.7		

Out of the 135 companies with an export volume of less than 25% of all sales, 63% already used commercial credits. Out of the 65 companies with an export volume

between 25%-50% of all sales, 63.1% already used commercial credits. Out of the 45 companies with export volume greater than 50% of all sales, 86.7% already used commercial credits.

As Table 37 indicates, it is calculated that the status of usage of credit from family and friends did differ significantly according to the company`s geographical location ($X^2 = 20.11$, $p < 0.05$, 95% significance level). Out of the 270 companies located in the Marmara region, 67% already used the credit from family and friends. Out of the 118 companies located in the Mid-Anatolian region, 63.6% already used the credit from family and friends. Out of the 42 companies located in the Black Sea region, 78.6% already used the credit from family and friends. Out of the 30 companies located in the Eastern Anatolian region, 70% already used the credit from family and friends. Out of the 96 companies located in the Aegean region, 45.8% already used the credit from family and friends. Out of the 73 companies located in the Mediterranean region, 67.1% already used the credit from family and friends. Out of the 25 companies located in the Southeastern Anatolian region, 56% already used the credit from family and friends.

Table 37. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Credit from Family or Friends			
Geographical Location of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Marmara Region	*n*	89	181	20.11	0.003
	%	33.0	67.0		
Mid-Anatolian Region	*n*	43	75		
	%	36.4	63.6		
Black Sea Region	*n*	9	33		
	%	21.4	78.6		
Eastern Anatolian Region	*n*	9	21		
	%	30.0	70.0		
Aegean Region	*n*	52	44		
	%	54.2	45.8		
Mediterranean Region	*n*	24	49		
	%	32.9	67.1		
Southeastern Anatolian Region	*n*	11	14		
	%	44.0	56.0		

As Table 38 indicates, it is calculated that the status of usage of grants and government incentives did not differ significantly according to the geographical location of the SME ($p > 0.05$, 95% significance level).

Table 38. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
Geographical Location of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Marmara Region	*n*	173	200	11.04	0.087
	%	46.4	53.6		
Mid-Anatolian Region	*n*	66	86		
	%	43.4	56.6		
Black Sea Region	v	27	32		
	%	45.8	54.2		
Eastern Anatolian Region	*n*	16	24		
	%	40.0	60.0		
Aegean Region	*n*	46	96		
	%	32.4	67.6		
Mediterranean Region	*n*	41	42		
	%	49.4	50.6		
Southeastern Anatolian Region	*n*	17	15		
	%	53.1	46.9		

As Table 39 indicates, it is calculated that the status of usage of bank loans did not differ significantly according to the geographical location of the SME ($p > 0.05$, 95% significance level).

Table 39. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Geographical Location of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Marmara Region	*n*	99	274	0.03	856
	%	26.5	73.5		
Mid-Anatolian Region	*n*	44	92		
	%	32.4	67.6		
Black Sea Region	*n*	20	42		
	%	32.3	67.7		
Eastern Anatolian Region	*n*	14	21		
	%	40.0	60.0		
Aegean Region	*n*	26	118		
	%	18.1	81.9		
Mediterranean Region	*n*	27	61		
	%	30.7	69.3		
Southeastern Anatolian Region	*n*	13	18		
	%	41.9	58.1		

As Table 40 indicates, it is calculated that the status of usage of leasing did not differ significantly according to the geographical location of the SME ($p > 0.05$, 95% significance level).

Table 40. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Geographical Location of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Marmara Region	*n*	172	66	5.15	0.524
	%	72.3	27.7		
Mid-Anatolian Region	*n*	68	21		
	%	76.4	23.6		
Black Sea Region	*n*	29	9		
	%	76.3	23.7		
Eastern Anatolian Region	*n*	19	6		
	%	76.0	24.0		
Aegean Region	*n*	77	19		
	%	80.2	19.8		
Mediterranean Region	*n*	41	9		
	%	82.0	18.0		
Southeastern Anatolian Region	*n*	15	2		
	%	88.2	11.8		

As Table 41 indicates, it is calculated that the status of usage of commercial credits did differ significantly according to the company`s geographical location ($X^2 = 20.11$, $p < 0.05$, 95% significance level). Out of the 302 companies located in the Marmara region, 59.6% of them already used commercial credits. Out of the 114 companies located in the Mid-Anatolian region, 50.9% of them already used commercial credits. Out of the 43 companies located in the Black Sea region, 55.8% of them already used commercial credits. Out of the 32 companies located in the Eastern Anatolian region, 31.3% of them already used commercial credits. Out of the 124 companies located in the Aegean region, 49.2% of them already used commercial credits. Out of the 72 companies located in the Mediterranean region, 56.9% of them already used commercial credits. And the last category, out of the 24 companies located in the Southeastern Anatolian region, 45.8% of them already used commercial credits.

Table 41. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and Their Usage of Commercial Credits

		Commercial Credit			
Geographical Location of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Marmara Region	*n*	122	180	13.04	0.042
	%	40.4	59.6		
Mid-Anatolian Region	*n*	56	58		
	%	49.1	50.9		
Black Sea Region	*n*	19	24		
	%	44.2	55.8		
Eastern Anatolian Region	*n*	22	10		
	%	68.8	31.3		
Aegean Region	*n*	63	61		
	%	50.8	49.2		
Mediterranean Region	*n*	31	41		
	%	43.1	56.9		
Southeastern Anatolian Region	*n*	13	11		
	%	54.2	45.8		

As Table 42 indicates, it is calculated that the status of usage of the credit from family and friends did not differ significantly according to the cash asset ratio of the SME ($p > 0.05$, 95% significance level).

Table 42. Results of the Chi-Square Analysis of the Relationship Between the Cash Assets Ratio of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Use of Credit from Family or Friends			
Cash Asset Ratio of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
More than normal (High)	*n*	6	10	0.44	0.506
	%	37.5	62.5		
Normal level	*n*	100	117		
	%	46.1	53.9		

As Table 43 indicates, it is calculated that the status of usage of grants and government Incentives did not differ significantly according to the cash asset ratio of the SME ($p > 0.05$, 95% significance level).

Table 43. Results of the Chi-Square Analysis of the Relationship Between the Cash Assets Ratio of SMEs in Turkey and Their Usage of Grants or Government Incentives

		Grants and Government Incentives			
Cash Asset Ratio of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
More than normal (High)	*n*	8	16	0.15	0.703
	%	33.3	66.7		
Normal level	v	121	204		
	%	37.2	62.8		

As Table 44 indicates, it is calculated that the status of usage of bank loans did not differ significantly according to the cash asset ratio of the SME ($p > 0.05$, 95% significance level).

Table 44. Results of the Chi-Square Analysis of the Relationship Between the Cash Assets Ratio of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Cash Asset Ratio of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
More than normal (High)	n	4	19	0.32	0.571
	%	17.4	82.6		
Normal level	n	71	245		
	%	22.5	77.5		

As Table 45 indicates, it is calculated that the status of usage of leasing did not differ significantly according to the cash asset ratio of the SME ($p > 0.05$, 95% significance level).

Table 45. Results of the Chi-Square Analysis of the Relationship Between the Cash Assets Ratio of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Cash Asset Ratio of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
More than normal (High)	n	9	5	0.91	0.339
	%	64.3	35.7		
Normal level	n	156	50		
	%	75.7	24.3		

As Table 46 indicates, it is calculated that the status of usage of trade credits did not differ significantly when compared to the cash assets ratio of the SME, whether it is more than normal or at the normal level ($p > 0.05$, 95% significance level).

Table 46. Results of the Chi-Square Analysis of the Relationship Between the Cash Assets Ratio of SMEs in Turkey and Their Usage of Trade Credit

		Trade Credit			
Cash Asset Ratio of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
More than normal (High)	n	8	7	0.09	0.768
	%	53.3	46.7		
Normal Level	n	128	131		
	%	49.4	50.6		

As Table 47 indicates, it is calculated that the status of usage of the credit from family and friends did not differ significantly according to the turnover level of the SME ($p > 0.05$, 95% significance level).

Table 47. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level of SMEs in Turkey and Their Usage of Credit from Family and Friend

		Credit from Family or Friends			
Turnover Level of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Less than 500,000 TL	*n*	95	198	6.16	0.291
	%	32.4	67.6		
500,000 – 1,000,000 TL	*n*	30	64		
	%	31.9	68.1		
1,000,000– 2,000,000 TL	*n*	26	55		
	%	32.1	67.9		
2,000,000 – 10,000,000 TL	*n*	39	51		
	%	43.3	56.7		
10,000,000 – 50,000,000 TL	*n*	17	22		
	%	43.6	56.4		
More than 50,000,000	*n*	3	3		
	%	50.0	50.0		

As Table 48 indicates, it is calculated that the status of usage of grant and government incentives did not differ significantly according to the turnover level of the SME ($p > 0.05$, 95% significance level).

Table 48. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level of SMEs in Turkey and Their Usage of Grant and Government Incentives

		Grants and Government Incentives			
Turnover Level of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
Less than 500,000 TL	*n*	161	192	8.96	0.110
	%	45.6	54.4		
500,000 – 1,000,000 TL	*n*	57	72		
	%	44.2	55.8		
1,000,000– 2,000,000 TL	*n*	43	58		
	%	42.6	57.4		
2,000,000 – 10,000,000 TL	*n*	62	68		
	%	47.7	52.3		
10,000,000 – 50,000,000 TL	*n*	24	59		
	%	28.9	71.1		
More than 50,000,000 TL	*n*	5	5		
	%	50.0	50.0		

As Table 49 indicates, it is calculated that the status of usage of the bank loan did differ significantly according to the company`s turnover level ($X^2 = 47.25$, $p <$

0.05, 95% significance level). Out of the 311 companies with a turnover level of less than 500,000 TL, 61.1% already used the bank loan. Out of the 129 companies with a turnover level between 500,000 – 1,000,000 TL, 72.1% already used the bank loan. Out of the 111 companies with a turnover level between 1,000,000– 2,000,000 TL, 84.7% already used the bank loan. Out of the 149 companies with a turnover level between 2,000,000 – 10,000,000 TL, 81.2% already used the bank loan. Out of the 90 companies with a turnover level between 10,000,000 – 50,000,000 TL, 87.8% already used the bank loan. Out of the 11 companies with a turnover level of more than 50,000,000 TL, 90.9% already used the bank loan.

Table 49. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Turnover Level of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Less than 500,000 TL	*n*	121	190	47.25	0.000
	%	38.9	61.1		
500,000 – 1,000,000 TL	*n*	36	93		
	%	27.9	72.1		
1,000,000– 2,000,000 TL	*n*	17	94		
	%	15.3	84.7		
2,000,000 – 10,000,000 TL	*n*	28	121		
	%	18.8	81.2		
10,000,000 – 50,000,000 TL	*n*	11	79		
	%	12.2	87.8		
More than 50,000,000 TL	*n*	1	10		
	%	9.1	90.9		

As Table 50 indicates, it is calculated that the status of usage of the leasing did differ significantly according to the company`s turnover level ($X^2 = 87.44$, $p < 0.05$, 95% significance level). Out of the 194 companies with a turnover level of less than 500,000 TL, 6.1% already used leasing. Out of the 86 companies with a turnover level between 500,000 – 1,000,000 TL, 17.4% already used leasing. Out of the 72 companies with a turnover level between 1,000,000– 2,000,000 TL, 29.3% already used leasing. Out of the 94 companies with a turnover level between 2,000,000 – 10,000,000 TL, 39.4% already used leasing. Out of the 55 companies with a

turnover level between 10,000,000 – 50,000,000 TL, 56.4% already used leasing. Out of the 11 companies with a turnover level of more than 50,000,000 TL, 54.5% already used leasing.

