

Doctoral Thesis

Credit Risk Management in Small and Medium-sized Enterprises (SMEs)

Řízení úvěrových rizik v malých a středních podnicích

Author: **Mehmet Civelek**
Degree programme: P6202 Economic Policy and Administration
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Supervisor: prof. Ing. Jaroslav Belás, PhD.

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ABSTRACT

Information asymmetry and credit risk underlie in the reasons of credit access obstacles of Small and medium-sized enterprises (SMEs). In this regard, one of the purposes of the thesis is to find out constraints that stem from information asymmetries between firms and banks and also credit risks of SMEs in the bank credit access of Turkish SMEs. In order to solve asymmetric information and credit risk problems, the thesis aims to discover some factors that can influence bank lending decision to provide an easier access for those firms. Some methods that are based on hard data can solve the credit access issues. However, the nonexistence of audited financial statements and lack of complete and timely information provided by SMEs cause troubles for banks to evaluate SMEs' creditworthiness by financial indicators. To cope with this issue, the thesis suggests some variables that are based on soft information such as some attitudes of businesses and relationship between banks and firms. In this respect, the thesis supposes that by signaling their competencies and behaviors that are related with entrepreneurial orientation, SMEs can reduce banks' concerns about their credit risks in relationship lending.

Another target of this thesis to widen entrepreneurs' perspective to cope with constraints of bank financing. By highlighting the importance of these entrepreneurial characteristics, the research makes entrepreneurs and SMEs to understand their competencies and significance of signaling those skills through their relationship with banks. By doing so, the thesis offers an alternative way for SMEs to gain bank financing and face with reduced obstacles in their credit access.

Both banks and entrepreneurs can benefit from the outcomes of this research. By focusing on soft information such as SMEs' entrepreneurial characteristics banks can create new credit assessment methods to overcome credit default issues of SMEs. Moreover, the thesis can be useful for entrepreneurs to develop their entrepreneurial characteristics, and loan officers or loan managers can have better understanding of those behaviors. In this context, the thesis might be helpful for entrepreneurs and bank employees to improve their career and their working effectiveness. For these reasons, the research might be a useful resource in the academic field and business life by highlighting the importance of entrepreneurial ability and personal development in bank financing.

ABSTRAKT

Informační asymetrie a úvěrové riziko patří mezi zmiňované překážky přístupu k úvěrům Malé a střední podniky (MSP). Z tohoto důvodu je jedním z cílů mé práce najít komplikace vyplývající z informačních asymetrií mezi firmami a bankami a rovněž problémy spojené s úvěrovými riziky bank, ke kterým mají malé a střední podniky v Turecku přístup. Tato práce se zaměřuje na nalezení určitých faktorů ovlivňující rozhodování při úvěrových možnostech u bank a zajištění snadnějšího přístupu těchto podniků k nim. Toto by napomohlo vyřešit informační asymetrie a problémy spojené s úvěrovým rizikem. Některé metody založené na nezvratných údajích mohou vyřešit problematiku přístupu k úvěrům. Nicméně chybějící údaje týkající se revidované účetní závěrky a nedostatek úplných a včasných informací poskytnutých malými a středními podniky způsobují pro banky problémy, jenž brání vyhodnocení bonity malých a středních podniků s využitím finanční ukazatelů. Za účelem lepšího porozumění dané problematice se v práci rovněž využívá proměnných faktorů, které jsou založeny na subjektivních informacích, jako jsou např. postoje vlastníků firem a vztahy mezi firmami a bankami. V této souvislosti práce předpokládá, že signalizací kompetencí a chování, které souvisí s podnikatelskou orientací, MSP mohou omezit obavy bank z úvěrových rizik ve vztahu k úvěrům.

Dalším cílem této práce je rozšířit perspektivu podnikatelů s cílem vyrovnat se s omezeními bankovního financování. Zdůrazněním důležitosti těchto podnikatelských charakteristik práce napomůže pochopit dovednosti podnikatelů a MSP a potřebu určitých signálů ve vztahu k bankám. Výzkum tak nabízí malým a středním podnikům alternativní způsob, jak získat bankovní financování a čelit snížení překážkám v přístupu k úvěrům.

Výsledky této práce mohou být přínosné jak pro banky, tak pro podnikatele samotné. Zaměřením se na měkké informace, jako jsou podnikatelské charakteristiky malých a středních podniků, mohou banky vytvořit nové metody hodnocení úvěrového rizika s cílem překonat problémy úvěrového selhání MSP. Kromě tohoto tato práce nabízí podnikatelům možnost uvědomit si způsoby rozvíjení jejich podnikatelských dovedností a bankovním úředníkům či manažerům lepší vnímání takového chování. V této souvislosti může práce napomoci podnikatelům i zaměstnancům bank zlepšit jejich práci a pracovní výkonnost. Z těchto zmiňovaných důvodů se jedná o užitečný zdroj informací jak v oblasti akademické, tak oblasti podnikání. Práce poukazuje na důležitost podnikatelských schopností a osobního rozvoje v bankovním financování.

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LIST OF ABBREVIATIONS

SMEs:	Small and medium-sized enterprises
EO:	Entrepreneurial orientation
INNO:	Innovativeness
RIT:	Risk Taking
PRO:	Proactiveness
CA:	Competitive aggressiveness
AUTO:	Autonomy
ATF:	Access to finance
LOR:	Length of relationship
COC:	Closeness of communication
EHS:	Exclusivity or house bank status
PNP:	Preannouncement of new products
AGC:	Applied and gained certifications
RDE:	R&D Expenses, subsidies and affiliations
INFA:	Information Asymmetry
CR:	Credit Risk

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1. INTRODUCTION

1.1. Background of the Research

Similar with the definition of the European Commission (2003), Turkish SMEs (Small and medium-sized enterprises) are composed of small, medium and micro firms. According to KOSGEB's report of 2015-2018 SME Strategy and Action Plan, the proportion of medium, small and micro enterprises in the total number of SMEs in Turkey are 0.9 %, 5.4 % and 93.6% respectively. Also, it is indicated in this report that 69.7% of total wage workers are employees of those businesses. 50% of total investments, 56.2% of production and 65.5% of total sales were done by SMEs in 2013. More than 99 % of all business are SMEs in Turkey (KOSGEB, 2015-2018 KSEP Report) and this percentage is same as EU-28 countries. The percentages of medium, small and micro enterprises are 0.9%, 5.8% and 93.1% of all non-financial businesses in EU-28. 66.4 % of EU-28 work force, 56.8 % of value addition are created by those firms in EU-28 (EC, Annual Report, 2017/2018). According to European Commission SBA Fact sheet for Turkey (2017), SMEs generate 53 % of total value addition and 73% of total labor force. Those similar percentages for both Turkey and EU-28 countries highlight the key role of SMEs not only in Turkish economy but also in the economy of EU-28.

In an attempt to sustain those contributions to economies, it is required for SMEs to survive. In this regard, financing is one of vital factors for their survival although they encounter various difficulties to get it. According to Schmitz (1982) one of the main obstacles of small businesses to grow is gaining loans. Because of information asymmetry issues and costs of external financing institutions' loans, hierarchical pecking order theory comes into the existence for SMEs to make their financing choice. For this reason, SMEs firstly consider their internal sources for their financing, otherwise they search for external loans (Serrasqueiro and Caetano, 2015).

Although they are surrounded with many financing obstacles that banks create (Altman et al., 2018) SMEs are substantially dependent on bank loans in their financing from external sources. By analyzing some SMEs in Europe, Duarte et al. (2018) outline that because of lack of improvement in capital markets, SMEs are reliant on bank credit. In similar vein, Serefoglu and Gokkaya (2017) investigate some SMEs in Turkey and confirm that the biggest constraint for Turkish SMEs is access to finance, while bank financing is the first option for

most of them. This is because the most of credit instruments are owned by financial sector whose major player is the banks (Caouette et al., 2008). Therefore, this research analyzes bank credit that is the most common external financing source for most of SMEs not only in Europe but also in Turkey.

However, especially in emerging countries such as Turkey, SMEs face with more obstacles regarding unstable market conditions, regulations of governments and lending policies of banks. For instance, Yüksel (2011) highlights that comparing to developed and developing countries that have similar economic conditions with Turkey, loan interest rates are higher in Turkey. This fact exposes to Turkish SMEs to face with higher costs to gain loans. Moreover, most of SMEs in Turkey work in smaller extent and they have weak financial and organizational structure (Yüksel, 2011). Therefore, they might not have adequate amount of cash and lower amount of debt and those issues also create difficulties for them to access to finance. Nonexistence of credible data regarding credit reputation of SMEs can also cause financing obstacles especially in an emerging economy such as Turkey (Yıldırım et al., 2013). This is because financiers look for previous credit payments of businesses to analyze whether borrower firms are creditworthy or not (Karan et al., 2013). In his study, Yılmaz (2016) posits that amount of required collateral is also one of main constraints for SMEs in Turkey to gain bank loans. Because of being the most common issues in receiving bank financing for SMEs in Turkey, cost of loans, amounts of debt and cash of firms, credit history, and collateral are considered as credit obstacles by this research to work on.

Although their importance for a country's economy cannot be underrated, SMEs face with all those mentioned obstacles because of their credit risk. Depending on firms' creditworthiness, financiers make credit decision and determine the cost of credits (Andrikopoulos and Khorasgani, 2018). Comparing with larger firms, SMEs lending is more hazardous (Altman and Sabato, 2007), because SMEs can also jeopardize for economies regarding to their low profit margins, sales volumes and investment amount especially in financial crises (Andrikopoulos and Khorasgani, 2018). Those facts can make them to default in credit repayment that is the major credit risk for small firms (Dietsch and Petey, 2002).

Because of SMEs' higher probability of default, banks need to develop credit risk models for them to mitigate expected and unexpected losses (Altman and Sabato, 2007). Those models aim to measure probability of default adequately

and most of them are mainly based on hard data that consists of accounting-based ratios, are associated with transaction lending. For instance, liquidity, profitability, leverage, solvency, turnover ratios, (Altman, 1968), return on equity, operating cash flow and interest coverage ratios (Neuberger and Rathke, 2009) are mainly considered by accounting based methods to measure credit default. Berger and Udell (2002) clarify that larger firms have more advantages in transaction lending comparing to small businesses. Since most of SMEs are not listed in stock market, it is difficult to measure credit risk of those firms by the models that focus on accounting ratios (Andrikopoulos and Khorasgani, 2018). Moreover, most of SMEs do not have audited financial statements and do not provide timely and complete information to lenders. In this regard, problems regarding information asymmetry occur because when one party of lending has more timely and further information than another party, information asymmetry takes place in lending (Nanyondo et al., 2014). Making correct credit decision becomes more difficult in SME lending for banks in case of information asymmetry.

According to Minard (2015), information asymmetry among banks and SMEs is the reason of loan obstacles. When information asymmetry exists in bank lending, banks become more likely to misevaluate credit risk (probability of default) of SMEs that causes losses for them by having higher amount of nonperforming loans in their portfolio. Furthermore, banks are exposed to more costs regarding screening and monitoring loans of those firms. To protect themselves against this information asymmetry issue, banks require more obligations that create credit constraints for SME such as increasing interest rates or asking for more collateral (Duarte et al., 2018). Although, banks are willing to have updated and reliable information to evaluate borrowers' credit risk adequately and give the right decision for lending, getting information from borrowers is such a tough situation because information is interiorized and difficult to access. In this case, banks look at some other indicators that are mainly based on soft data.

In this case, banks can search for specific information that may indicate the quality of SMEs (Stiglitz, 2002). This soft data also includes dimensions of entrepreneurial orientation (EO) that can be conveyed through both theories namely, signaling and relationship lending. Both of those theories with entrepreneurial orientation have never applied by previous studies to gain bank loans for SMEs. Therefore, one of the purposes of this research is to reduce

credit risk and information asymmetry problems by using those approaches and focusing on the constructs of entrepreneurial orientation.

Relational lending includes soft information that consists of characteristics and personality of owners, management quality, business strategy and ownership structure of firms (Belás et al., 2014). By relationship lending, banks obtain information about firms, and firms' environments and owners during the contracts so banks use this knowledge to evaluate credit risk and credit availability of businesses (Moro and Fink, 2013). In this case, Entrepreneurial Orientation (EO) can be a conceivable factor because it is identified as a strategy of enterprises that is related with their entrepreneurial characteristics such as being innovative, risk taker, autonomous, proactive and aggressive against their competitors. The strategy involves all operational activities, features and process of firms that indicate above mentioned characteristics (Vantilborgh et al., 2015). By signaling their entrepreneurial competencies related to EO, firms can reduce information asymmetries that is the underlying reason of their credit risk and credit constraints. By doing so, banks can be more informed about enterprises that have strong EO competencies, are able to perform better and outlast than other firms. By maintaining and improving their EO activities, SMEs can be grown and be more successful than their rivals (Bachmann, Engelen, and Schwens, 2016). For these reasons, they can be more likely to access to bank finance.

This research also evaluates influence of relationship lending on access to bank credit from different perspective by including different dimensions of it, namely, length of relationship (LOR), closeness of communication (COC) and exclusivity or house bank status (EHS). Longer relationship positively impacts access to finance (Petersen and Rajan, 1994) and the relations between banks and SMEs (Fredriksson and Moro, 2014). Moro et al. (2015) also explain that the volume of loans that SMEs gain is influenced by the information asymmetry. The scholars also mention that information asymmetry can be reduced more, when frequent interactions occur in relationship lending. Moreover, Petersen and Rajan (1994) posit that enterprises are more likely to access to credit in case of applying it from their main bank. When banks gain more information about firms, they can decrease the rate of borrower defaults and they are less likely to apply for some activities such as asking for more collateral and complex loan contracts. Therefore, this study also examines whether longer relationship, frequent interactions, and higher share of debt finance by house bank enables credit access for SMEs or not.

In the event of evaluating credit applications of SMEs, banks can also utilize observable features of SMEs that can determine the credibility of those firms (Certo, 2003). By doing so, they can reduce information asymmetry to make correct credit decisions (Alsos and Ljunggren, 2013). When looking at from the firms' perspective, SMEs can show their quality to lenders by sending trustful, certain and notable signals (Zhao et al. 2008) and can also draw lenders' attention (Busenitz, et al, 2005; Elitzur and Gavious, 2003). For instance, firms may get financing or can gain other financial sources by signaling their innovative abilities such as showing their patents and applying for patents (Baum and Silverman, 2004). Similarly, Moss et al. (2015) explain that the probability of gaining bank credit increases and length of access to finance can be shortened, if microenterprises signal entrepreneurial orientation' dimensions. To have competitive advantages and opportunities, SMEs need to enhance strategic entrepreneurship. For this reason, it is emphasized in the literature that Entrepreneurial Orientation plays a fundamental role to specify those opportunities that are based innovativeness, risk taking, pro-activeness, autonomy and competitive aggressiveness (Rahman et al., 2016).

1.2. Research Gap

As in other SMEs in developing countries, access to bank credit is also a vital problem for Turkish SMEs because of their credit risks and information asymmetry between those firms and banks. This comprehensive study aims to find out the effects of EO of Turkish SMEs and relationship lending on access to bank finance by applying signaling theory. In this regard, the thesis proposes that banks may reduce their anxiety about information asymmetry and credit risk by dealing with signals of EO that they perceive in relationship lending. From entrepreneurs' side, firms may be able to get easier credit access by signaling their characteristics related with EO in relationship lending.

The positive impacts of Entrepreneurial Orientation on the firms' growth are confirmed by many studies (Islam et al., 2011; Roxas and Chadee, 2012; Khedhaouria et al., 2015). EO also affects some performance indicators such as growth of sales and market share (Kraus, 2013), number of customers (Wolff et al., 2015), and number of employees (Kraus, 2013) positively. On top of that, the positive effects of EO exist on some management issues and activities such as net profit, cash flow (Welsh et al., 2013), pricing, ability to develop and introduce new services or products, advertising and promotion, operations, financial management, business image, general management, business location,

customer service, availability of competent staff and use of computer knowledge (Munoz et al., 2015). But when it comes to impacts of EO on access to bank finance, number of studies lack and they basically consider three constructs of EO, namely, innovativeness, risk taking and proactiveness. Although another measurement of EO namely autonomy was examined by Beltrame et al. (2018), their study investigated impact of autonomy on bank guarantees. Therefore, this research is a unique study that considers extended measurements of EO and their impacts on bank credit access.

Many studies exist in the literature in relation with signaling at the firm segment and they analyze some important characteristics that act as signals, are related with entrepreneurial orientation such as, preannouncement of new products (PNP) (Lee et al., 2016), certifications (Janney and Folta, 2006), ties with prominent players in the market (Dyer and Hatch, 2006; Gulati, 2007), R&D grants and subsidies (Meuleman and De Maeseneire 2012). Those facts have also been seen as a credible signal for firms to signal their quality and to alleviate information asymmetries to gain loans because lenders receive them to make more confident lending decisions (Pollock and Gulati, 2007).

Regarding signaling entrepreneurial orientation and access to finance, some studies analyze venture capital financing, IPO investments and microfinancing institutions and some of them use entrepreneurial rhetoric and narratives (Moss et al. 2015; Allison et al., 2013). Although this study does not use narratives or rhetoric, it enables entrepreneurs to convey their entrepreneurial characteristics during relationship lending that provides more communication and interaction opportunities with their lender. On top of that, this research applies signaling theory and uses more credible indicators such as patent and investigates their impacts on bank credit access. Another reason why this study does not apply to entrepreneurial narratives is that entrepreneurs who use narratives regarding their innovative abilities cannot get loans quickly (Allison et al., 2013).

When viewed from a different aspect, SMES that have no relationship with the banks that apply to get credit from, are obliged to face with processes of transactional lending techniques for their credit evaluation. This is because lenders do not have any information about those firms and are more interested to check financial statements of firms. Soft information such as EO characteristics of SMEs might not be important for lender and they will not focus on those characteristics of firms to evaluate them for those firms' credit evaluation

(Beltrame et al., 2018). In this regard, this research considers SMEs that have lending relationship with banks.

Moreover, the positive impact of relationship lending on access to finance is approved by many scholars. However, this study includes both EO and relationship lending together and look their influences on gaining bank loans. Similarly, this is the only research that pays regard to influences of signaling EO and relationship lending on having bank credit. The reason of involving Signaling and relationship lending theories is that the impacts of signals quickly deteriorate. But during long term relationship, firms may able to send multiple signals and increase their probability to gain credit by reducing information asymmetry that is the main problem of SMEs' credit risks.

2. LITERATURE REVIEW

2.1. The Reasons for Bank Credit Obstacles of SMEs

The constraints that SMEs encounter in bank financing are stem from information asymmetry (Ghimire and Abo, 2013; Minard, 2015). Information asymmetry arises from lack of reliable information, and existence of opacity problem about default risk of borrower (Gama and Geraldes, 2012; Berger and Frame, 2007). For this reason, banks become more likely to evaluate credit risks of SMEs by mistake. To prevent this issue, banks can create more constraints in SMEs' credit access such as asking more collateral or charging SMEs by higher interest rates. In the literature, adverse selection and moral hazard have seen as the underlying reasons of information asymmetry (Nanyondo et al., 2014). In case of adverse selection issue, firms are more acquainted with their potential to payback credit than banks. Thus, banks suffer to find differences between businesses whether they are high quality or not (Minard, 2015) and can make wrong credit decisions that cause high amount of non-performing loans in their portfolio. Moral hazard arises from the borrowers' use of credit for different purposes that lenders do not confirm (Okuyan, 2014).

On the other hand, Nanyondo et al. (2014) consider both parties in bank lending and reveal that information asymmetry comes into the existence when both sides in lending do not have all detailed information about themselves. Because of all those factors banks create obstacles for SMEs to gain credit access (Nanyondo et al., 2014). To cope with this issue, banks need to check reliable sources to close this information gap. In this regard, audited financial statements play as a guarantee role for banks to be sure about the borrowers' survival. Therefore, banks examine the financial statements of firms before making credit decisions for them (Nanyondo et al., 2014). Lambert et al., (2007) and Ball (2006) also confirm the positive influence of the quality of financial statements on credit access.

In their study, Kim et al. (2011) outline the importance of borrowers' financial statements that are checked by an auditor. These audited financial statements help banks in loan pricing policies, because it improves the reliability of them from the perspective of banks and information asymmetry about borrowers' credit quality becomes reduced for banks. Minnis, (2011) and Kim et al., (2011) contend that audited financial statements decrease the interest rates because it provides noteworthy information to the banks and firms can gain advantages by facing with reduced loan costs. SMEs that provide more quality, complete and

timely information to banks, can be able to reduce information asymmetry in large extend, by doing so they increase their possibility to gain loans.

According to Moro et al. (2015), quality financial statement might signal the risk of SMEs for banks. Negative association between gaining loans and information asymmetry and positive relationship among credit access and quality of financial statement are confirmed by the study of Nanyondo et al. (2014). The financial statements of SMEs that are opaque, complicate the credit decisions of lenders. Incorrect and poor information also hinders SMEs to access bank credit. Therefore, it is important for SMEs to increase the transparency of their financial statements. Thus, they can decrease information asymmetry and their risks to gain credit from banks (Nanyondo et al., 2014). As specified above, the financial statements that are audited by external or internal auditor, timely and complete information are essential factors to overcome information asymmetries. Therefore, this research pays regards to those facts to measure information asymmetry.

The information that is insufficient and opaque increases the cost of having accurate information (Jenkins and Hussain, 2014) and banks reimburse from those costs by charging SMEs with higher prices or requiring other activities that create obstacles. Small firms do not have any stock prices, (Lawless and McCann, 2013), they are usually not listed, not obliged to have audited financial statements and analysts do not control them (Berger and Frame, 2007). Moreover, they do not have transparent financial statements (Berger and Udell, 1995). Due to having no efficient information about small firms, banks are usually not prone to provide credits for SMEs (Gama and Geraldles, 2012), apply for credit rationing, look for more collateral (Berger and Udell, 1995; Rajan, 1992; Beck et al., 2006), charge small firms with higher interest rates or apply other activities that create difficulties for SMEs.

Another substantial factor that determines credit access is the credit risk of SMEs. The importance of credit risk and the concerns of banks and borrowers rise about this issue day by day. This is because credit risk is one of the most common issues that is seen in financing (Andrikopoulos and Khorasgani, 2018). When SMEs default in loan repayment, this case not only causes increases in the non-performing loans and costs of banks, but also decreases their profitability. Therefore, banks impede SMEs to access to loan especially for firms whose credit ratings are problematic (Ikram et al., 2016).

Moreover, in case of having unpredicted alterations in the creditworthiness of borrowers (Andrikopoulos and Khorasgani, 2018), their bankruptcy, their ability to make credit payments and fulfill the liabilities, (Trenca and Bolocan, 2010) and deterioration in their financial conditions create credit risks (Nurgaliyeva, 2014). Credit risk is generally calculated as borrowers' probability of default and possible financial losses that they create for lenders (Andrikopoulos and Khorasgani, 2018).

SMEs are more risky for banks to give credit compared to larger firms because they are usually not able to provide sufficient collateral, do not have enough internal cash flows to carry on their businesses, have high debt ratios and lack of ability to guarantee (Belás et al., 2014). Because of higher credit risk of SMEs, banks charge them with higher prices (Cowling et al., 2012) and higher interest rates (Yıldırım et al., 2013) look for more collateral requirements, (Behr and Güttler, 2007) apply credit rationing (Cenni et al 2015). Therefore, those four important determinant factors of credit risk are taken into consideration to evaluate credit risk of SMEs in this research.

On the other hand, many obstacles have experienced by SMEs because of their characteristics, structure of banking system, market structure and governments' regulation in relation with their credit risk and information asymmetry between banks and SMEs. For instance, under the imperfect market conditions, banks apply for many policies to close the information gap between themselves and SMEs such as ask for complex and too many procedures for credit application (Pandula, 2015). By using a data from 191 Greek small and micro firms, Daskalakis et al., (2013) observe that bureaucratic procedures of credits are the most significant constraints for these firms.

Credit reputation (Yıldırım et al., 2013), lack of lending relationships (Ardic et al., 2012), lack of awareness of funding opportunities, lack of small firms support services (Osano and Languitane, 2016), having non developmental banking system, an inadequate financial structure, lack of guarantee system (Wang, 2004), inefficient guarantees schemes (Azende, 2012) are other obstacles that SMEs encounter in gaining bank financing. Furthermore, monetary policies (Bougheas et al., 2006), unfriendly tax policy, and loan period (Ghimire and Abo, 2013), high level of market power of banks (Berger and Udell, 2006), banking sector's degree of concentration (Canton et al., 2013), a rise in the concentration of banks (Saeed and Sameer, 2015), existence of too many layers in hierarchy levels of banks (Berger and Udell, 2002) and lower level of authority of branches in credit decision also make difficulties for SMEs

to get credit (Shen et al., 2009). Lack of knowledge, competencies, experience of entrepreneurs (Olomi et al., 2008), lower education level of entrepreneurs (Achleitner et al., 2011), and non-existence of efficient credit history also create difficulties for SMEs to gain loans (Olomi et al., 2008). Rejections in credit applications, ethnic minority, being female (Deakins et al., 2010), young, small, have less profit and bad credit history (Coleman, 2004) and screening errors of banks may cause discouragement for SMEs to apply credits (Kon and Storey, 2003). Although all above-mentioned bank credit barriers exist for SME, the research focuses on most common obstacles that have already analyzed by previous studies considering to SMEs in Turkey. More details regarding current and previous credit access conditions in Turkey will be presented by the following title.

2.2. Access to Bank Finance by Turkish SMEs

Although the number of staff headcounts are same to identify micro, small and medium-sized enterprises in the European Union countries and Turkey, the definitions of different size firms are not same regarding their financial turnover and capital. This is because, Turkish SMEs have lower financial turnover and capital comparing to SMEs in European countries (Yüksel, 2011). Table 2.1 shows the definitions of SMEs regarding their number of staff head counts, financial turnovers and capitals.

Table 2. 1: The definitions of SMEs in Turkey and in European Union

	Criteria	Micro enterprises	Small enterprises	Medium-Sized enterprises
TURKEY	Staff headcount	0-9	10-49	50-249
	Net Turnover	≤ € 493.210	≤ € 4.110.085	≤ € 20.550.423
	The Balance sheet total	≤ € 493.210	≤ € 4.110.085	≤ € 20.550.423
EUROPEAN UNION	Staff headcount	0-9	10-49	50-249
	Net Turnover	≤ € 2 m	≤ € 10 m	≤ € 50 m
	The Balance sheet total	≤ € 2 m	≤ € 10 m	≤ € 43 m

Sources: EC Commission Recommendation, 2003 and The Official Gazette of Turkish Republic.

Note: (TL was converted to Euro by the exchange rate of Central Bank of Turkey 22.01.2019, 1 euro= 6.0826 tl)

According to Turkish Banking Regulation and Supervision Agency (BDDK), 52 national, state and foreign banks exist in Turkish banking sector. 34 of them are

deposit banks, while the number of Development and Investment Banks and Participation Banks (Islamic Banking) are 13 and 5 respectively. Moreover, this report also expresses that 26% of total loans that are given in Turkish market have provided for Turkish SMEs (BDDK, 2018). Figure 2.1 indicates the volume of non-performing loans in Turkey between the years of 2010 and 2018. If SMEs default in loan repayment for three running months, the loan becomes a non-performing SME loan (Kalaycı and Arslan, 2017).

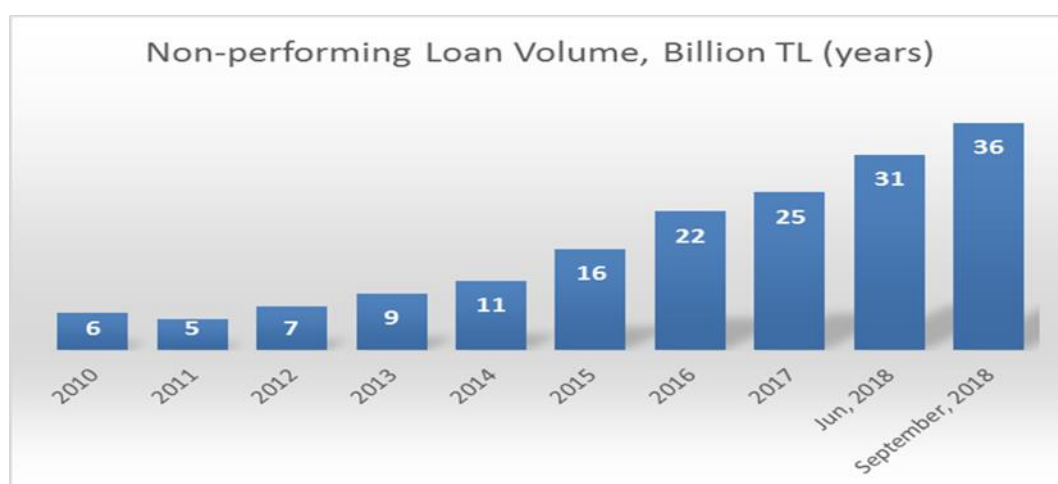


Figure 2. 1: The Volume of Non-performing Loans in Turkey, 2010-2018 (Billion TL, years)

Source: BDDK, 2018

There was an upward trend in nonperforming SMEs loans between the years of 2010 and 2018 in Turkish banking sector. While the volume of nonperforming loans was 6 billion Turkish liras (around 1 billion euros) in 2010, it increased 6 times more and became around 6 billion euros in September 2018. This result can be an evidence for the problems of banks' credit evaluation methods. This is because they might have given wrong decision to provide credits for some SMEs that have had high credit risks. Due to information asymmetry between those firms and banks, the banks in Turkish market might have not been able to calculate their credit risk correctly. According to Kalaycı and Arslan, (2017) in comparison with consumer and corporate credits, SMEs credits have the highest ratio in nonperforming loans in Turkey. To challenge with these issues in SMEs' lending, there should be a new mechanism to close this information gap between both players in bank lending.

Table 2. 2: Non-performing SMEs loans, % of all SME loans

Country	2013	2014	2015	2016
Turkey	3.12	3.27	3.92	4.9
Chile	6.1	6.1	5.9	5.5
Colombia	1.99	2.45	2.25	3.12
Denmark	3.27	2.96	2.79	2.88
Israel	0.4	0.35	0.14	0.2
Korea	2.05	1.89	1.80	1.38
Latvia	8.4	7.2	5.7	3.3
New Zealand	2.4	1.6	0.7	0.8
Poland	12.99	12.75	12.29	10.97
Slovakia	9.90	10.30	9.00	8.10
South Africa	2.92	2.94	2.51	2.55
USA	1.21	1.21	1.23	1.25

Source: OECD, Financing SMEs and Entrepreneurs, An OECD Scoreboard, 2018.

Table 2.2 demonstrates the percentage of non-performing SMEs loans in the total SMEs loans of some countries from all over the world. Most of the countries in the table, have lower percentages of non-performing SMEs loans than Turkey. Although, the percentages of non-performing loans in some countries such as Chile, Slovakia, Poland and Latvia were higher than Turkey, their percentages decreased year by year. When it comes to percentages of non-performing SMEs' loans in Turkey, an upward trend exists. This upward trend is also in existence for the percentages of USA in the presented period. But the increase in the percentages of USA had been to a lesser extend comparing to Turkey.

Even though some of Turkish SMEs access to finance, they face with some difficulties in the repayment of the loans. This increasing trend in the percentage of non-performing loans for Turkish SMEs can be the results of asymmetric information problem between firms and banks. To apply for a credit, SMEs in Turkey do not have to present their balance sheet in case of having profit that is lower than 250000 (around € 40.000). Majority of SMEs in Turkey have not high volume of revenue so they are not willing to show their balance sheet and this case can create information asymmetry (Kalayci and Arslan, 2017) that lies behind the bank credit obstacles. Due to facing with this problem, banks cannot be able to evaluate probability of default (credit risk) of firms correctly so they can make wrong credit decisions. In this case, borrower firms might default so non-performing loans in banks' portfolio increase. To reduce those default

problems, banks can apply some regulations that create difficulties for SMEs to access to finance.

Figure 2.2 presents the weighted average interest rates of trade credits (including credits for SMEs) that were provided by banking sector in Turkey. But, the rates of the Participations Banks were not included and those rates only for credits that were gained in Turkish liras.

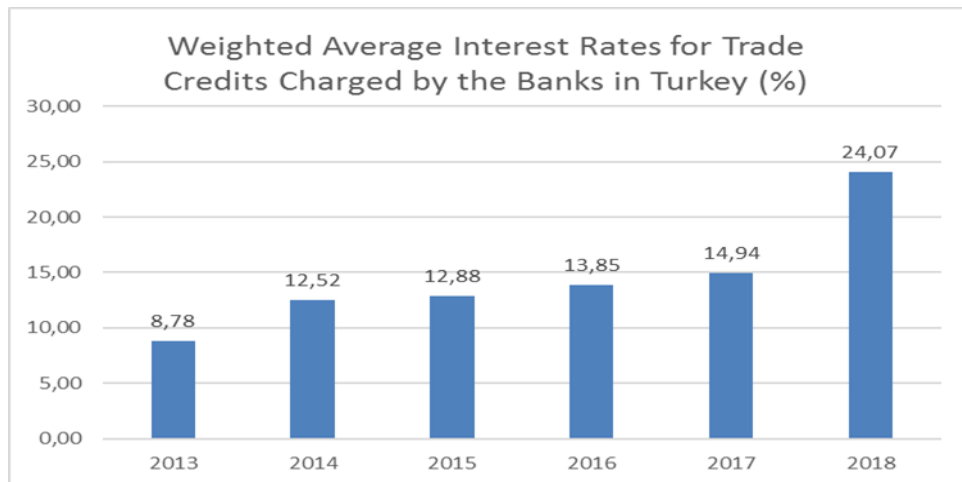


Figure 2. 2: Weighted average interest rate charged by banks for trade credits in Turkey (%)

Source: Central Bank of the Republic of Turkey, Accessed: 20.01.2019

According to Figure 2.2, the weighted average interest rates increased year by year between the years of 2013 to 2018. Although, the rates increased slightly especially the years between 2014 to 2017, a significant raise occurred in 2018. Those high interest rates that were charged by banks in Turkey could also be constraint for Turkish SMEs to access to banks' loans. As mentioned above, charging SMEs by higher rates can be one of strategies of banks to protect themselves against SMEs' default problems.

Table 2.3 depicts lending interest rates for SMEs in different countries from European Union and other countries such as USA and China. Those rates were lower than the rates of Turkey considering to years between 2013 and 2016. There was a downward trend in the SME interest rates in those selected countries while the rates in Turkey increased in this selected period (from 8.78 to 13.85%). For this reason, SMEs in Turkey might have been obliged to get finance by higher interest rates in comparison to SMEs in the countries that are presented in Table 2.3.

