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Determinants of perceived bank financing accessibility for SMEs: evidence from an emerging market

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ABSTRACT

To contribute to the small and medium-sized enterprises (SMEs) financing literature, this paper uses a unique sample of 492 Turkish SMEs to analyse the firm-level determinants of SME perceptions of bank financing accessibility. Logistic regression results reveal that older and relatively more innovative firms are more positive about their ability to secure bank loans, as are SMEs that have longer relationships with their oldest banks. Firms with two owners are more inclined than firms with a single owner and firms with three or more owners to perceive accessing bank loans as easy. This finding signals that although bank loan applications of firms with two owners have higher credibility than those of firms with a single owner, having more than two owners creates more complex agency problems for banks. Compared with firms incurring a loss, firms that make a profit or break even perceive it to be easier to obtain bank financing. SMEs in the service industry are more positive about accessing bank loans than are firms in manufacturing and other industries.

1. Introduction

Small and medium-sized enterprises (SMEs) are central to the economic development of nearly all economies in the world. A burgeoning SME sector is the key driver of sustainable economic growth, employment generation, entrepreneurial activity and innovation. SMEs depend on access to finance for their survival, growth and expansion. They however, rank the difficulty of accessing bank loans as one of the most significant challenges they face (Carbo-Valverde, Rodriguez-Fernandez, & Udell, 2016; Duygan-Bump, Levkov, & Montoriol-Garriga, 2015; Hughes, 2009; Shen, Shen, Xu, & Bai, 2009). The literature suggests that SMEs face more financing obstacles than large firms (Beck, Demirguc-Kunt, Laeven, & Maksimovic, 2006; Beck, Demirguc-Kunt, & Maksimovic, 2008; OECD, 2017; Pissarides, 1999; Wang, 2016). The informational opaqueness of SMEs and the difficulty that banks face in evaluating their corporate capabilities are identified as the reasons for the bank financing obstacles that SMEs

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face (Ang, 1992; Berger & Udell, 1998; Bernini & Montagnoli, 2017; Gregory, Rutherford, Oswald, & Gardiner, 2005).

Jaffee and Russell (1976) and Stiglitz and Weiss (1981) apply the information asymmetry problem to the loan decisions of banks. The studies suggest that banks choose to ration credit because they do not have adequate information about prospective borrowers, and explain credit rationing as a response to adverse selection (Akerlof, 1970; Rothschild & Stiglitz, 1976; Spence, 1973) and moral hazard problems (Grossman & Hart, 1983; Holmström, 1979; Mirrlees, 1975; Ross, 1973). In the same vein, Jaffee and Russell (1976) and Stiglitz and Weiss (1981, 1983) argue that, rather than increasing interest rates, which will cause adverse selection towards risky borrowers and reduce the expected profits of banks, banks prefer to ration credit by decreasing the number of loans given. The authors argue that borrowers will increase the riskiness of their projects that they finance with bank loans when interest rates rise. Consequently, the riskiness of the loans may adversely affect the expected improvement in bank profitability that will result from an increase in interest rates. When there is credit rationing that results in excess demand for bank loans, however, banks can maximise profitability. Asymmetric information problems in the financial markets that can lead to adverse selection and moral hazard make SMEs more susceptible to credit rationing than large firms (Carbo-Valverde, Rodriguez-Fernandez, & Udell, 2008).

SMEs have a fundamental role in emerging market economies. Their role in the expansion of the middle class, increases in government revenues from taxation and reduction in poverty levels is critical. A rise in the number of SMEs is crucial for GDP growth and job creation in emerging economies. Emerging-market SMEs, however, encounter even more barriers to raising bank financing than do SMEs in developed countries (Hanedar, Broccardo, & Bazzana, 2014; Hill, Kelly, Preve, & Sarria-Allende, 2017; Menkhoff, Neuberger, & Rungruxsirivorn, 2012; Menkhoff, Neuberger, & Suwanaporn, 2006). The additional barriers are seen as resulting from the inclination of emerging-market firms to operate outside the formal system, aiming to bypass regulation and taxation in the formal sector (OECD, 2006).

In the literature, several studies aim to illuminate the determinants of the financing constraints that SMEs face. The most frequently cited determinants are firm size and firm age. Several studies provide evidence that larger and older firms find it less difficult to obtain bank loans (e.g., Clarke, Cull, & Kisunko, 2012; Lee & Drever, 2014; Levenson & Willard, 2000; Nikaido, Pais, & Sarma, 2015). The common argument is that larger and older firms face fewer information asymmetry problems. Firm growth is also argued to be an important determinant of financing constraints. While some studies argue that firm growth negatively affects access to finance (Binks & Ennew, 1996; Freel, Carter, Tagg, & Mason, 2012; Wang, 2016), other studies suggest that high growth is positively related to access to finance (e.g., Brown & Lee, 2015; Canton, Grilo, Monteagudo, & van der Zwan, 2013). The empirical literature on the relationship between firm growth and financing constraints is inconclusive. Expected firm growth is also expected to affect access to finance; theoretical arguments range, however, from a negative relationship between expected growth and access to finance (Winker, 1999) to a positive relationship between the variables (Freel et al., 2012).

The number of bank–borrower relationships is another determinant that is argued to affect access to bank loans. Several studies find that firms with a credit relationship with a single bank have better loan accessibility than do other firms (e.g., Bolton, Freixas, Gambacorta, & Mistrulli, 2016; Cenni, Monferra, Salotti, Sangiorgi, & Torluccio, 2015; Cole, 1998; de Bodt, Lobez, & Statnik, 2005). The prevalent argument for this finding is that if a bank is the only bank that the SME is in a relationship with, then data gathering and processing procedures are easier. Moreover, having a credit relationship with multiple banks is regarded as a signal of shopping around for a bank that will give credit to a low-quality SME The duration of bank–borrower relationships is also identified as a determinant of bank loan accessibility. Several studies show that a longer relationship with the main bank lowers the likelihood of credit rationing (e.g., Agostino & Trivieri, 2017; Angelini, Di Salvo, & Ferri, 1998; Bharath, Dahiya, Saunders, & Srinivasan, 2011; Cenni et al., 2015; Madrid-Guijarro, Garcia-Perez-de-Lema, & van Auken, 2016). Having a long-run relationship with a bank provides the bank with thorough knowledge about the characteristics of the SME and thus eases access to bank financing.

Innovativeness is another determinant believed to affect bank loan accessibility. Innovative firms are expected to face difficulty in accessing bank loans because innovations involve risk. In the literature, some studies show that innovative firms find it difficult to access bank loans (e.g., Freel, 2007; Lee, Sameen, & Cowling, 2015). The number of firm owners likewise is considered to affect financing constraints: theoretical arguments range, however, from a positive effect of multiple owners on access to bank loans because of lower information asymmetry (Blumberg & Letterie, 2008; van der Zwan, 2014) to a negative effect because of higher agency problems (Ang, 1992).