Table 50. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Turnover Level of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Less than 500,000 TL	*n*	184	12	87.44	0.000
	%	93.9	6.1		
500,000 – 1,000,000 TL	*n*	71	15		
	%	82.6	17.4		
1,000,000– 2,000,000 TL	*n*	51	21		
	%	70.8	29.2		
2,000,000 – 10,000,000 TL	*n*	57	37		
	%	60.6	39.4		
10,000,000 – 50,000,000 TL	*n*	24	31		
	%	43.6	56.4		
50,000,000	*n*	5	6		
	%	45.5	54.5		

As Table 51 indicates, it is calculated that the status of usage of the trade credit did differ significantly according to the company`s turnover level (X^2 = 76.85, $p < 0.05$, 95% significance level). Out of the 248 companies with a turnover level of less than 500 000 TL, 33.1% already used the trade credit. Out of the 109 companies with a turnover level between 500,000 – 1,000,000 TL, 66.1% already used the trade credit.

Table 51. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level of SMEs in Turkey and Their Usage of Trade Credit

		Trade Credit			
Turnover Level of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
Less than 500,000 TL	*n*	166	82	76.85	0.000
	%	66.9	33.1		
500,000 – 1,000,000 TL	*n*	37	72		
	%	33.9	66.1		
1,000,000– 2,000,000 TL	*n*	27	62		
	%	30.3	69.7		
2,000,000 – 10,000,000 TL	*n*	46	83		
	%	35.7	64.3		
10,000,000 – 50,000,000 TL	*n*	19	54		
	%	26.0	74.0		
More than 50,000,000 TL	*n*	3	6		
	%	33.3	66.7		

Out of the 89 companies with a turnover level between 1,000,000– 2,000,000 TL, 69.7% already used the trade credit. Out of the 129 companies with a turnover level between 2,000,000 – 10,000,000 TL, 64.3% already used the trade credit. Out of the 73 companies with a turnover level between 10,000,000 – 50,000,000 TL, 74% already used the trade credit. Out of the nine companies with the turnover level more than 50,000,000 TL, 66.7% already used the trade credit

As Table 52 indicates, it is calculated that the status of usage of credit from family and friends did not differ significantly according to the age of the company ($p > 0.05$, 95% significance level).

Table 52. Results of the Chi-Square Analysis of the Relationship Between the Age of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Credit from Family or Friends			
Company Age		Related but Did Not Use	Used	X^2	p
Less than 2 years	*n*	74	131	1.39	0.707
	%	36.1	63.9		
Between 2-5 years	*n*	42	96		
	%	30.4	69.6		
Between 5-10 years	*n*	36	63		
	%	36.4	63.6		
More than 10 years	*n*	59	112		
	%	34.5	65.5		

As Table 53 indicates, it is calculated that the status of usage of grants and government incentives did differ significantly according to the age of the company ($X^2 = 9.38$, $p < 0.05$, 95% significance level).

Table 53. Results of the Chi-Square Analysis of the Relationship Between the Age of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
Company Age		Related but Did Not Use	Used	X^2	p
Less than 2 years	*n*	113	139	9.38	0.025
	%	44.8	55.2		
Between 2-5 years	*n*	90	88		
	%	50.6	49.4		
Between 5-10 years	*n*	59	69		
	%	46.1	53.9		
More than 10 years	*n*	96	167		
	%	36.5	63.5		

Out of the 252 companies younger than 2 years, 55.2% already used grants and government incentives. Out of the 178 companies between 2-5 years old, 55.2% already used grants and government incentives. Out of the 128 companies between 5-10 years old, 53.9% already used grants and government incentives. Out of the 263 companies older than 10 years, 63.5% already used grants and government incentives.

As Table 54 indicates, it is calculated that the status of usage of bank loans did differ significantly according to the age of the company ($X^2 = 43.85$, $p < 0.05$, 95% significance level).

Table 54. Results of the Chi-Square Analysis of the Relationship Between the Age of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loans			
Company Age		Related but Did Not Use	Used	X^2	p
Less than 2 years	*n*	88	115	43.85	0.000
	%	43.3	56.7		
Between 2-5 years	*n*	49	126		
	%	28.0	72.0		
Between 5-10 years	*n*	33	117		
	%	22.0	78.0		
More than 10 years	*n*	48	234		
	%	17.0	83.0		

Out of the 203 companies younger than 2 years, 56.7% already used a bank loan. Out of the 175 companies between 2-5 years old, 72% already used a bank loan. Out of the 150 companies between 5-10 years old, 78% already used a bank loan. Out of the 282 companies older than 10 years, 83% already used a bank loan.

As Table 55 indicates, it is calculated that the status of usage of leasing did differ significantly according to the age of the company ($X^2 = 57.18$, $p < 0.05$, 95% significance level). In total 810 companies answered this question related to the usage of leasing. When divided by their age of establishment; out of the 142 companies younger than 2 years, 8.5% already used leasing. Out of the 96 companies between 2-5 years old, 13.5% already used leasing. Out of the 94

companies between 5-10 years old, 22.3% already used leasing. Out of the 181 companies older than 10 years, 42% already used leasing.

Table 55. Results of the Chi-Square Analysis of the Relationship Between the Age of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Company Age		Related but Did Not Use	Used	X^2	*p*
Less than 2 years	*n*	130	12	57.18	0.000
	%	91.5	8.5		
Between 2-5 years	*n*	83	13		
	%	86.5	13.5		
Between 5-10 years	*n*	73	21		
	%	77.7	22.3		
More than 10 years	*n*	105	76		
	%	58.0	42.0		

As Table 56 indicates, it is calculated that the status of usage of trade credit did differ significantly according to the age of the company ($X^2 = 53.33$, $p < 0.05$, 95% significance level). In total 662 companies answered this question related to the usage of trade credit. When divided by their age of establishment; out of the 170 companies younger than 2 years, 33.5% already used a trade credit. Out of the 149 companies between 2-5 years old, 50.3% already used a trade credit. Out of the 114 companies between 5-10 years old, 64.9% already used a trade credit. Out of the 229 companies older than 10 years, 68.1% already used a trade credit.

Table 56. Results of the Chi-Square Analysis of the Relationship Between the Age of SMEs in Turkey and Their Usage of Trade Credit

		Trade Credit			
Company Age		Related but Did Not Use	Used	X^2	*p*
Less than 2 years	*n*	113	57	53.33	0.000
	%	66.5	33.5		
Between 2-5 years	*n*	74	75		
	%	49.7	50.3		
Between 5-10 years	*n*	40	74		
	%	35.1	64.9		
More than 10 years	*n*	73	156		
	%	31.9	68.1		

As Table 57 indicates, it is calculated that the status of usage of credit from family and friends did not differ in a significant statistical manner when compared

to the purpose of usage of sources of finance obtained by the company in the preceding six months before the questionnaire was sent ($p > 0.05$, 95% significance level).

Table 57. Results of the Chi-Square Analysis of the Relationship Between the Purpose of Usage of Financing of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Credit from Family or Friends			
The Purpose of Use of Financing of SMEs in Turkey in the Preceding Six Months		Related but Did Not Use	Used	X^2	p
Property, equipment or factory investments (fixed investment)	*n*	71	101	0.57	0.934
	%	41.3	58.7		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	70	184		
	%	27.6	72.4		
Staff and employee training expenses	*n*	9	19		
	%	32.1	67.9		
Research and development, new product or service studies	*n*	22	42		
	%	34.4	65.6		
Other	*n*	23	31		
	%	42.6	57.4		

As Table 58 indicates, it is calculated that the status of usage of grants and government incentives did not differ in a significant statistical manner when it is compared to the purpose of usage of sources of finance obtained by the company in the preceding six months before the questionnaire was sent ($p > 0.05$, 95% significance level).

Table 58. Results of the Chi-Square Analysis of the Relationship Between the Purpose of Usage of Financing of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
The Purpose of Use of Financing of SMEs in Turkey in the Preceding Six Months		Related but Did Not Use	Used	X^2	p
Property, equipment or factory investments (fixed investment)	*n*	80	153	3.43	0.064
	%	34.3	65.7		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	158	171		
	%	48.0	52.0		
Staff and employee training expenses	*n*	18	16		
	%	52.9	47.1		
Research and development, new product or service studies	*n*	39	60		
	%	39.4	60.6		
Other	*n*	36	35		
	%	50.7	49.3		

As Table 59 indicates, it is calculated that the status of usage of a bank loan did not differ in a significant statistical manner when it is compared to the purpose of usage of sources of finance obtained by the company in the preceding six months before the questionnaire was sent ($p > 0.05$, 95% significance level).

Table 59. Results of the Chi-Square Analysis of the Relationship Between the Purpose of Usage of Financing of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loan			
The Purpose of Use of Financing of SMEs in Turkey in the Preceding Six Months		Related but Did Not Use	Used	X^2	p
Property, equipment or factory investments (fixed investment)	*n*	56	170	8.72	0.068
	%	24.8	75.2		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	83	280		
	%	22.9	77.1		
Staff and employee training expenses	*n*	9	19		
	%	32.1	67.9		
Research and development, new product or service studies	*n*	26	52		
	%	33.3	66.7		
Other	*n*	23	39		
	%	37.1	62.9		

As Table 60 indicates, it is calculated that the status of usage of leasing did not differ friends did not differ in a significant statistical manner when compared to the purpose of usage of sources of finance obtained by the company in the preceding six months before the questionnaire was sent ($p > 0.05$, 95% significance level).

Table 60. Results of the Chi-Square Analysis of the Relationship Between the Purpose of Use of Financing of SMEs in Turkey and Their Usage of Leasing

		Leasing			
The Purpose of Use of Financing of SMEs in Turkey in the Preceding Six Months		Related but Did Not Use	Used	X^2	p
Property, equipment or factory investments (fixed investment)	*n*	120	45	3.81	0.432
	%	72.7	27.3		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	164	52		
	%	75.9	24.1		
Staff and employee training expenses	*n*	17	3		
	%	85.0	15.0		
Research and development, new product or service studies	*n*	39	7		
	%	84.8	15.2		
Other	*n*	26	8		
	%	76.5	23.5		

As Table 61 indicates, it is calculated that the status of usage of a trade credit did not differ in a significant statistical manner when compared to the purpose of

usage of sources of finance obtained by the company in the preceding six months before the questionnaire was sent ($p > 0.05$, 95% significance level).

it is calculated table 61. Results of the Chi-Square Analysis of the Relationship Between the Purpose of Use of Financing of SMEs in Turkey and Their Usage of Trade Credit

		Trade Credit			
The Purpose of Use of Financing of SMEs in Turkey in the Preceding Six Months		Related but Did Not Use	Used	X^2	p
Property, equipment or factory investments (fixed investment)	*n*	95	99	3.16	0.076
	%	49.0	51.0		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	108	188		
	%	36.5	63.5		
Staff and employee training expenses	*n*	14	7		
	%	66.7	33.3		
Research and development, new product or service studies	*n*	34	24		
	%	58.6	41.4		
Other	*n*	28	24		
	%	53.8	46.2		

As Table 62 indicates, it is calculated that the status of usage of credit from family and friends did differ significantly according to the number of employees of the company ($p = 0.05$, 95% significance level).

Table 62. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and Their Usage of Credit from Family or Friends

		Credit from Family or Friends			
Number of Employees of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
between 1-9	*n*	133	277	7.82	0.050
	%	32.4	67.6		
between 10-49	*n*	54	85		
	%	38.8	61.2		
between 50-249	*n*	13	21		
	%	38.2	61.8		
more than 250	*n*	3	0		
	%	100.0	0.0		

Out of the 410 companies, which the number of employees is between 1-9, 67.6% already used credit from family and friends. Out of the 139 companies, which the number of employees is between 10-49, 61.2% already used credit from family and

friends. Out of the 34 companies, which the number of employees is between 50-249, 61.8% already used credit from family and friends.