Table 2. 3: SME Interest Rates in Various Countries, %, 2013-2016

Country	2013	2014	2015	2016
Austria	2.28	2.27	2.02	1.92
China	8.39	7.51	5.23	4.77
Czechia	3.13	3.76	2.70	2.50
France	2.16	2.08	1.78	1.50
Greece	6.51	5.80	5.38	5.32
Hungary	7.40	5.10	4.70	4.20
Italy	5.40	4.40	3.84	3.20
Poland	3.85	3.52	3.00	2.86
Portugal	6.82	5.97	4.60	3.83
Slovakia	3.60	3.80	3.40	3.10
Spain	4.79	3.86	3.01	2.44
Sweden	3.29	2.71	1.75	1.57
UK	3.60	3.43	3.33	3.22
USA	3.23	3.03	2.95	3.02

Source: OECD, 2018.

According to Figure 2.3, overall score of Turkey from the Index of Economic Freedom is 65.4 where the top score is 100. The average score of EU countries and the score of USA from this index are, 68.8 and 75.4% respectively. This index evaluates trade, business, investment freedom and property rights of 186 states. In comparison with the European countries and USA, Turkey has lower score from this index. Therefore, it can be stated that businesses in Turkey are less free and the property rights are structured less efficiently in this country than Europe and USA.

OVERALL SCORE

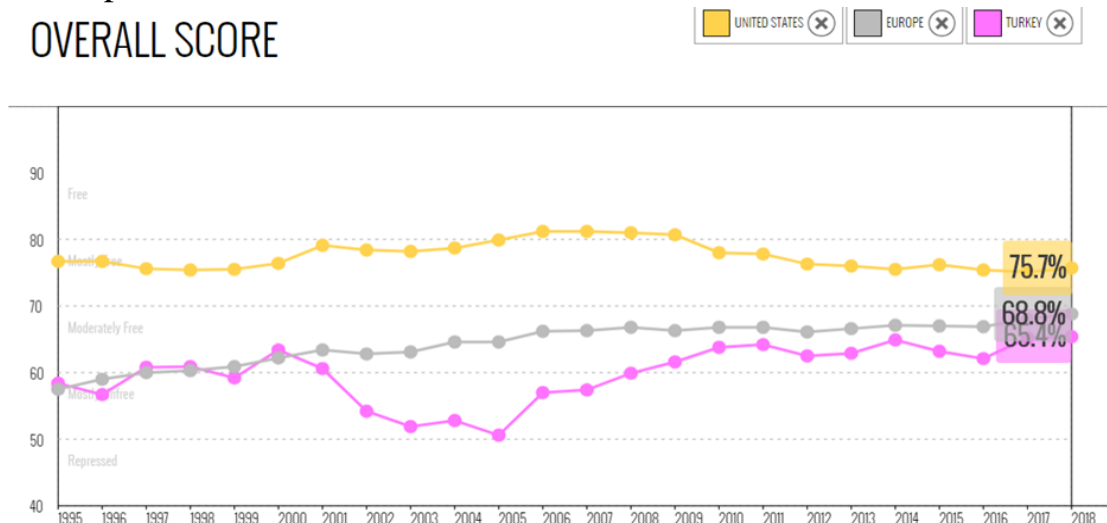


Figure 2. 3: Economic Freedom Indexes for USA, EU countries and Turkey (%)

Source: Heritage, Economic Freedom Index, 2018

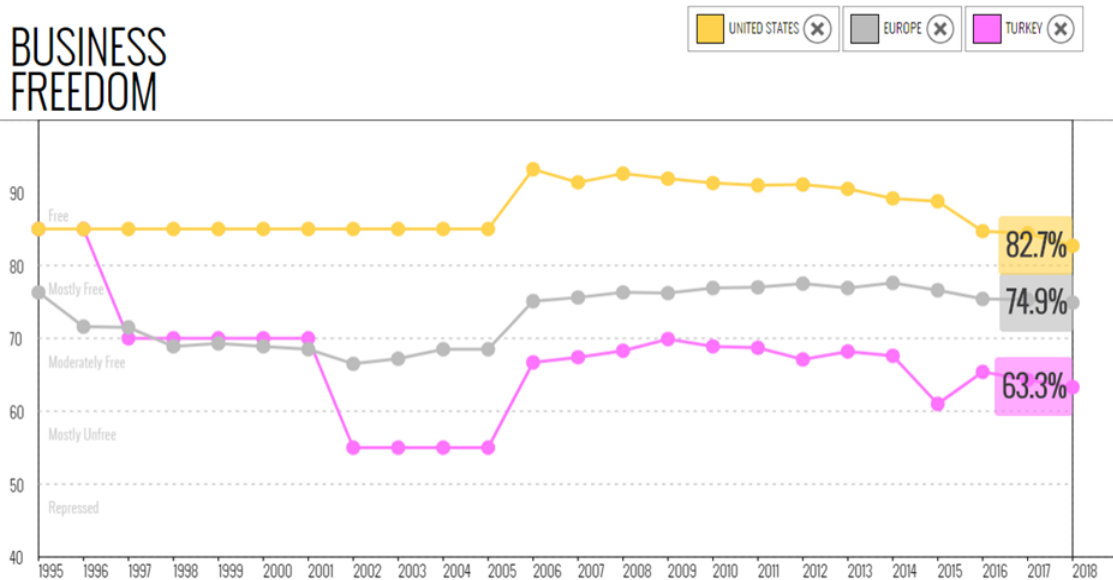


Figure 2. 4: Business Freedom Indexes for USA, EU countries and Turkey (%)
 Source: Heritage, Business Freedom Index, 2018

Business freedom is gauged by the challenges to start, open and close a firm and involved from 10 determinants by applying the World Bank’s statistics. The aim of this score is to show how efficient the state regulations are for firms. According to Heritage 2018, concerns in politics and security concerns impacted business environment of Turkey. As it can be easily noticed from Figure 2.4, the score of Turkey is less than in EU countries and USA. This result shows that state regulations are less effective for businesses in Turkey to operate in comparison with other selected countries.

Another important index that can be considered for the comparison of countries’ financial conditions is financial freedom. Financial freedom is a dimension of effectiveness of banking and being free against government supervision and intervention in the financial market. The level of government interferences for financial services, banks and other financial institutions, growth of financial and capital markets and having competitive market including foreign players are the components of the financial freedom score that shows ease and effectiveness of gaining financing options for individuals and enterprises in an economy (Heritage, Financial Freedom Index, 2018).

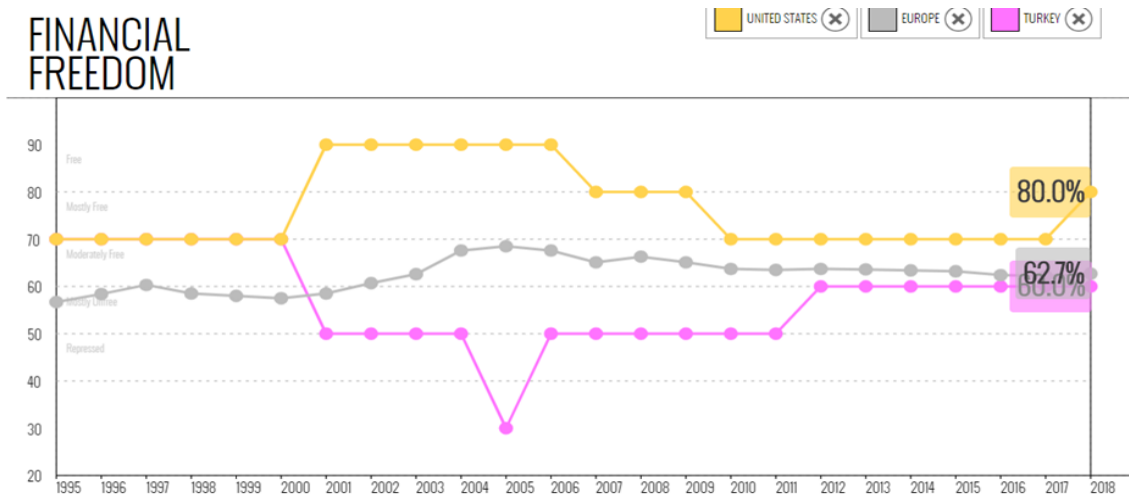


Figure 2. 5: Financial Freedom Indexes for USA, EU countries and Turkey(%)
 Source: Heritage, Financial Freedom Index, 2018

According to Figure 2.5, the score of Turkey from the financial freedom index is 60. According to Heritage, the country that has score of 60 from finance freedom has some barriers. For instance, financial organizations are not capable of providing all services because they are exposed to some limitations of the government. On the other hand, the central bank also has some constraints regarding controlling and ruling of financial organizations (Heritage, Financial Freedom Index, 2018).

In the countries that have higher scores from financial freedom such as USA, banks have more independency to prolong loan terms and provide easier financing conditions for their customers. In an optimal financing and banking atmosphere, lack of government interventions comes into existence, central bank behaves more independent and credit allocation occurs in market conditions. Due to having lower score from this indicator, Turkish SMEs can be more likely to face with more constraints in their bank credit access in comparison with the enterprises in European Union and USA.

The World Bank publishes some important rankings and indicators that show effectiveness of the economies and government interferences to provide credit access for business and individuals. Table 2.4 shows the rankings and the scores of Turkey from some of indexes that World Bank provides. Table 2.4 demonstrates that getting credit ranks of Turkey has differed from 79 to 78 between 2012 and 2018. However, the rankings of the Turkey in this selected period has not progressed remarkably. As it is indicated in the table 2.4, the rank of Turkey from resolving insolvency got worse in the period between 2012 to 2018.

Table 2. 4: Rankings and Scores of Turkey from some World Banks' Indexes (2012-2018)

Rankings and Indexes	2012	2013	2014	2015	2016	2017	2018
Getting Credit Ranking	78	83	86	89	79	82	77
Resolving Insolvency Ranking	120	124	130	109	124	126	139
Time, year	3.3	3.3	3.3	3.3	4.5	4.5	5.0
Recovery Rate %	22.3	23.6	22.3	27.9	18.7	18.5	15.3

Source: The World Bank, Doing Business Reports 2012-2018.

Moreover, the time and recovery rate have also been deteriorated in this selected period. Time is gauged as a default period of firms, until they repay some or the total amount of money that they borrow from the banks. It is a recovering period for banks to have the money that they lend (The World Bank, Doing Business Report, 2012, p. 58). Therefore, the upward trend in the “time” indicator makes banks in Turkey to face with default problem in longer periods than other presented countries in Table 2.5. To reduce this time, banks might have been applied some regulations that have caused more barriers for Turkish SMEs to gain loans.

On the other hand, the comparisons of some countries regarding the same indicators in Table 2.4, are presented in the table 2.5. According to the table 2.5, getting credit ranks of USA (2), UK (29), Spain (68), Slovakia (55), Czech Republic (42), Poland (29), Russia (29), Germany (42), Australia (6), New Zealand (1) and China (68) are better than Turkey's ranking (77) in 2018. Although some countries' rankings from getting credit index are worse than Turkey, their rankings from the Resolving Insolvency index and scores from the “time” and “recovery rate” indicators are better. The scores and rankings of France, Belgium, Italy and Greece are the examples for this fact.

Regarding resolving insolvency index, it is identified as “the ranking on the ease of resolving insolvency is based on the recovery rate that is a function of time, cost and other factors such as lending rate and the likelihood of the company continuing to operate” (The World Bank, Doing Business 2013, p. 126). Having worse rankings in resolving insolvency index and lower rates in

the indicator of recovery rate can be also evidence of increasing trend in non-performing loans in Turkey.

Table 2. 5: Rankings and Scores of Some Countries from Various World Banks' Indexes (2018)

Countries	Getting Credit Rank	Resolving Insolvency Rank	Time	Recovery Rate
Australia	6	18	1	82.5
Austria	77	23	1.1	80
Belgium	105	11	0.9	84.6
China	68	56	1.7	36.9
Czechia	42	25	2.1	67
France	90	28	1.9	73.5
Germany	42	4	1.2	80.6
Greece	90	57	3.5	33.6
Italy	105	24	1.8	64.6
Japan	77	1	0.6	92.4
New Zealand	1	32	1.3	84.2
Poland	29	22	3	63.1
Russia	29	54	2	40.7
Slovakia	55	42	4	47.3
Spain	68	19	1.5	76.6
Turkey	77	139	5.0	15.3
UK	29	14	1	85.2
USA	2	3	1	82.1

Source: World Bank, Doing Business, 2018

Considering to the Strength of Legal Right index, the score of Turkey differed between 2012 and 2018 and it was 3 and 4 out of 12. (World Bank Doing Business Reports, 2012,2018). But the World average from this index is 5, while the average scores of the countries in European Union and OECD is 6. On the other hand, the score of USA from this index is 11. This index refers to efficiency of bankruptcy and collateral laws to access to finance. Having low score from this index means that bankruptcy and collateral laws are not forceful enough to provide credit access for firms in Turkey. For this reason, the structure of those laws can create more financing obstacles for Turkish SMEs in comparison with the countries of European Union and OECD. In case of having ineffective legal structure that do not assert firms' rights, SMEs are more likely to encounter barriers in financing (Dong and Men, 2014; Le and Nguyen, 2009).

Considering to Distance to frontier score from getting credit index (2017) that demonstrates the performance of economies and access to finance, Turkey's and average of Europe Union and OECD members' scores were 69, 76 and 77 respectively. These scores make it clear that Turkey's score is further than the average of members of European Union and OECD to the frontier where the top score is 100. Therefore, individuals and enterprises in Turkey can be less likely to access to finance in comparison with some countries from European Union and OECD members.

Many empirical studies are also in existence in the literature regarding bank financing obstacles of Turkish SMEs. These studies also have similar results with above mentioned indicators that show the impediments in credit access of SMEs. In emerging countries such as Turkey, SMEs face with more barriers when gaining bank loans (Erdogan, A., 2015). Aras (2001) clarifies the major issues that Turkish SMEs encounter in access to finance, as economic instability, the structure of banking system, lack of support policies and structural problems. Moreover, high interest rates, short maturity terms, loan sizes (Yıldırım et al., 2013), high borrowing costs, (Karabıçak and Altuntepe, 2001), inadequate collateral (Yalçın, 2006) are other constraints to access to credit for Turkish SMEs. By analyzing 128 Turkish firms, Torlak and Uçkun (2005) find that having lack of cash money and capital, economic stagnation, scarcity of capital are the main problems of financing. Furthermore, Akyuz et al. (2006) investigate 851 SMEs in forest industry in Turkey and result that high costs of capital from external sources, lack of information about financial sources and bank expenses are some of the most significant financial constraints to gain loans.

Furthermore, Yılmaz, (2016) deduces from his analyses that bank loan is the initial external financing resource for majority of SMEs in Turkey. But, the researcher also outlines that high interest rates, collateral and credit rationing are main bank financing barriers for Turkish SMEs. Okuyan (2014) also proves that because of asymmetric information in the Turkish banking sector, banks apply for credit rationing. Credit rationing happens when banks delimitate the usage of total amount of granted loans that are given to the borrowers. As a consequence of credit rationing, banks begin to decrease the amount of guaranteed credits because of existence of higher level of non-performing loans (Okuyan, 2014). Moreover, firms that have no credit history and no adequate collateral are in trouble regarding to credit rationing. Due to the existence of foreign banks, the competition in the Turkish banking sector is high and this case draws attentions

of banks to focus on SME lending. Small banks provide 17% of their total portfolios for SME lending while, the average percentage for large banks is 26% (Jenkins and Hossain, 2017).

According to Jenkins and Hussain (2014), the percentage of required collateral in the total amount of SME loans was 67.7% but this rate increased to 77% in 2008. However, this rate increased 100% in Turkey, according to some credit officers and managers that played some roles in the pilot study of this research. The rise in this rate shows that banks ask for more collateral in loan applications, so SMEs can encounter more obstacles to access to bank credits in relation with the level of required collateral. Yüksel (2011) states that comparing to developed and developing countries that have similar economic conditions with Turkey, the amount of available credits is lower in Turkey.

As it is understandable from all above-mentioned reasons that hinder bank credit access, bank financing for Turkish SMEs is still problematic. Therefore, this research aims to present a different point of view for SMEs to cope with those obstacles by reducing their credit risks and information asymmetry. In addition, banks and other financial institutions can gain benefits from the results of this research to solve asymmetric information and credit risk issues by finding different credit evaluation methods for SMEs.

2.3. Entrepreneurial Orientation (EO)

Entrepreneurial orientation (EO) has been discussed in organizational actions of entrepreneurial activities because of its vital role in the process of strategic decision making for the improvement of businesses that is at the core of entrepreneurship researches through many years (Rahman et al., 2016). EO has been the most common management approach that has analyzed during the past thirty years (Gupta and Gupta, 2015). Miller (1983) identified one of the most commonly used definitions in the literature and he explained that “An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch” (p. 771). Then, Covin and Slevin (1986, p.77) presented another definition that “entrepreneurial orientation (EO) as a reflection of the extent to which the top managers are inclined to take business-related risks, to favor change and innovation in order to obtain a competitive advantage for their firm, and to compete aggressively with other firms' organizational processes, methods and styles that firms use to act entrepreneurially” (Covin & Slevin, 1986, p.77). Later, definitions of Miller

(1983) and Covin and Slevin (1986) were extended by Lumpkin and Dess (1996) that presented five dimensions of EO, namely, innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy.

Entrepreneurial orientation is also considered as a process that considers all substantial assets of firms to create new outputs and services and to put them on the markets (Tajeddini, 2010) and plays an active role for existence and performance of firms in long term (Dimitratos & Plakoyiannaki, 2003; Miller, 1983). Therefore, firms that are innovative, risk taker, proactive, autonomous and competitive against their rivals are more likely to perform better in comparison with other enterprises (Vantilborgh et al., 2015; Wiklund and Shepherd, 2005). Some scholars have also highlighted the positive influences of EO to hinder business failures and to achieve business success (Covin and Slevin 1991; Lumpkin and Dess 1996; Wiklund and Shepherd 2005; Mohammed and Obeleagunzelibe, 2014). Under the uncertain market conditions, new enterprises need to be innovative, proactive and risk taker to challenge with those conditions and to earn success under these circumstances (Kee and Rahman, 2017). Winklund and Shepherd (2005) analyze 413 small Swedish businesses and confirm that firms can implement activities regarding EO to cope with obstacles of credit access. EO can be an effective solution overcome the barriers of credit access especially in the environment that have lack of novel chances. In such circumstances, entrepreneurs can gain advantages by taking risks, showing their innovativeness and proactiveness that enable them to become different from their rivals (Winklund and Shepherd, 2005).

2.4. Relationship Lending

Transactional lending methods are mainly based on hard data to evaluate credit risk of SMEs by applying accounting-based models, credit rating, market-based methods and mix of those approaches. Regarding to market-based indicators, Merton's method (1974) is the most common credit risk evaluation method. On the other hand, the aim of the credit scoring models is to distinguish to borrowers who have lower or higher scores. Then, borrowers who have higher credit scores are less likely to default compared to low-rated borrowers. To show their quality, SMEs that have higher credit ratings are disposed to provide more collaterals and guarantees. To protect themselves against credit default problems, banks oblige lower credit rated SMEs to provide collateral (Duarte et al., 2018).

Somehow, all those approaches are related with hard data that consists of accounting ratios. Because of being subject to financial statements to measure credit risk of businesses, those methods focus on earlier information and miss current financial conditions of enterprises. Thus, they cannot inform lenders to estimate firms' future conditions (Agarwal and Taffler, 2008) and this issue can make banks to evaluate probability of default of firms by mistake.

For instance, Richardson et al. (1998) compare some methods that are based on accounting standards and loan officers' evaluation and finds that because of frequently changes in firms' activities and financial indicators, accounting-based methods lose its ability to measure firms' volatility regarding assets. Those potential misevaluations of accounting-based models might be seen especially more frequently in the period of economic downturns where the volume of bankruptcies increases (Andrikopoulos and Khorasgani, 2018). Due to focusing on soft data that credit officers and managers consider in the credit evaluation of SMEs, relationship lending comes into prominence. Those are the reasons why this research focuses on this lending technique.

Compared to larger enterprises, smaller firms have less transparency and this fact causes information asymmetry between banks and those firms. In this regard, relationship lending plays a crucial role because it enables to reduce information asymmetry between lenders and borrowers. Although, the cost of relationship lending is expensive, by having relationship with financial institutions and loan officers, firms can reduce information asymmetry (Beck, 2013; Memmel et al., 2007; Howorth and Moro, 2012; Ono and Uesugi, 2009) and so they can gain loans from banks (Gama and Geraldes, 2012). This is because banks get information about firms, its owners and environment during frequent communications (Berger and Udell, 2002; Gama and Geraldes, 2012).

The closest people to small firms, its workers and owners are loan officers who can get the most of soft information during relationship lending. Loan officers usually reside next to firms that they lend and they are well informed about business environment and interactions of those firms with other players in the market (Berger and Udell, 2002). For this reason, they play a significant role in knowledge acquisition from SMEs (Uchida, Udell and Yamori, 2012). The gained information by loan officers consists of soft data that is difficult assess and monitor by other lending techniques of banks (Berger and Udell, 2002; Berger and Frame, 2007). It not only includes reliability (Lehmann and Neuberger, 2001) characteristic, quality (Berger and Udell, 2002; Uchida et al.,

2012) and non-observable attitudes of firms (Ono and Uesugi, 2009) but also provides information about past activities of businesses with its financier (Erdogan, 2014). When firms give more soft information about themselves, firms get more benefit from banks' lending decisions (Howorth and Moro, 2012), encounter reduced financial difficulties (Fiordelisi et al., 2014; Cosci, et al., 2015), get better loan conditions (Berger et al., 2014) such as facing with lower interest rates, lower collateral (Petersen and Rajan, 1994; Berger and Udell, 1995; Hanedar et al., 2012), less credit rationing (Erdogan, 2014), lower cost of lending (Petersen and Rajan, 1994; Lehmann and Neuberger, 2001). Therefore, they can have more available loans (Carletti, 2004; Lehmann and Neuberger, 2001; Berger et al., 2014; Elsas and Krahn, 1998; Howorth et al., 2003).

It is assumed that the relationship between banks and firms decreases default rates of credits and improves the credit access for SMEs under relationship lending (Brown and Zehnder, 2007). This is because soft information that is gained by banks in relationship lending is statistically significant to predict loan defaults (Cheng et al., 2014). By analyzing 43,000 Italian firms, Fiordelisi et al. (2014) find that probability of default can be reduced by closer and longer relationship with lenders. Gersl and Jakubik (2011) also result that banks in Czech Republic decrease their credit risks by providing more credit with relationship lending in their portfolio. When banks gain information that has higher quality, they can easily evaluate credits and firms can easily get credits (Elsas, 2005). For this reason, relationship with banks is a significant factor that determines the trade credit approval for new SMEs (Fatoki and Odeyemi, 2010). On top of that, relationship lending gives some opportunities for banks and other credit providers to have longer period to analyze firms' investments and to decrease the financial difficulties for businesses. Owing to those opportunities, creditors can reduce the probability of default and the rate of credit risks (Gersl and Jakubik, 2011).

2.5. Signaling Theory

By including information asymmetry into the economic models of decision making, Spence (1973) has found the signaling theory that provides optimal solutions for receivers and signalers. Signaling theory occupies an important position in relationship between entrepreneurs and capitalist and it purposes to solve problems regarding information asymmetry between them by using signals that provide information (Janney and Folta, 2006). Therefore, signaling is a

significant factor in the relationship between lender and borrower and it has also influence on cost and availability of credit for borrowers (Zhao et al., 2008).

According to Stiglitz (2000), signaling theory analyzes the information asymmetries between two sides where the resources of asymmetric information are mostly focus on the quality and the purpose of the information. In this regard, signaling theory can be an essential player to close this information gap between entrepreneurs and lending institutions. This is because it concentrates on interactions among actors. In bank lending, those actors are entrepreneurs and loan officers. Entrepreneurs or other authorized person in a firm send a potent or remarkable signal that can be reacted positively by lending officer regarding firms' quality (Alsos and Ljunggren, 2013).

Four key factors exist in signaling theory namely receiver, signaler, signal and feedback. Signalers have to make decision about how to send the information while the receivers must select how to make comments for the signals (Connelly et al., 2011). Signaling theory enables signal receivers (banks' loan officers) to understand quality of signalers (SMEs) by discernable signals. It also gives chances to authorized people in firms to minimize information asymmetries between their firms and lenders (Bergh et al., 2014) by signaling their firms' invisible characteristics (Ahlers et al., 2015). Signals are the information such as characteristics of firms and entrepreneurs that signalers send to receiver to reduce information asymmetry (Alsos and Ljunggren, 2013). Signals also provide information about attitudes (Hopp and Lucas, 2014), underlying quality, past behaviors and activities of firms that can increase reliability of firms from the banks point of view (Eddleston et al., 2016). By receiving the signals, banks become more informed and gain trust about borrowers' quality thus, they can make better credit decisions (Cohen and Dean, 2005; Alsos and Ljunggren, 2013; Ahlers et al., 2015). Thereby, the feedback is credit decision of bank. To give correct decision in lending, banks look for more credible signals that give information about unobservable characteristics, underlying quality and immanent attitudes of firms and reduce information asymmetry (Alsos and Ljunggren, 2013).

Owners or manager of firms should be aware of which signals should be sent to loan officers to gain loans because signals that are observable, unique, foreknown show the inherent quality of firms (Bergh et al., 2014; Zhao et al. 2008). In that vein, they can draw loan officers' attention (Bergh et al., 2014; Busenitz, et al., 2005; Elitzur and Gavious, 2003) and reduce asymmetric

information problem between lenders and borrowers (Hopp and Lukas, 2014; Alsos and Ljunggren, 2013).

In this research, signalers are authorized people such as owners, shareholders, CEOs or accounting and finance managers who have knowledge about firms' characteristics regarding EO and they are well informed of bank credit processes and bank relations of the firms that they work for. They have information that outsiders (receivers) cannot easily gain. Moreover, signals are information related with the dimensions of entrepreneurial orientation while the feedback is lending decisions of banks.

2.6. Signaling Entrepreneurial Orientation

Spence (1973) highlights the significance of using appropriate signals to cope with information asymmetries in uncertain markets. Those kinds of signals are related with firms' activities and characteristics and they are expensive to get. Those activities can be related with patents, development of new products, success in trade, alliances and private equity (Janney and Folta, 2006). For instance, preannouncement of novel goods (Akerlof, 1970), expenditures for advertising (Nelson, 1974), creation of new trademarks (Lee, 2002), having certifications (Janney and Folta, 2006) and agreements with leading organizations (Gulati and Higgins, 2003; Higgins and Gulati, 2006) can play signaling role that provide information about characteristics and capabilities of businesses and can reduce information asymmetries (Pollock and Gulati, 2007). Firms' past actions influence the receiver' perception (Heil and Robertson, 1991).

Those features and competencies are also related with entrepreneurial orientation of SMEs. For instance, by making preannouncements for their new products or services, firms can signal their innovativeness that is one of dimensions of EO. In this regard, entrepreneurial orientation has considered as a signal in some studies of entrepreneurship literature (Gao et al., 2008). The study of Ahlers et al. (2015) is the first to consider signaling EO characteristics of SMEs to access to credit from banks. Signaling EO also enables firms to operate better in their market (Moss et al., 2015).

Backes-Gellner and Werner (2007) report that signaling entrepreneurial characteristics such as innovativeness makes it possible to cope with information asymmetry problems for enterprises. This is because EO practices may signal the unobserved quality of firms to banks and send a positive signal about borrowers for those borrowers' credit evaluation (Su et al., 2016). Similarly, A

potent signal regarding EO of firms might excite attention of lenders (Janney and Folta, 2006) and make lenders to gain enterprises' trust because signal receiver can perceive that those firms will hit their targets, increase their profits so payback their credits. In this case, lenders are prone to give credits for enterprises that signal EO because the attitudes related with EO alleviates information asymmetry between lenders and borrowers (Moss et al., 2015). In a similar manner, Beltrame et al. (2018) profess that authorized people in the firms such as entrepreneurs and managers can improve their credit access by signaling their EO characteristics. The scholars also highlight that SMEs with more abilities regarding to EO and competitiveness are more likely to gain guarantees from external sources (Beltrame et al., 2018). Furthermore, microenterprises can be more likely to get funded and can have the funds more quickly, if they signal autonomy, risk taking and competitive aggressiveness (Moss et al., 2015).

3. AIM, METHODOLOGY AND DATA

3.1. Aim and Research Problem

Access to bank credit is very crucial issue for most of SMEs all over the world and credit risks and information asymmetry between those firms and banks are the underlying reasons of this problem. To cope with asymmetric information and credit risk issues and to provide an alternative way for SMEs to gain bank financing, this comprehensive study purposes to investigate the influences of EO of Turkish SMEs and relationship lending on access to bank finance by applying signaling theory. In this regard, the thesis supposes that banks may reduce their anxiety about information asymmetry and credit risk by dealing with signals of EO that they perceive in relationship lending. From entrepreneurs' side, firms may be able to get easier credit access by signaling their characteristics related with EO in relationship lending.

Most of banks apply some methods that are based on hard data such as accounting ratios to evaluate credit risk of SMEs. However, SMEs usually do not have audited financial statements and this fact causes information asymmetry issue and makes banks to measure SMEs' creditworthiness inaccurately. To cope with this issue, EO can be effective solution to overcome barriers of bank credit access, especially in the environments that have lack of new changes. This is because EO is based on soft data and can be conveyed during relationship between banks and SMEs. Moreover, EO can make SMEs to determine and explore market opportunities, to create or improve products and services, to seek knowledge and integrate them into the existing resources. Therefore, firms that have more EO are more likely to perform better than their rivals. In this regard, the research problem for this research can arise as follows:

How does EO enable to access to bank finance for Turkish SMEs?

3.2. Conceptual framework

The conceptual framework of this research was created by comprehensive literature review and by empirical results that were gained from previous studies. This framework is depicted by Figure 3.1 that presents lucidity in relation with the concept of the thesis. By considering significant indicators of related studies in the literature, the key variables that may have impact on credit access for SMEs are chosen carefully. Although, plenty of variables that influence bank credit access exist in entrepreneurship literature, this research is

only limited with some of them, namely, Entrepreneurial Orientation (EO), Signaling EO, Relationship Lending, Information Asymmetry and Credit Risk.

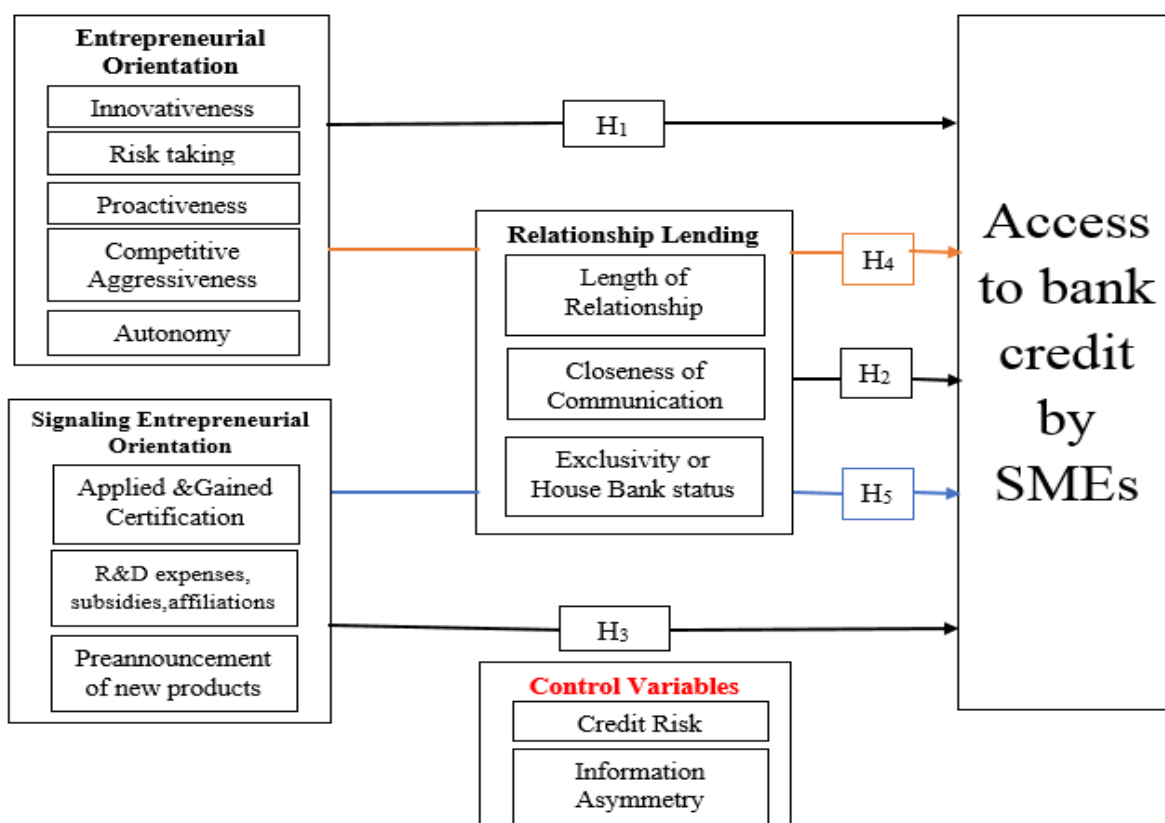


Figure 3. 1: Conceptual Framework

Source: Created by the researcher and based on empirical results of previous studies

Table 3. 1: Definitions of Key Variables

Variable	Definition
Entrepreneurial Orientation	“EO refers to the processes, practices, and decision-making activities that lead to new entry as characterized by one, or more of the following dimensions: a propensity to act autonomously, a willingness to innovate and take-risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities” (Lumpkin and Dess, 1996, pp. 136–137).
Innovativeness	Enterprises’ tendencies and operations to produce new goods and services by applying new plans, projects, technologies, and procedures (Short et al., 2009).

Risk Taking	“The degree to which managers are willing to make large and risky resource commitments i.e., those which have a reasonable chance of costly failures. Firms with an entrepreneurial orientation are often typified by risk-taking behavior, such as incurring heavy debt or making large resource commitments, in the interest of obtaining high returns by seizing opportunities in the marketplace” (Lumpkin and Dess, 1996, pp. 144).
Proactiveness	“Seeking new opportunities which may or may not be related to the present line of operations, introduction of new products and brands ahead of competition, strategically eliminating operations which are in the mature or declining stages of life cycle” (Venkatraman, 1989, p. 949).
Competitive Aggressiveness	“Refers to how firms relate to competitors, that is, how firms respond to trends and demand that already exist in the marketplace” (Lumpkin and Dess, 1996, pp. 147).
Autonomy	“Independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion and the ability and will to be self-directed in the pursuit of opportunities” (Lumpkin and Dess, 1996, pp. 140).
Relationship Lending	“If scale economies exist in information production, and information is durable and not easily transferred, these theories suggest that a firm with close ties to financial institutions should have a lower cost of capital and greater availability of funds relative to a firm without such ties. We term these ties relationships” (Petersen and Rajan, 1994, p. 3-4).
Length of relationship	“The number of years that the lender has relationship with the borrower” (Berger et al. 2014).
Closeness of communication	The frequency of interactions between borrower and lender during the year (Moro et al., 2015).
Exclusivity or house bank status	The percentage of total debt that is provided from the premier lender (Cosci et al., 2015; Elsas, 2005; Cenni et al., 2015).
Signaling Theory	Provides optimal solutions for receivers and signalers by including information asymmetry into the economic models of decision making (Spence, 1973).
Applied & gained certification	Applied or obtained patent, certification, trade mark and licenses (Arthurs et al., 2009; Lee, 2002; Janney and Folta, 2006).