Profitability is posited to positively affect access to bank loans because the generation of high cash flows lowers the likelihood that loans will not be repaid (Ferrando & Mulier, 2013). Several studies show that profitable firms have easier access to bank loans than less profitable firms (e.g., Bose, MacDonald, & Tsoukas, 2016; Bougheas, Mizen, & Yalcin, 2006; Quartey, Turkson, Abor, & Iddrisu, 2017). The industry in which a firm operates is likewise expected to affect financing constraints. While several studies argue that manufacturing firms face higher financing constraints than do service-sector firms because of higher borrowing requirements (Kumar & Francisco, 2005; Westhead & Storey, 1997), other studies suggest that it is easier for manufacturing firms to access bank loans than service-sector firms because the former have sufficient amounts of physical assets that they can pledge as collateral (Cressy & Alofsson, 1997; Silva & Carreira, 2010). The empirical evidence in the literature shows that manufacturing firms face more difficulty in accessing bank loans than do firms that operate in other industries (e.g., Beck et al., 2006; Cosh, Hughes, Bullock, & Milner, 2008; North, Baldock, & Ekanem, 2010).

There are also other factors that are found to be affecting access to finance in the literature. Yulek (1998) provides evidence that firms that operate in major cities in Turkey have better access to bank loans than firms that operate in the provinces. The author argues that this finding can be the result of higher information asymmetry problems that firms that are located in the provinces encounter, or the existence of fewer banks that operate in the provinces. Yulek (1998) also shows that productive

efficiency positively affects access to bank loans. Bhavani and Bhanumurthy (2014) provide evidence that firms with high capital intensity have better access to bank financing in an emerging market. Furthermore, Gou, Huang and Xu (2018) find that the likelihood of credit rationing decreases with an increase in asset tangibility. Quartey et al. (2017) show that exporting SMEs have better access to bank loans. In connection with this, Ponikvar, Kejzar and Morec (2013) provide evidence that productivity and export orientation positively affected access to external funds during the financial crisis of 2007–2008. The authors argue that productivity and export orientation improve the financial health of the firm. Presbitero and Rabellotti (2016) also find that the probability of being financially constrained is lower for productive firms. Further, Blumberg and Letterie (2008) provide evidence that banks' loans decisions depend on the entrepreneurs' credible commitments such as collateral and the provision of dependable information.

Although existing studies that analyse the determinants of bank financing accessibility are diverse, there are several gaps in the literature. Studies that use readily available survey datasets cannot consider all the factors that can affect access to bank loans in their analyses. In fact, several factors (e.g., expected growth) have not been analysed by most prior studies. Moreover, several studies infer financial constraints from the financial statements of firms, but using proxies to infer financial constraints may lead to imperfect inferences. Financial data on emerging-market SMEs are restricted in amount because the majority of these SMEs are not listed in stock exchanges and do not issue debt in public markets. Therefore, it is not possible to infer the financial constraints of emerging-market SMEs from financial statements. Additionally, because readily available survey datasets are infrequently available for emerging markets, determinants of the financing constraints that emerging-market SMEs face are rarely studied in the literature.

The purpose of this study is thus to contribute to the financing literature on emerging market SMEs by analysing the determinants of perceived bank financing accessibility for Turkish SMEs. The analysis uses a survey dataset of 492 SMEs that operate in six different cities of Turkey. The dataset, which includes data from a survey conducted within the context of this study, incorporates information about financial and other firm-specific information on SMEs. This survey gives us the opportunity to include questions on all potential determinants of perceived bank financing accessibility in the questionnaire. Moreover, we do not need to infer financial constraints from the financial statements of SMEs.

The Turkish financial sector is dominated by banks. Approximately 90% of the sector is composed of bank assets (IMF, 2017). Turkey has a liberalised financial market. The process of liberalisation of the Turkish financial markets started in 1980 with the execution of financial liberalisation and deregulation measures that targeted the development of a financial system that would facilitate an evolution to a liberal economy (Denizer, 1997). As the first measure, interest rate ceilings were eliminated to attract savings (Yulek, 1998). Foreign exchange denominated deposits were introduced in 1984, and the government securities market was set up in 1985. The interbank money market was opened in 1986 to satisfy the short-term liquidity needs of the banks. Open market operations were started by the central bank in 1987 to control the

liquidity in the banking sector and the money supply. The foreign exchange market was opened in 1988 to manage the foreign exchange reserves of the banking system. Complete liberalisation of international capital flows and full convertibility of Turkish lira were accomplished in 1989.

Financial liberalisation measures were, however, executed in an inflationary environment and macroeconomic instability (Jenkins and Hossain, 2017). A surge in public expenditure resulted in budget deficits, and banks assumed the role of financing the public sector with high real interest rates instead of carrying out their financial intermediation function (Ozatay and Sak, 2002). As a result, the amount of loans available for the industrial sector contracted. Because banks were financing the public sector with inadequately hedged foreign capital, the sector became dependent on short-term capital inflows, and was highly exposed to foreign exchange rate risk. Capital outflow and devaluation in 1994 resulted in the insolvency of several banks that had high open positions.

Although the stabilisation programme of the IMF aimed to reduce the budget deficit after the 1994 crisis, it was not effective (Akin, Aysan & Yildiran, 2009). Governments forced the public banks to provide subsidised credits to SMEs and agricultural producers (Cizre-Sakallioglu & Yeldan, 2000). Public banks, then, were obliged to provide funds from the financial markets. This resulted in high interest rates in interbank borrowing. Eventually, high budget deficits continued to prevent access of the real sector to bank loans. High duty losses of public banks, insufficient capital base, high exposure to market risk, insufficient risk management techniques and an absence of transparency led to the 2001 crisis (BRSA, 2009). The depreciation of Turkish lira in 2001 was followed by considerable losses in the private banks that had unhedged foreign currency positions.

The banking sector was cleaned up from its weaknesses with the banking sector rehabilitation programme that was implemented following the financial crisis of 2001 (BRSA, 2009). Twenty-one private banks were taken over by the government, and new regulations on capital adequacy standards, foreign exchange exposure and lending practices were implemented. Regulatory reforms implemented after the 2001 crisis increased the asset quality of the Turkish banking sector, leading to the healthy capitalisation of banks, and helped the sector to take over the function of providing financing to the real sector.