As Table 63 indicates, it is calculated that the status of usage of grants and government incentives did differ significantly according to the company`s number of employees (X^2 = 16.15, $p < 0.05$, 95% significance level). Out of the 519 companies, which the number of employees is between 1-9, 53.8% already used grants and government incentives. Out of the 197 companies, which the number of employees is between 10-49, 55.3% already used grants and government incentives. Out of the 66 companies, which the number of employees is between 50-249, 78.8% already used grants and government incentives. Out of the five companies, which the number of employees is more than 250, 80% already used grants and government incentives.

Table 63. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and Their Usage of Grants and Government Incentives

		Grants and Government Incentives			
Number of Employees of SMEs in Turkey		Related but Did Not Use	Used	X^2	p
between 1-9	*n*	240	279	16.15	0.001
	%	46.2	53.8		
between 10-49	*n*	88	109		
	%	44.7	55.3		
between 50-249	*n*	14	52		
	%	21.2	78.8		
more than 250	*n*	1	4		
	%	20.0	80.0		

As Table 64 indicates, it is calculated that the status of usage of a bank loan did differ significantly according to the company`s number of employees (X^2 = 30.83, $p < 0.05$, 95% significance level). Out of the 484 companies in which the number of employees is between 1-9, 67.4% already used a bank loan. Out of the 207 companies, which the number of employees is between 10-49, 80.7% already

used a bank loan. Out of the 77 companies, which the number of employees is between 50-249, 93.5% already used a bank loan. Out of the six companies, which the number of employees is more than 250, 66.7% already used a bank loan.

Table 64. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and Their Usage of Bank Loans

		Bank Loan			
Number of Employees of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
between 1-9	*n*	158	326	30.83	0.000
	%	32.6	67.4		
between 10-49	*n*	40	167		
	%	19.3	80.7		
between 50-249	*n*	5	72		
	%	6.5	93.5		
more than 250	*n*	2	4		
	%	33.3	66.7		

As Table 65 indicates, it is calculated that the status of usage of leasing did differ significantly according to the company`s number of employees ($X^2 = 83.41$, $p < 0.05$, 95% significance level). Out of the 289 companies which the number of employees is between 1-9. 10% already used leasing. Out of the 147 companies which the number of employees is between 10-49. 38.1% already used leasing. Out of the 54 companies, which the number of employees is between 50-249. 57.4% already used leasing. Out of the five companies, which the number of employees is more than 250, 60% already used leasing.

Table 65. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and Their Usage of Leasing

		Leasing			
Number of Employees of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
between 1-9	*n*	260	29	83.41	0.000
	%	90.0	10.0		
between 10-49	*n*	91	56		
	%	61.9	38.1		
between 50-249	*n*	23	31		
	%	42.6	57.4		
more than 250	*n*	2	3		
	%	40.0	60.0		

As Table 66 indicates, it is calculated that the status of usage of a trade credit did differ significantly according to the company`s number of employees (X^2 = 83.41, $p < 0.05$, 95% significance level). Out of the 383 companies, which the number of employees is between 1-9, 47% already used a trade credit. Out of the 172 companies, which the number of employees is between 10-49, 61.6% already used a trade credit. Out of the 73 companies, which the number of employees is between 50-249, 75.3% already used a trade credit. Out of the five companies, which the number of employees is more than 250, 80% already used a trade credit.

Table 66. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and Their Usage of Trade Credit

		Trade Credit			
Number of Employees of SMEs in Turkey		Related but Did Not Use	Used	X^2	*p*
between 1-9	*n*	203	180	26.32	0.000
	%	53.0	47.0		
between 10-49	*n*	66	106		
	%	38.4	61.6		
between 50-249	*n*	18	55		
	%	24.7	75.3		
more than 250	*n*	1	4		
	%	20.0	80.0		

As Table 67 indicates, it is calculated that credit size received in preceding six months by the company did not differ significantly according to the partnership status of the company ($p > 0.05$, 95% significance level).

Table 67. Results of the Chi-Square Analysis of the Relationship Between the Partnership Status of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Partnership Status of SMEs in Turkey		< 100,000 TL	≥ 100,000 TL	X^2	*p*
More than half shares belong to a partner	*n*	215	214	1.50	0.472
	%	50.1	49.9		
Family business or venture (with several partners)	*n*	221	250		
	%	46.9	53.1		
Affiliated to another company	*n*	13	10		
	%	56.5	43.5		

As Table 68 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the company`s area of activity (X^2 = 43.20, $p < 0.05$, 95% significance level). Out of the 110 companies in the construction field, 50% already took a credit greater or equal to 100,000 TL. Out of the 201 companies in industry area 66.2% already took a credit greater or equal to 100,000 TL. Out of the 172 companies in the trade area, 54.1% already took a credit greater or equal to 100,000 TL. Out of the 19 companies in the transportation area, 57.9% already took a credit greater or equal to 100,000 TL. Out of the 15 companies in the agriculture area, 60% already took a credit greater or equal to 100,000 TL. Out of the 12 companies in the financial services area, 0% already took a credit greater or equal to 100,000 TL. Out of the 117 companies in other services (hotel, restaurant, IT services, etc.) area, 37.6% already took a credit greater or equal to 100,000 TL. Out of the 292 companies in other areas 46.6% already took a credit greater or equal to 100,000 TL. Out of the 110 companies in the construction field, 50% already took a credit greater or equal to 100,000 TL. Out of the 201 companies in industry area 66.2% already took a credit greater or equal to 100,000 TL. Out of the 172 companies in the trade area, 54.1% already took a credit greater or equal to 100,000 TL. Out of the 19 companies in the transportation area, 57.9% already took a credit greater or equal to 100,000 TL. Out of the 15 companies in the agriculture area, 60% already took a credit greater or equal to 100,000 TL. Out of the 12 companies in the financial services area, 0% already took a credit greater or equal to 100,000 TL. Out of the 117 companies in other services (hotel, restaurant, IT services, etc.) area, 37.6% already took a credit greater or equal to 100,000 TL. Out of the 292 companies in other areas 46.6% already took a credit greater or equal to 100,000 TL.

Table 68. Results of the Chi-Square Analysis of the Relationship Between the Activity Area of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Activity Area of SMEs in Turkey		< 100,000 TL	≥ 100,000 TL	X^2	*p*
Construction Sector	*n*	55	55	43.20	0.000
	%	50.0	50.0		
Industry (production, mining, electricity, gas, and water supply)	*n*	68	133		
	%	33.8	66.2		
Trade	*n*	79	93		
	%	45.9	54.1		
Transport	*n*	8	11		
	%	42.1	57.9		
Agriculture (vegetable, fruit, other plant production)	*n*	6	9		
	%	40.0	60.0		
Financial services	*n*	12	0		
	%	100.0	0.0		
Other services (hotel, restaurant, IT services, etc.)	*n*	73	44		
	%	62.4	37.6		
Other	*n*	156	136		
	%	53.4	46.6		

As Table 69 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the company`s export level in 2016 (X^2 = 57.02, $p < 0.05$, 95% significance level). Out of the 617 companies with no exports in 2016, 42.6% already took a credit greater or equal to 100,000 TL. Out of the 176 companies with an export volume of less than 25% of all sales, 64.8% already took a credit greater or equal to 100,000 TL. Out of the 80 companies with an export volume between 25%-50% of all sales, 68.8% already took a credit greater or equal to 100,000 TL. Out of the 55 companies with export volume greater than 50% of all sales, 78.2% already took a credit greater or equal to 100,000 TL.

As Table 70 indicates, it is calculated that credit size received in the preceding six months by the company did not show a significant difference according to the geographical location of the company ($p > 0.05$, 95% significance level).

Table 69. Results of the Chi-Square Analysis of the Relationship Between the Level of Exports in 2016 of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Level of Exports of SMEs in Turkey (2016)		< 100,000 TL	≥ 100,000 TL	X^2	*p*
The company engaged in no exports last year.	*n*	354	263	57.02	0.000
	%	57.4	42.6		
Less than 25% of all sales	*n*	62	114		
	%	35.2	64.8		
Between 25% - 50% of all sales	*n*	25	55		
	%	31.3	68.8		
More than 50% of all sales	*n*	12	43		
	%	21.8	78.2		

Table 70. Results of the Chi-Square Analysis of the Relationship Between the Geographical Location of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Geographical Location of SMEs in Turkey		< 100,000 TL	≥ 100,000 TL	X^2	*p*
The Marmara Region	*n*	190	225	4.36	0.628
	%	45.8	54.2		
Central Anatolia Region	*n*	71	72		
	%	49.7	50.3		
Black Sea region	*n*	31	32		
	%	49.2	50.8		
Eastern Anatolia Region	*n*	19	22		
	%	46.3	53.7		
Turkish Aegean Coast	*n*	76	74		
	%	50.7	49.3		
the Mediterranean region	*n*	50	42		
	%	54.3	45.7		
Southeastern Anatolia	*n*	20	14		
	%	58.8	41.2		

As Table 71 indicates, it is calculated that credit size received in preceding six months by the company did not differ significantly according to the cash asset ratio of the company ($p > 0.05$, 95% significance level).

As Table 72 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the company`s turnover level in 2016 ($X^2 = 201.56$, $p < 0.05$, 95% significance level).

Table 71. Results of the Chi-Square Analysis of the Relationship Between the Cash Asset Ratio of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Cash Asset Ratio of SMEs in Turkey		< 100,000 TL	≥ 100,000 TL	X^2	*p*
More than normal (High)	*n*	12	10	0.44	0.507
	%	54.5	45.5		
Normal level	*n*	164	183		
	%	47.3	52.7		

Table 72. Results of the Chi-Square Analysis of the Relationship Between the Turnover Level in 2016 of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Turnover Level of SMEs in Turkey (2016)		< 100,000 TL	≥ 100,000 TL	X^2	*p*
< 500,000 TL	*n*	278	109	201.56	0.000
	%	71.8	28.2		
500,000 – 1,000,000 TL	*n*	82	61		
	%	57.3	42.7		
1,000,000– 2,000,000 TL	*n*	39	77		
	%	33.6	66.4		
2,000,000 – 10,000,000 TL	*n*	32	131		
	%	19.6	80.4		
10,000,000 – 50,000,000 TL	*n*	15	84		
	%	15.2	84.8		
> 50,000,000	*n*	2	9		
	%	18.2	81.8		

Out of the 387 companies with a turnover level of less than 500 000 TL, 28.2% already took a credit greater or equal to 100,000 TL. Out of the 143 companies with a turnover level between 500,000 – 1,000,000 TL, 42.7% already took a credit greater or equal to 100,000 TL. Out of the 116 companies with a turnover level between 1,000,000– 2,000,000 TL, 66.4% already took a credit greater or equal to 100,000 TL. Out of the 163 companies with a turnover level between 2,000,000 – 10,000,000 TL, 80.4% already took a credit greater or equal to 100,000 TL. Out of the 99 companies with the turnover level between 10,000,000 – 50,000,000 TL, 84.8% already took a credit greater or equal to 100,000 TL Out of the 11 companies

with the turnover level of more than 50,000,000 TL, 81.8% already took a credit greater or equal to 100,000 TL.

As Table 73 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the company`s age (X^2 = 78.04, $p < 0.05$, 95% significance level). Out of the 256 companies younger than 2 years, 32.4% already took a credit greater or equal to 100,000 TL. Out of the 207 companies between 2-5 years old, 44% already took a credit greater or equal to 100,000 TL. Out of the 163 companies between 5-10 years old, 58.9% already took a credit greater or equal to 100,000 TL. Out of the 312 companies older than 10 years, 67.6% already took a credit greater or equal to 100,000 TL.