(AGC)	
R&D expenses, subsidies, affiliations (RDE)	R&D expenses (Baum and Silverman, 2004), R&D subsidies (Meuleman and De Maeseneire, 2012) and affiliations (Janney and Folta, 2006) are important implications that produce a similar effect with other certifications' influences to signal EO.
Preannouncement of new product	“Preannouncements are formal purposeful communications that inform message receivers of a firm’s claimed intent to introduce a new product to the market at a future date” (Lee et al. 2016, p. 457).
Information asymmetry	Arises from lack of complete and timely information (Nanyondo et al., 2014), and existence of opacity problem about default risk of borrower (Gama and Geraldes, 2012; Berger and Frame, 2007)
Credit risk	Occurs when borrowers default in loan repayment (Dietsch and Petey, 2002).

Source: Created by the researcher and based on previous studies

3.3. Research Questions

- What are the obstacles to access to bank finance for SMEs?
- Is there a relationship between entrepreneurial orientation and access to bank finance?
- How does relationship lending influence SMEs’ access to bank finance?
- Does a positive relationship exist between signaling entrepreneurial orientation and access to finance?
- How do SMEs’ relationships with banks and their entrepreneurial orientation influence bank credit access of SMEs?
- How do signaling EO and relationship with banks influence gaining loans for SMEs?

3.4. Research Objectives

- To determine the credit constraints for SMEs,
- To analyze the relationship between EO and bank credit access of SMEs,
- To investigate the direct effects of relationship lending on bank credit access of SMEs,
- To examine the association between signaling entrepreneurial orientation and acquiring bank loans,

- To view impacts of both entrepreneurial orientation and relationship lending on access to finance,
- To find out the effect of signaling EO and relationship lending on credit access of SMEs.

3.5. Development of Hypotheses for EO and Access to Finance

EO is an important factor that can provide easier access for firms to be financed (Sidek et al., 2016; Aminu and Shariff, 2014). Although, many studies exist to analyze the relationship between EO and performance, studies that mainly focus on direct impact of EO on credit access are scant. In this regard, Fatoki (2012) finds the existence of positive relationship between EO and access to debt finance. The researcher also implies that this positive relationship can reduce the financial obstacles of SMEs.

Similarly, Mohammed and Obeleagunzelibe (2014) examine 250 employers and employees from SMEs and highlight that access to finance can be achieved more easily by firms that have higher entrepreneurial orientation. By analyzing Greek TV industry Zampetakis et al. (2011) prove that EO has positive impacts on gaining access from financial sources. On the top of that, the authors clarify that having efficient EO can be an important indicator to access to financial resources for businesses. Moreover, Sidek et al. (2016) investigate 30 Malaysian SMEs and affirm that EO enables firms to get access to capital. In addition, the researchers also demonstrate that some entrepreneurial characteristics such as risk taking and competitive aggressiveness help firms to access to finance however, innovativeness do not. On the other hand, the existence of negative relationship between EO and access to finance has confirmed by Aminu and Shariff (2015) and Ibrahim and Shariff (2016).

Wiklund and Shepherd (2005) analyze the moderating role of gaining loans in the association between EO and performance of enterprises and confirm the existing moderating role of access to finance in this relation. On the other hand, Zampetakis et al. (2011) find full mediating role of getting credits in the association between EO and the performance of firms' products. Similarly, Fatoki (2012) examines mediating role of access to finance but he finds its' partial mediation in the relationship between EO and enterprise performance. Since both negative and positive influences of EO on access to finance confirmed by above mentioned empirical researchers, each measurement of EO will be discussed separately in the following subtitles and various hypotheses

regarding each factor will be set up by focusing on the results of empirical studies.

3.5.1. Innovativeness and Access to Finance

Because of frequent changes in business environment, innovativeness has become an important and noteworthy attitude that has positive influences on the growth, performance and existence of businesses. Under the uncertain market conditions, the success of innovation comes into existence if enterprises are good at making effective decisions and taking influential actions (Garcia-Granero et al., 2015). Being innovative is a main feature for businesses to take advantages against their rivals and use them in long term (Baer, 2012). Therefore, innovativeness should be penetrated and implemented among actors of enterprises to achieve operational efficiency.

Innovativeness also makes enterprises to differ from other firms that operate in similar sectors, have similar competencies and characteristics with them. By being innovative, enterprises can provide new products or services that can be highly demanded by customers in the market (Short et al., 2009) and so they can improve their success (Vantilborgh et al., 2015). Moreover, innovativeness benefits for enterprises to take advantages against their rivals (Tajeddini and Trueman, 2008) by providing achievements for those firms (Noble et al., 2002) and by increasing their performance in long run (Rauch & Frese, 2000). Examples for those achievements might be improving skills to present new products and services into the markets (Tajeddini, 2010).

Considering to its relationship with other dimensions of EO, Dehghan and Pool (2015) vindicate that EO and innovativeness are positively associated with each other. They also confirm that by gaining advantages against their competitors, SMEs can be more likely to be innovative and to apply new technologies. Owing to this fact, SMEs can improve their EO and so their performance. A significant relationship between risk taking and innovativeness has also confirmed by many studies from different scientific disciplines. (Colquitt, Scott, & LePine, 2007; Garcia-Granero et al., 2015).

When it comes to innovativeness and access to finance, Lee et al. (2015) interpret that although innovative SMEs are more prone to search for financing options, they face with more difficulties to gain loans. For instance, they are more likely to encounter credit rationing (Freel, 2007) and have less chances to have enough funding options compared to non-innovative SMEs. Therefore, innovative SMEs are less likely to access to finance (Mina et al., 2013; Lee et

al., 2015). On the other hand, Backes-Gellner and Werner (2007) highlight that innovative SMEs are less likely to face with credit obstacles in comparison with non-innovative enterprises. Similarly, McCarthy et al. (2015) explain SMEs that increase their innovativeness and innovative operations are more likely to access to finance. This is because those activities and behavior are positively related with access to bank finance. Furthermore, Zampetakis et al. (2011) and Fatoki (2012) also substantiate that a positive association exists between innovativeness and getting loans. By investigating SMEs from Austria and Italy, Beltrame et al. (2018) advocate that innovativeness has significant influences on gaining guarantees and credits from banks.

In addition, Cosci, et al. (2015) highlight that innovative firms are not opaque as non-innovative firms. Due to having better ability to screen their operations such as innovative activities, banks can give them enough credit that firms need. Innovative SMEs have also other attitudes that enable to gain credit. After the crises, credit access has deteriorated for SMEs that are not innovative (Lee et al., 2015). By considering above mentioned empirical results that confirm the positive influence of innovativeness on access to finance, this study sets hypothesis as follows:

H_{1a}: Innovativeness of SMEs is positively related with their access to bank finance.

3.5.2. Risk Taking and Access to Finance

Risk taking is a tendency to act valorously under the uncertainty circumstances. Risk taking is also one of the main features of entrepreneurs (Moss et al., 2015) and this behavior makes them to be different from other individuals. Therefore, they have more tendencies to set up their own businesses and work for it (Vantilborgh et al., 2015). Managers' tendency on risk taking also influences the innovativeness of enterprises (Garcia-Granero et al., 2015). When an opportunity becomes apparent in the business environment, entrepreneurs usually do not hesitate to take risk for it. This is because they also have competencies to assess this opportunity's pros and cons. Owing those talents gives some chances to entrepreneurs to gain advantages toward their rivals and accelerates their firms' development (Vantilborgh et al., 2015). For instance, in case of finding available loans in credit market, they might not refrain from this opportunity and so they can be more likely to access to finance. In their study, Zampetakis et al. (2011), Fatoki (2012) and Sidek et al. (2016) corroborate that

risk taking is positively related with access to finance. Therefore, the study assumes the next hypothesis as following;

H_{1b}: Risk taking behavior of SMEs is positively associated with their access to bank loans.

3.5.3. Pro-activeness and Access to Finance

Proactive enterprises usually play a leading role for changes in the business environment because they take more initiative to present new products and other innovative activities foresightedly (Moss et al., 2015). Entrepreneurs who have foresights about future market conditions, have ability to seize market opportunities by taking initiatives (Short et al., 2009). By having pro-active behavior firms also support their activities against their rivals and learn how to gain competitive advantages in long term (Dess and Lumpkin, 2005).

Proactive behavior makes enterprises to quickly determine and explore occasions in their market. Moreover, proactiveness also enables entrepreneurs to look for new opportunities and foreseeing them before their rivals explore (Dickel, 2017). Proactive entrepreneurs have abilities to take the opportunities in the market by seeking and defining them. Those opportunities enable them to improve or explore new products or services (Vantilborgh et al., 2015). Being more proactive makes enterprises to get ahead of their rivals (Kee and Rahman, 2017). Regarding proactiveness and access to finance, Zampetakis et al. (2011) and Fatoki (2012) bear out the positive relationship between proactiveness and access to finance. Considering to those facts another hypothesis can be set up as;

H_{1c}: Proactiveness of SMEs is positively related with their access to bank finance.

3.5.4. Competitive Aggressiveness and Access to Finance

Competitive aggressiveness is a significant attitude for enterprises because it enables to get into markets and to penetrate them by making remarkable activities such as price cutting (Short et al., 2009). Competitive aggressiveness contains competitive behaviors that enterprises act to have strong market position. It also involves attacking strategies that purpose to obtain and secure this position. Moreover, it includes aggressive behaviors that prevent firms against pressures of competitors. For these reasons, firms that have more competitive behaviors are more likely to perform well in comparison with less competitive enterprises. By having those attitudes, firms gain advantages to take

market opportunities, thus they can improve their performance and become more likely to access to finance (Moss et al., 2015).

A positive association between competitive aggressiveness and getting credit access is confirmed by the study of Sidek et al. (2016). On top of that competitive aggressiveness enables SMEs to gain guarantees from banks and thus increase receiving credits (Beltrame et al., 2018). Due to having those arguments, the research presumes the following hypothesis;

H_{1d}: Competitive aggressiveness of SMEs is positively associated with their bank credit access.

3.5.5. Autonomy and Access to Finance

Autonomy refers to ability of entrepreneurs to act independently (Mohammed and Obeleagunzelibe, 2014). Individuals that have autonomy feel free to seek new chances and they are not controlled by any institutional procedures, committees and shareholders. The ability to act independently also make entrepreneurs to be more innovative by generating new ideas and ventures. Autonomy plays a significant role in microenterprise performance, just as it does in other contexts (Lumpkin, Cogliser, & Schneider, 2009; Moss et al., 2015). According to Covin et al. (2006), an enterprise that has lack of autonomy is in tendency to face with financial problems. Either the workers' or enterprises' performances can be increased by the existing autonomous owners or managers that freely act to support them (Zehir et al., 2016). Considering to autonomy with gaining guarantees, Beltrame et al. (2018) verify that less autonomous SMEs get credits from mutual Loan Guarantee Institutions. For this reason, another hypothesis can be set up as following:

H_{1e}: Autonomy of SMEs is negatively associated with their access to finance.

3.6. Development of Hypotheses for Relationship Lending and Access to Finance

The variables that this study includes to evaluate relationship lending are the length of relationship, the closeness of the communication between loan officers and SMEs and exclusivity or house bank status. The hypotheses related with these variables and access to finance will be presented by the subtitles as follows.

3.6.1. Length of Relationship and Access to Finance

Many studies exist in the literature to use the length of relationship lending as a measurement when evaluating relationship lending (Petersen and Rajan, 1994; Giannetti, 2012; Ono and Uesugi, 2009; Jimenez et al., 2006). Length of relationship is usually measured as the number of years in the relationship among both parties in lending. This study also considers this definition to evaluate the length of relationship. According to Berger et al. (2014) length of relationship also indicates the strength of the relations between borrowers and lenders. Therefore, longer relationship potentiates the strength of relationship and this is related with increased credit access, lower required collateral (Petersen and Rajan, 1994; Voordeckers and Steijvers, 2007) and interest rate (Berger et al., 2014).

Early on in relationship, banks charge all new borrowers with similar costs. But during long relationship, banks become aware of quality (Lehmann and Neuberger, 2001), trustworthiness (Erdogan, 2014), performance (Howorth et al., 2003), competency, and characteristics of firms. Therefore, information asymmetry problem reduces (Voordeckers and Steijvers, 2007), cost of credit become less expensive, loan conditions get better for firms (Lehmann and Neuberger, 2001) and the credit amount that is provided by the loan managers can increase (Moro et al., 2015; Moro and Fink, 2010). Due to being informed about firms and their projects, banks face with reduced risk levels (Canovas and Solano, 2010) and they are disposed to give more credits (Erdogan, 2014). Regarding the studies mentioned above, the research assumes another hypothesis that is presented below.

H_{2a}: SMEs' length of relationship with their lender bank is positively related with their access to bank credit.

3.6.2. Closeness of Communication and Access to Finance

Due to non-existence of transparent financial statements that are certified by internal or external auditors, it is difficult to evaluate quality and financial power of firms for banks. For this reason, communicating with an authorized person in SMEs makes loan officers to understand firms' characteristics and attitudes much better. Similarly, by interacting constantly with banks' officers, SMEs can provide more information about themselves and so information asymmetry can be reduced (Moro et al., 2015).

Moreover, getting information about borrowers is costly for lender in case of making only a transaction with borrower. By making frequent communications, the cost of having information can be decreased and both players in lending namely borrowers and lenders can get benefits. Credit conditions and credit access in SME lending are also impacted by frequent communications between bank officers and authorized people in SMEs. For instance, SMEs can face with reduced interest rates and credit rationing by frequently interacting with borrowers (Lehmann and Neuberger, 2001). Moreover, more frequent communications between loan officers and SMEs increase volume of loans that SMEs might receive. Intensity of relationship that is measured by the number of meetings in a year, also increases credit access of SMEs (Moro et al., 2015). This is because SMEs can become more trustful from the lending officers' perspective. Information asymmetry (Lehmann and Neuberger, 2001; Jimenez et al., 2006; Voordeckers and Steijvers, 2007) and credit risk of SMEs can be reduced (Voordeckers and Steijvers, 2007). The substantiations of the above-mentioned studies make the researcher to suppose another hypothesis as follows:

H_{2b}: SMEs' closeness of communication with their lender bank is positively related with their access to bank loan.

3.6.3. Exclusivity or House Bank Status and Access to Finance

A bank that is the main credit provider of a firm is called as main bank or house bank (Elsas and Krahen, 1998; Behr and Güttler, 2007; Canovas and Solano, 2010). In a market that has high competitiveness, the main bank of a borrower gains advantages to overcome information asymmetry issues by being on good terms with the borrower (Cenni et al., 2015).

When a firm has relations with a bank that is the only creditor of this firm, it is called as exclusivity in lending relationship (Berger et al, 2001). Exclusivity or house bank status is also measured as the percentage of total debt that is provided from the premier lender (Cosci et al., 2015; Elsas, 2005; Cenni et al., 2015). According to Menkhoff et al. (2006), SMEs are exposed to provide more collateral to their main debtor. This is because the main bank frequently observes their conditions during relationship (Ono and Uesugi, 2009). On the other hand, some studies contradict with the study of Menkhoff et al. (2006) and Ono and Uesugi (2009) and prove that in case having more debt from the main bank, firms are less likely to face with higher required collateral (Behr and Güttler, 2007), higher interest rates (Lehmann and Neuberger, 2001). Moreover, firms that have more credit from their main bank are less likely to encounter

credit rationing (Cenni et al. 2015), credit default issues (Agostino et al., 2011), and higher loan costs (Canovas and Solano, 2010) in comparison with other banks. This is because, the main bank of SMEs gets the most of information about borrower firms during relationship lending (Menkhoff et al., 2006) and have the most interactions with SMEs (Voordeckers and Steijvers, 2007). Thus, it becomes monopoly regarding information that SMEs' provide (Cenni et al. 2015).

Furthermore, getting credit from other banks except the main creditor is costly for SMEs. This is because other banks are not well informed about the firm as main bank is. Therefore, they can create more costs for SMEs such as charging them with higher interest rates and asking more collateral (Behr and Güttler, 2007). According to study of Berger et al. (2014), small firms that are transparent have closer ties with their premier lender. For this reason, when SMEs have close relations with their main debtors, information asymmetry gets reduced (Elsas and Krahen 1998) and receiving loans from the main bank becomes more likely for enterprises (Canovas and Solano, 2010; Cenni et al, 2015; Behr and Güttler, 2007, Giannetti, 2012). For these reasons, the last hypothesis regarding relationship lending and access to finance can be set up as;

H_{2c}: Exclusivity or house bank status of lender bank is positively associated with bank credit access of SMEs.

3.7. Development of Hypotheses for Signaling EO and Access to Finance

Signaling theory supposes that conflicting interests might be existed between signalers and receivers. Signalers may manipulate the quality of information to affect receivers. Due to having conflicting interests, signaling theory searches some indicators that guarantee honesty in the communication between more informed signal senders and less informed signal receivers to limit the manipulation in the quality of the signal (Lee et al., 2016). Otherwise, dishonest behaviors and unreliable signals of entrepreneurs cause lack of honest signals in the communication and banks do not pay attention, or ignore these signals (Bird and Smith, 2005). Because of these reasons, the study considers certifications, R&D advertising expenses and subsidies and preannouncements of new products as the measurements of signaling EO because they are costly, observable, credible and not easy to imitate. More details about those

measurements of signaling EO and its influences on credit access are provided as follows.

3.7.1. Applied or Gained Certifications and Access to Finance

Due to having lack of hard data about SMEs, bank officers can search for borrowers' certifications to evaluate firms' quality to provide them credits. (Baum and Silverman, 2004; Janney and Folta, 2006) Certifications can be seen like costly, reliable and visible signals that can draw bank officers' attention to make more beneficial credit decisions for firms (Janney and Folta, 2006). Those certification signals must be costly for both parties to trustworthily diversify quality enterprises (Minard, 2015).

Those kinds of signals strengthen the quality of firms and make high quality firms to differ from other enterprises. Therefore, they also increase credibility and reputation of firms from the perspective of loan officers and can make those officers to change their credit decision (Gulati and Higgins, 2003; Higgins and Gulati, 2006; Zhang and Wiersema, 2009; Janney and Folta, 2006). Certifications can be patents, trade mark or license (Janney and Folta, 2006).

Like other certifications, applied and gained patents are visible and credible signals for banks (Arthurs, Busenitz, Hoskisson, and Johnson, 2009). This is because applied and gained patents signal technical quality, technical knowledge, technical competencies (Warner et al., 2006) and R&D abilities of firms. Therefore, it can reduce information asymmetry among firms and banks (Arthurs et al., 2009). By analyzing some European countries, Pederzoli et al. (2013) contend that credit risk of SMEs might be decreased by patents. Patent is also considered as a signal of firms' quality (Backes-Gellner and Werner, 2007; Arthurs et al., 2009), innovativeness (Warner et al., 2006; Baum and Silverman, 2004) and it is a reachable certification for all enterprises (Warner et al., 2006).

Gaining patents presents reliable signals about invisible quality of enterprises since more inventor and more innovative enterprises are more likely to fulfill the requirements of patents. It is also easy for banks to examine whether firms have patents or not. Patent ownership also has significant impact on the decision making of lenders (Backes-Gellner and Werner, 2007) and it also plays a significant role for firms to be more innovative and competitive against their peers (Warner et al., 2006). By having patents firms can hinder the market entrance of their rivals and this can be perceived as positive signals that show the quality and strength of the firms. In this regard, patent ownership can

provide a competitive advantage for firms and those firms can show its competitive aggressiveness in the market (Ahlers et al., 2015).

Corresponding to gained or applied patents and access to finance, the results of studies contradict with each other. Although the results from the studies of Ahlers et al. (2015) and Hopp and Lucas (2014) demonstrate that gained patent does not have any positive or negative influences on access to finance, more studies exist in the literature to confirm the positive impacts of having or applied patent on gaining loans. For instance, Hsu and Ziedonis (2013) and Baum and Silverman (2004) explain that the existence of patents is positively related with credit access of firms and enables more available credits for those businesses.

By giving information about their gained or applied patents firms might be more likely to gain loans (Baum and Silverman, 2004). The existence of positive relationships among having patent, getting credit and facing reduced credit obstacles are also confirmed by the study of Backes-Gellner and Werner, (2007). Therefore, it is possible for firms to access to finance by signaling information about their applied or gained patents. Because of these reasons, entrepreneurs and enterprises should notice the importance of creating and ensuring new opinions. Applied or gained patents signal their innovativeness, have positive impact on continuation of their activities and their credit access. Startups may also get VC financing or can gain other financial sources by signaling their innovative abilities such as showing patents and applying for patents (Ahlers et al., 2015). Signals related with trademarks resemble with the influences of signals of patents because they also give information about borrowers to their financiers (Baldenius and Meng, 2010). Trademarks are also quality signals for firms to send loan officers in credit application (Gao et al., 2008).

Corresponding to ISO certifications, King et al. (2005) find that management system certifications such as ISO 14001 may present positive information about firms' invisible features to lenders. This certification reduces information asymmetry among players in lending and increase reliability of the signal senders (Su et al., 2016). Moreover, it is very difficult for low quality firms to gain this certification because it is an expensive and hard process for them. To gain this certification, firms need to fulfill all requirements of International Organization for Standardization such as providing guarantees for quality of their products and considering environmental issues that are related with their businesses (Bergh et al., 2014). Similarly, to have ISO 9000 certification, firms should be able to have adequate sources in long run. This fact plays as an

indicator role for the quality of firms that might be perceived from a financing organization (Payne et al., 2013). Because of expenses and requirements of those certifications, firms that are high quality, are more likely to have them. Decision makers should be aware of this fact to provide more available credits for the business that have this certification (Bergh et al., 2014).

As it is confirmed by above mentioned empirical evidences, firms that have certification are more likely to access to bank credit in comparison with other firms and this fact provides more benefits for smaller enterprises. This is because they have more impact to reduce information asymmetry due to facing with more obstacles than larger firms (Minard, 2015). Because of these reasons, the research will set up next hypothesis herein below;

H_{3a}: Gained or applied certifications of SMEs are positively related with their access to bank finance.

3.7.2. R&D Expenses, Subsidies, Affiliations and Access to Finance

Scientific capabilities such as R&D activities of firms can be visible and credible signals for banks (Arthurs et al., 2009). Advertising expenses are also quality signals for firms to send loan officers in credit application (Gao et al., 2008). R&D expenditures play similar signaling role as patents do, thus, they create chances for enterprises to have easier credit access (Baum and Silverman, 2004). Firms should make investments and expenses to have certifications and licenses from prominent organizations in the market. Therefore, those expenses for R&D activities can be credible signal to reduce information asymmetry (Heil and Robertson, 1991).

By making sufficient investments for R&D activities, SMEs can improve their benefits and sales also gain advantages for their survival and growth (Nino-Amezquita et al. 2017). Sustainability in those R&D and advertising activities can be perceived as quality signals by the signal receivers and they can discern the borrower firms that are innovative and have high quality products and services (Lee et al., 2015). This is because innovation might be increased by investments, considerable exertions, effective use of resource and rising the R&D expenses (Garcia-Granero et al., 2015). Moreover, R&D investments of the firms are also important to signal firms' innovativeness (Arthurs et al., 2009). R&D investments and expenses might also be perceived as a signal of competitive aggressiveness of enterprises (Basdeo et al., 2006). Therefore, by using signals such as their advertising expenses, enterprises can show their real quality to lenders and reduce information asymmetry (Kirmani and Rao, 2000).

R&D subsidies and grants are important implications for governments to increase innovativeness among enterprises. They produce an effect that can be perceived similarly by external financiers as other certifications' influences. This is because government workers make their own independent assessment to provide grants for enterprises and the governments do not provide these grants for all applied firms. Because of getting more requests for financing options, government workers might also have knowledge about the applicants in a large extent. For this reason, the decisions that the government officer makes for granting R&D subsidies can certify the quality of firms. This fact builds trust for banks and it can influence the credit decision of lending officers too (Meuleman and De Maeseneire, 2012).

When firms' qualities are not transparent or difficult to understand, their gained subsidies and grants can be remarkable factors for banks to get a clue about those firms. Therefore, the problem of information asymmetry and obstacles of bank credit might be reduced so banks can present easier credit access for enterprises. In the study of Lerner (1999) and Feldman and Kelley (2006), it is proved that enterprises that gain subsidies and grants are more likely to access loans from external financing institutions.

Similarly, Meuleman and De Maeseneire (2012) confirm in their study that getting R&D grants improves the probability of gaining long term financing. This improvement is higher in case of having higher information asymmetries among both sides. Moreover, grants that are provided by governments are positively related with growth and gained patents of firms (Meuleman and De Maeseneire, 2012). Takalo and Tanayama (2010) also find that R&D subsidies provide positive signals that financiers can receive and those signals also provide to face with reduced financial obstacles for SMEs.

Corresponding to agreements with leading firms or government, those facts can be seen like reliable and visible signals that bank officer can consider to assess firms (Connelly et al., 2011; Gulati and Higgins, 2003; Plummer et al., 2015; Courtney et al., 2016) Alliances can be related with research and development and product licensing (Janney and Folta, 2006). An agreement with leading companies provides opportunities for enterprises to share and change their resources, technologies, and private information to improve their abilities and increase their profits. Therefore, it might also positively influence firms to gain other resources from external sources such as bank credit. "A strategic alliance is commonly defined as any voluntarily initiated cooperative agreement between firms that involves exchange, sharing or co-development, and can include

contributions by partners of capital, technology or firm-specific assets.” (Pollock and Gulati, 2007).

Relations with development institutions (Plummer et al., 2015) and interacting with prominent businesses and organizations make firms to provide more credible information about themselves to external financier (Ahlers et al., 2015). Therefore, it is necessary for firms to set up relations and continue these affiliations to earn trust of lenders. By doing so SMEs can not only increase their quality in long term but also send observable signals to the loan officers to gain credit (Janney and Folta, 2006). This is because those potent signals helpful for firms to reduce information asymmetry among them and the lenders (Courtney et al., 2016) so the lender become less worried about making correct credit decisions (Gulati and Higgins, 2003).

By having agreements and affiliations with leading international and national organizations, enterprises can also increase their competitiveness against their rivals. But having close relations with such companies is not an easy fact for firms. Therefore, enterprises that have ties with prominent actors can hinder credit access of their rivals by gaining existing opportunities from those organizations. On the top of that, they can get the edge on against their competitors to outperformance and achieve more goals to survive such as increasing their capacity and producing goods and services (Silverman and Baum, 2002). Although Ahlers et al. (2015) bear out that alliances (agreements) with leading organizations do not have positive impact on access to finance, other studies exist in the literature and they confirm the positive influences of agreements or ties of firms on gaining credit (Gulati and Higgins, 2003; Higgins and Gulati, 2006; Zhang and Wiersema, 2009; Baum and Silverman, 2004; Ahlers et al., 2015). In line with those arguments, one of the hypotheses of this research can be set as following;

H_{3b}: R&D expenses, subsidies and affiliations of SMEs are positively related with their bank credit access.

3.7.3. Preannouncement of New Product and Access to Finance

Banks cannot be aware of firms’ entrepreneurial abilities, if enterprises do not signal them. For instance, in case of producing new products firms should make announcements to draw outsiders’ attentions. By doing so, they can show how they are quality and they have competencies to differ against their rivals (Stiglitz, 2000).

Preannouncement of the new products represents firms' attitudes and competencies that can be an important factor to predict the direction and volume of firms' expected cash flows. Preannouncements seem like messages that provide information for receivers in relation with firms' attitudes in the newly developed products. Firms can show plans of their new products and their activities that can serve as signals about their behaviors and attitudes of their preannounced product (Lee et al., 2016).

Moreover, preannouncement of a product is a reliable signal to alleviate issues regarding information asymmetry (Heil and Robertson, 1991; Lee et al., 2016) and to gain loans from external financiers (Courtney et al., 2016). Frequent preannouncements make receivers to understand firms' quality and provide a solution to cope with problems of information asymmetries (Heil and Robertson, 1991). By making preannouncement firms can signal their innovativeness (Lee et al., 2016; Heil and Robertson, 1991) and the receiver can perceive it as an indicator of firms' quality. For this reason, enterprises can convince financing organizations to give them credit (Heil and Robertson, 1991). When making preannouncements, enterprises can encounter with lower level of competition in the market, gain more profits and have more credits comparing with their rivals (Lee et al., 2016). Furthermore, by making announcements and cutting prices of their new products, enterprises can signal their competitiveness against their rivals (Heil and Robertson, 1991).

Considering to impact of the preannouncement of new products on credit access, by improving and presenting new and more products, enterprises can have more available credits (Jung, 2011; Ofek and Turut, 2013; Talke and Snelders, 2013). Lee et al. (2016) and Mina et al. (2013) also find that preannouncement of new products or its process make SMEs to gain credit. Because of these studies that affirm positive association between preannouncement of new product and access to finance, another hypothesis is supposed as following;

H3c: SMEs' preannouncement of new products is positively related with their access to bank finance.

3.8. Entrepreneurial Orientation and Relationship Lending to Access to Finance

Measurements of EO are not same with performance measurements that can be evaluated by hard data such as financial statement. Apart from those performance measurements, components of EO are considered as soft

information. For these reasons, they might not impact on credit evaluation and gaining loans in the event of transactional lending. In this regard, relationship lending can come into existence because it focuses on soft information that can be received by interaction between bank and SMEs (Beltrame et al., 2018). Under relationship lending, firms can improve their profits and entrepreneurial competencies that help firms to increase their services, products and performances (Agarwal and Elston, 2001).

In case of having non-competitive banking environment, banks might be in tendency to provide more credits for riskier firms that they have tight relations with (Jimenez et al., 2006). Besides, having lack of tangible assets, being less transparent and having more risky plans make SMEs to face with more financial barriers such as credit rationing. But having closer ties with banks can make firms to improve their ability to be more innovative (Brancati, 2015). Additionally, Cosci et al. (2015) investigate firms in Germany, France, Italy and Spain and state that lending technologies that use soft information such as relationship lending make firms to increase their innovative activities. Soft information also enables firms to face with less credit rationing issues. On the other hand, other transactional lending approaches that consider internal rating methods and involve hard information hinder innovativeness of enterprises (Cosci et al. 2015).

In this regard, with the combination of relationship lending and EO, firms can be more inclined to make innovation for their products (Audretsch et al., 2007). In that vein, Cosci et al. (2015) prove having longer relationship with banks also enables SMEs to increase their innovativeness by implementing new trends in their process and products. It also encourages to create and procure latest technologies (Cosci et al. 2015). Positive influence of length of relationship on innovativeness of entrepreneurs has been also confirmed by the study of (Alessandrini et al., 2010). Rotich et al. (2015) find that EO allows SMEs to concentrate on some operations that can create value addition for those firms. For instance, SMEs can focus on new product development activities by considering customers' demands that might influence performance of those firms positively (Audretsch et al., 2007).

Due to having positive impact of on firms' performance (Lim and Envick, 2011; Roxas and Chadee, 2012; Mahmood and Hanafi, 2013), activities related with EO can enable enterprises to get credits through relationship lending and so, SMEs can maintain these activities in long term (Rotich et al., 2015). For those reasons, EO of SMEs might be a significant indicator that effects lending

decisions of loan manager or officer during relationship. Loan officers can perceive that SMEs will be able to payback their credits and banks will not encounter with credit default problems (Voordeckers and Steijvers, 2007). In this case, SMEs can get credits and they can face with less credit obstacles (Moro and Fink, 2013).

In a similar manner, banks can become aware of characteristics of firms that are related with EO during relationship lending. Therefore, information asymmetry problem reduces (Voordeckers and Steijvers, 2007), then cost of credit becomes less expensive, loan conditions get better (Lehmann and Neuberger, 2001), and SMEs' credit access can be provided by loan officers and managers (Moro et al., 2015; Moro and Fink, 2010). In accordance with these studies, the researcher assumes the following hypothesis;

H₄: SMEs' EO and their relationship with bank in lending are positively related with their access to bank credit.

3.9. Signaling EO and Relationship Lending to Access to Finance

Due to difficulties in noticing firms' quality from financial indicators, banks are interested with value of some social indicators (Cohen and Dean, 2005) although most of them have no awareness related with characteristics and attitudes of entrepreneurs (Yan et al., 2015). In this regard, by signaling EO in relationship lending, firms may be able to make banks more informed about their entrepreneurial characteristics because signaling theory focuses on the behavioral intentions of insiders (entrepreneurs) that signal imperceptible and positive information about themselves to outsiders (Connelly et al., 2011).

The signaling theory is of prime importance in the relationship between bank and firm because activities and attitudes of enterprises send signals that banks receive to evaluate credit risk of those firms. In order to cope with information asymmetry issues in credit access, borrowers (entrepreneurs in this study) send signals (information) that are related with their characteristics (such as innovativeness, pro-activeness, risk taking, competitive aggressiveness and autonomy) while the lenders look for information and monitor the loan applicants. After assessing gained information, banks make credit decision.

Receiving those signals and making assessments regarding them make banks to provide credit access for SMEs. But the perception of those signals that can indicate firms' quality is related with the talent of the credit organizations to sight features of enterprises. Under the conditions of relationship lending, banks

can be more likely to observe those signals due to having close ties and more interactions with those businesses. But if banks and enterprises do not have close ties, banks can face with difficulties to see characteristics of firms such as their EO (Beltrame et al., 2018).

Another importance of signaling EO in relationship is that impact of EO signals can quickly deteriorate and lose its influences. For this reason, additional signals are required to overcome of information asymmetry problem. Thus, signaling EO in relationship lending give chances to firms to signal their entrepreneurial characteristics by frequently communicating and having long relationship with banks (Janney and Folta, 2006). Zhao et al. (2008) also posit that because of its influences on cost and availability of loans for borrowers, signaling is a significant factor in the relationship between lender and borrower.

In case of non-existence of relationship lending, signalers only can send EO signals during their credit application. But, during long relationship with banks, SMEs have several opportunities to repeat those signals to draw signal receivers' (credit officers or managers) attention to receive credit. This fact also alleviates the deterioration of influences of EO signals.

On the other hand, some studies in the entrepreneurship literature has found the positive relationship between relationship lending and entrepreneurial orientation. For instance, Micucci and Rossi (2013) clarify that longer relationship and high share of debt from main bank, improve operations that are related with R&D, development of new products and innovativeness. Therefore, signaling entrepreneurial orientation can be an important factor in relationship lending activities to have influence on the credit decision of banks. From this point of view, the research hypothesizes the following statement:

H₅: Signaling EO in SMEs' relationship with lender are positively related with SMEs' access to bank finance.