SMEs in Turkey are considered to be the lifeblood of the economy because they account for 73% of total employment and 53% of total value added in the economy (European Commission, 2017). Access to finance is, however, an important challenge for newly established and growing Turkish SMEs. Although bank loans given to SMEs tripled in the period between 2009–2014, only a privileged group of SMEs had access to the loans (OECD, 2016). Turkey has a large informal sector: 31% of total firms in Turkey are unregistered firms, compared to the OECD average of 18% (OECD, 2016). Some estimates suggest that approximately 50% of Turkish SMEs operate in the informal economy (OECD, 2004). Informal sector Turkish SMEs suffer from an inability to access finance, which makes it more difficult for them to do business and grow. On the other hand, the main problem for Turkish SMEs that do operate in the formal system is the unwillingness of banks to extend long-term loans that

match the investment cycle (Keay, 2016). Erdogan (2018) provides evidence that banks are hesitant to lend to SMEs in Turkey because of the information asymmetry caused by inadequate financial records and business plans. The study shows that because the actual financial situation of most SMEs is not reflected in their financial statements, banks find it difficult to assess their creditworthiness by analysing SMEs quantitatively.

Because national savings are not adequate for financial investments in Turkey, there is an increased dependence on foreign exchange financing from international capital markets. An increase in investments was followed by high growth in leverage (specifically in foreign exchange) and an increase in interest expenses for the real sector. High leverage and interest expenses increase the susceptibility of firms to funding problems and foreign exchange (F.X.) rate shocks. (IMF, 2017). The risk profile of the SMEs is similar. The deterioration in the financial performance of SMEs since 2011 and the increase in SME bankruptcies and nonperforming SME credits since 2014 heighten the reluctance of banks to provide financing to SMEs (IMF, 2017; OECD, 2016).

Our logistic regression results reveal that younger and non-innovative SMEs perceive accessing bank financing to be more challenging than do older and innovative firms. Firms with a longer relationship with their oldest bank are more inclined to consider it to be easy to obtain bank finance. Moreover, firms with two owners have a more positive perception of access to bank financing than do firms with a single owner and firms with three or more owners. Furthermore, profitable SMEs and SMEs that break even are more positive about accessing bank financing than SMEs that make a loss. We further demonstrate that firms that operate in the service industry find it easier to access bank financing than do firms that operate in manufacturing and other industries.

The remainder of the article is structured as follows: Section 2 discusses the related literature. Section 3 presents the research methodology, and Section 4 describes the sample and summary statistics. Section 5 presents the empirical results, and Section 6 concludes the paper.

2. Firm-level determinants of the perception of bank financing accessibility

We draw on previous studies that analyse the factors that affect the financing constraints encountered by SMEs in order to propose firm-level factors that may have an impact on perceived bank loan accessibility.

2.1. Firm size and firm age

Canton et al. (2013) suggest that the information asymmetry problem that discourages SMEs from applying for bank loans is more acute for small firms because they generally do not have good accounting records and are less transparent than larger firms. In a related study, Chakravarty and Xiang (2013) suggest that because small and young firms do not have strong relationships with banks, they may hesitate to

apply for bank loans even though they require finance. In the same vein, Quartey et al. (2017) argue that older firms may have easier access to bank financing because they have a wider network of financial institutions. Gertler (1988) points out that young firms encounter higher information asymmetry because banks have not had adequate time to monitor them.

Mac an Bhaird, Sanchez Vidal and Lucey (2016) and Chakravarty and Xiang (2013) provide evidence that younger and smaller firms have a higher tendency to be discouraged from applying for bank financing than older and larger firms. In related studies, Brown, Ongena, Popov and Yesin (2011), Chakravarty and Yilmazer (2009) and Freel et al. (2012) show that smaller firms are more likely to be discouraged borrowers.

Diamond (1991) argues that because small and young companies do not have long-term relationships with banks that enable them to accumulate reputational capital, they have a lower likelihood of obtaining credit. Similarly, Lee and Drever (2014) show that younger firms are more likely to have difficulty in accessing bank loans. Indeed, Cowling, Liu and Ledger (2012) argue that banks use size as a proxy for creditworthiness. Furthermore, Levenson and Willard (2000) suggest that banks are hesitant to provide loans to small firms because their profit margins are lowered as a result of the high fixed costs of providing loans to them, and they provide evidence that young and small firms have lower success rates in their applications for bank financing. Chakravarty and Yılmazer (2009) also show that firm size has a positive effect on the likelihood of being granted a bank loan. In a related study, Clarke et al. (2012) find that financial constraints are more severe for younger and smaller firms, which were more likely to have ceased operations by mid-2009, than older and larger firms in the emerging markets after the financial crisis of 2007–2008. In a similar emerging-market study, Nikaido et al. (2015) show that firm size positively affects access to bank loans. Thus, we propose the following hypotheses:

H1: Firm size is positively associated with a positive perception of bank financing accessibility.

H2: Firm age is positively associated with a positive perception of bank financing accessibility.

2.2. Growth

Canton et al. (2013) argue that firms with high growth are expected to have more positive perceptions of the accessibility of bank financing because, given their increasing cash flows, they do not feel financially constrained. The authors also suggest, however, that the larger amounts of funds required for growth may foster negative perceptions. In connection with this, Binks and Ennew (1996) argue that because it is difficult for banks to collect and process information on growth firms owing to the pace of change within the business, growth firms may face a different form of information asymmetry whose effects are less easily ameliorated. These firms may encounter higher financing constraints because of this information asymmetry. Specifically, Freel et al. (2012) indicate that banks may interpret growth achieved in the recent past as a signal of cash constraints and collateral difficulties for SMEs. In a related

study, Brush, Ceru and Blackburn (2009) provide evidence that high-growth firms are constrained by financing barriers. Supporting this claim, Wang (2016) shows that the most important barrier to growth for high-growth firms in developing countries is access to finance. Brown and Lee (2015), however, provide evidence that high-growth SMEs do not encounter higher credit constraints than low-growth SMEs. Because of the contradictory nature of these prior studies, we test the following nondirectional hypothesis:

H3: Growth is associated with a positive perception of bank financing accessibility.

2.3. Expected firm growth

Winker (1999) suggests that banks may not have adequate information about the business prospects of SMEs – information that firms generally consider to be private. The author asserts that the expectation of improved business conditions by a firm increases information asymmetry and that firms expecting positive business prospects are at a higher risk of facing financing constraints. In connection with this, Hözl (2014) and Parker, Storey and van Witteloostuijn (2010) argue that accelerated growth can be difficult to handle and risky for firms. Therefore, it can be difficult for banks to assess the level of risk inherent in firms with high expected growth. On the other hand, Freel et al. (2012) point out that the intention to grow is a positive signal that brings optimism to potential lenders and decreases the risk of facing financing constraints. Given the conflicting nature of theoretical arguments, we test the following hypothesis:

H4: Expected growth is associated with a positive perception of bank financing accessibility.