Table 73. Results of the Chi-Square Analysis of the Relationship Between the Company Age of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Company Age		< 100,000 TL	≥ 100,000 TL	X^2	p
Less than 2 years	*n*	173	83	78.04	< 0.001
	%	67.6	32.4		
Between 2-5 years	*n*	116	91		
	%	56.0	44.0		
Between 5-10 years	*n*	67	96		
	%	41.1	58.9		
More than 10 years	*n*	101	211		
	%	32.4	67.6		

As Table 74 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the purpose of use financing in preceding six months by the company (X^2 = 12.06, $p < 0.05$, 95% significance level). Out of the 260 companies that used their financing for property, equipment or factory investments (fixed investment), 51.2% already took a credit greater or equal to 100,000 TL. Out of the 388 companies that used their financing for inventory and working capital (debt payment, supplier payments, etc.), 52.8% already took a credit greater or equal to 100,000 TL. Out of the 39 companies that

used their financing for staff and employee training expenses, 25.6% already took a credit greater or equal to 100,000 TL. Out of the 108 companies that used their financing for research and development, new product or service studies, 47.2% already took a credit greater or equal to 100,000 TL. Out of the 93 companies that used their financing for other purposes, 55.9% already took a credit greater or equal to 100,000 TL.

Table 74. Results of the Chi-Square Analysis of the Relationship Between the Purpose of use of Financing in the Preceding Six Months of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Purpose of Use of Financing in the Preceding Six Months		< 100,000 TL	≥ 100,000 TL	X^2	*p*
Property, equipment or factory investments (fixed investment)	*n*	127	133	12.06	0.017
	%	48.8	51.2		
Inventory and working capital (debt payment, supplier payments, etc.)	*n*	183	205		
	%	47.2	52.8		
Staff and employee training expenses	*n*	29	10		
	%	74.4	25.6		
Research and development, new product or service studies	*n*	57	51		
	%	52.8	47.2		
Other	*n*	41	52		
	%	44.1	55.9		

As Table 75 indicates, it is calculated that credit size received in preceding six months by the company did differ significantly according to the number of employees of the company ($X^2 = 167.02$, $p < 0.05$, 95% significance level).

Table 75. Results of the Chi-Square Analysis of the Relationship Between the Number of Employees of SMEs in Turkey and the Size of Credit They Received in the Preceding Six Months

		Credit Size Received in the Preceding Six Months			
Number of Employees of SMEs in Turkey		< 100,000 TL	≥ 100,000 TL	X^2	*p*
between 1-9	*n*	376	213	167.02	0.000
	%	63.8	36.2		
between 10-49	*n*	56	173		
	%	24.5	75.5		
between 50-249	*n*	8	79		
	%	9.2	90.8		
more than 250	*n*	0	5		
	%	0.0	100.0		

Out of the 589 companies, which the number of employees is between 1-9, 36.2% already took a credit greater or equal to 100,000 TL. Out of the 229 companies, which the number of employees is between 10-49, 75.5% already took a credit greater or equal to 100,000 TL. Out of the 87 companies, which the number of employees is between 50-249, 90.8% already took a credit greater or equal to 100,000 TL. Out of the five companies, which the number of employees is more than 250, 100% already took a credit greater or equal to 100,000 TL.

4.3 Multiple regression analyses

Multiple regression analyses are performed on collected results in order to see which independent variables have a significant effect on the access to finance of SMEs. This section presents the results of multiple regression analyses exploring the relationship between all independent characteristics of the enterprises studied in this research, and the dependent variables amount of the credit received and usage of various financial sources such as: credit from family and friends, government grants and incentives, bank loans, leasing, and trade credit. Independent variables are turnover level, age of the firm, export level, number of employees, associate status, geographical location, business area and purpose of using financial sources.

4.3.1 Amount of credit dependent variable

Table 76 presents the possible answers to questions that are used for making the prediction of the amount of the credit received by the enterprise.

On the other hand, Table 77 presents the results of multiple regression analysis run to predict the amount of credit received by the enterprise. According to

this table, *F found value* is larger than *F critical value*, therefore the general null hypothesis is rejected.

Table 76. Possible Answers in Multiple Regression Analysis for the Amount of Credit Dependent Variable and Eight Independent Variables

Q1 Associate Status	Q2 Activity Area	Q3 Export	Q4 Region	Q13 Turnover Level	Q14 Age	Q16 Purpose of Using Financial Sources	Q17 Employee Number	Q15 Last Credit Amount
> 50% single-owned	Building	None	Marmara	< 500,000 TL	< 2	Fixed investment	1-9	0 - 25,000 TL
Multi-owned	Industry	< 25%	Central Anatolian	500,000 – 1 million TL	2-5	Inventory	10-49	25,001 - 100,000 TL
Connected (Turkish)	Trade	25% - 50%	Black Sea	1 million – 2 million TL	5-10	Staff Education	50-249	100,001 - 250,000 TL
Connected (foreign)	Transport	> 50%	Eastern Anatolian	2,000,000 – 10,000,000 TL	> 10	R & D	> 250	250,001 - 1,000,000 TL
	Agriculture		Aegean	10 million – 50 million TL				> 1 million TL
	Finance		Mediterranean	> 50 million				
			Southeast Anatolian					

Table 77. Multiple Regression Statistics for Amount of Credit Dependent Variable and Eight Independent Variables

Standard Error	0.945558704	Independent Variables	Coefficients	*P-value*
R Square	0.45123686	Intercept	1.22921077	0.00***
F value found	15.41774676	Q1 Associate Status	-0.15275707	0.31
F critical	1.93	Q2 Activity Area	-0.06582526	0.07*
df (regression + residual)	158 (8 + 150)	Q3 Export Level	0.135377034	0.17
Level of significance	95%	Q4 Geographical Region	0.07830148	0.03**
		Q13 Turnover Level	0.27228509	0.00***
		Q14 Age of firm	0.261533898	0.00***
		Q16 Purpose of Usage of Financial Sources	-0.14044770	0.10*
		Q17 Number of Employees	0.329564038	0.03**

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

In order to see which of the variables affect the amount of credit received significantly, their *p-value*s are studied. Since the multiple regression is done at 95% significance level, only variables with a p-value of less than 0.05 are said to significantly influence the result. These variables are the geographical location with

the coefficient of 0.07830148, turnover level with the coefficient of 0.27228509, age of firm with the coefficient of 0.261533898, and the number of employees with the coefficient of 0.329564038.

4.3.2 Usage of credit from family and friends dependent variable

Table 78 presents the possible answers to questions that are used for making the prediction of usage of the credit from family and friends, or government grants and subsidies, or bank loans, or leasing, or trade credit by the enterprise.

Table 78. Possible Answers in Multiple Regression Analysis for Usage of Credit from Family and Friends, or Government Grants and Subsidies, or Bank Loan, or Leasing, or Trade Credit Dependent Variable and Eight Independent Variables

Q1 Associate Status	Q2 Activity Area	Q3 Export	Q4 Region	Q13 Turnover Level	Q14 Age	Q16 Purpose of Using Financial Sources	Q17 Employee Number	Q9 Usage of Credit from Family and Friends, or Government Grants and Subsidies, or Bank Loan, or Leasing, or Trade Credit
> 50% single-owned	Building	None	Marmara	< 500,000 TL	< 2	Fixed investment	1-9	Related but Did Not Use
Multi-owned	Industry	< 25%	Central Anatolian	500,000 – 1 million TL	2-5	Inventory	10-49	Used
Connected (Turkish)	Trade	25% - 50%	Black Sea	1 million – 2 million TL	5-10	Staff Education	50-249	
Connected (foreign)	Transport	> 50%	Eastern Anatolian	2,000,000 – 10,000,000 TL	> 10	R & D	> 250	
	Agriculture		Aegean	10 million – 50 million TL				
	Finance		Mediterranean	> 50 million				
			Southeast Anatolian					

Table 79 presents the results of multiple regression analysis run to predict the usage of family and friends credit by the enterprise. According to this table, *F found value* is larger than *F critical value*, therefore the general null hypothesis is rejected. In order to see which of the variables affect the usage of credit from family and

friends significantly, their *p-value*s are studied. Since the multiple regression is done at 95% significance level, only variables with a *p-value* of less than 0.05 are said to significantly influence the result. Such variables are turnover level with the coefficient of 0.1637397, and the age of the firm with the coefficient of -0.0794871.

Table 79. Multiple Regression Statistics for Usage of Credit from Family and Friends Dependent Variable and Eight Independent Variables

Standard Error	0.4425979	Independent Variables	Coefficients	*P-value*
R Square	0.1680888	Intercept	0.9409844	0.00***
F value found	2.222564521	Q1 Associate Status	0.0503666	0.59
F critical	2.01-2.09	Q2 Activity Area	0.0338031	0.13
df (regression + residual)	96 (8 + 88)	Q3 Export Level	0.0862618	0.21
Level of significance	95%	Q4 Geographical Region	-0.0076374	0.74
		Q13 Turnover Level	0.1637397	0.00***
		Q14 Age of firm	-0.0794871	0.07*
		Q16 Purpose of Usage of Financial Sources	0.0371709	0.46
		Q17 Number of Employees	-0.137078	0.13

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

4.3.3 Usage of government grants and subsidies dependent variable

Table 80 presents the results of multiple regression analysis run to predict the usage of government grants and subsidies by the enterprise. According to this table, *F found value* is smaller than *F critical value*, therefore the results obtained are said not to be significant in general.

Table 80. Multiple Regression Statistics for Usage of Government Grants and Subsidies Dependent Variable and Eight Independent Variables

Standard Error	0.50212558	Independent Variables	Coefficients	*P-value*
R Square	0.054664507	Intercept	1.87478075	0.00***
F value found	0.954120913	Q1 Associate Status	-0.10454095	0.21
F critical	1.938	Q2 Activity Area	0.014267527	0.47
df (regression + residual)	140 (8 + 132)	Q3 Export Level	-0.01301662	0.83
Level of significance	95%	Q4 Geographical Region	-0.02412675	0.23
		Q13 Turnover Level	0.046064294	0.28
		Q14 Age of firm	-0.03538191	0.40
		Q16 Purpose of Usage of Financial Sources	-0.04942830	0.27
		Q17 Number of Employees	-0.08026032	0.35

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

4.3.4 Usage of bank loans dependent variable

Table 81 presents the results of multiple regression analysis run to predict the usage of bank loans by the enterprise. According to this table, *F found value* is larger than *F critical value*, therefore the general null hypothesis is rejected.

Table 81. Multiple Regression Statistics for Usage of Bank Loan Dependent Variable and Eight Independent Variables

Standard Error	0.401591678	Independent Variables	Coefficients	*P-value*
R Square	0.173005221	Intercept	1.410407302	0.00***
F value found	3.660955829	Q1 Associate Status	0.107591798	0.08*
F critical	2.01-2.09	Q2 Activity Area	0.020858542	0.20
df (regression + residual)	96 (8 + 140)	Q3 Export Level	0.021693132	0.60
Level of significance	95%	Q4 Geographical Region	-0.01678109	0.29
		Q13 Turnover Level	-0.06930621	0.02**
		Q14 Age of firm	-0.09084607	0.00***
		Q16 Purpose of Usage of Financial Sources	0.014053115	0.72
		Q17 Number of Employees	0.00464056	0.94

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

In order to see which of the variables affect the usage of bank loans significantly, their *p-value*s are studied. Since the multiple regression is done at 95% significance level, only variables with a *p-value* of less than 0.05 are said to significantly influence the result. These variables are turnover level with the coefficient of -0.06930621, and the age of firm with the coefficient of -0.09084607.

4.3.5 Usage of leasing dependent variable

Table 82 presents the results of multiple regression analysis run to predict whether the leasing will be used. According to this table, *F found value* is larger than *F critical value*, therefore the general null hypothesis is rejected. In order to see which of the variables affect the usage of leasing significantly, their *p-value*s are studied. Since the multiple regression is done at 95% significance level, only variables with a *p-value* of less than 0.05 are said to significantly influence the result. Such a variable is an activity area of the firm with a coefficient of 0.058158885.