On the other hand, all null hypotheses are set up as nonexistence of positive relationship between variables. For instance, null hypothesis for H₅ is as follows:

H₀: There is not positive relationship between Signaling EO in SMEs' relationship with lender and SMEs' access to bank finance.

3.10. Research Design

This research applies positivist approach because it generally evaluates variables that are determined by previous studies and it also applies existing theories to set

up hypotheses. Moreover, quantitative, value-freedom, critical realism, hypothesis, deduction, objectivity, generalization, functionalism and cross-sectional analysis are other approaches that this research uses for research design. In general, this study is an empirical quantitative research because it collects data that is convertible to numbers and measurable statistically. The data was collected by a questionnaire survey.

Although the research applies objectivity and value-freedom approaches, it is impossible to do it properly. This is because the researcher played an active role in data collection process, made his own choice to work on this research topic and also followed the way of “Value-laden”. On the other hand, the researcher was completely independent from the observations that were gained survey responses, neither his opinions nor his interests influenced the results of the research to hinder biasness.

The paradigm of this research is functionalism. This is because this study clarifies an issue that enterprises face and provide some solutions to solve this problem with firms’ existing administrative status. This paradigm is also applied by a great number of business and management studies. This paradigm focuses on issues and is interested with practical methods to cope with those troubles (Saunders et al., 2009, p. 112). Regarding deductive approach, big picture of the problem can be more intelligible when it is divided to easily understandable parts (Holden and Lynch, 2004). Another significant feature of deductive approach is that notions should be activated to evaluate them by quantitative analyses (Saunders et al., 2009, p. 118). For these reasons, the researcher applied quantitative methods to investigate each idea separately on the purpose of solving whole problem.

Regarding epistemological position, this research applies critical realism that differs from direct realism by including two processes to experience the globe. One of them is existence of an object and its sense. Another is the “mental processing that goes on sometime after that sensation meets our senses”. (Saunders et al., 2009, p. 105). While direct realism only recognizes the first stage, critical realism considers multi-ply stages for the research of a person, a group or an institution such as a firm. Each of those stages has ability to alter the meaning of the researches that the researchers work on. Those are the reasons why this study adopts critical realism. To make generalization and hit its targets such as making better estimations and statements about the study, the researcher chose adequate sample size for selected attitudes and issues of SMEs. By doing

so this research fulfilled the requirements of generalization (Holden and Lynch, 2004).

In order to establish causal relationship between variables, to find new opinions about research problem and to identify current and reliable conditions of firms and entrepreneurs, the thesis uses an exploratory and descriptive research. Those facts are important to see general view of the population that the researchers want to gain information from (Saunders et al., 2009, p. 134). Due to having limited time in collection of the data by surveys, this research is also a cross-sectional study.

3.11. Data Collection Methods and Data

Both primary and secondary data were used to support applicability of this empirical study. The collection of primary data was performed by a questionnaire survey. Structured self-administered questionnaires (internet mediated) were developed to gain information from SMEs. Respondents of these questionnaires were authorized people such as owners, shareholders, CEOs and managers of SMEs. This is because owners or an authorized people of firms in credit application have more information about their firms' characteristics, competencies (Certo, 2003) and credit application processes.

The data collection process was performed between June, 2018 to October 2018 by the researcher. When a respondent fulfilled the online questionnaire or the fulfilled survey by a word document, the researcher carefully checked all responses for each survey questions then made a list for all the responses in a Microsoft excel document. Although all fulfilled surveys were entered, the questionnaires that had missing data were taken out from analyses. The total number of questionnaires was 524, but due to having missing values and inadequate responses, 45 of them were not included to analyzes by the researcher. For instance, the researcher noticed that some respondents did not follow the directives to fulfill the survey.

The questionnaire was prepared in English and then translated to Turkish. Back-translation technique was applied by the researcher for the translation of the survey questions. According to Brislin, (1970) in the back-translation method, "Two bilinguals are employed, one translating from source to target language, the second blindly translating back from the target to the source". The scholar also refers that two questionnaires in the original language will be in existence

for the researcher and source, target and back-translated versions should be compatible with each other to confirm the adequate translation.

In this vein, two bilingual experts who were good at both English and Turkish helped the researcher in translation process. While one of them is acquainted with English speaking culture and his mother tongue is Turkish, another expert's mother tongue is English and he has adequate knowledge about Turkish culture and language. Both of them were well informed about the terms that were used in the questionnaire. Firstly, Turkish expert translated to the survey questions from English to Turkish. After that, Turkish questionnaire was translated to English again. So, the researcher followed the way for the translation that processed as source questionnaire to target questionnaire, then target questionnaire to source questionnaire. Both of those original and back-translated questionnaire were compared and then the final version of the questionnaire was created and delivered to potential respondents of the research for the pre-testing.

To increase response rate, validity and reliability of the data, the research applied a pilot survey questionnaire in twofold. Firstly, the researcher sent to the pilot survey to loan officers and loan managers who were experts in SME financing in some banks of Turkey. Those people checked whether the questions and the answer choices in the survey were understandable and logical regarding meaning, ranges and scales or not. Then, the researcher updated the survey in line with recommendations and remarks of those experts.

In the second stage of the pilot testing, the questionnaire was also pre-tested by potential respondents in Turkey. In an attempt to make the survey questionnaires more understandable from the respondents' point of view, the revised questionnaire was delivered to some owners and managers of SMEs. The questions or answers that caused misunderstandings and had nonsense or grammatical errors were corrected regarding the comments of the managers and owners of some enterprises. Moreover, some feedbacks were received to make respondents to fulfill the questionnaire easier and in shorter time. After all of those revisions and corrections, the final version of the survey questionnaire was delivered to potential respondents.

Dichotomous (yes, no), categorical, ordinal(ranked) and five points Likert type questions were employed to scale the responses from the questionnaires. Demographic characteristics of firms and respondents were asked by nominal and ordinal scales. For instance, gender is used as a dichotomous (descriptive) data because it has two sub-categories that are female and male. Moreover,

measurements of credit risk and signaling entrepreneurial orientation, are used as dichotomous (descriptive) data and measured by yes/no questions. Regions, sectors, the difficulties that firms face to fulfill the requirements of banks and the reasons for the rejection of credit application were based on nominal (descriptive) data. The data type for dimensions of EO, and information asymmetry is ranked(ordinal) data. To collect data for these variables the study applied 5 Point Likert Scale. Moreover, the types of data for the job position of respondents and the legal structure of firms were consists of categorical, nominal data.

On the other hand, size of firm, work experience, career experience, education, age, length of relationship, closeness of communication and exclusivity or house bank status are scaled as categorical ranked (ordinal) data. All survey questions were created and validated by previous researches. Secondary data was gathered from several sources such as academic articles, journals, books, prepared reports of government and some corporations and industry statistics.

Table 3. 2: Measurements in the Questionnaire

Constructs	Measurements
Entrepreneurial Orientation	
Innovativeness	<ol style="list-style-type: none"> 1. Our company has had a reputation of an innovator. 2. We have regularly developed new products and services in our company. 3. We have invested a lot of money into the development of new methods and technologies.
Risk Taking	<ol style="list-style-type: none"> 1. Our enterprise has shown a strong proclivity for his risky projects. 2. I perceive considerably risky the strategy that the enterprise has followed. 3. The firm has carried out risky projects to increase the performance.
Proactiveness	<ol style="list-style-type: none"> 1. Our firm has been in the tendency to be ahead of others in introducing products and services. 2. Our firm has often tried to initiate actions to competitors, for which competitors respond. 3. We have sought to exploit predicted changes in our target market ahead of our competitors.

Competitive Aggressiveness	<ol style="list-style-type: none"> 1. Our activities in relation to competition has often been aggressive. 2. We have often done activities that are directed against competitors. 3. Our firm has had a reputation of using price reduction for new product or service introduction.
Autonomy	<ol style="list-style-type: none"> 1. The staff in our company has reasonably been autonomous with the implementation of specific business operations. 2. We have supported the initiative of my employees in identifying and implementing of business opportunities. 3. The owners of company act independently.
Relationship Lending	
Length of relationship	How many years have you been transacting with the bank?
The closeness of communication	How many times have you been in contact with this bank? (in person, email, telephone etc)
Exclusivity of house bank status	How many percent of your total debt financing was provided by this bank?
Signaling Entrepreneurial Orientation	
Applied and Gained certifications (AGC)	<ol style="list-style-type: none"> 1. Has your firm applied patent or certification? (Quality certifications such as ISO 9000, ISO 14000 etc) 2. Has your firm applied trade mark or license? (occupational license etc) 3. Has your firm had patents or certifications? 4. Has your firm had trademarks or licenses?
R&D expenses, subsidies and affiliations (RDE)	<ol style="list-style-type: none"> 1. Have you invested money for know-how, R&D, advertising activities in order to start producing new and significantly improved product or services? 2. Have you had affiliations or agreement with the prominent and legitimate actors (leading firms, governments) regarding to marketing agreements, R&D alliances, product licensing agreements, equity joint ventures, strategic alliances? 3. Has your firm applied R&D subsidies or grants? 4. Has your firm received R&D subsidies or grants from national, regional or local governments or Credit Guarantee Fund?

Preannouncement of new product (PNP)	<ol style="list-style-type: none"> 1. Our firm has introduced new products or services to the market at a future date. 2. When our company makes preannouncement, it includes information regarding planning, pricing, product timelines, and product specifications and characteristics. 3. Our company has made preannouncement from tv, radio, journals, web site etc.
Information Asymmetry	
<ol style="list-style-type: none"> 1.The firm's financial statement has not checked and certified by an internal or external auditor in the last 3 completed fiscal year. 2.The firm usually does not provide complete information to the bank. 3.The firm usually does not provide information to the bank on time. 	
Credit Risk	
<ol style="list-style-type: none"> 1.Have you ever had a problem with loan repayment in last 5 years? 2.Did the bank request collateral more than the credit amount that you applied for? 3.Did the company desire more credit at market interest rate? 4.Did the company demand more credit without gaining it? 	

Source: Own processing of the researcher, based on validated measurements

3.12. Sample and Sampling Methods

The sample of this research includes SMEs that made credit application in last three years. The respondents of the surveys were authorized people in SMEs who played an active role in recent credit application, had enough information about firms' competencies and activities and had closer relationship with banks' credit officers such as owners, shareholders, CEOs and finance and accounting managers. Because of its difficulty to find those respondents, the researcher firstly asked for e-mail lists of SMEs from several chamber of commerce in Turkey and the sample was chosen regarding to this e-mail lists. Stratified random sampling method was applied to select SMEs from different geographical regions of Turkey. By doing so SMEs were divided to different strata that consisted of all 7 regions of Turkey. The number of firms that involved in the sample for each region was identified by the proportion of the active SMEs in each region to the total numbers of the operating SMEs in Turkey. Then, the researcher sent emails to the randomly selected firms to make

them fulfill the attached survey in the emails and also a link of an online google form was presented in the email.

At this stage, to select above mentioned respondents, the study employed purposive sampling method. This sampling is a kind of non-probability sampling methods and it is needed to choose respondents whose experiences and competencies enable them to understand the phenomena in survey questions. In this regard, the researcher gave detailed information in the e-mails about which SMEs and which people in these SMEs could fulfill the survey.

Table 3. 3: Share of SMEs' Population in Each Region Of Turkey And The Sample Of The Research

The Regions of Turkey	Population of SMEs	The sample of the research
Marmara	38%	185 (38.6%)
Ege	17%	81 (16.9%)
İç Anadolu	16%	47 (9.6 %)
Akdeniz	11%	51 (10.6%)
Karadeniz	9%	41 (8.6%)
G. Doğu Anadolu	6%	39 (8.1%)
Doğu Anadolu	3%	35 (7.3%)
Total	100%	479 (100%)

Source: OECD 2004, Small and medium-sized enterprises in TURKEY: Issues and policies.

According to OECD report (2004), more than half of SMEs (55% of total SMEs) were located in two regions, namely Marmara and Ege and the sample of this research has similar distributions with those percentages (55.5%). As it is provided in the table, in the sample, the proportions of other regions namely, İç Anadolu, Akdeniz, Karadeniz, Güneydoğu Anadolu and Doğu Anadolu are 9.6, 10.6, 8.6, 8.1 and 7.3 respectively.

In order to determine the sample from the population, Cochran's formula was performed. The level of confidence, precision (sampling error) and variability are important factors to consider to select a convenient sample size (Miaoulis, and Michener, 1976). An Introduction to Sampling. Dubuque, Iowa: Kendall/Hunt Publishing Company). Sampling error is specified as 5% in most of studies ($\alpha = 0.05$) while the required level of confidence is 95%. For a large population that is unknown or more than 1 million, variability is supposed as 0.5 (maximum variability $p=0.5$) and q is $1-p$ that is to say 0.5.

Considering those factors Cochran (1963) has found the following formula:

where, n = size of the sample

$$n_0 = \frac{Z^2 pq}{e^2}$$

Z= confidence level at 95% (the value of 1.96 is gained by statistical tables that include field below the normal curve)

$$n_0 = \frac{1.96 (0.5)(0.5)}{(0.05)^2} = 384$$

According to Cochran's formula the appropriate sample size is 384. But, the number of the respondents that the study has is 479. Thus, the sample of this research is more than the required number of the sample size.

Regarding the required sample size for binary logistic regression models, the studies of Long (1997) and Peduzzi et al. (1996) suggest some formulas and numbers. For instance, according to Long (1997), 500 cases are enough to run logistic regression models. The author also reveals that 10 cases should be in existence for each predictor. In the logistic regression models of this study, the maximum number of independent and control variables (predictors) are ten. (5 for EO, 3 for rle, and 2 for information asymmetry and credit risks). Thus, ten times 10 equals 100 that should be the minimum number for sample size to not to be called as risky according to Long's (1997, p. 54) sample size definition in logistic regression. Similarly, Peduzzi et al. (1996) confirm that the number of cases for each variable less than 10 induces biased regression coefficients. The scholars also proposes a formula is as follows;

$$N = \frac{10 k}{p}$$

10: ten times the number of predictors

k: number of covariates

p: smallest percentages of positive and negative events =382 accepted positive, 97 rejected negative credit applications $97/479 = 0.2025$

Regarding this formula, the sample size calculation for this study is :

$$N = \frac{10 \times 10}{97 \div 479} = 493$$

Considering to the identification of „adequate“ sample size of Long (1997) that is 500 and the result from formula of Peduzzi et al. (1996) that is 493, the sample size of this research is compatible with them. This is because the number

of respondents for this research is 479. Thus, it meets with the sample size requirement of a binary logistic regression model.

3.13. The Applied Methods for Data Analysis

The research applied parametric and nonparametric tests by using collected survey responses to perform the analyses. For instance, to evaluate non-bias response of two different groups regarding relationship lending, Kolmogorov-Smirnov test was employed. Furthermore, binary logistic regression analysis was used to examine the relationship between the dependent and independent variables. In the entrepreneurship literature, logistic regression is also applied by many researchers that especially focus on credit risk issues of SMEs (Altman and Sabato, 2007; Behr and Güttler, 2007; Fidrmuc and Heinz, 2009; Pederzoli et al., 2013) because results from logistic regression technique have efficiency and robustness (Zhu et al., 2016).

On top of that Wald Statistics was performed to analyze the significance of each independent variable in logistic regression models. The study also carried out Hosmer and Lemeshow test and considered p values from Chi Square Test to assess whether the created models are fit or not. In addition, the study considered multicollinearities between independent variables by presenting scores from Variance Inflation Factors (VIF) and tolerances. The research used IBM SPSS Statistics 23 version to make analyses for logistic regression models, correlations and multicollinearities between independent variables and descriptive statistics.

Moreover, both SPSS Statistics 23 and STATA Statistics/Data Analysis 13th version performed for the reliability variables. Furthermore, the researcher gained fulfilled surveys that were created via google forms and word documents. Therefore, to investigate non-response bias of responses of two different groups of surveys, Independent sample t test, Chi-square and Kolmogorov-Smirnov statistics were performed.

3.14. Validity and Reliability of Constructs

Validity and reliability are crucial factors for the accuracy and the consistency of the measurements and constructs of a research. Pilot testing, the design and the structure of the questionnaire have also effects to increase reliability and validity. This is because validity and reliability allow researcher to collect the data accurately and consistently. The accuracy of measurements also impacts the strength of the implications of a research. For this reason, problems in reliability

and validity can cause errors in measurements, hinder to get accurate data and to make correct suggestions regarding collected data. Moreover, understanding and responses of a survey respondent should be compatible with the researchers' intentions of asking those questions to collect required data.

Internal validity reveals whether the survey is able to measure what the researchers aim to measure. The researchers consider content, predictive and construct validity when they view the validity of their questionnaire (Saunders et al., 2009, p. 366). Moreover, external validity that indicates the competency of making generalization about the results of the study for also other objects (in case of this study, it is for other SMEs) is also considered by other studies when discussing validity.

Regarding validity of this research, all measurements that were used in the survey to measure the constructs, were taken from previous studies and these constructs had been created and validated by them. The research also adopted and adapted survey questions from those previous questionnaires. Only small changes were made (because of cultural and language differences) in the survey questions to increase not only validity but also reliability and response rate.

Reliability implies the consistency of the measurements to show same results "at different times" and "under different conditions" (Saunders et al., 2009, p. 367). In other words, to understand whether the measurements are reliable or not, consistent results from those measurements need to be found at various times and under any circumstances.

According to Field (2009), a measure should be consistent to represent the construct that it evaluates. Each measure of a construct should show consistent findings with the construct for internal consistency. To test internal reliability, most of researchers apply Cronbach's alpha that correlates each items of a questionnaire with other items in the questionnaire (Saunders et al., 2009, p. 367).

As other studies, Cronbach's alpha was used to test the reliability of the variables of this research. The values from Cronbach's alpha for all variables were varied from 0.672 to 0.914 as it was indicated in the following table 3.4. Most of studies consider 0.70 as the threshold value of Cronbach's alpha for the reliability because in his own study, Cronbach (1951) reveals the generally accepted value of reliability as 0.70. Cronbach' alpha for one of measurements of this research, namely R&D expenses and subsidies is less than this threshold value. But, the values of Cronbach's alpha between 0.6 and 0.7 were accepted as

reliable by some of studies (Hair et al., 2006; Griethuijsen et al., 2014; Moss et al., 1998; Hinton et al., 2004). For these reasons, the reliability of all dimensions of this research is acceptable.

Table 3. 4: Reliability of Scales

Indicators	Items	Cronbach's alpha
Innovativeness	3	0.828
Risk Taking	3	0.779
Proactiveness	3	0.760
Competitive Aggressiveness	3	0.702
Autonomy	3	0.714
Applied or obtained certifications	4	0.839
R&D expenses and subsidies	4	0.672
Preannouncement of new products	3	0.834
Credit risk	4	0.813
Information asymmetry	3	0.914
Relationship lending	3	0.761

Source: Survey data, 2018

To increase Cronbach's alpha of autonomy, one item can be deleted. In this case, Cronbach's alpha becomes 0.774. But with 3 items, the reliability of autonomy is still higher than 0.7 (0.714). For this reason, the research does not take out any items of autonomy. According to Zumbo et al. (2007), ordinal alpha is based on polychoric correlation matrix and it measures binary and ordered categorical items more accurately than Cronbach's alpha. For this reason, the reliability analyses for binary and ordered categorical items of this research were performed by polychoric correlation. In this regard, STATA program also was run by the researcher to have reliability values of binary and ordered categorical items.

3.15. Non-Response Bias of Responses

The fulfilled questionnaires were gained by two different ways. 285 respondents sent their responses by online via google forms. On the other hand, 194 fulfilled questionnaires were sent by emails with attached Microsoft word documents. In order to analyze non-response bias of these groups, independent sample T-test was applied by the researcher for the responses from Likert scale. As shown in

table 3.5., statistically significant differences do not exist between these groups due to having no significant p values from all of indicators.

Table 3. 5: Non-response Bias of Responses for Likert Scale Questionnaires

Indicator	t value	Sig. (2 tailed)	Mean Difference
Innovativeness	.662	.508	.069
Risk Taking	-1.258	.209	-.119
Proactiveness	-.218	.828	-.019
Competitive Aggressiveness	-.731	.465	-.065
Autonomy	.463	.644	.037
Information asymmetry	-.864	.388	-.110
Preannouncement of new product	-.160	.873	-.018

Source: Survey data, 2018

On the other hand, to analyze whether two groups are different regarding to binary data (for yes/no questions) Chi-square test was performed. P values from Chi-square are not less than 0.05 significance level as they are indicated in Table 3.6. Therefore, there are not significant differences between selected groups in regarding binary data that consists of the questionnaires related with AGC, R&D expenses and credit risk.

Table 3. 6: Non-response Bias of Responses for Binary Data (yes/no questions)

Indicator	Significance (2-sided)
Applied or obtained certifications	0.505
R&D expenses and subsidies	0.548
Credit Risk	0.201

Source: Survey data, 2018

All items that are used to evaluate relationship lending, are based on categorical ranked data. To evaluate non-bias response of these groups regarding relationship lending, Kolmogorov-Smirnov test was employed. Due to having p values more than 5% significance level in Table 3.7, it can be stated that the distributions of the items of relationship lending are same across different groups.

Table 3. 7: Non-response Bias of Responses for Categorical Ranked Data

Indicator	Significance
Length of relationship	0.186
The closeness of communication	0.269
Exclusivity of house bank status	0.843

Source: Survey data, 2018

The results from independent sample t test, Chi-square and Kolmogorov-Smirnov tests confirm that the responses from online questionnaire and word documents do not differ. Therefore, the research proves that there is not any issue regarding biasness of responses.

3.16. Descriptive Statistics for SMEs and Respondents in the Sample

The survey was collected from 479 SMEs that were located all regions of Turkey. Those firms had operated in 11 various sectors, namely, trade, service, mining, manufacturing, construction, transportation, agriculture, real estate, financial services, textile and information. Moreover, the number of firms in each sector and the percentage of each sector in the sample is shown in Table 3.8. Most of firms-246 SMEs (51.4% of the total sample) were from manufacturing sector, while 25.3% and 13.6% of the sample were from trade and service sectors respectively.

Table 3. 8: Sectors of SMEs in the Sample

Sector	Number of responses	Percentage (%)	Sector	Number of responses	Percentage (%)
Trade	121	25.3	Agriculture	21	4.4
Service	65	13.6	Real estate	3	0.6
Mining	15	3.1	Financial Services	2	0.4
Manufacturing	246	51.4	Textile	54	11.3
Construction	38	7.9	Information	4	0.8
Transport	11	2.3			

Source: Survey data, 2018

Note: The percentages in the table 3.8 do not up to 100% because the sector of firms was asked by a multiple answer question.

The firms in the sample also consisted of four different age categories. Age of SMEs was measured by number of years that a firm had been operating. As presented below, Table 3.9 depicts all detailed information about the number of firms in each age and size categories. Most of firms around 70.4% of the total sample had been operating for more than 10 years. Regarding to size of firms, 42.6 % (204 firms) of the analyzed firms were under small enterprise segment, while micro and medium-sized enterprises was around 29.9% (143 firms) and 27.6% (132 firms) of the total sample respectively.

Table 3. 9: Age and Size of SMEs in the Sample

Firm age	Number of responses	Percentage (%)	Size of firms	Number of responses	Percentage (%)
Less than 2 years	18	3.8	Micro	143	29.9
2 to 4 years	34	7.1	Small	204	42.6
5 to 10 years	90	18.8	Medium	132	27.6
More than 10 years	337	70.4			

Source: Survey data, 2018

When it comes to legal structures of the firms in the research sample majority of firms is limited liability. 312 respondents (around 65.1% of the total sample) reported that their companies were structured under limited liability. Moreover, legal structure of 116 firms (24.2%) were joint stock company, while other 50 enterprises (10.4) worked as sole proprietorship. On the other hand, only a business had legal structure structure as unlimited company.

Regarding to credit access of the enterprises, credit applications of 79.75% of firms (382 enterprises) in the sample were accepted by banks. However, 97 SMEs (around 20.25% of total sample) could not receive loans due to being rejected in their credit applications. Regarding to size of the rejected firms, 45% (44 firms) of them are microenterprises, while the percentage of rejected small and medium enterprises are 38% (37 firms) and 17% (12 firms) respectively. 31% of microenterprises' bank credit applications were rejected , while the percentages from this indicator for small and medium-sized enterprises were 18% and 12% respectively. These percentages also support the positive correlations between firm size and access to finance that is indicated in table 3.10. This positive correlation is compatible with the previous studies that

confirm the fact that when firm size becomes larger, rejection rate in credit applications decreases (Cenni et al., 2015; Dong and Men, 2014).

Table 3. 10: Correlation Between Size of Firms and Access to Finance (ATF)

		ATF	Size of SMEs
ATF	Pearson Correlation	1	,177**
	Sig. (2-tailed)		,000
Size	Pearson Correlation	,177**	1
	Sig. (2-tailed)	,000	

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Survey data, 2018

To emphasize the reasons of rejections in bank credit applications of SMEs, Table 3.11. is presented below. As indicated in this table, problems regarding credit history or credit report was the most common reason for the rejected SMEs (27 firms, 27.8% of total rejected applications). Around 21.7% of rejected SMEs stated that banks' concerns about their firms' debt amount was the reason of their rejection. Next, the issues related with collateral and profitability of enterprises were other most given reasons by SMEs for their rejected credit applications (19.6% and 16.5% respectively).

Table 3. 11: The Reasons of Rejections for the Credit Application of SMEs

The reasons	Number of responses	Percentage (%)
Problems with credit history or credit report	27	27.8
Banks' concerns about level of debt already incurred	21	21.7
Collateral or co-signers unacceptable	19	19.6
Insufficient profitability	16	16.5
Had a short history of firm	6	6.2
Incompleteness of loan application	3	3.1
Did not meet with the bank's liabilities	3	3.1
Bank did not like my business plan	1	1.0
No response	1	1.0

Source: Survey data, 2018

Considering the credit requirements that created difficulties for SMEs in their credit access, 215 respondents (44.9% of the total respondents) stated that providing collateral was the hardest achievable requirements for them. Cost of loans, having an adequate credit reputation, having lower amount of debt and having sufficient amount of cash were other hard achievable requirements that the firms faced in their credit application. However, 50 respondents reported that they did not face any difficulties to access to finance (10.4% of the total respondents). Table 3.12 indicates the list of the hardest achievable credit requirements for the sample of Turkish enterprises.

Table 3. 12: The Hardest Credit Requirements for SMEs to Fulfill in Their Credit Application

Hardest achievable credit requirements	Number of responses	Percentage (%)
Providing enough collateral	215	44.9
Cost of loans	109	22.8
Having an adequate credit reputation	65	13.6
Having lower amount of debt	60	12.5
Having sufficient amount of cash	52	10.9
No difficulties	50	10.4

Source: Survey data, 2018

Note: Percentages do not up to 100% because the question regarding to obstacles of credit access was asked by a multiple answer question.

The survey had also some questions to identify the characteristics of the respondents. Regarding to gender, 83.5% (400 respondents) of the total respondents were male, while the percentage for female respondents was 16.5% (79 respondents). The age of the respondents was categorized under three different categories. Most of the respondents' age were more than 45 years old (195 respondents, 40.7% of total respondents), while 178 respondents (37.2%) were between 36 and 45 years old. The number of respondents that were younger than 36 years old was 106 (22.1%).

The majority of respondents (353 respondents, 73.7% of total respondents) had sectoral experience more than 10 years, while only 8.3% (40 respondents) of the

total respondents had worked in the same industry less than 5 years. Other 86 respondents (18%) had experience in the same sector between 5 to 10 years.

Table 3. 13: Job Positions and Educational Status of the Respondents in the Sample

Job position	Number of respondents	Percent (%)	Education	Number of respondents	Percent (%)
Owner	190	39.7	Less than high school	23	4.8
CEO	52	10.9	High school	54	11.3
Shareholder	95	19.8	Associate degree	27	5.6
Finance manager	74	15.4	Bachelor	276	57.6
Accounting manager	68	14.2	Master or Phd	99	20.7

Source: Survey data, 2018

As mentioned previously in this research, it was required in the survey's explanation that the respondents could be responsible person in credit application process or made last credit applications of the firms that they had worked for. The number of those authorized people regarding to their job position is indicated Table 3.13. According to this table, the majority of the respondents (190 respondents, 39.7% of the total respondents) were owners of SMEs. Moreover, 95 respondents (19.8%) were shareholders, while the number of finance and accounting managers that fulfilled the surveys were 74 (15.4%) and 68 (14.2%) respectively. The number of CEOs who were respondents in this research was 52 (10.9%).

On the other hand, Table 3.13. also depicts the educational status of respondents. The survey participants that had bachelor degree, had the majority by 57.6% (276 participants) while only 4.8% (23 respondents) of the total respondents had lower education level than high school. Furthermore, the number respondents that had master or phd degree was 99 (20.7%).

3.17. Research Models

Logistic regression models are used to test the hypotheses that are related with the positive relations between the independent variables and the dependent

variable. The dependent variable, ATF is enumerated as 1 in case of credit access of SMEs, while 0 means that SMEs is rejected in their credit applications. These models are also presented below with the objectives to make the models more understandable.

Model 1- EO and access to finance

Objective: To analyze the relationship between EO and bank credit access of SMEs in Turkey.

Multiple Logistic regression model: $Y_i = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_5 X_5)$

X_{1-5} : Independent variables (Innovativeness, Risk taking, Pro-activeness, Competitive aggressiveness, Autonomy)

Y: Dependent variable (access to bank finance by SMEs)

β : Regression coefficients

β_0 : Constant or intercept term

Model 2- Relationship Lending and access to finance

Objective: To investigate the direct effects of relationship lending on bank credit access of SMEs in Turkey.

Multiple Logistic regression model: $Y_i = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3)$

X_{1-3} : Independent variables (Length of relationship, Closeness of communication, Exclusivity or house banks status)

Y: Dependent variable (access to bank finance by SMEs)

β : Regression coefficients

β_0 : Constant or intercept term

Model 3- Signaling EO and access to finance

Objective: To examine the association between signaling entrepreneurial orientation and acquiring bank loans.

Multiple Logistic regression model: $Y_i = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3)$

X_{1-3} : Independent variables (Applied or obtained certifications, R&D expenses and subsidies, Preannouncement of new products)

Y: Dependent variable (access to bank finance by SMEs)

β : Regression coefficients

β_0 : Constant or intercept term

Model 4- EO, relationship lending and access to finance

Objective: To view impacts of both entrepreneurial orientation and relationship lending on access to finance.

Multiple Logistic regression model: $Y_i = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{10} X_{10})$

X_{1-8} : Independent variables (Innovativeness, Risk taking, Proactiveness, Competitive aggressiveness, Autonomy, Length of relationship, Closeness of communication, Exclusivity or house bank status)

Y: Dependent variable (access to bank finance by SMEs)

X_{9-10} : Control variables (Credit risk and information asymmetry)

β : Regression coefficients

β_0 : Constant or intercept term

Model 5- Signaling EO, relationship lending and access to finance

Objective: To find out the effect of signaling EO and relationship lending on credit access of SMEs in Turkey.

Multiple Logistic regression model: $Y_i = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_8 X_8)$

X_{1-6} : Independent variables (Applied or obtained certifications, R&D expenses and subsidies, Preannouncement of new products, Length of relationship, Closeness of communication, Exclusivity or house bank status)

Y: Dependent variable (access to bank finance by SMEs)

X_{7-8} : Control variables (Credit risk and information asymmetry)

β : Regression coefficients

β_0 : Constant or intercept term

3.18. Assessing Model Fit

To assess overall fit of the models, observed and predicted values of the outcomes are usually performed in logistic regression. In this regard, the log-likelihood is a significant indicator that presents the probabilities associated with the predicted and actual outcomes. -2 log likelihood statistic also assesses how good the overall model estimates variations in the dependent variable namely access to finance. Having low values from log-likelihood statistic is good for model fit because it means that most of the observations are clarified by the model. This statistic measures how poorly the model predicts the decisions, the smaller the statistic the better the model.

Table 3. 2: Assessing the Models' Fit

Models	-2 Log likelihood					Cox-Snell R ² and Nagelkerke R ²		Hosmer and Lemeshow		
	Base model's -2 LL statistics	-2 L likelihood with predictors	Chi-Square	df	Sig	Cox-Snell	Nagelkerke	Chi-square	df	Sig
Model 1	482.694	471.975	10.719	5	0.057	0.022	0.035	14.927	8	0.103
Model 2	482.694	456.398	26.296	3	0.000	0.053	0.084	6.765	8	0.562
Model 3	482.694	350.047	132.647	6	0.000	0.242	0.381	6.909	8	0.546
Model 4	482.694	326.896	155.798	10	0.000	0.278	0.437	4.422	8	0.817
Model 5	482.694	326.750	155.944	8	0.000	0.278	0.438	6.448	8	0.597

Source: Survey data, 2018

The reduction in the -2 log likelihood is also used to assess overall model fit. The value of the -2 log likelihood is 482.694 for base model. Adding the constructs of EO in model 1 has decreased the base model's -2 LL statistic by 10.719 that is the chi-square value presented in the table 4.11 and it is significant at 0.10 percent significance level (p=0.057). -2 LL statistic becomes 471.975. This decrease in -2log likelihood statistic not only means that less unexplained information exists after creating model 1 compared to base model but also suggests that the model 1 is better at predicting to access to finance than base model that only consists of the constant. This case also same as other models that are presented in this table. Including different predictor variables in other models has also reduced -2 log likelihood statistics.

The increases in chi-square value indicate better prediction of access to finance because it causes big differences between the base model and the created model. Under the -2 log likelihood column, Chi-square values are presented in Table 3.14. The values of chi-square for the models are 10.719, 26.296, 132.647, 155.798 and 155.944 respectively. All p values from Chi-square are less than 0.10 significance level. These results also suggest that adding predictor variables to the model has increased the ability to predict whether the constructs provide access to finance or not, therefore, they are good predictors.

Moreover, the Cox and Snell R² and the Nagelkerke R² (measurements of pseudo R²) are also important indicators of the assessment of overall model fit. The basic objective of these measurements are to evaluate how good logistic models fit and having greater values from these measurements shows better model fits (Ho, 2014). These measures also show how much proportion of

variability in dependent variable is counted by independent variables. For instance, the Nagelkerge R^2 values for model 5 is 0.438. This value means that around 43.8% of variation in dependent variable (access to finance) is explained by the predictors of model 5 namely, AGC, RDE, PNP, LOR, COC, EHS, CR and INFA.

Another indicator of model fit is the Hosmer and Lemeshow test which compares whether observed and predicted values of the outcome variable are compatible or not. When the difference between expected and observed values become greater, the model becomes less predictive. In comparison with p values in -2 log likelihood, the p values that are not significant, indicate good model fit. The results from this test illustrates the non-existence of differences between actual and predicted values in access to finance for all models in this study. For example, the significance of model 5 is 0.597 and it is greater than the significance level of 0.05, which indicates that the model fits the data.