2.4. The number of bank–borrower relationships

Petersen and Rajan (1994) argue that access to bank financing is easier for firms with close ties to only one bank. Having a close relationship with a single bank rather than having credit relationships with multiple lenders eases the bank's data gathering and processing procedures. In a related study, Cole (1998) contends that banks believe that if a firm has credit relationships with multiple banks, then it must be shopping around for a bank that will extend credit to a low-quality firm. Bulow and Shoven (1978) suggest that banks prefer not to provide financing to firms with multiple credit relationships because they do not want to incur all the costs of financing while sharing the benefits with other banks. In fact, the literature includes studies reporting that the loan accessibility of SMEs increases as the number of bank relationships decreases (e.g., Angelini et al., 1998; Bolton et al., 2016; Cenni et al., 2015; Cole, 1998; de Bodt et al., 2005; Petersen & Rajan, 1994). Cotugno, Monferra and Sampagnaro (2013) provide evidence that firms with a credit relationship with a single bank face less credit rationing during periods of financial crisis. In the same vein, Jiangli, Unal and Yom (2008) find that having concentrated banking relationships increased the likelihood of obtaining credit for emerging-market SMEs during the

Asian financial crisis of 1997–1998. In another emerging-market study, Bakiciol (2017) provides evidence that firms in a relationship with only one bank incur lower financing costs than do firms with multiple banks. Accordingly, we hypothesise as follows:

H5: The number of bank–borrower relationships is negatively associated with a positive perception of bank financing accessibility.

2.5. The duration of bank–borrower relationships

When an SME has a long-term relationship with a bank, the bank has the benefit of gaining in-depth knowledge about the characteristics of the firm and its projects. This knowledge eases the SME's access to bank loans and makes it less risky for the bank to grant a loan (Berger & Udell, 1995; Hernandez-Canovas & Martinez-Solano, 2010; Petersen & Rajan, 1994). In connection with this, Madrid-Guijarro et al. (2016) point out that banks can use the information they obtain from their old customers to designate internal credit ratings to evaluate the creditworthiness of their customers. Furthermore, Grünert, Norden and Weber (2005) argue that the information that banks obtain through multiple interactions with customers by providing various financial services reduces information asymmetry. Diamond (1991) point out that a bank's trust in the owner of a firm increases with an increase in the length of time the firm is servicing its loans. Moreover, Cole (1998) contends that banks generate soft information about firms when they have long-term credit relationships with them; as a result, the asymmetric information problem is alleviated. Numerous studies find that a longer relationship with the main bank lowers the likelihood of credit rationing (e.g., Agostino & Trivieri, 2017; Angelini et al., 1998; Bharath et al., 2011; Cenni et al., 2015; Madrid-Guijarro et al., 2016). In an emerging-market study, Bakiciol (2017) provides evidence that the duration of the relationship with a bank has a negative effect on the risk-adjusted financing costs of firms. This negative relationship is found to be more pronounced during the financial crisis of 2007–2008. Furthermore, in their emerging-market study, Chang, Liao, Yu and Ni (2014) show that information obtained from a sustained banking relationship improves banks' ability to predict default. Hence, we propose the following hypothesis:

H6: The duration of the relationship with the firm's oldest bank is positively associated with a positive perception of bank financing accessibility.

2.6. Innovation

Innovative activities may also affect the lending decisions of banks. Because innovations involve a degree of risk, banks may be reluctant to provide financing to innovative firms. Rahman, Belas, Kliestik and Tyll (2017) argue that innovation-oriented businesses have lower information transparency. In a related study, Hall and Lerner (2010) and Carpenter and Petersen (2002) maintain that innovative firms have intangible assets that are firm-specific and associated with human capital, which cannot be collateralised. Moreover, the cash flows of innovative firms tend to be limited and unstable (Brown, Martinsson, & Petersen, 2012). Ortiz-Molina and Penas (2008) argue

that research and development-intensive SMEs face higher information asymmetry and higher financing constraints than other firms. In a related work, Lee et al. (2015) show that innovative firms are more likely to encounter difficulties in accessing bank financing than other firms. Furthermore, Freel (2007) provides evidence that firms with a moderate level of innovation intensity are better at accessing bank financing than are highly innovative firms. Therefore, we test the following hypothesis:

H7: Innovative firms are less likely than non-innovative firms to have a positive perception of bank financing accessibility.

2.7. Multiple ownership

Wu and Chua (2012) contend that firms with a single owner are considered to have lower business sophistication and limited resources. Ang (1992) argues that if a firm has multiple owners, agency problems will be more complicated, and banks will be reluctant to lend to them. Parker (2004), however, contends that the bank's risk in a bankruptcy situation is lower if the firm has multiple owners who are liable for the loan. In a related study, Blumberg and Letterie (2004) argue that multiple ownership is a signal of the founder's ability to persuade other investors to put money into their business, and that this signal may reduce uncertainty for the bank that is applied to for a loan. Similarly, Blumberg and Letterie (2008) claim that the credibility of the loan application may increase with multiple ownership, and they provide evidence that firms with multiple owners do indeed encounter lower financing constraints than firms with single owners. Van der Zwan (2014) suggests that depending on the competence and honesty of a single owner may increase the information asymmetry between the firm and the bank. In particular, the author provides evidence that SMEs with multiple owners are more likely to be successful in their bank loan applications than SMEs with a single owner. Given the conflicting nature of the literature, we test the following nondirectional hypotheses:

H8: Firms with a single owner differ from firms with multiple owners in terms of their perception of bank financing accessibility.

H9: Firms with two owners differ from firms with multiple owners in terms of their perception of bank financing accessibility.

2.8. Profitability

Ferrando and Mulier (2013) suggest that firms with higher profitability have a better perception of bank financing accessibility because the generation of higher cash flows decreases the probability that loans will not be repaid. The authors provide evidence that firms with lower financial performance are more likely to encounter financial constraints. Kaplan and Zingales (1997) also show that profitability is one of the factors affecting the likelihood that a firm faces financial constraints. Supporting this finding, Quartey et al. (2017) provide evidence that firms' performance positively influences access to bank financing. In the same vein, Bougheas et al. (2006) show that financial constraints are higher for firms with low expected financial

performance during periods of tight monetary policy compared to periods with loose monetary policy. In a related study, Bose et al. (2016) find that firms with higher financial performance gained better access to long-term debt as a result of the policy intervention that aimed to broaden the bond markets in emerging Asian economies after the 1997–1998 Asian financial crisis. We thus propose the following hypotheses:

> H10: Firms that make a profit are more likely than firms that make a loss to have a positive perception of bank financing accessibility.

> H11: Firms that break even are more likely than firms that make a loss to have a positive perception of bank financing accessibility.

2.9. Industry

Kumar and Francisco (2005) suggest that firms that operate in industries with high capital intensity face higher financial constraints than firms that operate in other sectors because the former have higher credit needs. Moore (1994) and Westhead and Storey (1997) also argue that manufacturing firms may face higher financing constraints than service firms because of the former's relatively higher borrowing requirements, yet there is less likelihood that manufacturing firms will exit (Watson & Everett, 1999), a characteristic that may result in lower financing constraints for firms in this industry (Freel et al., 2012). In the same vein, Cressy and Alofsson (1997) and Silva and Carreira (2010) argue that manufacturing firms encounter lower credit constraints because they have a large amount of physical assets that they can use as collateral. In a related study, Rahman et al. (2017) provide evidence that manufacturing firms pledge lower collateral than firms that operate in other industries, and they argue that banks require lower collateral from manufacturing-industry firms because they exhibit greater information transparency.