Table 82. Multiple Regression Statistics for Usage of Leasing Dependent Variable and Eight Independent Variables

Standard Error	0.383586976	Independent Variables	Coefficients	*P-value*
R Square	0.307987042	Intercept	2.289338737	0.00***
F value found	4.283699084	Q1 Associate Status	-0.02640536	0.75
F critical	2.01-2.09	Q2 Activity Area	0.058158885	0.01**
df (regression + residual)	85 (8 + 77)	Q3 Export Level	-0.06178718	0.23
Level of significance	95%	Q4 Geographical Region	-0.02801369	0.21
		Q13 Turnover Level	-0.07195041	0.06
		Q14 Age of firm	-0.06558518	0.11
		Q16 Purpose of Usage of Financial Sources	-0.01257357	0.80
		Q17 Number of Employees	-0.07225398	0.31

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

4.3.6 Usage of trade credit-dependent variable

Table 83 presents the results of multiple regression analysis run to predict whether the trade credit will be used. According to this table, *F found value* is smaller than *F critical value*, therefore the results obtained are said not to be significant in general.

Table 83. Multiple Regression Statistics for Usage of Trade Credit Dependent Variable and Eight Independent Variables

Standard Error	0.485952506	Independent Variables	Coefficients	*P-value*
R Square	0.089793462	Intercept	1.487021686	0.00***
F value found	1.344130014	Q1 Associate Status	0.031166262	0.71
F critical	2.01-2.09	Q2 Activity Area	0.018977938	0.40
df (regression + residual)	117 (8 + 109)	Q3 Export Level	-0.09056169	0.14
Level of significance	95%	Q4 Geographical Region	-0.00053075	0.98
		Q13 Turnover Level	-0.01153348	0.78
		Q14 Age of firm	-0.09627541	0.02**
		Q16 Purpose of Usage of Financial Sources	0.047925225	0.37
		Q17 Number of Employees	0.085692826	0.29

Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

CHAPTER 5

KEY FINDINGS

Due to a large number of results presented in the previous chapter, this chapter lists only the key findings of this survey in order to access them more easily.

5.1 Distribution of SMEs in Turkey according to different factors

In the first part of Chapter Five, the frequency distributions of SMEs in Turkey according to different factors are listed. Type of SMEs that hold the highest percentage of each distribution and the type of SMEs that hold the lowest percentage of each distribution are namely indicated.

As Table 1 indicates, out of the 1452 companies that answered the first question on the associate status of the company, most of the companies (51.5%) were a family company or a joint venture; and the lowest number of the companies (0.9%) were connected to another foreign company.

As Table 2 indicates, out of the 1399 companies that answered the second question on the area of activity of the company, most of the companies (20.4%) were industrial (production, mining, electricity, gas and water supply) companies; and the lowest number of companies (1.3%) were in financial services. It should be added that 32% declared that they were operating in other areas than the ones offered.

As Table 3 indicates, out of the 1292 companies that answered the third question on the export level of the company, most of the companies (67%) did not make any exports out of their sales in the previous year covering mid 2016 – mid 2017; and the lowest number of companies (5.9%) exported more than 50% of all their sales.

As Table 4 indicates, out of the 1291 companies that answered the fourth question on the geographical position of the company, most of the companies (42.8%) were from the Marmara region; and the lowest number of the companies (3.7%) were from the Southeast Anatolia region.

As Table 6 indicates, out of the 1170 companies that answered the sixth question on the amount of assets in cash of the company, most of the companies (58.8%) have a lower-than-normal cash asset rate; and the lowest number of the companies (2.6%) have a higher than normal (high) cash asset rate.

As Table 7 indicates, out of the 492 companies with high liquid assets that answered the seventh question in this survey, most of the companies (17.89%) showed the low income from the investments as the reason for holding high liquid assets, and the lowest number of the companies (5.67%) pointed the difficulty of monetizing the assets in times of need as a reason. It should be added that 41.46% stated “other” for the reason.

As Table 8 indicates, out of the 816 companies with low liquid assets that answered the eighth question in this survey, most of the companies (36.5%) stated the high transaction volumes as the reason for holding low liquid assets, and the lowest number of the companies (0.7%) showed the high return coming from investments as the reason. It should be added that 19.4% stated “other” for the reason.

As Table 10 indicates, out of the 845 companies, not able to use a bank loan, that answered the tenth question in this survey, most of the companies (36.4%) indicated the high-interest rates or expenses as the reason for it; and the lowest number of companies (1.8%) pointed too much paperwork as a reason for not being able to take a bank loan.

As Table 13 indicates, out of the 974 companies that answered the thirteenth question on the turnover level of the company, most of the companies (41.6%) had the turnover level less than 500,000 TL in 2016, and the lowest number of the companies (1.3%) more than 50 million TL.

As Table 14 indicates, out of the 999 companies that answered the fourteenth question on the time of the establishment of the company, most of the companies (33.7%) have been established for more than 10 years; and the lowest number of the companies (16.6%) for 5-10 years.

As Table 17 indicates, out of the 952 companies that answered the seventeenth question on the number of employees of the company, most of the companies (40.1%) have the number of employees between 1-9; and the lowest number of the companies (0.4%) have the number of employees more than 250.

As Table 12 indicates, according to the twelfth question in this survey on applications for finance sources in preceding six months in this survey, the largest number of SMEs in Turkey are related to bank loan applications, in total 806 companies; and 52.8% did receive a bank loan (451 companies). In addition, the least number of SMEs in Turkey are related to a loan received from family or friends, in total 619 companies; and 44.2% did receive a loan from family or friends (271 companies). Out of the 619 companies related to the loan received from family or friends in this survey, 50.3% applied for it, and 44.2% received it. Out of the 761 companies related to grants and government incentives in this survey, 69% applied for it, and 52.8% received it. Out of the 806 companies related to bank loans in this survey, 70% applied for it, and 56% received it. Out of the 646 companies related to trade credits in this survey, 50.3% applied for it, and 44.2% received it.

5.2 Distribution of SMEs in Turkey and the EU

In the second part of Chapter Five, the same distribution types of SMEs in Turkey and the EU are compared. Again, the type of SMEs that hold the highest percentage of each distribution and the type of SMEs that hold the lowest percentage of each distribution are namely indicated; this time separately for SMEs in Turkey and SMEs in the EU. The most important topic discussed is the distribution of sources of finance and purposes of their usage. At the same time, issues faced by SMEs, and amount of last credit received are elaborated.

5.2.1 Distribution of sources of finance used by SMEs in Turkey and the EU

According to Table 9, in the ninth question on sources of finance, bank loans option was chosen as "interested or used" by 870 companies, trade credit option was chosen as "interested or used" by 711 companies, credits from the family or friends option was chosen as "interested or used" by 656 companies, leasing option was chosen as "interested or used" by 553 companies, and grant or governmental subsidies option was chosen as "interested or used" by 870 companies. Therefore, bank loans and grant or governmental subsidies options were chosen as "interested or used" by the largest number of SMEs. On the other hand, the leasing option was selected as "interested or used" by the least number of SMEs. At the same time, according to the Table 9, bank loans are the most used type of finance for SMEs in Turkey, since used by 627 SMEs surveyed, and leasing is the least used type of finance for SMEs in Turkey since used by 132 SMEs surveyed.

According to SAFE 2017, 48% of SMEs in the EU reported the usage of bank loan in the preceding six months, 34% the usage of trade credit, 21% the usage of credit from family and friends, a related enterprise or shareholders, 42% the usage of

leasing, and 31% the usage of grant or governmental subsidies. Therefore, most of the SMEs surveyed through SAFE 2017 in the EU, reported the usage of bank loans in the preceding six months (48%). On the other hand, the lowest number of SMEs surveyed through SAFE 2017 in the EU, reported the usage of credit from family and friends, a related enterprise or shareholders in the preceding six months (21%).

5.2.2 Distribution of SMEs in Turkey and the EU according to the importance of the issues faced

As Table 21 indicates, 547 SMEs in Turkey stated the finding customers issue as very important, 400 stated the competition issue as very important, 403 stated the access to finance issue as very important, 374 stated the costs of production or labor issue as very important, and 330 stated the legal rules and regulations issue as very important. Therefore, the highest number of SMEs in Turkey sees finding customers issue as the very important one, and the lowest number the regulations issue.

On the other hand, according to SAFE 2017, 24% of SMEs in the EU stated that the finding customers issue is the most important one faced in the preceding six months, 13% indicated the competition issue as the most important one faced in the preceding six months, 7% pointed the access to finance issue as the most important one faced in the preceding six months, 12% showed the costs of production or labor issue as the most important one faced in the preceding six months, and 12% indicated the issue of the regulations as the most important one faced in the preceding six months. Therefore, the highest percentage of SMEs in the EU sees finding customers issues as the most important one, and the lowest percentage the access to finance issues.

5.2.3 Distribution of SMEs in Turkey and the EU according to the amount of the last credit they received

As Table 15 indicates, out of the 938 companies that answered the fifteenth question on the amount of the last credit received by the company, most of the companies (29.7%) received a credit between 25,001 - 100,000 TL; and the lowest number of the companies (9.2%) between 250,001 - 1,000,000 TL.

On the other hand, according to SAFE 2017, most of the companies (23%) received a credit between 250,001 - 1,000,000 Euro in the preceding six months; and the lowest number of the companies (11%) between 0 – 25,000 Euro.

5.2.4 Distribution of SMEs in Turkey and the EU according to the purpose of usage of financial sources in the preceding six months

As Table 16 indicates, out of the 914 companies that answered the sixteenth question on the purpose of using financial sources in the preceding six months, most of the companies (43.4%) used financial sources for inventories and business capital (paying bank loans, paying suppliers, etc.); and the lowest number of companies (4.5%) used financial sources for expenditures for the training and education of the staff and workers.

On the other hand, according to SAFE 2017, most of the companies (38%) stated that they used financial sources for property, equipment and factory investments (fixed investments) in the preceding six; and the lowest number of companies (14%) used financial sources for research and development, and new product or service research.

5.3 Distribution of financial changes related to SMEs in Turkey and the EU

In the third part of Chapter Five, the financial changes related to SMEs in Turkey and the EU are compared. The net percentage changes are compared in multiple areas: financial states of SMEs, need for financial sources, financial status, availability of financial sources, and terms and conditions of bank financing.

The net effects of the changes in financial states of SMEs in Turkey are given according to the data shown in Table 5 created from answers on the fifth question in this survey. The net effects regarding the changes in financial states of SMEs in the EU are based on SAFE 2017 data. The net effect according to SMEs in Turkey is a 6.04% increase in turnover. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 28% increase in turnover. The net effect for SMEs in Turkey is a 67.9% increase in labor costs. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 51% increase in labor cost. The net effect for SMEs in Turkey is an 80.2% increase in other costs (energy, raw materials). On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 50% increase in other costs (energy, raw materials). The net effect for SMEs in Turkey is a 68.7% increase in interest expenses. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 1% increase in interest expenses. The net effect for SMEs in Turkey is a 10.7% decrease in investment. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is an 18% increase in fixed investment. The net effect for SMEs in Turkey is a 10.6% decrease in inventories. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 9% increase in inventories. The net effect according to SMEs in Turkey is a 5.5% decrease in the number of employees. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 14% increase in the

number of employees. The net effect for SMEs in Turkey is a 63.6% decrease in debts. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 9% decrease in debts. The net effect for SMEs in Turkey is a 34.1% decrease in profits. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 6% decrease in profits.