To sum up, predictor variables of the logistic regression models that the study examines has improved the base model. This is because the -2 log likelihood values for each model has reduced. Moreover, higher values from the results of Cox-Snell R^2 - Nagelkerke R^2 also confirmed the improvement in the base model. The existence of non-significant p values of Hosmer and Lemeshow test also affirmed how good the models fit with the data by illustrating nonexistence of the differences between observed and predicted values in dependent variable.

3.19. Testing Assumptions of Logistic Regression Models

3.19.1. Linearity

One of the assumptions of logistic regression is linearity. With the intent of examining this assumption, “interaction term between the predictor and its log transformation” are taken into consideration (Field, 2009, p.273). Therefore, the research tests whether the interaction terms are significant or not. The results from linearity analyzes are presented below by Table 3.15.

Table 3. 35: Linearity Assumption for the Logistic Regression Models

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
LOGISTIC REGRESSION MODEL-1						
Lninno by Inno	,247	,568	,189	1	,664	1,280
Lnrit by Rit	-,293	,516	,321	1	,571	,746
Lnpro by Pro	,774	,727	1,132	1	,287	2,168
Lnca by Ca	,066	,562	,014	1	,906	1,069

Lnauto by Auto	-,823	,751	1,200	1	,273	,439
LOGISTIC REGRESSION MODEL-2						
LinLOR by LOR	1,769	1,103	2,572	1	,109	5,864
LinCOC by COC	,952	,986	,931	1	,335	2,591
LinrEHS by EHS	-,710	1,069	,441	1	,507	,492
LOGISTIC REGRESSION MODEL-3						
LinAGC by AGC	2,392	2,822	,719	1	,397	10,933
LinRDE by RDE	1,889	2,638	,513	1	,474	6,614
LinPNP by PNP	,147	,553	,071	1	,790	1,158
LOGISTIC REGRESSION MODEL-4						
Lninno by Inno	-,081	,737	,012	1	,912	,922
Lnrit by Rit	-,075	,652	,013	1	,908	,927
Lnpro by Pro	1,435	,899	2,548	1	,110	4,199
Lnca by Ca	-,832	,739	1,266	1	,260	,435
Lnauto by Auto	,390	,959	,166	1	,684	1,477
LinLOR by LOR	,992	1,413	,493	1	,483	2,697
LinCOC by COC	,110	1,293	,007	1	,932	1,117
LinEHS by EHS	-,694	1,410	,242	1	,623	,500
Lincr by Cr	3,237	2,888	1,257	1	,262	25,464
Lininfa by Infa	,953	,881	1,169	1	,280	2,592
LOGISTIC REGRESSION MODEL-5						
LinAGC by AGC	3,434	3,573	,924	1	,337	30,992
LinRDE by RDE	2,463	3,477	,502	1	,479	11,740
LinPNP by PNP	,324	,711	,207	1	,649	1,382
LinLOR by LOR	,659	1,681	,154	1	,695	1,932
LinCOC by COC	,389	1,569	,062	1	,804	1,476
LinEHS by EHS	-1,546	1,663	,864	1	,353	,213
Lincr by Cr	4,874	3,522	1,916	1	,166	130,878
Lininfa by Infa	,605	1,087	,310	1	,578	1,832

Source: Survey data, 2018

Significance of the interaction terms that are less than .05 cause violation in the assumption of linearity. According to Table 3.15., all significance value of interaction terms for EO, signaling EO, relationship lending, credit risk and information asymmetry dimensions are greater than .05. Those values differ from .109 to .932, thus they ensure the linearity assumption for the logit models of this research. For instance, the significance values for interaction terms of the measurements of relationship lending are .109, .335 and .507 respectively. These values are greater than .05, hence, it is proved that the linearity assumption has not violated by LOR, COC and EHS.

3.19.2. Independence of Errors

According to Field (2009, p. 273), this assumption of logistic regression is similar with ordinal regression. It aims to explain whether the cases in the data are related or not. For instance, same SMEs in the data cannot be gauged at “different points in time”. The residual terms should not be dependent. Durbin Watson test can be performed to analyze this assumption and shows the autocorrelation between errors (Field, 2009, p. 220). The values of the logistic regression models of this research from Durbin-Watson Test statistics are demonstrated by Table 3.16.

Table 3. 16: Independence of Errors Assumption for the Logistic Regression Models

Logistic Regression Models	Durbin Watson Test Statistics
Model-1	2,018
Model-2	1,952
Model-3	1,999
Model-4	2,086
Model-5	2,059

Source: Survey data, 2018

The values from Durbin-Watson differ from 0 to 4, while the value of 2 shows the residuals are uncorrelated. The values that move from 2 to 4 indicate greater negative correlations, while the values in the direction of 2 to 0 show greater positive correlations. According to Table 3.16, Durbin-Watson values for the models of this research differ from 1,952 to 2,086 and they are close 2. For this reason, it can be assumed that the errors in this research are uncorrelated. Thus, these results confirm the independence errors assumption for the logistic regression models of this research.

3.19.3. Multicollinearity

Multicollinearities between the variables of this research were measured by variance inflation factors (VIF) and tolerance. VIF shows whether predictor variables are strongly related to each other or not. All tolerance and VIF scores of the variables were measured separately with the dependent variable of this study. As depicted in Table 3.17, tolerance scores differ between 0.477 and 0.941 and VIF scores are below 3.

Many studies exist in the literature and they declare that, the tolerance should be greater than 0.10 and the threshold for VIF scores is 10 (Field, 2009; Ho, 2014; Hair et al 1995). The tolerance scores of the variables are greater than 0.1 and also VIF scores are less than 3. All these results from correlation matrix, tolerance and VIF scores confirm that the variables in this thesis do not face with multicollinearity issues.

Table 3. 4: Multicollinearity Issue Among the Variables

Variables	Tolerance	VIF
Innovativeness	.558	1.791
Risk Taking	.830	1.205
Proactiveness	.477	2.096
Competitive aggressiveness	.805	1.242
Autonomy	.715	1.398
Length of relationship	.926	1.079
Closeness of communication	.930	1.075
Bank's role in firm's management	.941	1.063
Applied and gained certifications	.869	1.150
R&D expenses and subsidies	.821	1.219
Preannouncement of new product	.623	1.605
Credit Risk	.907	1.102
Information asymmetry	.898	1.113

Source: Survey data, 2018

4. RESULTS AND DISCUSSION

4.1. Testing Hypotheses and Results

4.1.1. Results for EO and Access to Finance

As specified in previous chapters, the researcher set up different hypotheses and research models in relation with the research questions. Considering to Model 1, independent variables consist of five measurements of EO namely, innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy, while the dependent variable is access to finance.

The results of multiple logistic regression analysis for EO and access to finance are depicted in Table 4.1. To determine whether the independent variables are significant to predict access to finance, Wald statistic is performed. It is not only applied to assess whether each coefficient (β) in the model is statistically significant (different from 0) but also evaluates if each predictor individually makes significant contribution to the outcome when other predictors are held constant (Field, 2009).

Table 4. 5: The Results of Logistic Regression Analysis for EO and Access to Finance

Variable	B	SE	OR	90% CI	Wald statistic	p
Innovativeness (INNO)	-0.042	0.138	0.959	[0.764 1.204]	0.091	0.763
Risk Taking (RIT)	-0.377	0.124	0.686	[0.559 0.841]	9.278	0.002
Proactiveness (PRO)	0.000	0.175	1.000	[0.750 1.334]	0.000	0.999
Competitive aggressiveness (CA)	0.196	0.132	1.217	[0.979 1.512]	2.203	0.138
Autonomy (AUTO)	-0.072	0.163	0.930	[0.712 1.217]	0.195	0.733
Constant	2.278	0.609	9.761		14.018	0.000

Model-1: ATF = 2.278 – 0.042*INNO - 0.377*RIT + 0.000*PRO + 0.196*CA - 0.072*AUTO

Source: Survey data, 2018

Note: CI = confidence interval for odds ratio (OR).

According to results from Wald statistics, risk taking is found to be statistically significant predictor in logistic regression equation. (B= -0.377, Wald χ^2 = 9.278, p= 0.002 < 0.10 for risk taking). The coefficient for risk taking is -0.377 and it suggests SMEs that accessed to finance, have lower tendencies to take risks. Lower values of risk taking is associated with greater possibilities of having access to finance. In other words, if a firm increases his risk-taking score

by a unit, its odds of accessing to finance would decrease by 0.377 while the other independent variables in the model are held constant. This result has confirmed that when risk taking is high in SMEs, access to finance becomes lower for these enterprises.

On the other hand, non-existence of statistically significant influences of innovativeness, proactiveness, competitive aggressiveness and autonomy on access to finance are confirmed by the analysis. As it is presented in table 4.1, all p values are greater than 0.10 level of significance. It means that the coefficients of independent variables are not significantly different from 0. Therefore, the null hypotheses that suggest the coefficients would be 0 are accepted. Although innovativeness, proactiveness, competitive aggressiveness and autonomy have no significant contribution on access to finance, risk taking is a significant variable to predict access to finance for SMEs. For these reasons, the research fails to accept H1a, H1b, H1c and H1e hypotheses that assume positive association between EO dimensions and access to bank finance. Moreover, H1d hypothesis that assumes negative association among autonomy and access to finance is also rejected. Although, risk taking has relationship with gaining loans, they are negatively associated. Therefore, the study also rejects H1b hypothesis.

The odds ratio demonstrates the change in odds in case of having one-unit change in the predictor variable and it explains “how many times higher the odds of occurrence are for each one-unit increase in the independent variable”. (Ho, 2014). Moreover, in an attempt to assess strength of the significant relationship between risk taking and access to finance, the odds ratios are presented in the table 4.1.

A decrease in risk taking by one unit, 0.686 times greater the odds of occurrence to access to finance with a 95% confidence interval between 0.538, 0.874. In other words, access to finance is 0.686 times more likely to occur for the firms that take less risks compared to risk bearer SMEs. Another way exists to interpret the result from odd ratio. If odd ratio is less than 1, it shows that the odds of the event is less likely to occur as the predictor increases. Therefore, access to finance is less likely to occur as the risk taking increases because odd ratio of risk taking is 0.686.

The results of this study regarding EO and access to finance oppose to the findings of the studies of Wiklund and Shepherd (2005), Zampetakis et al. (2011), Fatoki (2012), McCarthy et al. (2015), Beltrame et al. (2018), Mina et

al., (2013) and Lee et al. (2015). Although those studies propound positive or negative association between innovativeness, risk taking, proactiveness and access to finance, this research do not find any positive relationships between innovativeness, proactiveness and access to finance.

Moreover, the study bears out negative association among risk taking and credit access. Therefore, this study becomes different from the studies of Zampetakis et al. (2011), Fatoki (2012) and Sidek et al. (2016) that verify the positive relationship between risk taking an access to finance. Turkish SMEs that take risks can be seen more riskier from the perspective of banks. For this reason, banks in Turkey might not be willing to provide loans for those firms. This fact can be the reason why SMEs that are not prone to take risks are more likely to access to finance in Turkish market. As mentioned elsewhere in this research, economic indicators, market and credit conditions are not stable for Turkish banking sector and the number of non-performing loans have been increased during the last years. Providing loans for SMEs that are risk taker, can be more risky for banks in Turkey to face with more credit default issues. In order to refrain those problems, banks might have not given for those SMEs.

When it comes to another dimension of EO, namely competitive aggressiveness and its impact on access to finance, this study also disputes with the study of Sidek (2016) and Beltrame et al. (2018) that contend positive impact of competitive aggressiveness on access to finance. Although there is not any study that analyze autonomy and access to bank finance, Beltrame et al. (2018) support the fact that autonomy is negatively related with SMEs' access to credits from Mutual Loan Institutions. In this regard, this study also contradicts with the study of Beltrame et al. (2018) because this study confirms that autonomy is not associated with access to finance. The details about each measurement of EO and their relationship with access to finance will be explained below.

On the other hand, Beltrame et al. (2018) have some similar results with the finding of this research. They find that EO dimensions have no influence on getting guarantees from banks. Therefore, their results coincide with this research that substantiate innovativeness, proactiveness, competitive aggressiveness and autonomy are not associated with access to bank credit. Regarding to risk taking and access to bank guarantees, the results from the study of Beltrame (2018) and this research contradict because this study finds the negative relationship between risk taking and bank credit access.

The reason why this study does not find any positive relationship among dimensions of EO and access to bank credit might also be related with the factors that banks consider to assess credit applications of Turkish SMEs. The banks in Turkish market might be more focused on the financial indicators such as financial statements or balance sheet of those firms. Therefore, loan officers and managers may not be interested with entrepreneurial behaviors of firms.

4.1.2. Results for Relationship Lending and Access to Finance

A multiple logistic regression model was performed to test hypotheses regarding to measurements of relationship lending and access to bank finance. The findings of the logistic regression analysis are shown in Table 4.2. As indicated in Model 2, independent variables for this analysis are LOR, COC and EHS that are the measurements of relationship lending, while dependent variable is access to bank finance by SMEs.

Table 4. 2: The Results of Logistic Regression Analysis for Relationship Lending and Access to Finance

Variable	B	SE	OR	90% CI	Wald statistic	p
Length of relationship (LOR)	0.284	0.151	1.328	[0.988, 1.786]	3.534	0.06
The closeness of communication (COC)	0.347	0.093	1.414	[1.180, 1.696]	14.021	0.00
Exclusivity or house banks status (EHS)	0.398	0.170	1.488	[1.066, 2.079]	5.440	0.02
Constant	-1.058	0.509	0.347		4.323	0.03
Model-2	ATF= -1.058 + 0.284*LOR + 0.347*COC + 0.398*EHS					

Source: Survey data, 2018

The p values from Wald statistics for all variables of relationship lending are found to be significant predictors to access to finance in this logistic regression model at 10% significance level. As shown in Table 4.2, B coefficients for LOR, COC and EHS are 0.284 0.347 and 0.398 respectively. These positive coefficients indicate that access to finance becomes more likely as the length of relationship (LOR), the closeness of communication (COC) and exclusivity or house banks status (EHS) increases. This is because higher scores in the constructs of relationship lending are associated with higher probabilities that the access to finance will occur. Owing to the results that support positive relationship among the constructs of relationship lending and access to credit, the research accepts H2a, H2b and H2c hypotheses.

These coefficients also can be interpreted that if scores from LOR, COC and EHS increase by one unit, its odds of accessing finance would increase by 0.284, .347 and 0.398 in case of holding the predictors constant. Moreover, Wald statistics also confirm that coefficients are significantly different from 0 and the predictors have made significant contributions to predict access to finance. For these reasons, the study fails to reject alternative hypotheses that assume statistical significance of the relationship leading to access to finance. Firms that have had longer relationship, more frequent communication and more debt from their house bank had higher tendencies to access to finance compared with others.

As indicated in Table 4.2, the odds ratio for LOR, COC and EHS are 1.328, 1.414 and 1.488 respectively. These odd ratios are all greater than 1. Therefore, as scores from LOR, COC and EHS increase, the odds of access to finance is more likely to occur. An increase in LOR by one unit, 1.328 times higher the odds of occurrence to access to finance. Similarly, one unit rise in COC and EHS 1.414 and 1.488 times greater the odds of occurrence to gain bank credit. Thus, a respondent who have higher scores the length of relationship, the closeness of communication and exclusivity is 1.328, 1.414 and 1.488 times more likely to gain credit access compared to a respondent who presented lower scores from these variables.

As stated above, the positive relationships between all three measurements of relationship lending and banks credit access are confirmed by the results from logistic regression analysis. Therefore, those findings are also consistent with the study of Fatoki and Odeyemi (2010) that proves the positive association among all variables. Considering the influence of length of relationship on access to finance, the study finds similar results with the studies of Petersen and Rajan (1994), Berger and Udell (2002), Moro and Fink (2013), Voordeckers and Steijvers (2007), Moro et al. (2015), Moro and Fink (2010), and Erdogan (2014) that boost positive association among those variables.

When it comes to relationship between frequency of communication and getting bank credit, the outcome of this research is in line with the studies of Lehmann and Neuberger (2001) and Voordeckers and Steijvers (2007) that validate positive impacts of frequent communications on bank credit access. Regarding the positive association between house bank status and getting bank loans, the result of this study also supports the finding of Canovas and Solano (2010), Cenni et al. (2015), Behr and Güttler (2007), Petersen and Rajan (1994), and

Giannetti (2012). This is because those studies also prove the positive relationship among those variables.

As mentioned previously in this research, Turkey has very competitive banking sector that consists of 52 different banks. According to BDDK (2018), the number of these banks' branches was 11.594 and the number of employees was 208.629 in September, 2018. Those branches usually located in densely populated areas that most of SMEs are next to. According to KOSGEB's report of 2015-2018 SME Strategy and Action Plan more than 3 million SMEs operated in Turkish market. Therefore, apart from credit departments of banks, some independent sales teams also exist in various banks to provide credits to SMEs by frequently visiting them. For these reasons, credit departments and sales team might have had close relations with SMEs that this research analyzed. Those facts can be the reasons why this research found the positive association between relationship lending and access to finance.

4.1.3. Results for Signaling EO and Access to Finance

In order to perform hypothesis testing for signaling EO and access to finance, the researcher applied a multiple logistic regression analysis. In consideration of Model 3, AGC, RDE and PNP are independent variables, and the dependent variable is access to finance. Table 4.3 indicates the results of logistic regression analysis for model 3.

Table 4. 3: The Results of Logistic Regression Analysis for Signaling EO and Access to Finance

Variable	B	SE	OR	90% CI	Wald statistic	p
Applied or obtained certifications (AGC)	1.787	0.372	5.969	[3.238, 11.001]	23.097	0.000
R&D expenses, subsidies and affiliations (RDE)	-0.037	0.377	0.964	[0.518 1.793]	0.009	0.923
Preannouncement of new products (PNP)	-0.040	0.099	0.961	[0.816 1.131]	0.163	0.687
Constant	0.402	0.345	1.494		1.353	0.245
Model-3	$ATF = 0.402 + 1.787*AGC - 0.037*R\&D - 0.040*PNP$					

Source: Survey data, 2018

According to Table 4.3, Applied or obtained certifications (AGC) has shown statistically significant influence on access to finance ($p < 0.10$). B coefficient for this variable is significantly different from zero and AGC has made a

statistically significant contribution to access to finance. Thus, it can be propounded that the firms that had already applied or gained certifications are more likely to access to finance.

Due to having positive value from B coefficient for AGC, it can be stated that as firms apply or gain patents, certification, trade mark and license, the probability of access to finance increases. AGC increases the logit of estimated log odds to access to finance by 1.787 unit. Controlling all other variables in the model, there is a relationship between AGC and the likelihood of access to finance. For this reason, the study accepts H3a hypothesis that supposes the positive association between AGC and getting bank credit.

On the other hand, P values are pretty high for RDE and PNP and they are both higher than 10% significance level. (0.923 and 0.687 respectively) For this reason, nonexistence of relationship between RDE, PNP and access to finance has been confirmed. It can also be seen that the upper and lower level of CI for both RDE and PNP predictors include null score that is 1. This result also affirms that RDE and PNP are not significant contributor in this model to increase odds of access to finance. Thus, the research fails to approve H3b and H3c hypotheses that assume the existence of positive relationship between those variables and having loans.

Regarding odds ratio for AGC, a firm that has already applied or gained patent, certification, trademark and license 5.969 times more likely to access to finance than the firms that have not applied or gained them yet. The finding that affirms influence of applied or gained certifications on credit access is compatible with some studies that result positive impacts of patents (Baum and Silverman, 2004; Hsu and Ziedonis, 2013; Backes-Gellner and Werner, 2007) and ISO certification on gaining finance (Bergh et al., 2014). On the contrary, the study disproves the results of both studies Ahlers et al. (2015) and Hopp and Lucas, (2014) that do not find any significant relationship between patent ownership and access to finance.

This study also objects to some outcomes of the studies of Baum and Silverman (2004), Meuleman and De Maeseeneire (2012), Lerner (1999), Feldman and Kelley (2006), Janney and Folta (2006), Pollock and Gulati (2007), Courtney et al. (2016), Gulati and Higgins (2003), Higgins and Gulati (2006), Zhang, (2008), and Zhang and Wiersema (2009). This is because those studies substantiate the positive associations between R&D subsidies, grants, expenses, advertising expenditures, ties with prominent actors and access to finance, while

the results of this study do not confirm any relationship among those variables. In this regard, the study is consistent with the study of Ahlers et al. (2015) that prove nonexistence of relationship between alliances (agreements) with prominent organizations and having credit access.

Corresponding to preannouncements of a novel product, this study is also not compatible with some studies such as Courtney et al. (2016), Jung (2011), Ofek and Turut (2013), Talke and Snelders (2013), Lee et al. (2015) and Mina et al (2013) that vindicate the positive relationship between preannouncements and getting finance.

Majority of SMEs in the sample of this research operated in manufacturing industry (51.4% of the total firms). Due to having production line, manufacturing firms are able to develop new products or improve their existing goods. By making these activities, they are more likely to have or apply certifications for their production line and products. Moreover, Donati (2016) states that enterprises in manufacturing industry usually have adequate cash flows. Manufacturing SMEs in this research might have had enough amount cash to apply for those certifications that have enabled them to signal their EO to receive bank credit. Since applying certifications such as patents is costly process for SMEs, banks might have perceived these firms as quality and have thought that these firms have enough cash flows to pay back their credits. In this regard, this fact can be the reason of positive relationship between AGC and access to finance.

4.1.4. Results for EO and Relationship lending to Access to Finance

In model 4, the research applies the same method, namely a multiple logistic regression model to test hypothesis that whether EO of Turkish SMEs with their bank relations are positively related to access to finance or not. All measurements of EO and relationship lending are included in the model as independent variables. On the other hand, the research has also added two control variables, credit risk and information asymmetry into this model, while the dependent variable is same with other models. Table 4.4 is presented below to depict the results from the multiple logistic analysis.

Table 4. 4: The Results of Logistic Regression Analysis for EO and Relationship Lending to Access to Finance

Variable	B	SE	OR	90% CI	Wald statistic	p
Innovativeness	-0.196	0.179	0.822	[0.578, 1.169]	1.193	0.275
Risk Taking	-0.270	0.148	0.763	[0.571, 1.020]	3.329	0.068
Proactiveness	-0.172	0.222	0.842	[0.545, 1.300]	0.604	0.437
Competitive Aggressiveness	0.203	0.168	1.226	[0.881, 1.704]	1.463	0.226
Autonomy	0.120	0.194	1.128	[0.771, 1.649]	0.384	0.535
Length of relationship	0.470	0.191	1.600	[1.100, 2.329]	6.032	0.014
The closeness of communication	0.348	0.113	1.416	[1.135, 1.766]	9.495	0.002
Exclusivity or house bank status	0.238	0.203	1.269	[0.852, 1.888]	1.375	0.241
Credit Risk	-3.750	0.422	0.024	[0.010, 0.054]	78.841	0.000
Information Asymmetry	-0.568	0.294	0.567	[0.319, 1.008]	3.730	0.053
Constant	2.780	1.051	16.123		7.000	0.008
Model-4	ATF= 2.780 - 0.196*INNO - 0.270*RIT - 0.172*PRO + 0.203*CA + 0.120*AUTO + 0.470*LOR + 0.348*COC + 0.238*EHS - 3.750*CR - 0.568*INFA					

Source: Survey data, 2018

After running this logistic model with the predictor variables mentioned above, the variable namely EHS became insignificant by this new model. P value from Wald statistic for this predictor is 0.241 that is not significant at 0.10 significance level. By having this result, the study confirms that EHS does not have significant contribution on access to finance. The items of EO, namely innovativeness, proactiveness, competitive aggressiveness and autonomy are also not significant similar with the first model. P values for these predictors are greater than 10 percent significance level. Therefore, an association does not exist between those predictors and credit access.

On the other hand, significant p values exist in the Table 4.4 regarding to risk taking, LOR, COC, credit risk and information asymmetry. Therefore, their influences on access to finance are statically significant. However, risk taking, credit risk and information asymmetry have negative coefficients and it indicates that greater values from these predictors are related with lower possibilities of access to finance. One unit increase in risk taking, credit risk and information asymmetry will decrease odds of access to finance by 0.270, 3.750 and 0.568

respectively. Conversely, because of having positive coefficients from LOR and COC, an increase in these variables by one unit can cause increases in the odds of access to finance by 0.470 and 0.348 respectively. Firms with higher values from both LOR and COC are more likely to access to finance. Even though EHS is not statistically significant predictor for this regression model, statistically significant results exist for other variables. Although two constructs of relationship lending are still significant and positively related with bank credit access, having non-existence of positive associations of EO and access to finance makes the researchers to reject H4 hypothesis.

When it comes to odds ratios, the values for risk taking, credit risks and information asymmetry are 0.763, 0.024 and 0.567 respectively. All these ratios are less than 1 and the results imply that as these predictor increases, the odds of access to finance occurring decrease. Therefore, an increase in risk taking by one unit, lowers the odds of occurrence to access to finance by 0.763 and so makes SMEs 23.7% less likely to access to finance. Moreover, SMEs that have problems regarding credit risk and information asymmetry 0.024 and 0.567 times less likely to access to finance. But the odds ratios for LOR and COC are 1.600 and 1.416. Access to finance is less likely to occur for SMEs that have shorter duration in relationship with banks and rarely communication with them. The odds ratio of occurrence to gain loan becomes greater by 1.600 and 1.416 times, when LOR and COC increase by one unit.

In line with these results, it can be emphasized that taking less risk, having longer relationship and being in more frequent communication with banks increase to likelihood for SMEs to gain credit access. However, those results are not consistent with the study of Jimenez et al., (2006) because they champion that banks can provide credits for risk taker SMEs that they have close ties with (Jimenez et al., 2006). Similarly, the outcomes of this study also contrast with the findings of Rotich et al. (2015) that advocate SMEs' EO activities in relationship lending make them to receive credits. On top of that, this study also challenges with the findings of Cosci et al. (2015) that innovativeness provides bank credit by increasing in relationship lending.

Although, the researcher has added relationship lending to model 3, measurements of EO are still not positively related to access to finance. As suggested elsewhere in this research, banks might have not considered innovativeness, proactiveness, competitive aggressiveness and autonomy of SMEs in evaluation of SMEs' credit applications. Even in relationship lending,

authorized people of SMEs might have not been aware of their EO competencies to specify them in their credit applications to gain credit. This issue can be the reason why positive relationship does not exist between EO with relationship lending and access to finance. On the other hand, by having longer relationship and frequent communication with SMEs, banks might have distinguished whether SMEs are risky or not. Therefore, they might have given credits for firms that are less risk taker. In similar vein, owners, shareholders and managers might have made themselves look like less risky to gain bank loans. These facts can be the reasons for how SMEs that did not take risk, have longer relationship and more frequent communication with banks have accessed credits.

4.1.5. Results for Signaling EO and Relationship Lending to Access to Finance

The main model of this research is Model 5 that involves measurements of signaling EO and relationship lending as independent variables, also includes both control variables namely, credit risk and information asymmetry. To examine the impact of predictive variables on outcome variable namely, access to finance, H₅ hypothesis was set. Table 4.5 demonstrates the findings of the multiple logistic analysis for model 5.

Table 4. 6: The Results of Logistic Regression Analysis for Signaling EO and Relationship Lending to Access to Finance

Variable	B	SE	OR	90% CI	Wald statistic	p
Applied or obtained certifications (AGC)	1.344	0.446	3.834	[1.598, 9.196]	9.063	0.003
R&D expenses, subsidies and affiliations (RDE)	-0.030	0.452	0.970	[0.400, 2.354]	0.004	0.947
Preannouncement of new products (PNP)	-0.004	0.117	0.996	[0.791, 1.253]	0.001	0.969
Length of relationship	0.314	0.186	1.369	[0.950, 1.972]	2.833	0.092
The closeness of communication	0.319	0.113	1.376	[1.103, 1.706]	7.993	0.005
Exclusivity or house bank status	0.213	0.203	1.237	[0.831, 1.842]	1.097	0.295
Credit Risk	-3.558	0.408	0.029	[0.013, 0.063]	75.963	0.000
Information Asymmetry	-0.569	0.298	0.566	[0.316, 1.015]	3.646	0.056
Constant	1.277	0.943	3.587		1.836	0.175

Model-5	ATF= 1.277 + 1.344*AGC - 0.030*RDE - 0.004*PNP + 0.314*LOR + 0.319*COC + 0.213*EHS - 3.558*CR - 0.569*INFA
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Source: Survey data, 2018

As illustrated in Table 4.5, p values for AGC, LOR, COC, credit risk and information asymmetry are statistically significant at 10 percent significance level. A unit change in these variables change log odds of access to finance by 1.344, 0.314, 0.319, 3.558 and 0.569. Frankly, controlling for all other variables in the model, one unit increase in AGC, LOR and COC increases the odds of access to finance by 1.344, 0.314 and 0.318 units respectively. When it comes to credit risk and information asymmetry, one unit decrease in these variables increase the odds of access to finance by 3.558 and 0.569 units. Access to finance becomes less likely in case of having increases in these predictors because both of those control variables have negative coefficients. On the other hand, p value for EHS is not significant, thus, EHS does not make significant contributions to access to finance. Significant impacts of EHS on access to finance do not exist in case of controlling all other variables. For these reasons, it can be concluded that the H5 hypotheses that assumes positive associations of signaling EO, relationship lending and access to finance is rejected.

Considering to odd ratios for CR and INFA, they are both lower than 1. Thus, gain to loan is less likely to occur as CR and INFA increases for SMEs. One unit increase in CR and INFA, 0.029 and 0.566 times lower the odds of occurrence of having credit from banks. These negative influences of CR and INFA on bank credit access of SMEs are also shown in Table 4.5. For these reasons, the results of this research are also compatible with the findings of previous studies that confirm negative relationship between information asymmetry and access to finance (Nanyondo et al., 2014) and credit risk and gaining loans (Andrikopoulos and Khorasgani, 2018).

Moreover, SMEs that have not applied or gained certifications, shorter relationship and less frequent communications with banks are 3.834, 1.369 and 1.376 times less likely to access to finance compared to firms that have greater values from AGC, LOR and COC. As mentioned above, probability of gaining credits for SMEs is higher while they have more interactions and longer relationship with banks and signal their competencies related with entrepreneurial orientation, such as patents and ISO certifications.

Table 4.6 depicts correlations between measurements of signaling EO, control variables and ATF. According to this table, AGC is negatively correlated with

credit risk and information asymmetry. For this reason, this research has also similar results with some studies that corroborate negative relations among those variables (Arthurs et al., 2009; Pederzoli et al., 2013).

Table 4. 7: Correlations Between Signaling EO, CR and INFA

Variables	ATF	AGC	RDE	PNP	CR	INFA
ATF	1					
AGC	,233**	1				
RDE	,056	,274**	1			
PNP	,009	,123**	,275**	1		
CR	-,505**	-,168**	,018	,054	1	
INFA	-,175**	-,097*	-,136**	-,087	,162**	1

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Source: Survey data, 2018

By reducing information asymmetry and credit risk, AGC might have made SMEs to gain credit access. The certifications that Turkish SMEs had during longer relationship and closer communications, could also have played an important role to increase firms' quality from banks' perspective to provide them credits. Moreover, as stated in this research, certifications are costly and inimitable values that can give information about SMEs and their ability to payback their credits. These facts can also be the reason for AGC's negative influences on credit risk and information asymmetry.

On the other hand, most of the respondents of this research stated that had minimum bachelor degree (78.3% of the total respondents) and had more than ten years sectoral experience (73.7% of the total respondents). Due to having long years experiences in same industry and being educated, the respondents might have noticed the importance of signaling these certifications in their relationships with credit officers to gain bank loans. This fact can be another reason why AGC is positively related with access to finance.

Table 4.7 is presented in this study to indicate the results of hypotheses testing explicitly. As shown in the table, all hypotheses regarding EO and access to finance are rejected, while the hypotheses for relationship lending and receiving bank loans are accepted. The only accepted hypothesis for signaling EO is related with positive relationship between AGC and gaining bank loans. Furthermore, the hypotheses that include relationship lending with EO and signaling EO are rejected.

Table 4.7: Hypotheses Testing Results

Hypotheses	Outcomes
Entrepreneurial Orientation and access to bank finance	
H1a: Innovativeness of SMEs is positively associated with their access to bank finance.	Rejected.
H1b: Risk Taking of SMEs is positively associated with their access to bank finance.	Rejected.
H1c: Proactiveness of SMEs is positively associated with their access to bank finance.	Rejected.
H1d: Competitive aggressiveness of SMEs is positively associated with their access to bank finance.	Rejected.
H1e: Autonomy of SMEs is negatively associated with their access to bank finance.	Rejected.
Relationship Lending and access to bank finance	
H2a: SMEs' length of relationship with their lender bank is positively related with their access to bank credit.	Failed to reject.
H2b: SMEs' closeness of communication with their lender bank is positively related with their access to bank loan.	Failed to reject.
H2c: Exclusivity or house bank status of lender bank is positively associated with bank credit access of SMEs.	Failed to reject.
Signaling EO and access to bank finance	
H3a: Gained or applied certifications of SMEs are positively related with their access to bank finance.	Failed to reject.
H3b: R&D expenses, subsidies and affiliations of SMEs are positively related with their access to bank finance.	Rejected.
H3c: SMEs' preannouncement of new products is positively related with their access to bank finance.	Rejected.
Entrepreneurial Orientation with relationship lending to access to bank finance	
H4: SMEs' EO and their relationship with bank in lending are positively related with their access to bank credit.	Rejected.
Signaling Entrepreneurial Orientation with relationship lending and access to bank finance	

H5: Signaling EO in SMEs' relationship with lender are positively related with SMEs' access to bank finance.	Rejected.
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Source: Own processing

4.2. Financial Supports for Turkish SMEs and Suggestions

Financial supports of national and international organizations provide vital benefits for financing of SMEs and their survival. In this regard, some international, national financing institutions, government organizations, ministries and investment banks exist to provide financial support for Turkish SMEs. A prominent international institution that provides financial support for Turkish SMEs is the World Bank. For instance, the volume of US\$300 million credit was given by World Bank to Ziraat Bank that played intermediation role between leasing firms and banks for finance lease of Small and Medium Enterprises (SMEs). The Turkish government secured the volume of those loans that would be intermediated by Ziraat Bank (The World Bank, 2018).

As Turkish government plays as a guarantor role in this financing opportunity for SMEs, they can follow similar strategies for other bank financing options for SMEs by securing them. The World Bank also provides another financial support project to develop energy efficiency of SMEs to reduce environmental issues of those firms (The World Bank, Turkey SME Energy Efficiency Project, 2018).