Beck et al. (2006) demonstrate that credit rationing faced by manufacturing firms is higher than that faced by service-sector firms. Cosh et al. (2008) and North et al. (2010) also provide evidence showing that manufacturing-industry SMEs are less successful in their bank loan applications than firms that operate in other industries. North et al. (2010) additionally show that the difficulties that manufacturing firms encounter in their presentation of complicated technical development plans were among the reasons for their failure to obtain bank loans. Because of the conflicting nature of the prior literature, we formulate the following nondirectional hypothesis:

> H12: Firms that operate in the manufacturing industry differ from firms that operate in the service industry in terms of their perception of bank financing accessibility.

3. Research methodology

We introduce the dummy variable *Accessibility* as the dependent variable in our model to reflect SME executives' perceptions of the ease of access to bank loans. To measure this variable, managers responsible for their organisations' financial affairs were asked to react to the following statement: 'Our firm has no difficulty accessing bank financing'. The answer choices range from 1 (strongly disagree) to 5 (strongly

agree). The dummy variable *Accessibility* is equal to 1 if the response is 'strongly agree' or 'agree'; it is equal to 0 if the response is 'disagree' or 'strongly disagree'. The respondents who reacted to the statement 'Our firm does not have any difficulty in accessing bank financing' with the response choice 'neither agree or disagree' are not included in the analysis.

Because our dependent variable is a categorical variable, the factors that affect perceived bank financing accessibility were analysed with the following binomial logistic regression model

$$
\begin{aligned}
\mathrm{Ln}(\mathrm{P}_{Access,i}/1 - \mathrm{P}_{Access,i}) = {} & \beta_0 + \beta_1 Age_i + \beta_2 Size_i + \beta_3 Growth_i + \beta_4 Expected\ Growth_i \\
& + \beta_5 Concentration_i + \beta_6 Duration_i + \beta_7 Innovation_i \\
& + \beta_8 Number\ of\ Owners + \beta_9 Financial\ Performance_i \\
& + \beta_{10} Industry + \varepsilon_i.
\end{aligned}
$$

$$(1)$$

where P_i is the probability of being a firm that does not encounter difficulty in accessing bank loans for participant i, and $1 - \mathrm{P}_i$ is the probability of being a firm that encounters difficulty in accessing bank loans for participant i.

Among the independent variables, *Age* stands for the natural logarithm of firm age. *Size* is measured with the natural logarithm of the number of full-time employees. *Growth* stands for firm growth, which is measured by the percentage of change in sales revenue in the last year. *Expected Growth* represents the expected growth rate for the next year and is measured by the forecasted percentage of change in sales revenue. *Concentration* stands for the number of bank–borrower relationships of the firm, measured by the natural logarithm of 1 plus the number of banks with which the firm is in a relationship. *Duration* represents the number of years the SME has been in a credit relationship with its oldest bank, measured by the natural logarithm of the number of years of the relationship with the bank. *Innovation* represents the dummy variable for whether the firm has conducted a product or process innovation in the last year. The dummy variable equals 1 if the SME has introduced a new or substantially improved product, service or process in the last year; otherwise, it equals 0.

Number of Owners represents the dummy variables that indicate whether the firm has one, two or three or more owners. We create the dummy variables by giving a value of 1 to firms that are in a particular group and a value of 0 to those that are not in that group for each dummy variable. The dummy variable that is dropped in regression analysis is the variable for firms with three or more owners.

Performance represents the dummy variables that reflect whether the firm made a profit, broke even or made a loss last year. The dummy variables for the groups are created with the same procedure explained for *Number of Owners*. The variable that is left out during regression analysis is the variable for firms that incurred a loss.

Industry represents the dummy variables for the industries in which the firms operate. Industry dummies are included for the manufacturing, service and other industries. The dummy variables for the categories are constructed with the same procedure explained above for *Number of Owners*. The variable that is left out during

Table 1. Definition of variables used in the study.

Variable	Definition
Dependent variable	
Accessibility	On a scale from 1 (totally disagree) to 5 (totally agree), a manager reacts to the following statement: 'Our firm does not have any difficulty in accessing bank financing'. The dummy variable *Accessibility* takes the value 0 when the response is 'strongly disagree' or 'disagree'. It takes the value 1 if the response is 'agree' or 'strongly agree'.
Independent variable	
Size	Ln(Number of full-time employees)
Age	Ln(Firm age)
Growth	Percentage change in sales revenue in the last year
Expected growth	Forecasted percentage change in sales revenue for the next year
Concentration	Ln(1 + Number of banks with which the firm works)
Duration	Ln(Number of years that the SME has been in a credit relationship with its oldest bank)
Innovation	Dummy variable taking the value 1 if the SME has introduced a new or substantially improved product, service or process in the last year
Number of owners	Dummy variable indicating whether the firm has one owner, two owners or three or more owners. It takes the value 1 if the firm is in a particular group, and the value 0 if it is not in that group
Financial performance	Dummy variable indicating whether the firm made a profit, broke even or incurred a loss last year. It takes the value 1 if the firm is in a particular group, and the value 0 if it is not in that group
Industry	Dummy variables indicating whether the firm operates in the manufacturing, service or other industries. It takes the value 1 if the firm is in a particular group, and the value 0 if it is not in that group

Source: Author.

regression analysis is the variable for firms that operate in the manufacturing industry for one model and the variable for firms that operate in the service industry for the other models. The description of the variables used in the logistic regression model is given in Table 1.

4. Data

The SMEs included in the sample are drawn from the six cities in Turkey in which the largest number of SMEs operate. The number of SMEs taken from each city is proportional to the number of SMEs that exist in those cities relative to the total number of SMEs that exist in total in the six cities. Our initial sample comprises 650 SMEs that employ between 10 and 249 people. Questionnaires were applied to the SME executives responsible for financial affairs in their firms. The survey, conducted in 2015, consisted of questions about the characteristics of the SMEs, their financing patterns and the thoughts of the respondents about the accessibility of bank financing. List-wise deletion of missing data resulted in a final sample of 492 SMEs. Among the firms in the final sample, 418 are small enterprises with 10 to 50 employees, and 74 are medium-sized enterprises with 50 to 249 employees.

Summary statistics for the variables used in the logistic regression model are presented in Table 2.