The net effects of the changes in the need for financial sources of SMEs in Turkey are given according to the data shown in Table 11 created from answers on the eleventh question in this survey. The net effects of the changes in the need for financial sources of SMEs in the EU are given according to the data shown in SAFE 2017. The net effect for SMEs in Turkey is a 20.2% increase in the need for credit received from family and friends. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 12% increase in the need for credit received from family and friends. The net effect for SMEs in Turkey is a 43% increase in the need for bank loans. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 1% increase in the need for bank loans. The net effect for SMEs in Turkey is a 21% increase in the need for leasing. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 5% increase in the need for leasing. The net effect for SMEs in Turkey is a 44.8% increase in the need for trade credits. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 10% increase in the need for trade credits.

The net effects of the changes in the financial status of SMEs in Turkey are given according to the data shown in Table 18 created from answers on the eighteenth question in this survey. The net effects of the changes in the financial status of SMEs in the EU are given according to the data shown in SAFE 2017. The net effect for SMEs in Turkey is a 7.6% decrease in the general economic outlook.

On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 9% increase in the general economic outlook. The net effect for SMEs in Turkey is a 5.7% increase in access to government financial support. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 4% decrease in access to government financial support. The net effect for SMEs in Turkey is a 1.8% increase in institutional outlook (sales-profitability). On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 21% increase in institutional outlook (sales-profitability). The net effect for SMEs in Turkey is a 3.9% decrease in the equity capital of the enterprise. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 22% increase in the equity capital of the enterprise. The net effect for SMEs in Turkey is a 10.3% increase in credit history/score of the enterprise. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 20% increase in credit history/score of the enterprise. The net effect for SMEs in Turkey is a 1% increase in the willingness of the banks to provide loans. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 17% increase in the willingness of the banks to provide loans. The net effect for SMEs in Turkey is a 1.9% increase in the willingness of other companies to provide trade credits. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 13% increase in the willingness of other companies to provide trade credits.

The net effects of the changes in the availability of financial sources in preceding six months for SMEs in Turkey are given according to the data shown in Table 19 created from answers on the nineteenth question in this survey. The net effects of the changes in the availability of financial sources in the preceding six months for SMEs in the EU are given according to the data shown in SAFE 2017.

The net effect for SMEs in Turkey is a 4.7% increase in the availability of bank loans. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 12% increase in the availability of bank loans. The net effect for SMEs in Turkey is a 3.1% increase in the availability of trade credits. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 12% increase in the availability of trade credits. The net effect for SMEs in Turkey is a 4.7% decrease in the availability of equity capital. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is an 11% increase in the availability of equity capital. The net effect for SMEs in Turkey is an 8.6% decrease in the availability of leasing or purchasing through renting. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 14% increase in the availability of leasing or purchasing through renting.

The net effects of the changes in the terms and conditions of bank financing in preceding six months for SMEs in Turkey are given according to the data shown in Table 20 created from answers on the twentieth question in this survey. The net effects of the changes in the terms and conditions of bank financing in the preceding six months for SMEs in the EU are given according to the data shown in SAFE 2017. The net effect for SMEs in Turkey is a 26.1% increase in the interest rate. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 5% decrease in the interest rate. The net effect for SMEs in Turkey is a 27.1% increase in the non-interest costs of financing. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 26% increase in the non-interest costs of financing. The net effect for SMEs in Turkey is a 10.2% increase in the available loan size. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is an 11% increase in the available loan size. The net effect according to SMEs in

Turkey is a 5.7% increase in loan maturity. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 3% increase in loan maturity. The net effect for SMEs in Turkey is a 4.4% increase in the other costs of financing. On the other hand, according to SAFE 2017, the net effect for SMEs in the EU is a 15% increase in the other costs of financing.

5.4 Negative results of chi-square analyses

In the fourth part of Chapter Five, the negative results of Chi-square analyses performed on the data about SMEs in Turkey, collected in this survey, are presented. The characteristics, of SMEs in Turkey, that don't differ significantly according to each other type ($p > 0.05$, 95% significance level) are listed.

As Tables 22 and 23 respectively indicate the status of usage of credit from family and friends, grants and government incentives, did not differ significantly according to the partnership status of the company. ($p > 0.05$, 95% significance level)

As Tables 28 and 29 respectively indicate the status of usage of grant and government incentives, and bank loans did not differ significantly according to the field of activity of the company. ($p > 0.05$, 95% significance level)

As Tables 38, 39, and 40 respectively indicate the status of usage of grants and government incentives, bank loans, and leasing did not differ significantly according to the geographical location of the SME ($p > 0.05$, 95% significance level).

As Tables 42, 43, 44, 45, and 46 respectively indicate the status of usage of the credit from family and friends, grants and government incentives, bank loans, leasing, and trade credits did not differ significantly according to the cash asset ratio of the SME ($p > 0.05$, 95% significance level).

As Tables 47, and 48 respectively indicate the status of usage of the credit from family and friends, and grant and government incentives did not differ significantly according to the turnover level of the SME ($p > 0.05$, 95% significance level).

As Table 52 indicates the status of usage of credit from family and friends did not differ significantly according to the age of the company ($p > 0.05$, 95% significance level).

As Tables 57, 58, 59, 60, and 61 respectively indicate the status of usage of the credit from family and friends, grants and government incentives, bank loan, leasing, and trade credit did not differ significantly according to the purpose of use of financing by the company ($p > 0.05$, 95% significance level).

As Table 62 indicates the status of usage of credit from family and friends did not differ significantly according to the number of employees of the company ($p > 0.05$, 95% significance level).

As Tables 67, 70, and 71 respectively indicate the credit size received in preceding six months by the company did not differ significantly according to the partnership status, geographical location, or cash asset ratio of the company. ($p > 0.05$, 95% significance level).

5.5 Positive results of chi-square analyses

In the fifth part of Chapter Five, the positive results of Chi-square analyses performed on the data about SMEs in Turkey, collected in this survey, are presented. The characteristics of SMEs in Turkey that differ significantly according to each other type ($p < 0.05$, 95% significance level) are listed.

As Tables 25, and 26 respectively indicate, the partnership status of a company significantly affects its usage of leasing or commercial credits. ($p < 0.05$, 95% significance level) Family business companies use leasing the most, and companies affiliated with another company use the commercial credits the most.

As Tables 27, 30, and 31 respectively indicate, a field of activity of the company significantly affects its usage of credit from family or friends, or leasing, or commercial credits ($p < 0.05$, 95% significance level). Companies in the field of financial services use credit from family or friends the most, companies in the field of agriculture use leasing the most, and companies in the industry field use commercial credit the most.

As Tables 32, 33, 34, 35 and 36 respectively indicate, a company`s volume of exports in 2016 significantly affected its usage of credit from family or friends, or grants or government incentives, or bank loans, or leasing, or commercial credits ($p < 0.05$, 95% significance level). Companies with export volume less than 25% of all sales use credit from family or friends the most, companies with export volume between 25%-50% of all sales use the grants or government incentives and leasing the most, companies with export volume greater than 50% of all sales use the bank loans and commercial credits the most.

As Tables 37, and 41 respectively indicate, a company`s geographical location significantly affects its usage of credit from family or friends, or commercial credits ($p < 0.05$, 95% significance level). Companies located in the Black Sea region use credit from family or friends the most, and companies located in the Marmara region use the commercial credits the most.

As Tables 49, 50, and 51 respectively indicate, a company`s turnover level significantly affects its usage of bank loans, or leasing, or trade credits ($p < 0.05$,

95% significance level). Companies with turnover levels of more than 50,000,000 TL use the bank loans the most, companies with the turnover level between 10,000,000 – 50,000,000 TL use leasing and trade credit the most.

As Tables 53, 54, 55, and 56 respectively indicate, the age of a company significantly affects its usage of grants and government incentives, or bank loans, or leasing, or trade credits ($p < 0.05$, 95% significance level). Companies older than 10 years use grants and government incentives, bank loans, leasing, and trade credit the most.

As Tables 53, 54, 55, and 56 respectively indicate, the age of a company significantly affects its usage of grants and government incentives, or bank loans, or leasing, or trade credits ($p < 0.05$, 95% significance level). Companies older than 10 years use grants and government incentives, bank loans, leasing, and trade credit the most.

As Tables 68, 69, 72, 73, and 75 respectively indicate, the size of credit received by the company was significantly affected by the field of activity of the company, or its export level in 2016, or its turnover level in 2016, or its age, or its number of employees ($p < 0.05$, 95% significance level). Companies in the industry field, or companies with export volume greater than 50% of all sales in 2016, or companies with the turnover level between 10,000,000 – 50,000,000 TL, or companies older than 10 years, or companies which the number of employees is more than 250, managed to take credits greater or equal to 100,000 TL in preceding six months in the biggest percentage.

CHAPTER 6

DISCUSSION AND CONCLUSION

The aim of this study is to compare the status and changes in the access to finance of SMEs in Turkey and SMEs in the EU. Additionally, this study also evaluates the access to finance of SMEs in Turkey and SMEs in the EU according to their associate status, geographical location, business area, exports, liquid assets, and establishment time.

SMEs are at least as important as large enterprises for an economy. SMEs in the EU make 99% of all companies, with such a high ratio being the same in all its countries. They also have a large impact on employment and GDP. This can be seen from the fact that 66.9% share of employment in 28 the EU countries are held by SMEs (Navaretti, Calzolari & Pozzolo, 2015). On the other hand, start-up and young firms account for 70% of the United States (U.S.) employment creation every year. Therefore, the survival of SMEs is directly connected to the survival of a big share of the local economy, for all countries. At the same time, SMEs cover a big share of banks' balance sheets (Navaretti et al., 2015). Banks give loans to SMEs for regarding them as fast-growing profitable entities.

One of the main issues that SMEs face in general, and which prevents them from growing fast is access to finance (Navaretti et al., 2015). The most common source of financing for SMEs is bank loans. Although lending to SMEs can be highly profitable for banks, it is at the same time very risky. Banks cannot be sure of the reliability and success potential of the SME applying for a loan without deep research on it, which is called as capital requirements (Navaretti et al., 2015). At the same time, banks charge SMEs with much higher interest rates than larger

companies. Banks must clarify the trade-off between the expansion of loans, and the risk reduction (Navaretti et al., 2015). As a solution for such a problem, economists advise SMEs to increase their transparency, disclosing their business conditions, which would lead to lower capital requirements and be a source of trust for banks when lending (Navaretti et al., 2015). When the collection of information on SMEs is considered, there are two types of banking. Relationship banking collects soft or qualitative information, while transaction banking collects hard or quantitative information. Larger banks more easily reach hard information (Stein, 2002), while smaller banks handle soft information gathering more successfully (Berger & Udell, 2002; Berger, Clarke, Cull, Klapper & Udell, 2005). In addition, foreign-owned banks deal with hard information more easily, while domestic banks are more specialized in soft information gathering (Detragiache, Tressel & Gupta, 2008).

Since SMEs are more dependent on bank financing, any credit crunch affects them much more than it affects larger corporations. Some options for the market to make SME financing easier could be expanding information on SMEs or encouraging alternative sources of financing to SMEs such as venture capital, crowdfunding, commercial credits, shadow banking, and bonds market (Navaretti et al., 2015). In venture capital, capitalists invest in the company in exchange for an equity stake. This can be very profitable, but at the same time very risky for the investors. As explained by Berger and Udell (2006), crowdfunding relates to the usage of internet platforms to allow entrepreneurs to reach small-size individual investors. Commercial credits are granted by the firm`s commercial partners, which are better informed on it than unrelated financiers. In the shadow banking system, financial services are provided by non-bank intermediaries with regulations different from the normal banking ones, however, interest rates can be very high. In the case

of bonds, for financiers to buy bonds they need to investigate the company before buying, which can be time-consuming and expensive (Navaretti et al., 2015).