Another substantial organization that encourages Turkish SMEs is the European Union that has presented 6 billion euro grants and support by COSME program for the period between 2014 to 2020 (European Union, COSME Program, 2018). On the top of that, EU also provides guarantees for innovative Turkish SMEs by Horizon 2020 program. In this regard, European Investment Bank and Türkiye Sınai Kalkınma Bankası had an agreement for a total of €20 million. To increase credit access for innovative SMEs European Investment Fund and European Union will support innovative operations by guaranteeing 50% of its financing (European Union, Horizon 2020 Program, 2018).

On the other hand, Horizon 2020 program encourages SMEs by providing some activities such as training, consulting, networking, legal and financial supports, helpdesk, reporting, cooperation and interaction channels (Turkey in Horizon 2020, 2018). In this regard, the context of those supports can be extended by giving entrepreneurial education that includes information about the development of entrepreneurial orientation and application of certifications. Because of high costs of gaining certifications, innovative SMEs can be

encouraged financially in the application process. Then by having those certifications, SMEs can signal them in their relationship with banks to get easier bank credit access.

European Investment Bank (EIB) also had given 2.1 billion euros financial support and 1.1 billion of this support was provided for SMEs. Moreover, EIB also made collaboration with some state and private banks in Turkey, such as Akbank, Ziraatbank and Denizbank Eximbank, Ziraat Bank, ING Turkey and Odea Bank to grant loans for SMEs (EIB, 2018). Similarly, European Bank for Reconstruction and Development (EBRD, 2019) gives loans for local commercial banks that give credits for SMEs.

When it comes to national organizations, some ministries of Turkish Republic provide credits, R&D subsidies and guarantees for SMEs. For instance, The Ministry of Energy and Natural Sources, The Ministry of Science, Industry and Technology and The Ministry of Economy provide financial supports for SMEs to increase international competitiveness of Turkish firms, their access to new markets, market research, reporting and certification, acquisition of foreign companies, membership for e-commerce website, global supply chain projects, brand registry, export credit insurance, participation of national and international fairs, supports for service industry (Türkiye Cumhuriyeti Ekonomi Bakanlığı, Devlet Yardımları Rehberi, 2018).

In this circumstance, these ministries can collaborate with Turkish Patent and Trademark Office and Turkish Accreditation Agency to give them more responsibilities not only for trademark and patent issues but also for ISO certifications. By doing so, awareness of SMEs regarding application to these certifications can be increased and more easier application procedures can be provided for these businesses.

KOSGEB presents different types of programs and services under five various areas namely, Entrepreneurship Support, R&D, Technological Production and Domestication Support, Enterprise Development, Growth And Internationalization Supports, SME Finance Supports and Laboratory Services to assist SME not only financially but also with other purposes. Those programs basically aim to improve entrepreneurship, R&D, SME financing, collaboration among businesses, product development and export by presenting funds or guarantees for the selected businesses or entrepreneurs. For instance, Entrepreneurship Support Program provides training for entrepreneurs by collaborating with development agencies, universities, financing institutions and

municipalities. Moreover, the inventions that have patents and technological products that might be exported and create values are encouraged by R&D, Technological and Domestication Support Program. This program gives supports for machinery, software, workers, training, counselling, renting and energy expenditures of firms. On the other hand, Collaboration Projects can be provided for firms that make cooperation with minimum three other enterprises in the following activities, supplying, design, marketing, production, laboratory, using machine-equipment. Furthermore, Technologic Product Promotion and Marketing Support Program (TEKNOPAZAR) encourages SMEs financially for some of their expenditures such as participation of fairs, membership in e-commerce websites, development of products, accommodation and transportation.

The Credit Interest Support Program helps SMEs for their operation, investment and export activities. Interest and commission expenses are partially or totally reimbursed by KOSGEB and credit risk pertains to a bank that gives the credit. This support is provided for the credits that have maximum 4 years loan maturity and are limited by around 50.000 euros. In case of facing with natural disasters, Urgent Credit is also provided for industrial businesses (KOSGEB, Support Services, 2019).

By going in partnerships with TOBB, KOSGEB, TESK, TOSYÖV, MEKSA and 27 banks, Credit Guarantee Fund (KGF) gives treasury funds and credit guarantees to financial institutions. Eximbank, Tübitak (The Scientific and Technological Research Council of Turkey), TTGV (Technology Development Foundation of Turkey) and different state, private, participation banks are the financial institutions that KGF gives guarantees. By cooperating with those institutions, KGF also encourages them to provide loans for SMEs. In the period of 1994-2015, 33.624 credit request supported and more than 70% of total volume of credits were guaranteed by KGF (around 1.6 billion euro guarantee provided) (Credit Guarantee Fund, 2019).

To improve export of SMEs, range of SMEs' exported products, their share in the total international trade, accessibility to new markets, competitiveness in international markets, Turk Eximbank is engaged in providing export loans, credit insurance and international credits. By providing credits, insurances and guarantees, Eximbank supported more than 20% of total export of Turkey in 2016 and 2017 (Türkiye Cumhuriyeti Ekonomi Bakanlığı, Devlet Yardımları Rehberi, 2018). By doing so, it presents various programs such as Pre-Export

Credit Program for Small and Medium-Scale Enterprises, Post Shipment Rediscount Credit Program and Ship-Building Finance and Guarantee Program etc. The volume of credits that Eximbank provided between 2003 and 2017 increased significantly from around 4 billion USD to 24 billion USD (Turk Eximbank, Export Credit Bank of Turkey, 2019).

The Scientific And Technological Research Council Of Turkey (Tübitak) is another important player for the SME financing especially for the support and subsidies of industrial investments and research and development activities. Moreover, new initiatives of technology firms, collaboration of universities and industries are also encouraged by this institution (Bilim, Sanayi ve Teknoloji Bakanlığı, Sanayi Genel Müdürlüğü, 2017).

Another institution that encourages SMEs in Turkey is KOBİ Venture Capital Investment Trust Inc. Co. The partnership structure of this organization includes several chambers of trade and industry from different cities and different organizations such as KOSGEB, Tesk and Halkbank. The institution acts as a venture capitalist or a business angel that assists innovative ideas of entrepreneurs financially and administratively regarding new products, services and technologic initiatives such as systems or new production methods (KOBİAS, 2019).

Development and Investment Bank of Turkey provides external loans of different organizations such as Islamic Development Bank, German Development Bank and Japan Bank For International Cooperation Loans for Renewable Energy and Energy Efficiency and Infrastructure Project. Moreover, it not only gives loans for investment and working capital but also gives guarantees for investments (Development and Investment Bank of Turkey, 2019).

By collaborating with Chambers of Trade and/or Industry, The Union of Chambers and Commodity Exchanges of Turkey (TOBB) has constituted EU Turkish Business Centers (ABIGEM) by the financing investments of EU. ABIGEM offers services in different cities of Turkey to provide training, consulting activities for SMEs and to increase economic contributions and competitiveness of SMEs among different markets (ABIGEM, 2019). Union of Chamber of Merchants and Craftsmen (TESKOMB) provides funds for raw materials, working capital of SMEs (TESKOMB, 2019).

TGMP gives credits for women entrepreneurs who have an idea to do business and collaborate with five women. Then, TGMP provides training for the

selected groups regarding to process of credit repayment and being an entrepreneur. TGMP supports mostly consist of donations (TGMP, 2019). Etohum is a platform for entrepreneurs and enterprises who are well informed about new economy and would like to set up their own internet business. The chosen firms are indicated in Etohum Investor Club and then they will be able to apply for Startup Turkey that provides endorsements for them regarding software, internet and guidance (Etohum, 2019).

Some development agencies also exist in Turkey to provide credit, funds, and supports for SMEs. For instance, Zafer Development Agency made an announcement in 2018 that it would provide 15 million Turkish liras (around 2.5 million euros) grants for a project, namely Developing SMEs Financial Support Program (GEKOP). Under the name of this project, this developing agency would provide financial support for manufacturing SMEs' projects regarding their R&D, innovation, information technologies, internationalism and branding activities (KOBİ Bilgi Sitesi, TOBB, 2019).

Although Kosgeb and other institutions provide financial support, more bank-based lending activities need to be encouraged. This is because, SMEs suffers gaining bank credit and the volume of SME loans are still not adequate in comparison with developed countries. For instance, Eximbank supports for exporting activities had been more than 20% of total amount exports in previous. This percentage can be improved not only to increase the volume of SME credits but also to achieve higher exporting amounts. Moreover, the amount of credit that TGMP (Turkey Graamen Microfinance Program) provides for women entrepreneurs is maximum 1000 tl for the first loan (less than 200 euros). In this regard, this amount can be increased to draw more women entrepreneurs' attention to create new ideas and to cope with financial obstacles. The number of microfinance and SMEs financing institutions can be increased to provide more grants for these businesses.

Despite KOBİ Venture Capital Investment Trust Inc. Co. encourages SMEs financially, it is only located in some cities, therefore, by opening new branches in different cities, this institution can reach more SMEs that need financing. As being the first credit obstacles that Turkish SMEs face, some implementations can be applied for collateral issues. For instance, banks can provide credits without collateral and the government can secure this process. Turkish government can also increase the volume of incentives and grants for financing organizations that provide financial supports for SMEs. This is because most of entrepreneurs are not satisfied about credit incentives and they are not aware of

credit opportunities that are provided by financial institutions in Turkey (Yılmaz, 2016).

SMEs development and assistance programs especially focusing on bank financing and relationship lending, development of entrepreneurial characteristics and knowledge about certifications can be created with non-financial intermediary institutions. Those institutions can lead and guide SMEs in these firms' credit application process. For instance, applied universities that collaborate with banks can be set up and entrepreneurial and financing education can be presented for SME owners, shareholders or managers. Scholars in these universities can also play counselling role for SMEs to ease their credit obstacles by support activities.

Some special zones that include branches of banks, agencies of some institutions such as Turkish Patent and Trademark Office, Turkish Accreditation Agency and applied universities can be created to improve, entrepreneurship, financing of SMEs and SMEs' competencies regarding receiving certifications. Thus, entrepreneurs can develop their abilities, competencies and entrepreneurial behaviors to apply for patents, other certifications and learn how to signal their attitudes. Moreover, these zones can make all existing institutions to have closer ties with each other. For instance, key points in SME lending and credit opportunities can be thought by credit officers to inform SMEs regarding credit opportunities for them.

On the other hand, a credit network can be set up by government to bring the banks and SMEs. SMEs can present their projects on this platform and banks select the interesting ideas and then provide credit, counselling and training activities. Selected firms that have already gained credit can express their application and acceptance process in conferences and workshops to motivate other SMEs. The Turkish government might enforce a law for credit protection of banks and secure lending activities in this network. Same credit application procedure can be created through this network to minimize process of receiving credits and the required documents that banks ask for. Tax reductions can be provided by the governments for both parties in bank lending, namely, SMEs and banks that are willing to be a member in this network.

By applying these implementations and strategies, SMEs' bank credit access constraints might be reduced. Thus, easier credit access opportunities can be provided for SMEs. By doing so, governments and other financing institutions not only improve SMEs' financial conditions but also improves the economic

potential of their countries. Since majority of businesses are SMEs in all over the world, unemployment rate goes down, while some other indicators such as GDP and the volume of exports increase by the improvement of SMEs' financial conditions.

5. CONCLUSION

Contributions of SMEs for economic development of countries cannot be ignored because SMEs support labor, job creation and they yield benefits for value addition. However, SMEs face with various difficulties when they need to gain bank loan that is the primary external financing source for most of them. As it is confirmed by many studies, these obstacles are experienced more by smaller firms in comparison with larger enterprises. By performing analyzes, this research is also approved that access to finance becomes more likely when firm size increases.

In relation with credit obstacles, information asymmetry and credit risk are the major factors that other constraints are mainly stem from. Information asymmetry among parties in SME lending also causes troubles for banks to assess credit risk of SMEs. Hence, banks become more likely to make misallocation for SMEs loans due to issues in evaluating SMEs' credit risk. This case increases non-performing loans in their portfolio. To solve those problems, many studies consider credit rating models that are basically based on accounting ratios that consist of hard data. However, majority of SMEs do not have audited financial statement and they are not willing to provide timely, and complete information.

In this regard, to overcome with the constraints of bank credit access and to provide them a solution to receive bank loans, the thesis focused on soft information. By doing so, the research purposed to provide a comprehensive model in SME financing by considering credit risk issues of those businesses. In line with this selected purpose, the research applied for both relationship lending and signaling theory that based on soft information such as entrepreneurial characteristics (EO) of entrepreneurs and signals related with them. The influences of these theories to decrease information asymmetry and credit risk of SMEs have been substantiated by existing studies. Similarly, this research also confirmed negative correlations between signaling EO, credit risk and information asymmetry.

Consequently, the major objective of this study was to find whether signaling entrepreneurial orientation in relationship lending make SMEs to get bank credit access or not. Because of the quick deterioration in the effects of signals, the thesis used EO signals in relationship lending that could provide standing influences in long term. In this way, the thesis suggested that perceiving signals related with EO in relationship lending might have reduced anxiety of banks

about information asymmetry and credit risk. On the other side, by signaling EO in relationship lending, SMEs can cope with issues related with information asymmetry and credit risk, therefore, they can face with reduced bank credit obstacles and get easier bank credit access.

The data of the thesis was collected in Turkey by conducting a structured a self-administered questionnaire for SMEs. 479 respondents who played a key role in credit application and had adequate knowledge about their firms' competencies and characteristics were fulfilled the questionnaire. Parametric and non-parametric tests applied for data analyses. Logistic regression analyses were performed for testing the hypotheses by using IBM SPSS statistics. Stata program was used for other analyses such as reliability of constructs. The research was mostly based on quantitative and explanatory analyses.

In line with the aim of the study, the research proposed 6 research questions. Regarding to credit obstacles that SMEs encounter to access to bank finance in Turkey, the research revealed that collateral requirements was the most common issue from the from the perspective of analyzed SMEs. Then, the costs of credits, credit reputation, level of debt and lack of cash are the other constraints respectively. On the other hand, only 50 SMEs declared that they did not experience any credit obstacles in bank financing.

Another research question of this study was whether a relationship exists between EO and access to bank finance. Although, the research presumed positive relationship between the measurements of EO and credit access in the hypotheses, none of them was accepted. However, a significant negative relationship between risk taking was confirmed. Thus, SMEs that took more risks, became less likely to access bank credit. On the other hand, innovativeness, proactiveness, competitive aggressiveness and autonomy of SMEs were not related with access to finance.

Corresponding to the research question that was related with relationship lending and access to finance, the positive relationship between those variables were confirmed. Therefore, Turkish SMEs that had longer relationship, more frequent interactions and more amount of debt from their main bank were more likely to access to finance.

When it comes to examine the relationship between signaling EO and access to finance, only a construct of Signaling EO, namely, applied and gained certifications was statistically significant. Therefore, likelihood of access to finance for SMEs that had applied or gained patents, certifications, trademarks

and license was higher than SMEs that did not have those certifications. However, other constructs of Signaling EO such as R&D, advertising expenses and preannouncement of new products were not associated with receiving bank credits.

Distinctly from the first logistic regression model that only analyzed the dimensions of EO, the research also took constructs of relationship lending into consideration and examined relationship of both variables, relationship lending and EO with credit access. Although direct impact of EHS was significant, running this variable with other items of EO made it insignificant. As it was confirmed, innovativeness, proactiveness, competitive aggressiveness and autonomy were also not significant in this new logistic regression model too. Negative relationships between risk taking, credit risk, information asymmetry and access to finance were confirmed. Thus, more SMEs that had less credit risk, information asymmetry and risk-taking tendency accessed to bank finance than other businesses. On the other hand, positive relationship between length of relationship, closeness of communication with banks on access to finance were confirmed. Those facts confirmed that probability of credit access for SMEs that had more year relations and more frequent communications with banks were higher than other firms that did not have these interactions.

Regarding to main purpose of this study, all constructs of signaling EO, relationship lending, information asymmetry and credit risk with bank credit access were investigated. Positive relationship between AGC, LOR, COC and access to bank finance and negative relationship between credit risk, information asymmetry and receiving bank loans were corroborated. Hence, SMEs that had applied or gained certification, longer relationship, more frequent interactions with banks, lower credit risk and information asymmetry were more likely to access to bank finance more than other enterprises.

Those results can gain benefits not only for entrepreneurs and SMEs but also for banks. By being aware of their competencies and abilities and signaling them in their relationship with banks SMEs can solve their bank financing problems. Although gaining certification is not an easy process for them, by making these kinds of activities they can become more quality from the perspective of banks that can provide them easier credit access conditions. This is because creating new ideas, new products or production processes make SMEs to differ from their rivals and these signals related with firms' innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy that might help banks to close the information gap with borrowers. Similarly, closer relationship

among those parties decrease information asymmetries and make banks to evaluate credit risk of SMEs correctly.

Although direct and positive influences of innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy were not confirmed in bank credit access of SMEs, signaling those characteristics with their applied and gained certifications in relationship lending increased SMEs likelihood to access to bank credit. Therefore, the results of this research can draw policy makers attention to apply some implications such as providing courses and trainings that focus on the importance of signaling entrepreneurial characteristics in lending relationship and certifications. Moreover, this research suggested that zones for SMEs, a network for bank financing of SMEs, applied universities, new micro or SME lending institutions and development programs for SMEs can be created by Turkish government. On the top of that, tax reductions, credit protection, guarantor role of the government for SMEs' credits and collateral issues were suggested by this research to not only improve financial availability of SMEs but also develop their abilities to receive bank financing.

5.1. Contribution to Theory

First of all, this research has expanded previous researches into credit risk management and bank credit access of SMEs by including signaling and relationship lending theories that are based on soft data. In this regard, by adding two of mostly cited theories in entrepreneurship literature together in a model, the research became different from other studies. Apart from other studies that focus on financial indicators such as accounting ratios and financial statements, this research basically focused on behavioral characteristics of firms and their ability to use those characteristics to overcome information asymmetry and credit risk issues to have credit access. The reason why this research considered both theories was to prevent quick deterioration of EO signals. During long term relationships and frequent interactions with banks, entrepreneurs might be able to send multiple signals to loan officers or managers to reduce information asymmetry and so credit risks to gain loans.

Moreover, this research extends literature by applying EO signals that have never used in bank credit access. All previous studies regarding EO signals focus on financing from microfinance institutions, venture capitalist or initial public offerings (IPOs). Therefore, this research is sole that considers signaling

EO in bank lending. Moreover, some of existing studies have used entrepreneurial rhetoric and narratives to measure signaling EO. But, this research used applied and gained certification, R&D expenses and preannouncement of new products to measure EO signals in bank lending. This is another difference of this research from previous researchers.

On the other hand, this thesis also examines the direct impact of both EO and relationship lending methods to provide other solutions for SMEs to gain bank loans. Influences of EO constructs on access to finance have already analyzed by some studies. However, considering these studies some of them focuses on different sectors, various financing sources, different dimensions of EO and some of them have lack of number of respondents. As far as the researcher knows, the constructs of relationship lending namely, proportion of main bank in total debt and frequency of interactions with banks have never considered by previous studies in Turkey. But this research analyzed the impacts of EO and relationship lending on access to bank finance from wider perspective by including five dimensions of EO, different measurements of relationship lending and involving high number of Turkish SMEs. Since all those facts have not analyzed together in the literature yet, this research also expands previous studies by providing empirical evidences related with these variables.

5.2. Contribution to Practice

The results of the thesis may excite attentions of academicians, policy makers, financing institutions and entrepreneurs. For instance, academicians can use the result of this research for some related courses that focus on the development of entrepreneurial competencies. In this regard, entrepreneurial, communication, quality certifications and bank financing educations can be given to entrepreneurs. Educations and trainings can be provided for entrepreneurs to improve their competencies regarding EO. The way how to gain patent and other certifications can be thought by those education and training programs too.

Moreover, the research can be guide for entrepreneurs to improve their entrepreneurial characteristics, bank credit access, development of their career and work efficiency for their firms. By noticing the importance of their entrepreneurial behaviors and their firms' entrepreneurial abilities, entrepreneurs can improve those attitudes and develop their business too. As it is confirmed in the research, certification plays an important role in bank credit access of SMEs. By motivating themselves to create new ideas, improve their existing products and run those facts in having certification process not only improves firm quality

but also their likelihood of gaining bank credit. Similarly, the study may be valuable for the working life because of revealing the significance of personal development related with effective working.

Financing of SMEs is important for the economy of a country because of SMEs' value addition, work creation and exporting activities. In this regard, the findings and suggestions of this research also might help policy makers to apply some new regulations and activities to support development of entrepreneurship, SME financing and bank lending. By having more detailed information about current situations of Turkish SMEs in bank lending and these firms' various abilities and needs can stimulate policy makers to fulfill urgent requirements of SMEs.

This research also provides better understandings for the differences among SMEs in relation with their credit obstacles, entrepreneurial characteristics and relationships with banks. Therefore, banks can also gain benefits from the results of this research. By presenting the reason of credit risks and obstacles and the solutions for those issues, this study might extinguish banks' concerns about credit risks of SMEs. This research also might create awareness among banks regarding importance of certifications in the credit access of SMEs. Banks and government can notice the obstacles that SMEs face in lending and try to solve those problem together by finding effective solutions. On the other hand, this study provided an alternative way for banks to solve information asymmetry between themselves and SMEs by focusing on soft information. Banks may resolve their concern about credit risk of those firms by receiving signals that are related with EO of SMEs. Frequent interaction, communication and long term relations make both players to be more informed about each other. On the other hand, because of operating in unstable economic conditions, it is more likely for Turkish firms to go bankruptcy. But having close relations can make banks to easily notice current conditions in those firms regarding SMEs' credit risks.

5.3. Limitations

This research is limited only with the bank credit and SMEs segment. The data collection process was performed only in Turkey. Therefore, the study is not available to make comparison with other SMEs from different countries. The analyzes for the key variables were limited because of having limited time in data collection so the collected data only consisted of the snapshot of respondents.

Moreover, the study investigated relationship lending and signaling theories that were based on soft data. Any questions regarding SMEs' incomes, deficits, profits, credit volumes and credit rates were not existing in the questionnaire. For this reason, the study was limited to apply some methods that examine information from hard data such as accounting ratios and financial statements. Because of several variables that have impact on credit access of SMEs, the thesis could only present models with limited variables. Although, a self-administered questionnaire was developed for respondents, the willingness of respondents was another limitation. But, the researcher was cautious to overcome this problem. Another important limitation is level of significance. P values from Wald Statistics for some variables of this research were more than 5% significance level. Therefore, the study applied 10% level of significance for some cases.

In order to present more comprehensive studies, researchers can try to eliminate the limitations of this research. For instance, they can include other financing opportunities such as funds from crowdfunding or venture capitalist. Moreover, a new credit assessment method that includes both of types of data namely, soft and hard data to measure credit risk of SMEs can be applied or created by further studies.

The comparison of SMEs from different countries can present more widen research. The number of respondents, different credit obstacles, other variables that have impact on credit risk and credit access of SMEs, and larger size enterprises can also be included by researchers for more extensive studies. Other studies can also look these issues from banks' perspective and can apply signaling theory to evaluate how banks receive EO signals during relationship lending. By preparing questionnaire or case studies for bank credit officers and managers, further studies can focus whether banks consider these signals when they evaluate credit application of SMEs.

REFERENCES

1. ABIGEM, 2019. Available from: http://www.abigem.org/appmanager/en/portal?nfpb=true&_pageLabel=ppp_pAbigemVeKobiler Accessed: 28.02.2019
2. ACHLEITNER, A. K., BRAUN, R., KOHN, K. New venture financing in Germany: Effects of firm and owner characteristics. *Zeitschrift Für Betriebswirtschaft*, 2011, 81(1), 263-294.
3. AGARWAL, A., and ELSTON, J. Bank-firm relationships, financing and firm performance in Germany. *Economics Letters*, 2001, 72(2), 225-232.
4. AGARWAL, V., and TAFFLER, R. Comparing the performance of market-based and accounting-based bankruptcy prediction models. *Journal of Banking & Finance*, 2008, 8, 1541–1551.
5. AGOSTINO, M., GAGLIARDI, F. and TRIVIERI, F. Bank competition, lending relationships and firm default risk: An investigation of Italian SMEs. *International Small Business Journal*, 2011, 30(8) 907–943.
6. AGOSTINO, M., and TRIVIERI, F. Does trade credit play a signalling role? Some evidence from SMEs microdata. *Small Business Economics*, 2014, 42, 131–151.
7. AHLERS, G. K., CUMMING, D., GÜNTLER, C. and SCHWEIZER, D. Signaling in equity crowdfunding. *Entrepreneurial Theory and Practice*, 2015, 955-980. DOI: 10.1111/etap.12157
8. AKERLOF, G. A. The market for "Lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 1970, 84(3), 488-500.
9. ALLISON, T. H., MCKENNY, A. F., and SHORT, J. C. The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. *Journal of Business Venturing*, 2013, 28(6), 690-707. <https://doi.org/10.1016/j.jbusvent.2013.01.003>
10. ALTMAN, E. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance*, 1968, 23, 589-609. <http://dx.doi.org/10.1111/j.1540-6261.1968.tb00843.x>
11. ALTMAN, E. I. and SABATO, G. Modelling Credit Risk for SMEs: Evidence from the U.S. Market. *Abacus*, 2007, 43(3), 332-357.
12. ALTMAN, E. I., ESENTATO, M. and SABATO, G. Assessing the credit worthiness of Italian SMEs and mini-bond issuers. *Glofin* (2018), doi:10.1016/j.gfj.2018.09.003

13. AKYUZ, K. C., AKYUZ, I., SERIN, H., and CINDIK, H. The financing preferences and capital structure of micro, small and medium sized firm owners in forest products industry in Turkey. *Forest Policy and Economics*, 2006, 8, 301–311.
14. ALESSANDRINI, P., PRESBITERO, A. F., AND ZAZZARO, A. Bank size or distance: what hampers innovation adoption by SMEs? *Journal of Economic Geography*, 2010, 10(6), 845–881. <https://doi.org/10.1093/jeg/lbp055>.
15. ALSOS, A., and LJUNGGREN, E. The role of gender in entrepreneur-investor relationships: A signaling theory approach. *Frontiers of Entrepreneurship Research*, 2013, 33(8), 1-15.
16. AMINU, I. M., and SHARIFF, M. N. M. Mediating role of access to finance on the relationship between strategic orientation and SMEs performance in Nigeria: A proposed research framework. *International Journal of Management Research & Review*, 2014, 4(11), 1023–1035.
17. AMINU, I. M., and SHARIFF, M. N. M. Influence of strategic orientation on SMEs access to finance in Nigeria. *Asian Social Science*, 2015, 11(4), 298–309.
18. ANDRIKOPOULOS, P. and KHORASGANI, A. Predicting unlisted SMEs' default: Incorporating market information on accounting-based models for improved accuracy. *The British Accounting Review*, 2018, 50, 559–573.
19. ARAS, G. KOBİ'lerin Sermaye Piyasası Yoluyla Fon Sağlama Olanakları: Tezgâh üstü Piyasalar ve Risk Sermayesi Finansman Modeli. 2001, 1. Orta Anadolu Kongresi: KOBİ'lerin Finansman ve Pazarlama Sorunları.
20. ARDIC, P. O., MYLENKO, N., and SALTANE, V. Access to finance by small and medium enterprises: A cross-country analysis with a new data set. *Pacific Economic Review*, 2012, 17(4), 491–513.
21. ARTHURS, J., BUSENITZ, L., HOSKISSON, R., and JOHNSON, R. Signaling and initial public offerings: The use and impact of the lockup period. *Journal of Business Venturing*, 2009, 24, 360–372.
22. AUDRETSCH, D.B., BÖNTE, W., and MAHAGAONKAR, P. Nascent Entrepreneurs, Innovation and Financing Constraints. *DRUID Working Papers*, 2007, 7(9), 1-33.
23. AZENDE, T. Risk Management and Insurance of Small and Medium Scale Enterprises (SMEs) in Nigeria. *International Journal of Finance and Accounting*, 2012, 1(1), 8-17.
24. BACHMANN, J. T., ENGELN, A., & SCHWENS, C. (2016). Toward a better understanding of the association between strategic planning and

- entrepreneurial orientation - The moderating role of national culture. *Journal of International Management*, 22(4), 297-315.
- 25.**BACKES-GELLNER, U. and WERNER, A. Entrepreneurial signaling via education: A success factor in innovative start-ups. *Small Business Economics*, 2007, 29(1/2), 173-190.
- 26.**BADULESCU A. AND BADULESCU D. SMEs Financing Needs and The Relationship Lending Perspective, Theoretical Considerations And Empirical Evidence. *Metalurgia International*, 2012, 1-6.
- 27.**BAER, M. Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 2012, 55 (5) 1102-1119.
- 28.**BALDENIUS, T., and MENG, X. Signaling firm value to active investors. *Review of Accounting Studies*, 2010, 15, 584–619.
- 29.**BALL, R. International Financial Reporting Standards (IFRS): pros and cons for investors *Accounting and Business Research*, 2006, 36, 5–27.
- 30.**BASDEO, D. K., SMITT, K. G., GRIMM, C. M., RINDOVA, V. P., and DERFUS, P. J. The impact of market actions on firm reputation. *Strategic Management Journal*, 2006, 27, 1205–1219.
- 31.**BAUM, J. A. C. AND SILVERMAN, B. S. Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology start-ups, *Journal of Business Venturing*, 2004, 19, 411–436.
- 32.**BDDK, BANKING REGULATION AND SUPERVISION AGENCY, Türk Bankacılık Sektörü Temel Gösterileri, Eylül, 2018, Available from http://www.bddk.org.tr/ContentBddk/dokuman/veri_0014_38.pdf
- 33.**BECK, T., DEMIRGUC-KUNT, A., LAEVEN, L. and MAKSIMOVIC, V. The determinants of financing obstacles. *Journal of International Money and Finance*, 2006, 25, 932-952.
- 34.**BECK, T. Bank financing for SMEs – lessons from the literature. *National Institute Economic Review*, 2013, 225, 23-38.
- 35.**BEHR, P. and GÜTTLER, A. Credit risk assessment and relationship lending: An empirical analysis of German small and medium-sized enterprises. *Journal of Small Business Management*, 2007, 45(2), 194–213.
- 36.**BELÁS, J., BARTOŠ, P., HABÁNIK, J., and NOVÁK, P. Significant attributes of the business environment in small and medium-sized enterprises. *Economics and Sociology*, 2014, 7(3), 22-39.
- 37.**BELTRAME, F., FLOREANI, J., GRASSETTI, L., MASON, M. C., and MIANI, S. Collateral, mutual guarantees and the entrepreneurial orientation

- of SMEs, *Management Decision*, 2018, <https://doi.org/10.1108/MD-11-2017-1077>.
38. BERGER A., and UDELL G. Relationship lending and lines of credit in small firm finance. *The Journal of Business*, 1995, 68(3), 351-381.
 39. BERGER, A. N., KLAPPER, L. F., and UDELL, G. F. The ability of banks to lend to informationally opaque small businesses. *World Bank Policy Research Working Paper No. 2656*, 2001, Available at SSRN: <https://ssrn.com/abstract=260575>.
 40. BERGER A. and UDELL G. Small business credit availability and relationship lending: The importance of bank organizational structure, *The Economic Journal*, 2002, 112 (February), 32-53.
 41. BERGER, A.N., FRAME, W.S., and MILLER, N.H. Credit scoring and the availability, price, and risk of small business credit. *Journal of Money, Credit, and Banking*, 2005, 37, 191–222.
 42. BERGER A., and UDELL G. A more complete conceptual framework for SMEs finance. *Journal of Banking and Finance*, 2006, 30, 2945–2966.
 43. BERGER, A.N. and FRAME, W.S. Small business credit scoring and credit availability. *Journal of Small Business Management*, 2007, 45 (1), 5-22.
 44. BERGER, A. N., GOULDING, W., and RICE, T. Do small businesses still prefer community banks? *Journal of Banking & Finance*, 2014, 44, 264–278.
 45. BERGH, D. D., CONNELLY, B. L., KETCHEN, D. J., and SHANNON, L. M. Signalling theory and equilibrium in strategic management research: An assessment and a research agenda. *Journal of Management Studies*, 2014, 51(8), doi: 10.1111/joms.12097.
 46. BILIM, SANAYI VE TEKNOLOJİ BAKANLIĞI, Sanayi Genel Müdürlüğü, Sanayi Yatırımlarına Verilen Destekler ve Teşvik Programları, 2017. Available from: <https://sgm.sanayi.gov.tr/handlers/DokumanGetHandler.ashx?dokumanId=10307832-83d7-4ced-a2fa-9520e15c4661>
 47. BIRD, R. and SMITH, E. Signaling theory, strategic interaction, and symbolic capital. *Current Anthropology*, 2005, 46(2), 221-248.
 48. BOUGHEAS, S., MIZEN, P. and YALCIN, C. Access to external finance: Theory and evidence on the impact of monetary policy and firm-specific characteristics. *Journal of Banking and Finance*, 2006, 30(1), 199-227.
 49. BRANCATI, E. Innovation financing and the role of relationship lending for SMEs. *Small Business Economy*, 2015, 44, 449–473, DOI 10.1007/s11187-014-9603-3.

50. BRISLIN, R. W. Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, 1970, 1(3), 185–216.
51. BROWN M. and ZEHNDER, C. Credit reporting, relationship banking, and loan repayment. *Journal Of Money, Credit And Banking*, 2007, 39(8), 1883–1917.
52. BRUNSA V. and FLETCHER M. Banks' risk assessment of Swedish SMEs. *Venture Capital*, 2008, 10(2), 171–194.
53. BUSENITZ, L. W., FIET, J. O., and MOESEL, D. D. Signalling in Venture Capitalist—New Venture Team Funding Decisions: Does it Indicate Long-Term Venture Outcomes? *Entrepreneurship Theory and Practice*, 2005, 29(1), 1–12. <https://doi.org/10.1111/j.1540-6520.2005.00066.x>
54. CANOVAS, G. H. and SOLANO, P. M. Relationship lending and SME financing in the continental European bank-based system. *Small Business Economics*, 2010, 34, 465–482.
55. CANTON, E., GRILO, I., MONTEAGUDO, J. and VAN DER ZWAN, P. Perceived credit constraints in the European Union. *Small Business Economics*, 2013, 41, 701–715.
56. CAOUILLE, J. B., ALTMAN, E. I., NARAYANAN, P. and NIMMO, R. *Managing credit risk the great challenge for the global financial markets*. Canada, Second Edition, John Wiley & Sons, Inc., 2008.
57. CARLETTI, E. The structure of bank relationships, endogenous monitoring, and loan rates. *Journal of Financial Intermediation*, 2004, 13, 58–86.
58. CENNI, S., MONFERRÀ, S., SALOTTI V., SANGIORGI, M., and TORLUCCIO, G. Credit rationing and relationship lending. Does firm size matter? *Journal of Banking & Finance*, 2015, 53, 249–265.
59. CENTRAL BANK OF THE REPUBLIC OF TURKEY, Ticari Krediler TL Üzerinden Açılan, Tüzel Kişi KMH ve Kurumsal Kredi Kartları Hariç), TCMB İstatistik Genel Müdürlüğü, Veri Yönetimi Müdürlüğü, Available from: <https://evds2.tcmb.gov.tr/index.php?/evds/dashboard/341>
60. CERTO, S. T. Influencing initial public offering investors with prestige: Signaling with board structures. *Academy of Management Review*, 2003, 28(3), <https://doi.org/10.5465/amr.2003.10196754>.
61. CHENG, B., IOANNOU, I., AND SERAFEIM, G. Corporate social responsibility and access to finance. *Strategic Management Journal*, 2014, 35(1), 1–23.
62. COCHRAN, W. G. *Sampling Techniques*, 2nd Ed., New York, 1963: John Wiley and Sons, Inc.