The mean number of employees of the SMEs in our sample is 29.82, and the mean age of the firms is 38.01 years. Although the small size of the firms may exacerbate the information asymmetry problem, firms may compensate for this unfavourable condition with the reputational capital gained with their experience. On average, the sales revenue of firms in the sample had grown by 7.20% in the past year. The

mean expected sales revenue growth for the coming year was 12.20%. The sample firms work with 2.52 banks on average, and the average number of years that the SMEs had been in a credit relationship with their oldest bank was 9.13 years. Therefore, banks that have the longest relationship with firms enjoy an informational advantage over competing banks.

Table 3 presents univariate comparisons of the numerical independent variables between the SMEs that have a negative perception of bank financing accessibility and those with a positive perception.

We determine that t-tests are significant for age, concentration and duration. Firms with a positive perception of bank financing accessibility are older firms ($p < 0.01$). These firms are also in a credit relationship with a larger number of banks ($p < 0.01$), and the duration of their relationship with their oldest bank is longer than that of firms with a negative perception ($p < 0.05$).

Table 4 presents contingency tables that cross-classify firms with negative perceptions of bank financing accessibility and positive perceptions of bank financing accessibility based on our categorical independent variables. Table 4 also gives the results of the chi-square tests that show whether our categorical independent variables relate

Table 2. Summary statistics.

Variable	Mean	Standard deviation	Median	25th percentile	75th percentile	Percentage frequency of 1 (as a dummy variable)	Number of observations
Accessibility						58.94%	290
Size	29.816	44.530	13.000	10.000	26.750		
Age	38.009	9.355	37.000	31.000	44.000		
Growth	0.072	0.171	0.100	0.000	0.150		
Expected growth	0.122	0.223	0.100	0.000	0.200		
Concentration	2.519	1.623	2.000	1.000	3.000		
Duration	9.128	6.465	8.000	4.000	12.000		
Innovation						52.62%	259
One owner						60.03%	295
Two owners						25.15%	124
Three owners or more						14.81%	73
Profit						41.67%	205
Break even						43.52%	214
Loss						14.81%	73
Manufacturing						46.60%	229
Services						19.60%	96
Other sectors						33.80%	167

Source: Author.

Table 3. Univariate comparisons.

Variable	Negative perception of bank financing accessibility ($n = 202$) (Mean)	Positive perception of bank financing accessibility ($n = 290$) (Mean)	p-value for the t-test
Size	2.852	2.942	0.198
Age	3.577	3.619	0.050***
Growth	0.698	0.731	0.913
Expected growth	0.155	0.112	0.210
Concentration	1.124	1.202	0.010**
Duration	1.693	1.946	0.001*

Source: Author.

to the perception of bank financing accessibility. The results of the Pearson's chi-square tests show that there is a significant association between innovation and the perception of bank financing accessibility ($p < 0.01$). The number of owners also has a significant association with the perception variable ($p < 0.10$). Moreover, financial performance of the firm and the industry that the firm operates in are associated with the perception of bank financing accessibility ($p < 0.05$).

The correlation matrix for the numerical variables included in the logistic regression model is provided in Table 5.

The low bivariate correlations signal that multicollinearity is not an issue in our model. For logistic regression, variance inflation factor (VIF) values above 2.5 signal multicollinearity (Allison, 1999). We do not face the problem of multicollinearity because the VIF values of all of our independent variables are below this cutoff value.

5. Empirical findings

Table 6 presents the binomial logistic regression results. The first column shows the results of Model 1, which does not include the industry dummies. Our logistic

Table 4. Contingency tables and Pearson's chi-square test results for categorical independent variables.

Variable	Negative perception of bank financing accessibility	Positive perception of bank financing accessibility	Total	p-value for the Pearson's chi-square test
Innovation				
Innovative	34	225	259	0.000***
Non-innovative	101	132	233	
Total	135	357	492	
Number of owners				
One owner	86	209	295	0.063*
Two owners	25	99	124	
Three owners or more	23	50	73	
Total	134	358	492	
Financial performance				
Profit	43	162	205	0.017**
Break even	63	151	214	
Loss	25	48	73	
Total	131	361	492	
Industry				
Manufacturing	62	167	229	0.030**
Services	18	78	96	
Other sectors	54	113	167	
Total	134	358	492	

The significance at the 1%, 5% and 10% levels is indicated by ***, ** and *, respectively. Source: Author.

Table 5. Correlation matrix and VIF values.

	Size	Age	Growth	Expected growth	Concentration	VIF
Size						1.150
Age	−0.022					1.056
Growth	0.120**	−0.080				1.337
Expected growth	0.044	−0.080	0.352**			1.319
Concentration	0.05	−0.049	0.065	0.040		1.083
Duration	0.11	0.110**	0.04	−0.134**	0.203***	1.049

The significance at the 1%, 5% and 10% levels is indicated by ***, ** and *, respectively. Source: Author.

Table 6. Results of logistic regressions, dependent variable: Accessibility.

Independent variable	Model					
	1	2	3	4	5	6
Size						
B	0.044	0.056	0.056	0.062	0.057	0.142
Exp(B)	1.045	1.058	1.058	1.064	1.059	1.153
Wald	(0.114)	(0.179)	(0.179)	(0.219)	(0.190)	(0.411)
Age						
B	0.674*	0.727*	0.727*	0.739*	0.713*	1.202*
Exp(B)	1.962	2.069	2.069	2.094	2.040	3.327
Wald	(2.830)	(3.216)	(3.216)	(3.313)	(3.056)	(3.078)
Growth						
B	−0.030	−0.028	−0.028	−0.028	−0.031	−0.082
Exp(B)	0.970	0.972	0.972	0.972	0.969	0.921
Wald	(0.463)	(0.407)	(0.407)	(0.392)	(0.462)	(0.051)
Expected growth						
B	−0.199	−0.222	−0.222	−0.226	−0.226	−0.396
Exp(B)	0.820	0.801	0.801	0.798	0.798	0.673
Wald	(2.133)	(2.634)	(2.634)	(2.697)	(2.697)	(1.702)
Concentration						
B	0.353	0.399	0.399	0.386	0.400	0.342
Exp(B)	1.423	1.490	1.490	1.471	1.492	1.408
Wald	(1.856)	(2.310)	(2.310)	(2.140)	(2.322)	(0.618)
Duration						
B	0.223*	0.226*	0.226*	0.203*	0.224*	0.265*
Exp(B)	1.250	1.254	1.254	1.225	1.251	1.303
Wald	(3.485)	(3.552)	(3.552)	(2.784)	(3.490)	(2.986)
Concentration × duration						
B				−0.363		
Exp(B)				0.696		
Wald				(1.182)		
Age × duration						
B					−0.160	
Exp(B)					0.852	
Wald					(0.109)	
Innovation						
B	1.592***	1.557***	1.557***	1.551***	1.559***	1.350***
Exp(B)	4.914	4.745	4.745	4.716	4.754	3.857
Wald	(59.652)	(56.236)	(56.236)	(55.735)	(56.320)	(15.089)
One owner						
B	0.133	0.090	0.090	0.074	0.089	0.526
Exp(B)	1.142	1.094	1.094	1.077	1.093	1.692
Wald	(0.216)	(0.097)	(0.097)	(0.066)	(0.094)	(1.257)
Two owners						
B	0.591*	0.581*	0.581*	0.572*	0.577*	1.277**
Exp(B)	1.806	1.788	1.788	1.772	1.781	3.586
Wald	(3.203)	(3.033)	(3.033)	(2.931)	(2.995)	(5.380)
Profit						
B	1.023***	1.041***	1.041***	1.011*	1.043***	
Exp(B)	2.782	2.832	2.832	2.748	2.838	
Wald	(12.610)	(12.894)	(12.894)	(12.018)	(12.948)	
Break even						
B	0.544*	0.597**	0.597**	0.581**	0.596**	
Exp(B)	1.723	1.817	1.817	1.788	1.815	
Wald	(3.765)	(4.420)	(4.420)	(4.172)	(4.415)	
Manufacturing						
B		−0.548*		−0.564*	−0.560*	−0.809*
Exp(B)		0.578		0.569	0.571	0.445
Wald		(3.579)		(3.764)	(3.669)	(2.916)
Service						
B			0.548*			
Exp(B)			1.730			
Wald			(3.579)			