Different policies and regulations can also help SMEs` financing. Public institutions like EIB (European Investment Bank Group) can help SMEs` financing directly through loans, equity, or guarantees, governments can also change their regulations. Italian Government, for example, has tax exemptions on innovation incentives and Research and Development costs and provides extra guarantees on SMEs loans (Trentinaglia, 2015). One other policy implemented in January 2014 in the EU was related to capital requirements discount for banks that lend to SMEs, which are supposed to use the discount to give further credit to SMEs (Trentinaglia, 2015). This policy showed to be effective in favor of SMEs. On the other hand, this information transparency issue may be solved by creating risk drivers readily available and simple for usage, in other words by establishing credit scoring rules, which could both explain the risk in a relevant manner and reduce the cost of information collecting (Berger et al., 2005). However, if the credit scoring rules happen to be too strict, potential borrowers might be rejected.

One other solution is to create guarantee funds either public or semi-public, where guarantors have deeper information on borrowers and can help lender match appropriate borrowers and provide a chance for a lender to face different regulations (Gozzi & Schmukler, 2016). European Association of Guarantee Institutions gathers institutions providing credit protection. Alternative measures proposed by member countries are:

- Market offering the Initial bonds in France, in which listed and unlisted SMEs may issue bonds in order to retail investors;

- The Bond – M in Germany, in which enterprises are able to get finance from institutional investors directly;
- In Italy, the Minibond Market, in which unlisted SMEs and can issue short- and medium-term convertible and ordinary bonds;
- In Spain, the Bond Market for Small Businesses, to set a bond exchange for SMEs;
- In the United Kingdom (UK), the Funding for Lending Scheme, by which in exchange for lending commitments the bank funding cost is reduced (Trentinaglia, 2015).

In order to inspect the financial state of SMEs in Turkey in 2017, the questionnaire like the one sent to SMEs in the EU every six months was used. Once results were obtained, they were compared to the results of the SAFE 2017 Report. In this way financial situation, access to finance, and regulations faced by SMEs in Turkey were compared to the ones of SMEs in the EU. Obtained results are discussed in the following paragraphs.

6.1 SMEs in Turkey according to the survey conducted in this thesis

In the first part of Chapter Six, SMEs in Turkey are described according to the data collected in this survey. According to the Key Findings presented in the previous chapter, most of SMEs in Turkey are family ventures, operate in industry area, target the domestic market, located in Marmara Region, established for more than 10 years, have less than 10 employees, hold low cash assets, and have turnover level less than 500 000 TL in 2016.

6.2 Comparison of SMEs in Turkey and the EU according to the survey conducted in this thesis and SAFE 2017

In the second part of Chapter Six, a comparison of SMEs in Turkey and the EU according to the survey conducted in this thesis and SAFE 2017 is discussed.

When the type of financial sources used are compared between SMEs in Turkey and the EU; bank loans are the most used type of finance for SMEs in Turkey. In addition, SMEs that are not able to get a bank loan indicated the high-interest rate as the main reason for it. On the other hand, according to most of the SMEs surveyed through SAFE 2017 in the EU, the highest usage of credit line in the preceding six months was reported.

When credit amounts received are compared, most of the SMEs in Turkey received a credit between 25,001 - 100,000 TL, and most of the SMEs in the EU received a credit between 250,001 - 1,000,000 Euro in preceding six months. Out of this, it can be concluded that credit amounts approved to SMEs in the EU are much larger than the ones approved for SMEs in Turkey, giving better financial opportunities to SMEs in the EU to develop their business in starting years.

When the usage of the financial sources are compared, most of the SMEs in Turkey used financial sources for inventory and business capital (paying bank loans, paying suppliers, etc.), while most of the SMEs in the EU stated that they used financial sources for property, equipment and factory investments (fixed investments) in the preceding six months. It can be concluded that Turkish SMEs use the financial sources they get for paying the credits and buying inventory, while the EU SMEs spend the financial sources they get for new investments. One of the reasons for such a case could be a low amount of credit received by SMEs in Turkey, which could mean that they are not able to afford the investments.

When issues faced in the business are compared, the highest number of SMEs in Turkey sees the issue of finding customers as the very important one, and most of the SMEs in the EU also sees finding customers issue as the most important one. However, in the second place for SMEs in Turkey is access to finance, while this issue is at the last place for SMEs in the EU. From this, it can be concluded that although the main difficulty faced by SMEs in Turkey and the EU is the same one since the opportunities they possess vary greatly, SMEs in Turkey happen to face the same issues with much lower chances to succeed.

When changes in the availability of financial sources for SMEs in Turkey and the EU in preceding six months are compared, availability of bank loans and trade credits for SMEs in the EU increased more, while the availability of equity capital and leasing increased for SMEs in the EU but decreased for SMEs in Turkey. From this, it can be concluded that the availability of financial sources for SMEs in the EU increased much more when compared to SMEs in Turkey.

When changes in the need for financial sources of SMEs in Turkey and the EU in preceding six months are compared, SMEs in Turkey had a higher increase in the need for credits received from family and friends, for bank loans, for leasing, and for trade credits. This finding is an indirect result of a smaller increase in the availability of financial sources for SMEs in Turkey. If the sources are provided less, it is to be expected that the need for them will be larger accordingly.

When changes in the terms and conditions of bank financing in Turkey and the EU in preceding six months are compared; there is a higher increase in the non-interest costs of financing and loan maturity and a lower increase in the available loan size in Turkey. On the other hand, while there is an increase in the interest rate in Turkey, the interest rate in the EU decreased. To conclude, credits of a smaller

amount, with longer maturity time, higher interest rate, and higher non-interest costs are provided to SMEs in Turkey when compared to the ones provided to SMEs in the EU.

When financial changes for SMEs in Turkey and the EU in preceding six months are compared, SMEs in Turkey had a much lower increase in turnover, at the same time they had a higher increase in labor cost, other costs (energy, raw materials), and interest expenses. In addition, while SMEs in the EU experienced an increase, SMEs in Turkey faced a decrease in investment, inventories, and the number of employees. Also, while SMEs in Turkey faced a large increase in debts, SMEs in the EU faced a decrease. Both SMEs in Turkey and the EU experienced a decrease in profits. To conclude, expenses for SMEs in Turkey such as labor cost, other costs (energy, raw materials), and interest expenses increased more; which led to a lower turnover increase and decrease in investment, inventories, profit, and the number of employees, resulting in an increase in debts.

When changes in financial status for SMEs in Turkey and the EU in preceding six months are compared, SMEs in Turkey faced a much lower increase in institutional outlook, credit score, the willingness of the banks to provide loans, and willingness of other companies to provide trade credits. In addition, while SMEs in the EU experienced an increase in following, SMEs in Turkey faced a decrease in the general economic outlook and equity capital of the enterprise. On the other hand, while SMEs in Turkey experienced an increase in access to government financial support, SMEs in the EU faced a decrease in access to government financial support. To conclude, once the previous paragraphs comparing SMEs in Turkey and the EU are considered, this paragraph explaining the resulting state of the financial status of SMEs looks natural. The financial status of SMEs in Turkey became worse while the

status of the EU SMEs became better, at the same time while SMEs in the EU became more independent of government subsidies SMEs in Turkey became more dependent.

6.3 Factors significantly affecting access to finance of SMEs in Turkey according to the results of chi-square analyses

In the third part of Chapter Six, significantly related factors according to the results of chi-square analyses performed on the data about SMEs in Turkey collected in this thesis, are discussed.

The chi-square analyses performed showed that some factors related to SMEs in Turkey are significantly related to each other. For all analyses conducted, the significance level is 95%, with $p < 0.05$.

It is found that the partnership status of the company significantly affects its usage of leasing or commercial credits. In particular, family business companies use leasing the most, and companies affiliated with another company use the commercial credits the most.

It is found that the field of activity of the company significantly affects its usage of credit from family or friends, or leasing, or commercial credits. Companies in the field of financial services use credit from family or friends the most. Since SMEs don’t count for big banks, but rather smaller ones, it is normal to expect such a result. Companies in financial services need high capital to start the business. Without being a renowned company, the most feasible way to obtain a high amount of capital is through family and friends. In addition, companies in the field of agriculture use leasing the most. This result was also expected since such companies operate using large machines. And, companies in the industry field use commercial

credits the most. This result is also meaningful since such companies are very involved in the commercial sector.

It is found that the company`s volume of exports in 2016 significantly affected its usage of credit from family or friends, or grants or government incentives, or bank loans, or leasing, or commercial credits. Companies with an export volume of less than 25% of all sales use credit from family or friends the most. This result seems expected since companies operating inside the country and not having exports are less prone to get loans or subsidies. Companies with an export volume between 25%-50% of all sales use the grants or government incentives and leasing the most. This shows that the government and banks choose to support companies that have higher exports. Companies with export volume greater than 50% of all sales use bank loans and commercial credits the most. This shows that banks and trade partners find companies with high export levels more profitable to work with.

It is found that a company`s geographical location significantly affects its usage of credit from family or friends or commercial credits. Companies located in the Black Sea region use credit from family or friends the most, and companies located in the Marmara region use the commercial credits the most. This shows that companies in the inner parts of Turkey tend to depend on family or friends more than companies in the Marmara region, which counts to be the center of technology and industry, while companies in there tend to obtain finance through trade agreements.

It is found that the company`s turnover level significantly affects its usage of bank loans, or leasing, or trade credits. Companies with a turnover level of more than 50,000,000 TL use bank loans the most. This finding indicates that banks prefer to give loans to companies with high turnover levels meaning the payment back can be

quick. In addition, companies with a turnover level between 10,000,000 – 50,000,000 TL use leasing and trade credit the most. This shows that companies with lower turnover levels tend to depend more on other parties such as banks for leasing and trade partners for trade credits than they depend on their own capital.

It is found that the age of the company significantly affects its usage of grants and government incentives, or bank loans, or leasing, or trade credits. Companies older than 10 years use grants and government incentives, bank loans, leasing, and trade credit the most**.** This finding was expected in a way that companies established for a longer time tend to have more credibility and seem like a secure customer to provide finance to.

It is found that the number of employees of the company significantly affects its usage of credit from family and friends, or grants and government incentives, or bank loans, or leasing, or trade credits. Companies with more than 250 employees use grants and government incentives, leasing, and trade credit the most. Companies with less than 10 employees use credit from family and friends the most. Companies with 50-249 employees use bank loans the most. The smallest companies depend on family and friends the most. While bigger companies use other financial sources. This was expected since small companies do not have any reputation yet, and most of them are in their starting phase so they are very risky for formal lenders.

It is found that the size of credit received by the company was significantly affected by the field of activity of the company, or its export level in 2016, or its turnover level in 2016, or its age, or its number of employees. Higher the export and turnover levels of the company, its age, and the number of employees, higher the amount of credit received. This is also to be expected, since companies that managed to survive among SMEs for a long time, grow and make high profits are a reliable

customer for banks to give a loan to. Also, it is interesting to see that companies in the industry area mostly receive a high amount of credits. Such SMEs need money to produce, but at the same time are viewed by banks as potential customers with a higher probability to succeed.

6.4 Factors significantly affecting access to finance of SMEs in Turkey according to the results of multiple regression analyses

According to multiple regression analyses, it is found that the amount of credit received by SMEs in Turkey was significantly affected by the age of the company positively with the coefficient of 0.261533898, its number of employees positively with the coefficient of 0.329564038, turnover level positively with the coefficient of 0.27228509, and geographical location. As mentioned before, this finding is expected in a way that companies established for a longer time tend to have more credibility and seem like a secure customer to provide finance to. Secondly, companies that can pay the wages of more workers tend to have more turnover to pay back more amount of loans and so it is more eligible to get a higher amount of loan.

Second, it is found that the usage of loans from friends and family by SMEs in Turkey was significantly affected by the turnover level of the company positively with the coefficient of 0.1637397, and the age of the firm negatively by coefficient -0.0794871.