63. COLEMAN, S. The role of education and experience in small firm access to bank loans: Is there a link?. *Journal of Business and Entrepreneurship*, 2004, 16(1), 1-16.
64. COHEN, B. and DEAN, T. Research notes and commentaries information asymmetry and investor valuation of IPOs: Top management team legitimacy as a capital market signal. *Strategic Management Journal*, 2005, 26, 683–690.
65. COLQUITT, J. A., SCOTT, B. A., and LEPINE, J. A. Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, 2007, 92(4), 909-927. <http://dx.doi.org/10.1037/0021-9010.92.4.909>
66. CONNELLY, B., CERTO, T., IRELAND, D. and REUTZEL, C. Signaling theory: A review and assessment. *Journal of Management*, 2011, 37(1), 39-67.
67. COSCI, S., MELICIANI, V. and SABATO, V. Relationship lending and innovation: empirical evidence on a sample of European firms. *Economics of Innovation and New Technology*, 2015, DOI: 10.1080/10438599.2015.1062098
68. COURTNEY, C., DUTTA, S. and YONG, L. Resolving information asymmetry: Signaling, endorsement, and crowdfunding success. *Entrepreneurship Theory and Practice*, 2016, Available at SSRN: <https://ssrn.com/abstract=2866139>
69. COVIN, J.G. and SLEVIN, D.P. The development and testing of an organizational-level entrepreneurship scale. *Frontiers of entrepreneurship research*, 1986, Wellesley, MA: Babson College.
70. COVIN, J.G. and SLEVIN, D.P. A conceptual model of entrepreneurship as firm behaviour. *Entrepreneurship Theory and Practice*, 1991, 16(1), 7-24.
71. COVIN, J. G., GREEN, K. M., and SLEVIN, D. P. Strategic process effects on the entrepreneurial orientation–sales growth rate relationship. *Entrepreneurship Theory and Practice*, 2006, 30 (1), <https://doi.org/10.1111/j.1540-6520.2006.00110.x>
72. COWLING, M., LIU, W., and LEDGER, A. Small business financing in the UK before and during the current financial crisis. *International Small Business Journal*, 2012, 30(7), 778–800.
73. CREDIT GUARANTEE FUND, 2019. Available from: <https://www.kgf.com.tr/index.php/en/information-center/kgf-in-numbers>
Accessed: 01.03.2019.

74. CRONBACH, L. J. Coefficient alpha and the internal structure of tests. *Psychometrika*, 1951, 16(3), 297–334. doi:10.1007/bf02310555.
75. DASKALAKIS, N., JARVIS, R., and SCHIZAS, E. Financing practices and preferences for micro and small firms. *Journal of Small Business and Enterprise Development*, 2013, 20(1), 80-101.
76. DEAKINS, D., WHITTAM, G., and WYPER, J. SMEs access to bank finance in Scotland: An analysis of bank manager decision making. *Venture Capital*, 2010, 13(3), 193-209.
77. DEHGHAN, A. and POOL, J. K. The effects of customer and entrepreneurial orientation on innovativeness and performance. *International Journal of Arts & Sciences*, (2015), 8(4), 357–364.
78. DESS, G. G. and LUMPKIN, G. T. The Role of Entrepreneurial Orientation in Stimulating Effective Corporate Entrepreneurship, *Academy of Management Perspectives*, 2005, 19(1), <https://doi.org/10.5465/ame.2005.15841975>.
79. DEVELOPMENT AND INVESTMENT BANK OF TURKEY, 2019. Available from: <http://english.kalkinma.com.tr/kalkinma-investment-securities.aspx> Accessed:01.03.2019.
80. DICKEL, P. The impact of protectability and proactiveness on the environmental performance of new ventures. *Corporate Governance: The International Journal of Business in Society*, 2017, 17(1), 1-24.
81. DIETSCH M., and PETEY, J. The credit risk in SMEs loans portfolios: Modeling issues, pricing, and capital requirements. *Journal of Banking and Finance*, 2002, 26, 303–322.
82. DIMITRATOS, P., and PLAKOYIANNAKI, E. Theoretical foundations of an international entrepreneurial culture. *Journal of International Entrepreneurship*, 2003, 1, 187–215.
83. DONG, Y., and MEN, C. SME financing in emerging markets: Firm characteristics, banking structure and institutions. *Emerging Markets Finance & Trade*, 2014. 50(1), 120–149.
84. DUARTE, F. D., GAMA, A. P. M., and GULAMHUSSEN, M. A. Defaults in bank loans to SMEs during the financial crisis. *Small Business Economy* (2018) 51:591–608. DOI 10.1007/s11187-017-9944-9
85. DURCIKOVA, A. and GRAY, P. How knowledge validation processes affect knowledge contribution, *Journal of Management Information Systems Archive*, 2009, 25(4), 81-108.

- 86.**DYER, J. H. and HATCH, N. Relation-specific capabilities and barriers to knowledge transfers: Creating advantage through network relationships, *Strategic Management Journal*, 2006, 27, 701–719.
- 87.**EDDLESTON, K. A., LADGE, J. J., MITTENESS, C. and BALACHANDRA, L. Do you see what I see? Signalling effects of gender and firm characteristics on financing entrepreneurial ventures. *Entrepreneurship Theory and Practice*, 2016, 489-514, DOI: 10.1111/etap.12117.
- 88.**ELITZUR, R. and GAVIOUS, A. Contracting, signalling, and moral hazard: a model of entrepreneurs, 'angels,' and venture capitalists. *Journal of Business Venturing*, 2003, 18(6), 709-725.
- 89.**ELSAS, R. Empirical determinants of relationship lending. *Journal of Financial Intermediation*, 2005, 14, 32–57.
- 90.**ELSAS, R. and KRAHNEN, J. P. Is relationship lending special? Evidence from credit-file data in Germany. Center for Financial Studies (CFS) Working Paper Series, 1998, 05, 1-40.
- 91.**ERDOGAN, A. I. Which SMEs perceive access to finance as an obstacle to their operations? Evidence from Turkey. *Journal of Economic and Social Development*, 2015, 2(2), 13-19.
- 92.**ERDOGAN, S. Bank lending criteria and relationship lending. *Journal of Advanced Management Science*, 2014, 2(3), 220-227.
- 93.**ETOHUM, 2019. Available from: <https://www.eto hum.com/en/About>
Accessed: 01.03.2019
- 94.**EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT (EBRD), 2019. Available from: <https://www.ebrd.com/work-with-us/project-finance/loans.html> Accessed: 28.02.2019.
- 95.**EUROPEAN COMMISSION. Commission recommendation of 6 may 2003, concerning the definition of micro, small and medium-sized enterprises (notified under document number C(2003) 1422). Available from: <https://eurlex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32003H0361&from=EN>
- 96.**EUROPEAN COMMISSION. Annual Report on European SMEs 2014/2015. SMEs start hiring again. SME performance review, final report, 2016. Available from: https://ec.europa.eu/jrc/sites/jrcsh/files/annual_report_-_eu_smes_2015-16.pdf

97. EUROPEAN COMMISSION, SBA fact sheet Turkey , 2017, Available from: https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/turkey_sba_fs_2017.pdf
98. EUROPEAN COMMISSION. Annual Report on European SMEs 2017/2018 SMEs growing beyond borders. ISBN 978-92-79-96822-8 ISSN 2467-0162 DOI 10.2873/248745
99. EUROPEAN INVESTMENT BANK (EIB), 2018. Available from: http://www.eib.org/attachments/country/turkish_smes_en.pdf.
100. EUROPEAN UNION. COSME Program, 2018, Available from: <https://ab.gov.tr/47126.html> Accessed: 28.02.2019
101. EUROPEAN UNION. Horizon 2020 Program, 2018, Available from: <https://ec.europa.eu/research/index.cfm?pg=newsalert&year=2016&na=na-160316>. Accessed: 28.02.2019.
102. FATOKI, O., and ODEYEMI, A. The determinants of access to trade credit by new SMEs in South Africa. *African Journal of Business Management*, 2010, 4(13), 2763-2770.
103. FATOKI, O. The impact of entrepreneurial orientation on access to debt finance and performance of small and medium enterprises in South Africa. *Journal of Social Science*, 2012, 32(2), 121–131.
104. FELDMAN, M., KELLEY, M. The ex ante assessment of knowledge spillovers: government R&D policy, economic incentives and private firm behavior. *Research Policy*, 2006, 35, 1509–1521.
105. FIDRMUC, J. and HEINZ, C. Default rates in the loan market for SMEs: Evidence from Slovakia. *Econ. Syst.* 2009, 34, 133–147.
106. FIELD, A. *Discovering Statistics Using SPSS*. Sage Publications, 2009, Third Edition.
107. FIORDELISI, F., MONFERRA, S. and SAMPAGNARO, G. Relationship lending and credit quality. *Journal of Financial Services Research*, 2014, 46, 295–315.
108. FREDRIKSSON A. and MORO A. Bank-SMEs relationship and banks' risk adjusted profitability. *Journal of Banking and Finance*, 2014, 41, 67-77.
109. FREEL, M. S. Are small innovators credit rationed? *Small Business Economics*, 2007, 28(1), 23–35.
110. GAMA, A. P. M. and GERALDES, H. S. A. Credit risk assessment and the impact of the New Basel Capital Accord on small and medium-sized enterprises An empirical analysis. *Management Research Review*, 2012, 35(8), 727 – 749.

111. GAO, H., DARROCH, J., MATHER, D., and MACGREGOR, A. Signaling corporate strategy in Ipo communication: A study of biotechnology Ipos on The Nasdaq. *Journal of Business Communication*, 2008, 45(1), 3-30.
112. GARCIA-GRANERO, A., LLOPIS, O., FERNÁNDEZ-MESA, A. and ALEGRE, J. Unraveling the link between managerial risk-taking and innovation: The mediating role of a risk-taking climate. *Journal of Business Research*, 2015, 68(5), 1094-1104, <https://doi.org/10.1016/j.jbusres.2014.10.012>
113. GERSL, A. and JAKUBIK, P. Relationship lending in emerging markets: Evidence from the Czech Republic. *Comparative Economic Studies*, 2011, 53, 575–596.
114. GHIMIRE, B., and ABO, R. An empirical investigation of Ivorian SMEs access to bank finance: Constraining factors at demand-Level. *Journal of Finance and Investment Analysis*, 2013, 2(4), 29-55.
115. GIANNETTI, C. Relationship lending and firm innovativeness. *Journal of Empirical Finance*, 2012, 19, 762–781.
116. GRIETHUIJSEN, R., EIJCK, M. W., HASTE, H., BROK, P. J., SKINNER, N. C., and MANSOUR, N. Global patterns in students' views of science and interest in science. *Research in Science Education*, 2014, 45(4), 581–603. doi:10.1007/s11165-014-9438-6.
117. GULATI, R. *Managing network resources: Alliances, affiliations, and other relational assets*. 2007, New York: Oxford University Press.
118. GULATI, R. and HIGGINS, M. C. Which ties matter when? The contingent effects of interorganizational partnerships on IPO Success. *Strategic Management Journal*, 2003, 24, 127–144.
119. GUPTA, V.K. and GUPTA, A. Relationship between entrepreneurial orientation and firm performance in large organizations over time. *Journal of International Entrepreneurship*, 2015, 13 (1), 7-27.
120. HAIR, J. F. JR., ANDERSON, R. E., TATHAM, R. L. and BLACK, W. C. *Multivariate Data Analysis* (3rd ed), 1995, New York: Macmillan.
121. HAIR, J., BLACK, W., BABIN, B., ANDERSON, R., AND TATHAM, R. *Multivariate Data Analysis* (6th ed.). (2006). New Jersey: Pearson Educational, Inc.
122. HANEDAR, E. Y., BROCCARDO, E. and BAZZANA, F. Collateral requirements of SMEs: The evidence from less–developed countries. *CEFIN Working Papers*, 2012, 34.

123. HEIL, O. and EHSERTSON, T. S. toward a theory of competitive market signalling: A research agenda. *Strategic Management Journal*, 1991, 12 (6), 403-418.
124. HERITAGE, Economic Freedom Index, 2018, <https://www.heritage.org/index/visualize> Accessed 20.01.2019.
125. HERITAGE, Business Freedom Index, 2018, <https://www.heritage.org/index/visualize> accessed 20.01.2019.
126. HERITAGE, Financial Freedom Index, 2018, <https://www.heritage.org/index/financial-freedom> accessed 20.01.2019.
127. HIGGINS, M. C. and GULATI, R. Stacking the deck: the effects of top management backgrounds on investor decisions. *Strategic Management Journal*, 2006, 27 (1), 1-25. <https://doi.org/10.1002/smj.495>
128. HINTON, P. R., BROWNLOW, C., MCMURRAY, I., and COZENS, B. *SPSS explained*. Publisher: Routledge; 1st edition, 2004.
129. HO, R. *Handbook of univariate and multivariate data analysis with IBM SPSS*. Second Edition, 2014, CRC Press, Taylor and Francis Group.
130. HOLDEN, M. T. and LYNCH, P. Choosing the appropriate methodology: Understanding research philosophy (RIKON Group). *The Marketing Review*, 2004, 4, 397-409.
131. HOPP C. and LUKAS, C. A signalling perspective on partner selection in venture capital syndicates. *Entrepreneurial Theory and Practice*, 2014, 635-670. DOI: 10.1111/etap.12023
132. HOWORTH, C. and MORO, A. Trustworthiness and interest rates: an empirical study of Italian SMEs. *Small Business Economics*, 2012, 39, 161–177. DOI 10.1007/s11187-010-9285-4
133. HOWORTH, C., PEEL, M. J., and WILSON, N. An examination of the factors associated with bank switching in the U.K. small firm sector. *Small Business Economics*, 2003, 20, 305–317.
134. HSU, D. H. and ZIEDONIS, R. H. Resources as dual sources of advantage: Implications for valuing entrepreneurial-firm patents. *Strategic Management Journal*, 2013, 34 (7), 761-781. <https://doi.org/10.1002/smj.2037>
135. IBRAHIM, M. A. and SHARIFF, M. N. M. Mediating role of access to finance on the relationship between strategic orientation attributes and SMEs performance in Nigeria. *International Journal of Business and Society*, 2016,17(3), 473-496.
136. IFC (International Finance Cooperation, World Bank Group). *IFC Issue Brief/Small and Medium Enterprises*, 2016, Washington DC.

- 137.** IKRAM, A., SU, Q., IJAZ, F. and FIAZ, M. Determinants of non-performing loans: An empirical investigation of bank-specific microeconomic factors. *The Journal of Applied Business Research*, 2016, 32 (6), 1723-1736.
- 138.** ISLAM, A. M., KHAN, A. M., OBAIDULLAH, M. Z. A. and ALAM, N. S. Effect of entrepreneur and firm characteristics on the business success of SMEs in Bangladesh. *International Journal of Business and Management*, 2011, 6(3), 289-299.
- 139.** JANNEY, J., AND FOLTA, T. Moderating effects of investor experience on the signaling value of private equity placements. *Journal of Business Venturing*, 2006, 21, 27– 44.
- 140.** JENKINS, H. and HUSSAIN, M. An analysis of the macroeconomic conditions required for SME lending: The case of Turkey. *Development Discussion Paper*, 2014, 1-29.
- 141.** JENKINS, H. and HOSSAIN, M. An Analysis of the Macroeconomic Conditions Required for SME Lending: Evidence from Turkey and Other Emerging Market Countries. *Panaeconomicus*, 2017, 64 (1), pp. 77-92. DOI: 10.2298/PAN140213008J.
- 142.** JIMENEZ, G., SALAS, V., and SAURINA, J. Determinants of collateral. *Journal of Financial Economics*, 2006, 81, 255–281.
- 143.** JUNG, H. Signaling quality with new product preannouncements: Vaporware and the role of reference quality. *Journal of Business Research*, 2011, 64 (11), 1251-1258.
- 144.** KALAYCI S. and ARSLAN S. Early NPL Warning for SME Credit Risk: An Experimental Study. In *Proceedings of the 9th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, 2017, 190-197. DOI: 10.5220/0006496601900197.
- 145.** KARABIÇAK, M. and ALTUNTEPE, N. KOBİ'lerin kredi yoluyla finansmanı. 1. Orta Anadolu Kongresi, KOBİ'lerin Finansman ve Pazarlama Sorunları, 2001, Erciyes Üniversitesi, Nevşehir İİBF, 18-21 Ekim, Nevşehir.
- 146.** KARAN, M. B., ULUCAN, A. and KAYA, M. Credit risk estimation using payment history data: a comparative study of Turkish retail stores. *CEJOR*, 2013, 21, 479–494. DOI 10.1007/s10100-012-0242-y
- 147.** KEE, D. M. H. and RAHMAN, N. A. Analysing entrepreneurial orientation impact on start-up success with support service as moderator: A PLS-SEM approach. *BEH - Business and Economic Horizons*, 2017, 13(2). pp.128-141. DOI: <http://dx.doi.org/10.15208/beh.2017.1>

148. KHEDHAOURIA, A., GURAU, C., and TORRE'S O. Creativity, self-efficacy, and small-firm performance: the mediating role of entrepreneurial orientation. *Small Business Economics*, 2015, 44, 485–504.
149. KIM, J. B., SIMUNIC, D. A., STEIN, M. T. and CHEONG. H. Y. Voluntary audits and the cost of debt capital for privately held firms: Korean evidence. *Contemporary Accounting Research*, 2011, 28, 585–615. <https://doi.org/10.1111/j.1911-3846.2010.01054.x>
150. KING A. A, LENOX M. J., and TERLAAK A. The strategic use of decentralized institutions: Exploring certification with the ISO 14001 management standard. *Academy of Management Journal*, 2005, 48, 1091–1106.
151. KIRMANI, A. AND RAO, A. R. No Pain, No Gain: A critical review of the literature on signalling unobservable product quality. *Journal of Marketing*, 2000, 64 (2), 66-79.
152. KOBİ BİLGİ SİTESİ, TOBB, (2019). <http://www.kobi.org.tr/index.php/haberler/kob-haberler/1180-zafer-kalknma-ajans-30-mlyon-tl-buetceli-destek-program-> Accessed: 28.02.2019
153. KOBİAS, 2019. Available from: <http://www.kobias.com.tr/en/index.html> Accessed: 01.03.2019
154. KON, Y., and STOREY D.J. A theory of discouraged borrowers. *Small Business Economics*, 2003, 21(1), 37-49.
155. KOSGEB. Support Services, 2019. Available from: <http://en.kosgeb.gov.tr/site/tr/genel/destekler/3/supports-services> Accessed: 02.03.2019
156. KOSGEB. 2011-2013 SME Strategy and Action Plan, May, 2011, Ankara, Turkey.
157. KOSGEB, SME Strategy and action plan. 2015-2018 KSEP Report. Available from: [https://www.kosgeb.gov.tr/Content/Upload/Dosya/Mali%20Tablolar/KSEP/Kobi_Stratejisi_ve_Eylem_Plani_\(2015-2018\).pdf](https://www.kosgeb.gov.tr/Content/Upload/Dosya/Mali%20Tablolar/KSEP/Kobi_Stratejisi_ve_Eylem_Plani_(2015-2018).pdf)
158. KRAUS, S. The role of entrepreneurial orientation in service firms: Empirical evidence from Austria. *The Service Industries Journal*, 2013, 33(5), 444-472.
159. LAMBERT, R.A., LEUZ, C. and VERRECCHIA, R.E. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research*, 2007, 45(2), 385–420.

- 160.** LAWLESS, M. and MCCANN, F. Determinants of default: Evidence from a sector-level panel of Irish SME loans. *The Economic and Social Review*, 2013, 44(4), 473–488.
- 161.** LE, N.T.B., and NGUYEN, T.V. The impact of networking on bank financing: The case of small and medium-sized enterprises in Vietnam. *Entrepreneurship Theory and Practice*, 2009, 867-887.
- 162.** LECHNER, C. and GUDMUNDSSON V. S. Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal*, 2014, 32(1), 36-60.
- 163.** LEE, D. H., Remedying Past and Future Harm: Reconciling Conflicting Circuit Court Decisions Under the Federal Trademark Dilution Act, 2002, 29 Pepp. L. Rev. 4.
- 164.** LEE, R., CHEN, Q and HARTMANN, N. Enhancing stock market return with new product preannouncements: The role of information quality and innovativeness. *Product Innovation Management*, 2016, 33(4), 455–471.
- 165.** LEE, N., SAMEEN, H. and COWLING, M. Access to finance for innovative SMEs since the financial crisis. *Research Policy*, 2015, 44, 370–380.
- 166.** LEHMANN, E. and NEUBERGER, D. Do lending relationships matter?: Evidence from bank survey data in Germany. *Journal of Economic Behavior & Organization*, 2001, 45(4), 339-359. [https://doi.org/10.1016/S0167-2681\(01\)00151-2](https://doi.org/10.1016/S0167-2681(01)00151-2).
- 167.** LERNER, J. The government as venture capitalist: the long-run impact of the SBIR program. *The Journal of Business*, 1999, 72 (3), 285–318.
- 168.** LIM, S. and ENVICK, E.R. Gender and entrepreneurial orientation: A multi country study. *International Entrepreneurship and Management Journal*, 2011, 9, 465-482.
- 169.** LONG, J. S. Regression Models for categorical and limited dependent variables. Thousand Oaks, CA, 1997, Sage Publications.
- 170.** LUMPKIN, G. T., and DESS, G. G. Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 1996, 21(1), 135–172.
- 171.** LUMPKIN, G. T., COGLISER, C., and SCHNEIDER, D. Understanding and measuring autonomy: An entrepreneurial orientation perspective. *Entrepreneurship Theory and Practice*, 2009, 33(3), 47-69.
- 172.** MAHMOOD, R. and HANAFI, N. Entrepreneurial orientation and business performance of women-owned small and medium enterprises in

- Malaysia: Competitive advantage as a mediator. *International Journal of Business and Social Science*, 2013, 4(1), 82-90.
- 173.** MCCARTHY, S., OLIVER, B. and VERREYNNE, M. Bank financing and credit rationing of Australian SMEs. *Australian Journal of Management*, 2015, 1–28. DOI: 10.1177/0312896215587316
- 174.** MEMMEL, C., SCHMIEDER, C. and STEIN, I. Relationship lending – empirical evidence for Germany. Deutsche Bundesbank Discussion Paper, Series 2: Banking and Financial Studies, No 14/2007.
- 175.** MENKHOFF, L., NEUBERGER, D. AND SUWANAPORN, C. Collateral-based lending in emerging markets: Evidence from Thailand. *Journal of Banking & Finance*, 2006, 30 1–21.
- 176.** MERTON, R. C. The pricing of corporate debt: the risk structure of interest rates. *Journal of Finance*, 1974, 29 (2), 449–470.
- 177.** MEULEMAN, M. and DE MAESENEIRE, W. Do R&D subsidies affect SMEs’ access to external financing? *Research Policy*, 2012, 41, 580– 591.
- 178.** MIAOULIS, G., and MICHENER, R. D. *An Introduction to Sampling*. 1976, Dubuque, Iowa: Kendall/Hunt Publishing Company.
- 179.** MICUCCI, G. and ROSSI, P. Financing R&D investments: An analysis on Italian manufacturing firms and their lending banks. *Economia e Politica Industriale*, 2017, 44 (1), 23–49.
- 180.** MILLER, D. The correlates of entrepreneurship in three types of firms. *Management Science*, 1983, 29(7), 770-791.
- 181.** MINA, A., LAHR, H. and HUGHES, A. The demand and supply of external finance for innovative firms. *Industrial and Corporate Change*, 2013, 22 (4), 869-901.
- 182.** MINARD, P. Signalling through the noise: private certification, information asymmetry and Chinese SMEs’ access to finance. *Journal of Asian Public Policy*, 2015, DOI: <http://dx.doi.org/10.1080/17516234.2015.1083412>
- 183.** MINNIS, M. The value of financial statement verification in debt financing: Evidence from private U.S. firms, *Journal of Accounting Research*, 2011, 49, 457–506.
- 184.** MOHAMMED, U. D., and OBELEAGU-NZELIBE, C. G. Entrepreneurial skills and profitability of Small and Medium Enterprises (SMEs): Resource acquisition strategies for new ventures in Nigeria. *25th International Business Research Conference*, 2014, 1-21.
- 185.** MORO, A., and FINK, M. Perceived competence and credit access of SMEs: Can trust change the rules of the game? *Small Business*,

- Entrepreneurship and Economic Recovery, A Focus on Job Creation and Economic Stabilization, Federal Reserve Bank of Atlanta, 2010, 1-33.*
- 186.** MORO, A. and FINK M. Loan managers's trust and credit access for SMEs. *Journal of Banking and Finance*, 2013, 37, 927-936.
- 187.** MORO, A., FINK, M. and MARESCH, D. Reduction in information asymmetry and credit access for small and medium-sized enterprises. *The Journal of Financial Research*, 2015, 38(1), 121–143.
- 188.** MOSS, S. C., PROSSER, H., and COSTELLO, H. Reliability and validity of the PAS-ADD Checklist for detecting psychiatric disorders in adults with intellectual disability. *Journal of Intellectual Disability Research*, 1998, 42, 173-183.
- 189.** MOSS, T., NEUBAUM, D. and MEYSKENS, M. The effect of virtuous and entrepreneurial orientations on microfinance lending and repayment: A signaling theory perspective. *Entrepreneurship Theory and Practice*, 2015, January, 27-52.
- 190.** MUNOZ, M., WELSH, D., CHAN, S. and RAVEN, P. Microenterprises in Malaysia: A preliminary study of the factors for management success. *International Entrepreneurship and Management Journal*, 2015, 11, 673-694.
- 191.** NANYONDO, M., TAURINGANA, V., KAMUKAMA, N. and NKUNDABANYANGA, S. Quality of financial statements, information asymmetry, perceived risk and access to finance by Ugandan SMEs. *Int. J. Management Practice*, 2014, 7(4), pp. 324-340.
- 192.** NELSON, P. Advertising as Information. *Journal of Political Economy*, 1974, 82(4), 729-754.
- 193.** NEUBERGER, D. and RATHKE, S. Microenterprises and multiple bank relationships: the case of professionals. *Small Business Economics*, 2009, 32, 201-229.
- 194.** NEWMAN, A., GUNESSEE, S., and HILTON, B. Applicability of financial theories of capital structure to the Chinese cultural context: A study of privately owned SMEs. *International Small Business Journal*, 2012, 30(1), 65-83.j.
- 195.** NINO-AMEZQUITA, J., LEGOTIN, F. and BARBAKOV, O. Economic success and sustainability in pharmaceutical sector: a case of Indian SMEs. *Entrepreneurship and Sustainability Issues*, Entrepreneurship and Sustainability Center, 2017, 5 (1), 157 - 168.

- 196.** NOBLE, C. H., SINHA, R. K., and KUMAR, A. Market orientation and alternative strategic orientations: a longitudinal assessment of performance implications. *Journal of Marketing*, 2002, 66, 25–39.
- 197.** NURGALIYEVA, A. Ways to improve credit risk management of the banking system of Kazakhstan: The post-crisis approaches. *Actual PEHSlems of Economics*, 2014, 5(155), 1-19.
- 198.** OECD. Small and medium-sized enterprises in Turkey: Issues and policies, 2004, Available from <https://www.oecd.org/turkey/31932173.pdf>.
- 199.** OECD. Financing SMEs and Entrepreneurs. An OECD Scoreboard, 2014.
- 200.** OECD. Financing SMEs and Entrepreneurs: An OECD Scoreboard, 2016.
- 201.** OECD. Financing SMEs and Entrepreneurs: An OECD Scoreboard, 2018. Available from https://read.oecd-ilibrary.org/industry-and-services/financing-smes-and-entrepreneurs-2018_fin_sme_ent-2018-en#page67
- 202.** OFEK, E. AND TURUT, O. Vaporware, suddenware, and trueware: New product preannouncements under market uncertainty, *Marketing Science*, 2013, 32(2), 342-355. DOI: 10.1287/mksc.1120.0762
- 203.** OGUBAZGHI, S.K., and MUTURI, W. The effect of age and educational level of owner/managers on SMMEs’ access to bank loan in Eritrea: Evidence from Asmara City. *American Journal of Industrial and Business Management*, 2014, 4, 632-643.
- 204.** OKUYAN, H. A. The Effect of Asymmetric Information on Turkish Banking Sector and Credit Markets. *Revue Economique*, 2014, 65, 699-708.
- 205.** OLOMI, D., MORI, N., MDUMA, E., and URASSA, G. Constraints to access to capital by Tanzanian SMEs. *Dar es Salaam: REPOA*, 2008.
- 206.** ONO, A. and UESUGI, I. Role of collateral and personal guarantees in relationship lending: Evidence from Japan’s SME loan market. *Journal of Money, Credit and Banking*, 2009, 41(5), 935-960.
- 207.** OSANO, H. M. and LANGUITONE, H. Factors influencing access to finance by SMEs in Mozambique: Case of SMEs in Maputo central business district. *Journal of Innovation and Entrepreneurship*, 2016, 5(1), 1-16.
- 208.** PANDULA, G. Bank finance for Small and Medium-Sized Enterprises in Sri Lanka: Issues and policy reforms. *Studies in Business and Economics*, 2015, 10(2), 32-43.
- 209.** PAYNE, G. T., MOORE, C. B. BELL, R. G. and ZACHARY, M. A. Signalling organizational virtue: An examination of virtue rhetoric, country-level corruption, and performance of foreign IPOs from emerging and developed economies. *Strategic Entrepreneurship Journal*, 2013, 7, 230–251.

- 210.** PEDERZOLI, C., THOMA, G. and TORRICELLI, C. Modelling credit risk for innovative SMEs: The role of innovation measures. *Journal of Financial Services Research*, 2013, 44(1), 111-129, DOI: 10.1007/s10693-012-0152-0.
- 211.** PEDUZZI, P., CONCATO, J., KEMPER, E, HOLFORD, T. R., FEINSTEIN, A. R. A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology*, 1996, 49:1373-1379.
- 212.** PETERSEN, M. A., and RAJAN, R. G. The benefits of lending relationships: Evidence from small business data. *The Journal of Finance*, 1994, 49(1), 3-37.
- 213.** PLUMMER, L. A., ALLISON, T. H., and CONNELLY, B. H. Better together? Signaling interactions in new venture pursuit of initial external capital. *Academy of Management Journal*, 2015, 59(5). <https://doi.org/10.5465/amj.2013.0100>
- 214.** POLLOCK, T. and GULATI, R. Standing out from the crowd: The visibility-enhancing effects of IPO-related signals on alliance formation by entrepreneurial firms. *Strategic Organization*, 2007, 5(4), 339–372.
- 215.** RAHMAN, A., CIVELEK, M., and KOZUBÍKOVÁ, L. Proactiveness, competitive aggressiveness and autonomy: A comparative study from the Czech Republic. *Equilibrium, Quarterly Journal of Economics and Economic Policy*, 2016, 11(3), 631-650.
- 216.** RAJAN, R. Insiders and outsiders: The choice between relationship and arms length debt. *Journal of Finance*, 1992, 47, 1367–1400.
- 217.** RAUCH, A., and FRESE, M. Psychological approaches to entrepreneurial success: A general model and an overview of findings. In C. L. Cooper, & I. T. Robertson (Eds.), *International review of industrial and organisational psychology*, 2000, 101–142.
- 218.** RAUCH, A., WIKLUND, J., LUMPKIN G. T., and FRESE, F. Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 2009, 33(3), 761-787.
- 219.** RICHARDSON, F. M., KANE, G. D., and LOBINGIER, P. The impact of recession on the prediction of corporate failure. *Journal of Business Finance & Accounting*, 1998, 25(1).
- 220.** ROTICH, A. K., WANJAU, K. L. and NAMUSONGE, K. Moderating role of entrepreneurial orientation on the relationship between relationship

- lending and financial performance of manufacturing SMEs in Kenya. *European Journal of Business and Management*, 2015, 7(18), 198-210.
- 221.** ROXAS, B., and CHADEE, D. Effects of informal institutions on the performance of microenterprises in the Philippines: The mediating role of entrepreneurial orientation. *Journal of Asia-Pacific Business*, 2012, 13, 320–348.
- 222.** SAEED, A., and SAMEER, M. Financial constraints, bank concentration and SMEs: Evidence from Pakistan. *Studies in Economics and Finance*, 2015, 32(4), 503-524.
- 223.** SAUNDERS, M., LEWIS, P., and THORNHILL, A. *Research methods for business students*. India, Pearson Education, 5th edition, 2009.
- 224.** SEREFOGLU, C. and GOKKAYA E. Challenges of rural SMEs in Ankara, Turkey. *Sustainable Development and Planning IX*, 311-320. doi:10.2495/SDP170271
- 225.** SERRASQUEIRO, Z. and CAETANO, A. Trade-Off Theory versus Pecking Order Theory: capital structure decisions in a peripheral region of Portugal. *Journal of Business Economics and Management*, 2015, 16 (2), 445-466.
- 226.** SHEN Y., SHEN M., XU Z. and BAI Y. Bank size and small- and medium-sized enterprise (SME) lending: Evidence from China. *World Development*, 2009, 37(4), 800-811.
- 227.** SHORT, J. C., PAYNE, G. T., BRIGHAM, K. H., LUMPKIN, G. T., and BEHSERG, J. C. Family firms and entrepreneurial orientation in publicly traded firms: A comparative analysis of the S&P500. *Family Business Review*, 2009, 22(1), 9–24.
- 228.** SIDEK, S., MOHAMAD, M. R., NAZDROL W. M. AND NASIR W. M. Entrepreneurial orientation, access to finance and business performance: a preliminary analysis. *International Journal of Academic Research in Business and Social Sciences*, 2016,6(11), 692-707.
- 229.** SILVERMAN, B. S. and BAUM, J. A. C. Alliance-based competitive dynamics. *The Academy of Management Journal*, 2002, 45(4), 791-806.
- 230.** SCHMITZ, H. Growth constraints on small-scale manufacturing in developing countries: a critical review. *World Development*, 1982, 10(6), 429-450. [https://doi.org/10.1016/0305-750X\(82\)90001-8](https://doi.org/10.1016/0305-750X(82)90001-8)
- 231.** SPENCE, M. Job market signaling. *Quarterly Journal of Economics*, 1973, 87, 355–79.