Table 6. Continued.

Independent variable	Model					
	1	2	3	4	5	6
Other sectors						
B		−0.639**	−0.091	−0.647**	−0.646**	−0.496*
Exp(B)		0.528	0.913	0.524	0.524	0.609
Wald		(4.584)	(0.176)	(4.673)	(4.653)	(3.421)
n	492	492	492	492	492	205
Goodness of fit measures						
−2LL	645.106	640.017	640.017	638.832	639.908	236.915
Cox and Snell R^2	0.152	0.159	0.159	0.160	0.159	0.131
Nagelkerke R^2	0.221	0.230	0.230	0.232	0.230	0.203
Hosmer and Lemeshow chi-square	5.226	3.602	3.602	4.765	4.302	2.142
(Sign.)	−0.733	−0.891	−0.891	−0.782	−0.829	−0.976

The significance at the 1%, 5% and 10% levels is indicated by ***, ** and *, respectively. Source: Author. Wald statistics in parentheses.

regression results reveal that the estimated coefficient for *Age* is statistically significant at 0.10 significance level. The positive coefficient indicates that the older the firm is, the more likely the firm is to have a positive perception of bank financing accessibility. For a one unit increase in *Age*, the odds of having a positive perception of bank financing accessibility increases by a factor of 1.962. This finding supports H2, implying that the perception of loan accessibility improves with reputational capital gained with age. We also find a statistically significant coefficient for *Duration* at 0.10 significance level. The positive coefficient indicates that firms having a longer relationship with their oldest bank have a better perception of bank financing accessibility. For a one unit increase in *Duration*, the odds of having a positive perception of bank financing accessibility increases by a factor of 1.250. This finding is in line with the argument that banks regard lending as less risky when they have previous experience with the debtor.

Innovativeness also affects perceptions of bank loan accessibility. The statistically significant positive coefficient of the *Innovation* variable at 0.01 significance level shows that innovative firms have a better perception of loan accessibility than non-innovative firms. Additionally, the odds of having a positive perception of bank financing accessibility are 4.914 times higher for an innovative firm than for a non-innovative firm. This finding does not provide support for H7, and is inconsistent with the view that the risks and information asymmetries involved in innovation activities create financing constraints for SMEs. The result signals that banks do not perceive innovative firms to be riskier. Moreover, banks may even expect that innovative firms will bring higher profits than non-innovative firms, and thus reward innovative firms with easier loan access.

H9 posits that firms with two owners differ from firms with multiple owners in terms of how they perceive bank financing accessibility. The estimated coefficient for the dummy variable *Two Owners* is statistically significant at 0.10 level. The positive coefficient indicates that firms with two owners have a better perception of bank loan accessibility than do firms with three or more owners. Moreover, the odds of having a positive perception of bank financing accessibility are 1.806 times higher for a firm with two owners than firms with multiple owners. The statistically insignificant coefficient of the dummy variable *One Owner* shows that there is no difference between

firms with one owner and firms with three or more owners in terms of their perception of loan accessibility. Therefore, the results do not provide support for H8. The findings suggest that the credibility of loan applications is higher for firms with two owners than for those with a single owner. Having more than two owners, however, creates complex agency problems for banks.

The statistically significant positive coefficients of the *Profit* dummy variable at 0.01 level and *Break Even* dummy variable at 0.10 significance level firms that make a profit and those that break even are more positive about bank loan accessibility than are firms that incur a loss. These results provide support for H10 and H11, and imply that banks rely heavily on hard information about financial performance in loan decisions. Because the coefficient of the *Profit* dummy variable is higher than that of the *Break Even* dummy variable, we can say that when it comes to the perception of loan accessibility, the positive effect of being a profitable firm is stronger than that of being a firm that breaks even. The odds of having a positive perception of bank financing accessibility are 2.782 times higher for firms that made a profit than for firms that incur a loss. On the other hand, the odds of having a positive perception of bank financing accessibility are 1.723 times higher for firms that break even than firms that make a loss.

We see that firm size, past growth, expected growth and the number of bank–borrower relationships are not significantly related to the perception of bank financing accessibility for SMEs. These findings do not support H1, H3, H4 and H5. The results instead imply that SME access to bank loans is affected by reputational capital gained with age but not by firm size. Moreover, the financial performance of SMEs, but not sales growth and expected growth, is related to access to bank financing. The results also suggest that even if firms have a credit relationship with multiple banks, it is easy for them to obtain bank financing if they have a long-term credit relationship with their oldest bank.

The second column contains the results of Model 2, which adds industry dummies for the manufacturing industry and industries other than the manufacturing and service industries. The category that is not coded is the service industry. H12 posits that firms that operate in the manufacturing industry differ from firms that operate in the service industry in terms of their perception of bank financing accessibility. We observe that both the *Manufacturing* and *Other Sector* dummies have statistically significant coefficients at 0.10 and 0.05 significance levels, respectively. The negative coefficients indicate that firms operating in the manufacturing industry and in industries other than the manufacturing and service industries have a worse perception of bank financing accessibility than do firms that operate in the service industry. This finding signals that service-industry firms face lower financing constraints than firms operating in other industries. The odds of having a positive perception of bank financing accessibility are 0.578 times lower for manufacturing-industry firms than service-industry firms. Moreover, the odds of having a positive perception of bank financing accessibility are 0.528 times lower for firms that operate in other industries excluding manufacturing industry than service industry firms. Model 2 yields results similar to those for Model 1 in terms of the coefficients and the significance tests for the other independent variables.