Third, it is found that the usage of government loans and incentives by SMEs in Turkey was not significantly affected by the SME characteristics.

Fourth, it is found that the usage of bank loans by SMEs in Turkey was significantly affected by the company`s turnover level negatively with coefficient -0.06930621, and the age of the firm negatively with coefficient -0.09084607.

Fifth, it is found that the usage of leasing by SMEs in Turkey is significantly affected by the business area of the company.

Sixth, it is found that the usage of trade credits by SMEs in Turkey was not significantly affected by SME characteristics.

6.5 Endurable Turkish SMEs, enlarging their age and turnover level?

According to this study, it is concluded that the financial resources in the EU are much more than the financial resources in Turkey, meaning the supply of financial sources if bigger in the EU. Secondly, the size of the demand for access to finance is smaller in the EU than in Turkey. Therefore, from the aspect of the supply/demand ratio, when SMEs in Turkey apply for a loan, it is less probable for them to get the loan. So, in order to solve the access to finance problems, the government can increase the amount of finance for SMEs financing. When the resources increase, the lenders lower the requirements that a firm needs to satisfy to obtain the finance by decreasing interest rate, amount of collateral and age of the firm criteria.

The financial resources are multiple such as banks, family and friends` loans, government incentives, venture capital, angel investors, crowdfunding and others. Many of them calculate the risk of borrowing according to certain types of information about companies such as the age of the firm, turnover level, number of employees, the geographical location of the firm and more. According to this research, mostly age and the turnover level of the firm affect the access to finance and the amount of finance received. If the firm is established earlier and the turnover

level is sufficient, it can access to finance easier than the firms that are recent and have a low turnover level. So, it can be concluded that, if firms are successfully assisted to live longer and have sufficient turnover level, they can access the finance that they need for their growth easier. So, the essential question to ask is, how can we help them to live longer and have persistent high enough turnover? These are possible only if the firms are managed better and have good business plans. These two features of a firm mostly help the company to extend its endurance without falling apart and increase its turnover by time.

The better management is possible if the owner or the director of the company has management knowledge, sufficient experience and developed plans about the firm's image and inside-firm responsibilities organization. Addressing the access to finance problems from the demand side is the first thing to be done for helping the directors of the firms to have deeper management skills. This is one of the easy and most efficient ways in which government agencies can help SMEs. This should be done firstly by educating its directors about preparing very good business plans and managing the companies professionally through gaining deeper economic knowledge and learning foreign languages to track development in their business around the world. They will be able to reach much better human resources with their budgets, learn more about their products, gain more advanced experiences in their business, marketing, and sales management. This will make them more endurant to survive financial, managerial, or sectoral turbulences. Secondly, companies can enhance their access to finance if they are thaught about their financial and managerial responsibilities and how can they create an appealing image. This can be realized by showing the credibility score information regularly to firms to make them informed about how they appear to the lenders. So, with the knowledge of easily reachable

credibility score information, the company can start to manage its finances and business more carefully and this effort can help the company to have durability against time and various crisis.

6.5.1 Market research information

SMEs directors should be also educated by government agencies or marketing professionals on how can find, evaluate and benefit from market research information in order to update their business plans regularly. One of the most important reasons behind bad company management is the lack of easily reachable information on domestic and global market research. For SMEs` directors, it is hard to obtain this information from market research firms, because of the high price demanded; therefore, it is hard for them to get a better perception of business management. If this information happens to be easily reachable by SMEs` directors, this will help them to evaluate new opportunities and investments for their businesses. In order to make sector-based domestic and global market research information reachable by SMEs, the government can establish an online information-providing channel with the latest updated opportunities and dangers of global and domestic markets. In this way, SMEs` directors may update themselves faster and maneuver their plans accordingly. In order to obtain global market information, the government can make an agreement with foreign market research companies to regularly obtain the latest detailed sectoral business information collected from foreign countries. This information will help the Turkish SMEs` internationalization. Finally, if market research companies directed and operated by well-educated experts would charge SMEs an affordable price, this could also help SMEs to close the market research information gap in the long run. The deficiency of market research

information also affects the quality of the business plan, which eventually leads to business failure. Business plans made with missing information on the real market situation have little chance to be successful. Another positive side of market research information availability is the competition among companies that it leads to. Once a company gets information on what other companies in the sector are doing and how well they are progressing, it will start creating new business strategies and working harder not to stay behind its opponents.

6.5.2 Knowledge and experience

One another important reason behind bad management is the lack of knowledge and experience. The government can train domestic experts in this field by financing their further training in leading foreign firms or universities, which will give them an opportunity to gather better knowledge and experience. Later, the government can support these field experts to gather their teams and start businesses. If the expert already has enough expertise, the government can directly support its business start. In the case of students, instead of granting student start-ups, the government can grant or encourage students to start working in a prominent foreign or domestic company, so they can gain experience before establishing their own companies.

One successful example can be given from the air-tech industry in Turkey. Currently, Turkey produces one of the world-best unmanned aerial vehicles. The origin of this story starts with a Turkish Ph.D. student that gained knowledge and experience in this area in the USA and later founded an SME in Turkey which develops and produces aerial vehicles. With expert knowledge and experience better business plans leading to success stories are made.

6.5.3 Tax exemption and fixed cost relief

Once SME in Turkey is started, it must pay yearly minimum tax-related costs excluding office rent that can reach up to 20,000 TL even if no revenue was has been made (Batur, 2017). And these costs are even higher for limited or corporate companies (Batur, 2017). Such costs for a newly established SMEs in Turkey represent a burden on their shoulders. This burden increases even further when other fixed costs such as office rent, technical equipment, furniture, secretary, telephone, etc. are added. To decrease this burden, the government can exempt tax and a few other costs from newly established companies in the initial 2-3 years, to allow such SMEs to make more investment in their business plans. Because of limited grant sources, government agencies can give limited grants only to few SMEs. However, many SMEs can grow on their own if they get rid of some basic fixed costs. Therefore, the government can provide some common office facilities for many SMEs that would have required equipment such as computers, fundamental production machinery, 3D printers, accountants, secretaries, etc.

When the UK example is studied, in the UK companies are obliged to pay value-added tax only if their turnover reaches a certain amount (85,000 pounds in 2019) in a year. Also, in the case of a limited company, if its annual profit is 300,000 pounds or more, then it is obliged to pay a corporation tax. In addition, in the UK, starting a company costs 12 pounds, and takes 10 minutes online. Moreover, a company can be established remotely even if the owner has never been to the UK before (Experian, n.d.).

6.5.4 Simplified online business portal for government-related administrative jobs

Turkey does not have a simplified, user-friendly online business portal for companies to handle their government-related administrative jobs such as a firm establishing, tax-paying, grant and subsidy search, company information update, the firm`s financial status check, and many others. Therefore, it is not easy to find and gather up-to-date information about obligatory administrative jobs. SMEs need to get help from an expert to handle these. On the other hand, for example, the UK has a very well prepared, and simplified guiding portal for the firms called www.gov.uk. With the help of this portal, a firm can easily handle all government-related administrative jobs online, in a step by step manner. In a similar way, the government in Turkey can also develop such an online portal to help SMEs to handle their works themselves without need for additional help. This portal can also help SMEs to search for government grants and possible tax exemptions, to observe their financial and business scores, to benefit from government-supported market analyses, which altogether can help SMEs to live longer and expand their business efficiently.

6.5.5 SMEs classification

To be more effective in distinguishing which companies may need access to finance the most, and which companies are more promising to be supported in terms of their economic contribution, SMEs can be classified according to different axes:

a) Growth speed axis: some firms have the potential to grow much faster than others if they are given access to the same amount of finance. Such businesses are usually tech-oriented ones with good business ideas and plans. Therefore, according to their potential growth speed firms can be classified as

slow-growing, medium-pace-growing, fast-growing, and ultra-fast-growing companies.

b) Scope of service axis: some firms serve for a very small amount of other companies or customers like medical equipment selling firms, while some of them serve for the much larger number of other companies or customers such as telecommunication firms. Therefore, according to their scope of service firms can be classified as small-scope, medium-scope, and large-scope serving companies.

c) Required-knowledge axis: some firms need high-level knowledge or skill to deliver their products such as electronic device design and production; on the other hand, some of them can deliver their products with low-level knowledge quite well such as groceries stores. Therefore, according to the knowledge needed for successful product delivery to the market firms can be classified as little knowledge-required (sales, e-commerce, etc.), medium knowledge-required (clothes design, etc.), high knowledge-required (software development, etc.), and advanced knowledge-required (scientific research, etc.) companies.

d) Revenue/costs axis: some firms can earn more with a very small amount of cost such as online or software companies; on the other hand, some of them need to spend more resources to earn the same amount of profit such as construction companies. Therefore, according to the revenue/cost ratio firms can be classified as low revenue/costs, medium revenue/cost and high revenue/cost ratio companies.

e) Knowledge supply axis: some firms work on developing products that close other sectors' knowledge gaps. Supporting such businesses is a priority to

make other businesses` growth faster. Therefore, according to the knowledge supply level firms can be classified as low-level knowledge supplying, medium-level knowledge supplying and high-level knowledge supplying companies.

f) Critical importance Axis: some firms work on very critical areas for the country`s economy, national defense, or the health of the society such as chip production, seed breeding or cancer treatment. Supporting such businesses is a priority, so the country and society can carry on. Therefore, according to the critical importance of their business, firms can be classified as low-level critically important, medium-level critically important and high-level critically important companies.

6.5.6 Financing model

The government, potential lenders, and supporters can calculate the financing score of the company, in order to decide whether to help its access to finance, using this simple model:

Financing Score = α (company-specific factor) + β (growth speed of the company) + γ (service scope of the company) + δ (required-knowledge by the company) + ε (revenue/cost ratio of the company) + ζ (knowledge supplied by the company) + κ (critical importance of the company).

Company-specific factors` calculation is as follows:

Company-specific factors = φ (experience of the director and the team) + χ (knowledge of the director and team) + ψ (business idea) + ω (debt/equity ratio).

Coefficients in this model should be modified according to multiple conditions as listed:

1) Lender`s reason for financing the SME such as the country`s well-being, or profit of the lender, or profit of the SME;
2) current most critical problems or needs of the country such as health, education, industry, etc.;
3) size of the government budget for financing of SMEs;
4) the political stability of the country;
5) country`s level of development, namely developing or developed;
6) number of highly experienced and qualified engineers, craftsmen, and other types of workers in the country or the region;
7) the economic situation of the country (GDP per capita);
8) types and sizes of easily reachable markets for the country`s products` sale;
9) types of natural, human, and knowledge resources available in the country;
10) an area in which the country plans to succeed the most.

6.6 Conclusions

There is a limited number of studies focusing on access to finance for SMEs in Turkey. They mostly tend to concentrate only on problematic supply-side factors and miss to show the significant relationship between demand-side factors, meaning SMEs' characteristics, and access to finance. Even the studies which do explore access to finance with respect to SMEs' characteristics in Turkey do not cover a large scope of factors. At the same time, to our best knowledge, there is not any study directly comparing Turkish SMEs to European SMEs except SAFE reports, which take only 300 SMEs in Turkey into consideration. This study aims to fill these

research gaps to provide a better insight into access to finance of SMEs in Turkey. In this thesis, a diverse pallet of different SME characteristics representing finance demand-side factors is identified and its relationship with respect to access to finance is statistically inspected. Therefore, this study provides a detailed skeleton of Turkish SME characteristics and their relationship to access to finance. On the other hand, this is the first study of this scope, to our best knowledge, with 1500 SMEs in Turkey taken into consideration, that compares SMEs in Turkey and the EU according to their characteristics and access to finance. Therefore, this study provides an up-to-date and comprehensive comparative research that can be used in new regulation development s and finance models reconstruction addressing access to finance of SMEs in Turkey.

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