232. STIGLITZ, J. E. The contributions of the economics of information to twentieth century economics. *The Quarterly Journal of Economics*, 2000, 115(4), 1441-1478.
233. STIGLITZ, J. E. Information and the change in the paradigm in economics. *American Economic Review*, 2002, 92(3), 460-501.
234. SU, W., PENG, M. W., TAN, W. and CHEUNG, Y. The signaling effect of corporate social responsibility in emerging economies. *Journal of Business Ethics*, 2016, 134 (3), 479-491.
235. TAJEDDINI, K. Effect of customer orientation and entrepreneurial orientation on innovativeness: Evidence from the hotel industry in Switzerland. *Tourism Management*, 2010, 31, 221–231.
236. TAJEDDINI, K., and TRUEMAN, M. Effect of customer orientation and innovativeness on business performance: A study of small-sized service retailers. *International Journal of Entrepreneurship and Small Business*, 2008, 6(2), 280–295.
237. TAKALO, T., and TANAYAMA, T. Adverse selection and financing of innovation: Is there a need for R&D subsidies? *Journal of Technology Transfer*, 2010, 35, 16–41.
238. TALKE, K. and SNELDERS, D. Information in launch messages: Stimulating the adoption of new high-tech consumer products. *The Journal of Product Innovation Management*, 2013, 30(4), 732-749. <https://doi.org/10.1111/jpim.12017>
239. TESKOMB, 2019. Available from: <http://www.teskomb.org.tr/index.asp?p=35&k=1>. Accessed:02.03.2019
240. TGMP, 2019. Available from: <http://www.tgmp.net/en/sayfa/tgmp-loan-process/126/1>. Accessed:02.03.2019.
241. THE OFFICIAL GAZETTE OF TURKISH REPUBLIC, 24.06.2018, Küçük ve Orta Büyüklükteki İşletmelerin Tanımı, Nitelikleri ve Sınıflandırılması Hakkında Yönetmelik. Available from <http://www.resmigazete.gov.tr/eskiler/2018/06/20180624-7.pdf>.
242. THE WORLD BANK. TR Third Access to Finance for SMEs Project(SME III), 2018, Available from: <http://projects.worldbank.org/P130864/third-access-finance-smes-sme-iii?lang=en> Accessed:28.02.2019.
243. THE WORLD BANK. Turkey SME Energy Efficiency Project, 2018, Available from: <http://documents.worldbank.org/curated/en/484191545930995329/pdf/Disclo>

[sable-Version-of-the-ISR-Turkey-SME-Energy-Efficiency-Project-P122178-Sequence-No-11.pdf](#)

- 244.** THE WORLD BANK. Turkey improving conditions for SME Growth Finance and Innovation. 2011, Report No. 54961-TR.
- 245.** THE WORLD BANK. Doing Business Report, 2012, Doing business in a more transparent world.
- 246.** THE WORLD BANK. Doing Business Report, 2013, Smarter Regulations for Small and Medium-Size Enterprises, Comparing Business Regulations For Domestic Firms In 185 Economies, 10th Edition.
- 247.** THE WORLD BANK. Doing Business Index, 2016. (Access: 08.02.2017) Available from: <http://www.doingbusiness.org/data/exploretopics/getting-credit>
- 248.** THE WORLD BANK. Doing Business Reports, The Strength of Legal Right index, 2012-2017.
- 249.** THE WORLD BANK. A World Bank Group Flagship Report Doing Business, 2018. Reforming to Create Jobs Comparing Business Regulation for Domestic Firms in 190 Economies.
- 250.** THE WORLD BANK. Distance to frontier score for getting credit index, 2017. Available from: <https://data.worldbank.org/indicator/IC.BUS.DFRN.XQ?view=chart>.
- 251.** THE WORLD BANK. The Strength of Legal Right index, 2017, Available from <https://data.worldbank.org/indicator/IC.LGL.CRED.XQ>.
- 252.** TORLAK, Ö. and UÇKUN, N. Eskişehir'deki KOBİ'lerin pazarlama ve finansman sorunları ara kesiti. *Sosyal Bilimler Dergisi*, 2005, 1, 199-215.
- 253.** TRENCA, I. and BOLOCAN, M. Considerations regarding credit portfolio risk management of the banking institution. *Finance – Challenges of the Future*, 2010, 9(11), 84-90.
- 254.** TURK EXIMBANK, EXPORT CREDIT BANK OF TURKEY, 2019. Available from: <https://www.eximbank.gov.tr/en/we-in-figures#credits> Accessed: 01.03.2019.
- 255.** TURKEY IN HORIZON 2020. Cooperation, Innovation, Competitiveness, 2018. Available from: <https://turkeyinh2020.eu/our-services/> Accessed: 28.02.2019
- 256.** TÜRKİYE CUMHURİYETİ EKONOMİ BAKANLIĞI, Devlet Yardımları Rehberi, 2018. Available from: https://ticaret.gov.tr/data/5b87fac913b8761160fa1cf0/Devlet_Yardimlari_Rehberi.pdf

- 257.** UCHIDA, H., UDELL, G. and YAMORI, N. Loan officers and relationship lending to SMEs. *Journal of Financial Intermediation*, 2012, 21, 97–122
- 258.** UYAR, A. and GUZELYURT, M. K. Impact of firm characteristics on capital structure choice of Turkish SMEs. *Managerial Finance*, 2015, 41(3), 286-300.
- 259.** VANTILBORGH, T., JOLY, J. and PEPERMANS, R. Explaining entrepreneurial status and success from personality: An individual-level application of the entrepreneurial orientation framework. *Psychologica Belgica*, 2015, 55 (1), 32–56. DOI: <http://dx.doi.org/10.5334/pb.be>
- 260.** VENKATRAMAN, N. Strategic orientation of business enterprises: The construct, dimensionality, and measurement. *management science*, 1989, 35 (8), 942-962.
- 261.** VOORDECKERS, V. and STEIJVERS, T. Business collateral and personal commitments in SME lending. *Journal of Banking & Finance*, 2006, 30, 3067–3086.
- 262.** WANG, Y. Financing difficulties and structural characteristics of SMEs in China. *China and World Economy*, 2004, 12(2), 34-49.
- 263.** WANGMO, C. Small medium enterprise (SME) bank financing constraints in developing countries: A case study of Bhutan. *International Journal of Arts & Sciences*, 2015, 8(5), 569–590.
- 264.** WARNER, A., FAIRBANK, J., AND STEENSMA, K. Managing uncertainty in a formal standards-based industry: A real options perspective on acquisition timing. *Journal of Management*, 2006, 32(2), 279-298.
- 265.** WELSH, D., MUNOZ, M., DENG, S. and RAVEN, P. Microenterprise performance and microenterprise zones (MEZOs) in China. *Management Decision*, 2013, 51(1), 25-40.
- 266.** WIKLUND, J., and SHEPHERD, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing*, 20(1), 71-91.
- 267.** WOLFF, J., PETT, T. AND RING, K. Small firm growth as a function of both learning orientation and entrepreneurial orientation. *International Journal of Entrepreneurial Behavior & Research*, 2015, 21(5), 709-730.
- 268.** YALÇIN, İ. Türkiye’de küçük ve orta boy işletmelerin sorunları çerçevesinde finansman sorunu ve çözümüne katkı olarak kredi garanti fonları [online]. Ankara, 2006, [cit. 2019-21-05]. Yayınlanmamış Yüksek Lisans Tezi, Ankara Üniversitesi, Sosyal Bilimler Enstitüsü. Thesis

- supervisor: Prof.Dr. Ercan Bayazitli. Available from: www.acikarsiv.ankara.edu.tr/browse/2601/3373.pdf
- 269.** YAN, J., YU, W., and ZHAO, L. How signaling and search costs affect information asymmetry in P2P lending: The economics of big data. *Financial Innovation*, 2015, 1(19), 1-11.
- 270.** YILMAZ, G. H. (2016). Küçük ve orta ölçekli işletmelerin kredi sorunları üzerine muğla ilinde yapılan bir araştırma. *Journal Of Social Sciences And Humanities Researches*, 17 (36), 67-82.
- 271.** YILDIRIM H.S., AKCI Y., EKSI I.H. The effect of firm characteristics in accessing credit for SMEs. *Journal of Financial Services Marketing*, 2013, 18(1), 40-52.
- 272.** YÜKSEL, A. Türkiye’de Kobi’lerin Banka Kredilerine Erişimi. Uzmanlık Tezi. 2011. Yayın No: 2825, Sosyal Sektörler ve Koordinasyon Genel Müdürlüğü. Available from: http://www3.kalkinma.gov.tr/DocObjects/View/12573/Turkiyede_Kobilerin_Banka_Kredilerine_Erisimi_UzmanlikTezi.pdf
- 273.** ZAMPETAKIS, L. A., VEKINI, M., and MOUSTAKIS, V. Entrepreneurial orientation, access to financial resources, and product performance in the Greek commercial TV industry, *The Service Industries Journal*, 2011, 31(6), 897-910.
- 274.** ZEHİR, C., GUROL, Y., KARABOGA, T., and KOLE, M. (2016). Strategic human resource management and firm performance: The mediating role of entrepreneurial orientation. *Procedia-Social and Behavioral Sciences*, 235, 372-381.
- 275.** ZHANG, Y. and WIERSEMA, M. F. Stock market reaction to CEO certification: The signaling role of CEO background. *Strategic Management Journal*, 2009, 30, 693–710.
- 276.** ZHANG, J., CHEN, L., LIU, X. and DING, F. Measurement of credit risk of small and medium-sized S&T enterprises in China. *International Journal of Business Administration*, 2014, 5(4), 21-31.
- 277.** ZHAO, J., BARRY, P. J. and KATCHOVA, A. L. Signaling credit risk in agriculture: Implications for capital structure analysis. *Journal of Agricultural and Applied Economics*, 2008, 40(3), 805-820.
- 278.** ZHU, Y., XIE, C., SUN, B., WANG, B. and YAN, X. Predicting China’s SME credit risk in supply chain financing by logistic regression, artificial neural network and hybrid models. *Sustainability*, 2016, 8, 433; doi:10.3390/su8050433

- 279.** ZUMBO, B. D., GADERMANN, A. M., and ZEISSER, C. Ordinal versions of coefficients alpha and theta for likert rating scales. *Journal of Modern Applied Statistical Methods*, 2007, 6, 21-29.

CURRICULAM VITAE

MEHMET CİVELEK

m_civelek@windowslive.com
1281 T.G.Masaryka 76001
Zlin, Czech Republic.

WORK EXPERIENCE

Project, Teaching and Research Assistant **September 2015 to date**

Tomas Bata University in Zlin, Czech Republic

The name of the projects:

Internal Grant Agency of FaME TBU No: IGA/FaME/2019/002, “The role of institutional environment in fostering entrepreneurship”.

Internal Grant Agency of FaME TBU No. IGA/FaME/2017/010: Financial Constraints on Economic Activities.

Internal Grant Agency of FaME TBU No. IGA/FaME/2015/025: The possibilities of the financial performance growth for commercial banks in the context of the credit risk of SME and the customer satisfaction.

The name of the subjects that was taught:

Controlling- Auditing 2016/2017 Winter Semester, for Master Students
4 hours per week

Controlling - Auditing 2017/2018 Winter Semester, for Master Students
4 hours per week

Research Assistant **February 2019 to date**

University of Business in Prague, Czech Republic

The name of the projects: Technology Agency of Czech Republic,
Projekt TACR ETA TL 02000562.

Reviewer in peer reviewed Journals **September 2018 to date**

International Journal of Entrepreneurial Knowledge,

Journal of Business Economics and Management.

Windesheim University of Applied Science, Zwolle, the Netherlands

The name of the research project: Optimizing the order2 cash process of SMEs and evaluate the adoption of Supply Finance solutions.

- Analyzing order 2cash process and existing tools of SMEs,
- Developing a questionnaire that can assess order2 cash process of SMEs in detail,
- Developing a tool that can analyze the results of the questionnaire and present key information about the O2C process of the respondents in semi-automated way.

University of Economics in Bratislava

The name of the research project: Research grant no. I-18-105-00, “Financial Analysis as a tool of Sustainable Development in enterprises of the engineering industry”.

The researches done for this project:

Melich, P. and **Civelek, M.** Comparison of The Credit Scoring Models in The Engineering Industry of The Slovak Republic. 10th international scientific conference Competition.

Melich P. and **Civelek, M.** Role of ROA in the sustainable development of Slovakian SMEs and large enterprises, International Scientific Conference of the Department of Business Management, Faculty of Business Management, University of Economics in Bratislava.

Technical Operations Assistant Specialist**2009-2011****Turkey Finance Participation Bank in İstanbul, Turkey**

- Solving ATMs’ problems,
- Doing salary payments,
- Developing and testing new salary payment system with IT department,
- Teaching new salary payments system to the bank’s customers and workers
- Reporting and analyzing ATMs and salary payments' transactions as daily and monthly.

The Projects that were done in the bank:

The Integration of the Payment System.

Transfer of ATM Card Operations to a different department.

Development of ATM Functions and Its' System Integration.

FOREIGN LANGUAGE

English (Advanced), Spanish (Beginner), Czech (Beginner).

PROFESSIONAL COMPETENCIES

- Planning,
- Financial Analysis and Reporting,
- Auditing-Controlling,
- System Integration,
- Operational Process Management,
- Supply Chain Finance,
- Quality Management,
- Credit Risk Management.

EDUCATION

Doctorate-PhD: Tomas Bata University Zlin/ Czech Republic, Finance
(2015- to date)

Erasmus-PhD: Mendel University Brno / Czech Republic, 3,43/4, Business
(2013- 2014)

Project papers in Mendel University:

- Turkish Tax System,
- Global Civil Society and Global Governance,
- ALTMARK Case C-28000 - covers STATE AIDS,
- The External Relation of the EU.

Doctorate-PhD: Gebze Technical University Kocaeli/ Turkey, 3,71/4
Business Administration (2013-.....)

Project papers in Gebze Technical University:

- Risk Management,
- Financing in Higher Education in European Union Countries and Turkey.

Language School in England: Language Specialist International Portsmouth/
6.5/9 - IELTS Course (2011-2012)

Master's Degree: Gebze Technical University Kocaeli/ Turkey, 4.00/4.00
Business Administration (2010-2011)

Project papers in Master Degree:

- Hedge Funds,
- Hedge Funds' Statistics,
- Hedge Funds and The State of Hedge Fund Markets.

Bachelor's Degree: Pamukkale University, Denizli/Turkey, 2,62/4.00,
Economics (2004-2008)

COMPUTER SKILLS

- Ms Office Programs (Word, Excel, Powerpoint), Ms Outlook. (Advanced)
- Sentez-Eta Accountancy Programs. (Advanced)
- E-views Econometric Program. (Proficient)
- AMOS SPSS. (Proficient)
- STATA. (Proficient)
- Lisrel (Beginner)

SCHOLARSHIPS

- Scholarship from Erasmus Program Mendel University, Czech Republic (2013-2014),
- Internship, Windesheim University of Applied Science, the Netherlands, (2018),
- Tomas Bata University's Scholarship for PhD Students, (2015-2019),
- Scholarships from IGA Project, (2015-2019).

OTHER ACHIEVEMENTS

- Second and forth positions in different styles in swimming competitions,
- First position in high school's football team in a regional tournament,
- Second position in a regional running competition between high schools

LIST OF PUBLICATIONS

Civelek M., Ključnikov A., Dobrovič J., Hudáková M., (2016). A model of measurement of the quality of business environment in SME segment, *Journal of International Studies*, Vol. 9(2), pp. 90-102. **Scopus, Jsc.**

Rahman, A., **Civelek, M.**, Kozubikova, L., (2016). Proactiveness, Competitive Aggressiveness and Autonomy: A comparative study from the Czech Republic, *Equilibrium: A quarterly Journal of Economics*, Vol. 11(3), pp. 631-650. **Web of Science, (ESCI).**

Civelek, M., Rahman, A., Kozubikova, L., (2016). Entrepreneurial orientation in the segment of micro-enterprises: evidence from Czech Republic, *International Journal of Entrepreneurial Knowledge*, Vol. 4(1), pp. 72-89. **ERIH Plus, Jneimp.**

Civelek, M., Dursun, I., Rahman, A., (2018). How Perceptions Of Bank Financing Constraints Differ Among Characteristics Of SMEs: Evidence From Turkey, 6th RSEP Multidisciplinary **Conference**, 1-3 February 2018, in Lisbon. Review of Socio-Economic Perspectives. Vol. 3(1), 13-27. **ERIH Plus, Jneimp.**

Civelek, M., Ključnikov, A., (2018). Sectoral and International Diversities in the perception of Bank Financing: Evidence from Slovak and Czech SMEs. International Scientific **Conference**, Economics, Management, Finance (EMF 2018), Journal Scientific Papers of the University of Pardubice – Series D, 44(3/2018), XXVI, 53-64, **Scopus, Jsc.**

Civelek, M., Ključnikov, A., Krištofik, P., & Rozsa, Z., (2019). Barriers in financing microenterprises from the perspective of Czech and Slovak microentrepreneurs. *Journal of Business Economics and Management*, 20(2), 244-267. <https://doi.org/10.3846/jbem.2019.8114> **Scopus and Web of Science, Jimp.**

Civelek, M. and Dursun, I. Sectoral Differences In The Credit Access Impediments Of Turkish SMES. Accepted by 14th Annual International Bata **Conference** for Ph.D. Students and Young Researchers, 25 April, 2018.

Melich P. and **Civelek, M.** Role of ROA in the sustainable development of Slovakian SMEs and large enterprises, *Aktuálne Problémy Podnikovej Sféry* 2018, International Scientific **Conference** of the Department of Business Management, Faculty of Business Management, University of Economics in Bratislava, 16-17 May, Bratislava, Indexing in **Web of Science, D.**

Melich, P. and **Civelek, M.** Comparison of The Credit Scoring Models In The Engineering Industry Of The Slovak Republic. 10th international scientific **conference** Competition organized by College of Polytechnics Jihlava, 17-18 May, 2018, Indexing in **Web of Science, D.**

APPENDICIES

Annexure 1: The Questionnaire for SMEs (English)

1- Which geographical region is your firm located?

- Marmara İç Anadolu Ege Akdeniz
 Karadeniz Doğu Anadolu Güneydoğu Anadolu

2- In which sector has your business been operating? (Multiple choices are acceptable)

- Trade Service Mining Manufacturing Construction
 Transport Agriculture Real Estate Financial Services Public
Administration

3- How long has your company been operating?

- less than 2 years 2-4 5-10 more than 10 years

4- What is the size of your company? (Number of staff headcount)

- 0-9 10-49 50-249

5- What is your education?

- Drop out from high school or less High school Associate degree
 Bachelor Bachelor

6- What is your gender?

- female male

7- How many years working experience do you have in this sector?

- 0-4 years 5-10 years more than 10 years

8- What is your age?

- Less than 36 between 36 to 45 more than 45 years old

9- What is your position in your work?

- Owner CEO Shareholder
 Finance manager Accounting manager

10- What is the legal form of your business?

- Joint Stock Unlimited Company Limited Liability
 Cooperative Limited Partnership Sole proprietorship

PLEASE, ONLY CONSIDER THE MOST RECENT BANK CREDIT APPLICATION AND THE BANK THAT YOU APPLIED FOR CREDIT LAST, WHEN ANSWERING THE QUESTIONS FROM 11 TO 20.

11- How many years have you been transacting with the bank?

- 0-4 years 5-10 years more than 10 years

12- How many times have you been contact with this bank? (in person, email, telephone etc)

- Once a month or less Once a week Several times a week

13- How many percent of your total debt financing was provided by this bank?

- Less than 50% 50-99% 100%

14- What was the outcome of that application?

- Accepted (Skip to question 16) Rejected (Skip to question 15)

15- What was the most common reason given by the lender for this rejection?

- Collateral or co-signers unacceptable Insufficient Profitability
 Problems with credit history or credit report Incompleteness of loan application
 Concerns about level of debt already incurred had a short history of firm
 Bank did not like my business plan did not meet with the bank's liabilities

16- Which of the following credit constraints were the hardest achievable for your company to fulfill the requirements of banks? **(Multiple choices are acceptable)**

- Having sufficient amount of cash Having an adequate credit reputation
 Having lower amount of debt Providing enough collateral
 Cost of loans

17- Have you ever had a problem with loan repayment in last 5 years?

- Yes No

18- Did the bank request collateral more than the credit amount that you applied for?

- Yes No

19- Did the company desire more credit at market interest rate?

- Yes No

20- Did the company demand more credit without gaining it?

- Yes No

PLEASE ANSWER THE REMAINING QUESTIONS BY CONSIDERING THE LAST 3 YEARS BEFORE YOUR MOST RECENT CREDIT APPLICATION,

21- Has your firm applied patent or certification? (Quality certifications such as ISO 9000, ISO 14000 etc)

Yes No

22- Has your firm applied trade mark or licence? (occupational licence etc)

Yes No

23- Has your firm had patents or certifications?

Yes No

24- Has your firm had trade marks or licences?

Yes No

25- Have you invested money for know-how, R&D, advertising activities in order to start producing new and significantly improved product or services?

Yes No

26- Have you had affiliations or agreement with the prominent and legitimate actors (leading firms, governments) regarding to marketing agreements, R&D alliances, product licensing agreements, equity joint ventures, strategic alliances?

Yes No

27- Has your firm applied R&D subsidies or grants?

Yes No

28- Has your firm received R&D subsidies or grants from national, regional or local governments or Credit Guarantee Fund?

Yes No

29- Our firm has introduced new products or services to the market at a future date.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

30- When our company makes preannouncement, it includes information regarding planning, pricing, product timelines, and product specifications and characteristics.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

31- Our company has made preannouncement from tv, radio, journals, web site etc.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

32- The firm's financial statement has not checked and certified by an internal or external auditor in the last 3 completed fiscal year.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

33- The firm usually does not provide complete information to the bank.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

34- The firm usually does not provide information to the bank on time.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

OVER THE LAST 3 YEARS,

35- Our company has had a reputation of an innovator.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

36- We have regularly developed new products and services in our company.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

37- We have invested a lot of money into the development of new methods and technologies.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

38- Our enterprise has shown a strong proclivity for his risky projects.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

39- I perceive considerably risky the strategy that the enterprise has followed.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

40- The firm has carried out risky projects to increase the performance.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

41- Our firm has been in the tendency to be ahead of others in introducing products and services.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

42- Our firm has often tried to initiate actions to competitors, for which competitors respond.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

43- We have sought to exploit predicted changes in our target market ahead of our competitors.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

44- Our activities in relation to competition has often been aggressive.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

45- We have often done activities that are directed against competitors.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

46- Our firm has had a reputation of using price reduction for new product or service introduction.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

47- The staff in our company has reasonably been autonomous with the implementation of specific business operations.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

48- We have supported the initiative of our employees in identifying and implementing of business opportunities.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

49- The owners of company act independently.

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

Annexure 2: The Questionnaire for SMEs (Turkish)

 Tomas Bata University in Zlín
Faculty of Management and Economics

Mostní, 5139
760 01 Zlín/Çek Cumhuriyeti
E-mail: civelek@fame.utb.cz
Tel: +420 773 873 403

KOBİ'LERDE KREDİ RİSK YÖNETİMİ ANKETİ

Sayın anket katılımcısı,

Bu anket bir doktora tezi çalışması için hazırlanmıştır. Bu anketin yapılmasının amacı Türkiye'de yer alan Küçük ve Orta Büyüklükteki İşletmelerin (KOBİ) banka kredisi alırken karşılaştıkları zorlukları belirlemek ve bu işletmelerin krediye erişebilmelerini sağlayacak alternatif bir çözüm önerisi sunmaktır. Dolayısıyla vereceğiniz cevaplar sizin ve firmanızın kredi alırken karşılaştığı engelleri, yetenek, yetkinlik ve davranışlarını daha iyi algılamak adına çok büyük önem teşkil edecektir.

Öncelikle şunu belirtmek gerekir ki **bu ankete sadece son 3 yıl içerisinde banka kredisine başvuru yapmış olan firmalar katılabilmektedir**. Ayrıca anketi dolduracak kişinin çalışan veya sahibi olduğu firmanın kredi işlemlerine hakim olması ve kredi alma sürecinde banka çalışanları ile irtibat halindeki yetkili bir kişi olması gerekmektedir. Birden fazla firmaya sahip olan işletmeler her bir firma için bu anketi ayrı olarak doldurabilirler. İşletmenin farklı şehirlerde şubesi var ise genel merkezinin bulunduğu şehre göre ilk soruyu cevaplayınız. Anket 5-7 dakikada tamamlanabilecek şekilde tasarlanmıştır. Vereceğiniz bütün bilgiler izniniz olmadan herhangi bir üçüncü kişi, kurum ya da kuruluşlarla paylaşılmayacaktır.

Lütfen sorulara verilen şıklar dahilinde yanıt veriniz ve **lütfen anket içerisinde yer alan uyarıları dikkate alınız**. Eğer anketle ilgili bir yorumunuz olacaksa, anket sahibi ile paylaşabilir ve iletişim bilgilerinin altındaki boşluklara yazabilirsiniz. İletişim bilgilerinizi belirtmeniz tamamen isteğinize bağlıdır. Fakat gerekli iletişim bilgilerini veren kişi ve firmalar ile anket ve analiz sonuçları paylaşılacaktır.

Sizin ve diğer katılımcıların ankete vermiş olduğunuz cevaplar, Tomas Bata Üniversitesi'nde yürütülen bir doktora tezinin veri setini oluşturacaktır. Lütfen tamamlamış olduğunuz anketi belirtilen e-mail adresine iletiniz. Eğer anketle ilgili herhangi bir sorunuz olursa veya çalışmayla ilgili daha detaylı bilgi edinmek isterseniz, 0544 728 82 64 numaralı telefondan veya civelek@fame.utb.cz e-mail adresinden anketi yapan kişiye istediğiniz zaman ulaşabilirsiniz.

Yardımlarınız ve anlayışınız için teşekkürler.

Mehmet Civelek

KOBİ'LERDE KREDİ RİSK YÖNETİMİ ANKETİ

Sayın anket katılımcısı, lütfen bir doktora tezi çalışması için hazırlanan bu anketi eksiksiz doldurunuz. Anket katılımcısının sahibi veya çalışanı olduğu **firma son 3 yıl içerisinde banka kredisi başvurusu yapmış olmalıdır**. Araştırmamızın sonucunda KOBİ'lerin finansmana daha kolay bir şekilde erişebilmelerini sağlayacak bir çözüm önerisi sunulacaktır. Lütfen cevaplarınızı çarpı işaretiyle (X) işaretleyiniz ve anket içerisinde yer alan uyarıları dikkate alınız. Teşekkürler!

1- İşletmeniz hangi coğrafi bölgede bulunmaktadır?

- Marmara İç Anadolu Ege Akdeniz
 Karadeniz Doğu Anadolu Güneydoğu Anadolu

2- İşletmeniz hangi sektörde faaliyet göstermektedir? **(Birden fazla seçeneği işaretleyebilirsiniz.)**

- Ticaret Hizmet Madencilik İmalat İnşaat Taşımacılık
 Tarım Emlak Finansal Hizmetler Tekstil Bilişim

3- İşletmeniz kaç yıldır faaliyet göstermektedir?

- 2 yıldan az 2-4 yıl 5-10 yıl 10 yıldan fazla

4- İşletmenizdeki çalışan sayısı kaçtır?

- 0-9 10-49 50-249

5- Eğitiminiz nedir?

- Lise terk veya daha az Lise Meslek Yüksek Okulu
 Üniversite Yüksek lisans veya doktora

6- Cinsiyetiniz nedir?

- Kadın Erkek

7- Bu sektörde kaç yıllık iş deneyimine sahipsiniz?

- 0-4 yıl 5-10 yıl 10 yıldan fazla

8- Kaç yaşındasınız?

- 36'dan az 36-45 arası 45'den fazla

9- İşletmedeki pozisyonunuz nedir?

- İşletme sahibi Genel Müdür İşletme Ortağı Finans Müdürü
 Muhasebe Müdürü

10- İşletmenizin yasal şekli nedir?

- Anonim şirket Kolektif Şirket Limited Şirket
 Kooperatif Komandit Şirket Şahıs İşletmesi

LÜTFEN EN SON KREDİ BAŞVURUSU YAPMIŞ OLDUĞUNUZ BANKAYI VE EN SON KREDİ BAŞVURUNUZU DİKKATE ALARAK 11'DEN 21'E KADAR OLAN SORULARI CEVAPLAYINIZ.

11- Kaç yıldır bu banka ile çalışmaktasınız?

- 0-4 yıl 5-10 yıl 10 yıldan fazla

12- Bu banka ile yüz yüze, e-mail, telefon vb. yollar aracılığıyla ne kadar sıklıkta iletişimde bulundunuz?

- Ayda bir veya daha az Haftada bir Haftada birkaç kez

13- Toplam borç finansmanınızın yüzde (%) kaçını bu banka tarafından karşılandı?

- %50'den azı %50-99% % 100'ü

14- Yapmış olduğunuz başvurunun sonucu nedir?

- Kabul (**16. sorudan devam ediniz.**) Ret (**15. sorudan devam ediniz.**)

15- Banka reddedilen kredi başvurunuz için en çok aşağıdakilerden hangisini sebep gösterdi?

- Gösterilen teminat veya kefil kabul edilmedi. Karlarımız yetersiz görüldü.
 Kredi geçmişi ve raporundaki problemler Tamamlanmamış kredi başvurusu
 Bankanın borç tutarımızla ilgili endişeleri Firmanın genç olması
 Banka iş planını beğenmedi Kredi gerekliliklerinin yerine getirilmemesi

16- Bankanın size kredi vermek için sunmuş olduğu şartları yerine getirirken en çok hangi zorlukla karşılaştınız? (Birden fazla seçeneği işaretleyebilirsiniz.)

- Yeterli miktarda nakit paraya sahip olmak Uygun bir kredi geçmişine sahip olmak
 Düşük tutarda borca sahip olmak Yeterli tutarda teminat sunmak
 Kredi maliyetlerini karşılayabilmek

17- İşletmeniz son 5 yıl içerisinde kredi geri ödemeleriyle ilgili olarak herhangi bir problemle karşılaştı mı?

- Evet Hayır

18- Başvuru yaptığınız kredi tutarının daha fazlasını banka tarafından teminat olarak istendi mi?

- Evet Hayır

19- İşletmeniz diğer bankalardaki faiz oranıyla bu bankadan daha fazla kredi almak istedi mi?

- Evet Hayır

20- Almış olduğunuz kredi tutarının daha fazlasını mı bankadan talep etmişsiniz?

Evet Hayır

LÜTFEN KALAN SORULARI KREDİ BAŞVURUNUZDAN ÖNCEKİ SON ÜÇ YILDAKİ DURUMUNUZU DİKKATE ALARAK YANITLAYINIZ.

21- Firmanızın faaliyetlerinizle ilgili olarak herhangi bir patent, kalite belgesi veya sertifika başvurusu oldu mu? (Örneğin, ISO 9000, ISO 14000 vb.)

Evet Hayır

22- Firmanızın herhangi bir ticari marka veya lisans başvurusu oldu mu?

Evet Hayır

23- Firmanız herhangi bir patente, kalite belgesine ve sertifikasına sahip oldu mu?

Evet Hayır

24- Firmanız herhangi bir ticari markaya veya lisansa sahip oldu mu?

Evet Hayır

25- Firmanız yeni bir ürün-hizmeti oluşturmak için veya var olanı geliştirmek için herhangi bir teknik bilgi edinme, araştırma-geliştirme ve reklam faaliyetleri için yatırımlarda bulundu mu?

Evet Hayır

26- Sektörünüzün önde gelen firmalarıyla veya devlet kurumlarıyla pazarlama, araştırma geliştirme, ürün lisanslama gibi konularda herhangi bir yakın ilişkide, anlaşmada, ortaklıkta veya ortak girişimlerde bulundunuz mu?

Evet Hayır

27- Araştırma-geliştirme faaliyetleri için herhangi bir yardım, hibe vb. kaynaklar için başvuruda bulundunuz mu?

Evet Hayır

28- Araştırma geliştirme faaliyetleri için ulusal, bölgesel, yerel yönetimlerden veya Kredi Garanti Fonu'ndan herhangi bir yardım veya hibe aldınız mı?

Evet Hayır

29- Firmamız ileriki bir tarihte piyasaya sunacağı yeni mal veya hizmetleri için tanıtımlar yaptı.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

30- Firmamız sunacağı yeni mal veya hizmetler için ön bir tanıtım yaptığında, bu tanıtım yeni ürün veya hizmetlerin planlaması, özellikleri, fiyatlandırması ve sunulacağı zaman ile ilgili bilgiler içerdi.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

31- Firmamız bu ön tanıtımları yaptığında bunları radyo, TV, gazete, internet ve web sitesi vb. yayın organlarından yayınladık.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

32- Tamamlanan son üç mali yılda bilançonuz firma içinden veya dışından herhangi bir denetmen tarafından kontrol edilip, onaylanmadı.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

33- Firmamız genellikle bankanın istemiş olduğu bilgilerin tamamını sunmaz.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

34- Firmamız genellikle bankanın istemiş olduğu bilgileri zamanında sunmaz.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

35- Firmamız yenilikçi olma konusunda bir üne sahipti.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

36- Düzenli olarak yeni ürün veya servisler geliştirdik.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

37- Yeni yöntem ve teknolojilerin gelişimi için önemli tutarlarda yatırımlar yaptık.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

38- Firmamız istikrarlı bir şekilde riskli projelerimize yöneldi.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

39- Firmamızın izlemiş olduğu stratejinin oldukça riskli olduğunu düşünüyorum.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

40- Firma performansını arttırmak için riskli projeler uyguladık.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

41- Yeni ürün veya hizmetleri sunma konusunda diğer firmaların önünde olmaya çalıştık.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

42- Rakiplerimizin bize karşılık verebileceği işlerde genellikle onlara ön ayak olmaya çalıştık.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

43- Hedef pazarımızdaki beklenen deęişimlerden rakiplerimizden önce yararlanmak için arařtırmalarda bulunduk.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

44- Rekabetle ilgili faaliyetlerimiz genellikle agresif bir yapıda olmuřtur.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

45- Genellikle rakiplerimize yönelik faaliyetlerde bulunduk.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

46- Yeni ürün veya hizmetlerin tanıtımı için fiyat indirimlerini kullanma konusunda bir üne sahiptik.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

47- Firmamızın çalışanları belirli işletme faaliyetleri gerçekleştirirken belli derecede bir özgürlüğe sahipti.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

48- Çalışanlarımızın faaliyet alanımızla ilgili fırsatların belirlenmesi ve bunları uygulaması konusundaki girişimlerini destekledik.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

49- Firma sahipleri işletme faaliyetleriyle ilgili olarak bağımsız hareket edebilmekteydi.

Kesinlikle katılmıyorum Katılmıyorum Kararsızım Katılıyorum Kesinlikle katılıyorum

Anketin sonuna geldiniz. Katılımınız için teşekkürler!

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Firma Adı:

Firma Adresi:

Adınız ve Soyadınız:

E-mail/telefon numarası:

Mehmet Civelek

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