The third column shows the results for Model 3, which includes industry dummies for the service industry and industries other than the manufacturing and service industries. The category that is not coded in this model is the manufacturing industry. The statistically insignificant coefficient of the *Other Sector* dummy shows that manufacturing-industry firms and firms that operate in other industries do not perceive bank financing accessibility differently. Thus, the main difference in terms of this perception is between manufacturing-industry and service-industry firms. This finding suggests that the perception of service-industry firms about bank financing accessibility is positively affected by lower borrowing requirements and lower financial neediness. Moreover, a larger size and high capital intensity that result in higher financing needs may stimulate negative perceptions about bank financing accessibility in manufacturing firms.

Column 4 presents the results for Model 4, which includes the interaction effect of the *Duration* and *Concentration* variables. We include this interaction effect because the relationship between the perception and duration of the relationship with the oldest bank may be affected by the number of bank–borrower relationships. More precisely, having multiple banking relationships may negatively affect the strength of the relationship between the duration variable and loan access perception. We find, however, that the interaction effect is insignificant. The perception of bank financing accessibility improves with an increase in the duration of the oldest bank relationship, and having multiple banking relationships does not affect the strength of this relationship.

Column 5 shows the results for Model 5, which include the interaction effect of the *Age* and *Duration* variables. The interaction effect is tested because the strength of the relationship of *Age* and *Duration* with the dependent variable may depend on the level of the other variable. The interaction effect does not, however, have a statistically significant coefficient. This finding implies that even if age increases, there is no decrease in the strength of the relationship between the duration of the relationship with the oldest bank and loan access perception. On the other hand, having a longer relationship with the oldest bank does not weaken the strength of the relationship between age and perception.

To check the robustness of the results, we reran Model 2 on the sample of profitable firms. Because banks predominantly use hard information about firms' financial performance in loan decisions, examining whether the relationship effects are similar for firms that make a profit can be viewed as a robustness check. The results for Model 6 are presented in Column 6. We observe that the findings are similar for Model 2 and Model 6. Older firms, firms that have a longer relationship with their oldest banks and innovative firms have better perceptions about bank financing accessibility than do other firms. Firms with two owners are more positive about bank loan accessibility than are firms with three or more owners. There is, again, no statistically significant difference between the perceptions of firms with a single owner and firms with three or more owners. Manufacturing-industry firms and firms that operate in industries other than manufacturing and service industries have worse perceptions of loan access than do service-industry firms.

As a robustness check, we also ran the logistic regressions using level values for the variables for which we use logarithmic values. The findings (available upon request) remain qualitatively similar after this change.

6. Conclusions

This study aims to identify the firm-level determinants of perceived bank financing accessibility for SMEs. The sample is composed of firms that operate in the six Turkish cities with the largest number of SMEs. Data were obtained from a survey conducted with executives responsible for the financial affairs of 492 SMEs in 2015. Readily available survey datasets do not provide the opportunity to analyse all of the factors that can affect access to bank loans. Using data from a self-conducted survey allows us to study all potential determinants of bank financing accessibility offered by the literature. Moreover, our survey gives us the chance to address the issue of perceived bank financing accessibility instead of using proxies from financial statements to infer financial constraints. This study is one of the rare studies that analyse the determinants of financing constraints that are faced by emerging market SMEs.

The estimation results show that older firms have better perceptions about the ease of access to bank financing than younger firms do. This finding suggests that reputational capital gained with age improves the perception of bank financing accessibility. We also find that firms with a longer relationship with their oldest bank perceive that it is easier to access bank loans, which implies that loan risk decreases for a bank with previous experience with a firm. The length of the relationship with the oldest bank has an important effect even on the perceptions of older firms. Furthermore, a longer relationship with the oldest bank does not preclude the positive effect of age on the perception of bank loan accessibility. Moreover, having multiple banking relationships does not affect the perception of bank financing accessibility.

Innovative firms are more positive about access to bank loans than non-innovative firms, a result that is inconsistent with the view that the informational opaqueness of innovative SMEs and the risks involved make banks reluctant to provide funding. The finding implies that soft information that involves knowledge about innovative activities is evaluated and well received by banks during the loan decision process.

Firms with a single owner do not differ from those with three or more owners in their tendency to regard access to bank financing as difficult. Compared with firms with three or more owners, however, firms with two owners are less inclined to find access to bank loans difficult. The findings indicate that information asymmetry problems are mitigated by having two owners rather than a single owner. Having more than two owners, however, creates complex agency problems for banks.

As expected, we find that firms that have made a profit or broken even perceive it as easier to access bank financing than do firms that have incurred a loss. Moreover, profitable firms are more positive about accessing bank loans than firms that break even. This finding implies that hard information on financial performance is crucial for banks in their loan decision processes. Furthermore, service-industry firms are more positive about accessing bank financing than firms in the manufacturing industry and other industries. This result suggests that lower borrowing requirements and lower financial neediness can have a positive effect on how service-industry firms perceive bank financing accessibility. An increase in the need for credit that results from larger size and high capital intensity can foster negative perceptions about bank financing accessibility in manufacturing firms. High borrowing needs caused by investments in machinery, equipment, buildings and raw materials and the need for

continuing investment seem to make manufacturing firms pessimistic about access to bank loans.

An increase in the susceptibility of Turkish SMEs to shocks implies that the debt-serving ability of these firms can be negatively affected by acute stress. This factor increases the reluctance of banks to give loans to SMEs. Our findings signal that banks try to lower the risks by providing loans to firms with characteristics that represent lower risk in an environment where the asset quality of the banks is under pressure. When banks are overly selective in their loan provision decisions, however, we cannot say that the financial markets are efficient, and efficiently allocate resources. In an efficient financial market, access to bank loans is easy, and savings are allocated to the most productive investments. Because SMEs in Turkey are very important for productivity growth, inability of SMEs to have access to bank loans negatively affects the country's productivity.

This study has certain implications for what different groups of SMEs can do to improve their access to bank financing. Young SMEs and SMEs that have a short-term relationship with their main bank should aim to reduce the information asymmetry between the bank and the firm by undertaking efforts such as increasing their accounting and financial reporting quality. The findings imply that realising or expecting a high growth rate does not ensure a bank that the debt will be repaid. This result may be peculiar to emerging-market economies where there is uncertainty about the costs resulting from inflation uncertainty. SMEs can reduce this cost uncertainty by the use of derivative instruments. Furthermore, non-innovative firms, which may not carry the profit potential of innovative firms in the eyes of banks, may have easier access to bank loans by presenting their potential to banks through well-prepared business plans.

This paper contributes to our understanding of the financial constraints faced by SMEs by providing an insight into the factors that affect perceptions of bank financing accessibility. Future studies can extend our findings by exploring whether the factors we identified can be generalised to other emerging markets. Analysing why the factors that influence perceptions of bank financing accessibility differ between developed-market SMEs and emerging-market SMEs is another suggestion for future research.

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