International Review of Economics and Finance 65 (2020) 32–45

Contents lists available at ScienceDirect

International Review of Economics and Finance

journal homepage: www.elsevier.com/locate/iref

Perceived problems with collateral: The value of informal networking

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ARTICLE INFO

Keywords:
Collateral
Networking
Perception
Female entrepreneurship
Emerging economies
Tanzania

ABSTRACT

Many businesses in emerging economies are financially constrained due to their limited use of formal loans. Recent evidence suggests that negative perceptions discourage entrepreneurs from applying for loans. One of the main issues entrepreneurs mention is unattainable collateral requirements. In this paper, we contribute to this line of research by investigating the effect of networking with fellow entrepreneurs on perceived collateral problems. Drawing on quantitative and qualitative data originating from female entrepreneurs in Tanzania, we find that through networking, entrepreneurs are exposed to stories of their peers' experiences with loans which influence their perceptions of formal loans. While existing research suggests that networking generally eases access to finance, we find that the effect depends on the type of networking. Informal networking reduces problems with collateral while formal networking increases problems. Additionally, we find that once entrepreneurs come into contact with formal loans, they are less likely to report problems with collateral. Our results suggest that networking with fellow entrepreneurs, especially in a formal manner, leads to an overestimation of perceived collateral problems paving the way for borrower discouragement.

1. Introduction

Small and medium sized enterprises (SMEs) are the engine of economic growth in emerging economies. Specific attention should be given to those run by women, as they invest more into their children's education and communities (United Nations, 2008). The growth of these women owned enterprises (WOEs), however, is severely constrained by their lack of financing (Asiedu, Kanyama, Ndikumana, & Nti-Addae, 2013; IFC, 2011; Stevenson & St-Onge, 2005). This is mainly caused by the women's inability to satisfy collateral requirements on formal loans. As a result, most female entrepreneurs use informal loans which do not require collateral but are not substantial enough to satisfy the needs of the business (Beck, Demirguç-Kunt & Maksimovic, 2005; IFC, 2011; Mori, 2014).

Collateralized lending plays a dual role with respect to financial inclusion. On the one hand it avoids credit rationing and expands access to finance by reducing asymmetric information between borrower and lender (Besanko & Thakor, 1987; Bester, 1987; Stiglitz & Weiss, 1981). On the other hand, it restricts financial access for borrowers with insufficient assets to satisfy collateral requirements.

Entrepreneurs in emerging economies face higher collateral requirements than those in developed economies because of inefficient institutions and underdeveloped markets which aggravate informational asymmetry (Bermpei, Kalyvas, & Nguyen, 2018; Bruton &

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https://doi.org/10.1016/j.iref.2019.09.008
Received 10 December 2018; Received in revised form 11 September 2019; Accepted 20 September 2019
Available online 23 September 2019

Ahlstrom, 2003; Hainz, 2003; Nagano, 2018; Smallbone & Welter, 2001). Furthermore, the value of collateral relative to loan value is often higher in emerging economies (Hanedar, Boccardo & Bazzana, 2014; Menkhoff, Neuberger, & Suwanaporn, 2006). For instance, in Germany collateral equals on average 55% of the loan amount (Lehman & Neuberger, 2001). In contrast, for Mexican firms, collateral amounts up to 119% of loan value (La Porta, López-de-Silanes & Zamarripa, 2003). This illustrates why it is interesting to investigate the issue of collateral requirements in emerging economies compared to in developed economies.

Female entrepreneurs in emerging economies face even higher collateral requirements compared to their male colleagues (Hansen & Rand, 2014). Credit providers consider them a higher credit risk because they own smaller businesses which operate in highly competitive sectors. Furthermore, female entrepreneurs generally have lower levels of financial literacy which also increases their credit risk (IFC, 2011; Mori, 2014). Women also have less assets available than men to use as collateral because gender discriminatory cultural practices inhibit them from inheriting or claiming ownership of land (Amine & Staub, 2009; Fletschner, 2009; Mori, 2014). In order to unleash the full potential of female entrepreneurs in emerging economies and enhance their contribution to economic growth and poverty reduction, we need to investigate how to alleviate their problems with collateral.

Previous studies mainly focus on determinants of collateral requirements (Berger, Frame, & Ioannidou, 2011; Degryse and Van Cayseele, 2000; Hanedar, Broccardo, & Bazzana, 2014; Jimenez, Salas, & Saurina, 2006). However, there are several benefits in analyzing perceived problems with collateral in the case of female entrepreneurs in emerging economies. Studies focusing on requirements only look at the supply-side of formal lending i.e. the amount of collateral requested by credit providers. By studying perceived problems we also consider demand-side problems, notably the collateral provided by borrowers. Even if female entrepreneurs face low collateral requirements, they might still perceive problems because they do not own sufficient assets to satisfy them. Women are more risk averse and make more conservative financing decisions than men. As a result, female entrepreneurs who own sufficient assets are unlikely to use them as collateral because of the risk involved (Bernasek & Shwiff, 2001; Coco & Pignataro, 2013; Kiraka, Kobia, & Katwalo, 2013; Olsen & Cox, 2001). Furthermore, looking at perceived problems with collateral is relevant because they curb the demand for loans. Discouraged borrowers are entrepreneurs who have clear financing needs but do not apply for formal loans because they hold negative perceptions concerning collateral requirements (Brown, Ongena, Popov, & Yesin, 2011; Chakravarty & Xiang, 2013; Kon & Storey, 2003). Studies in emerging economies in Eastern Europe and Asia show that for every rejected applicant there are three discouraged borrowers (Gama, Duarte, & Esperança, 2017).

A lack of property protection and contract enforcement in emerging economies (Delcoure, 2007; Troilo, Walkup, Abe, & Lee, 2018, pp. 1–16) makes it costly to seize collateral when borrowers default. Subsequently, apart from requesting collateral, credit providers rely on networking and relationship banking to reduce asymmetric information, credit risk and moral hazard (Zhang, Song, & Zhong, 2016; Smallbone & Welter, 2001; Peng, 2001; Ahlstrom & Bruton, 2006; Bonini, Dell'Acqua, Fungo, & Kysucky, 2016). There are indications that networking with fellow entrepreneurs could alleviate problems with collateral in several ways. First, female entrepreneurs use networking to increase their knowledge on how and where to best apply for loans (Hoang & Antoncic, 2003; Le & Nguyen, 2009). Second, networking can generate an information spillover to the finance community which reduces information asymmetry between borrower and lender (Ahlstrom & Bruton, 2006; Coleman, 1988; Nguyen, Le, & Freeman, 2006). Third, entrepreneurs' perceptions of formal loans are shaped by the experiences and perceptions of people in their network (International Labour Organization ILO, 2003).

The goal of this paper is to explore the effect of networking on perceived collateral problems for female entrepreneurs in emerging economies. To our knowledge this is one of few studies to focus on determinants of perceived problems rather than on determinants of collateral requirements (e.g. Berger et al., 2011; Degryse and Van Cayseele, 2000; Hanedar et al., 2014; Jimenez et al., 2006). Beck, Demirgüç-Kunt, and Maksimovic (2005), and Beck, Demirgüç-Kunt, Laeven, and Maksimovic (2006) do examine determinants of self-reported problems with collateral but they do not include networking in their analysis nor do they focus on the role of perceptions. Hence, this paper responds to Fraser, Bhaumik, and Wright (2015) who call for more research on the influence of entrepreneurial cognition and perceptions on financing decisions; and to Aggarwal (2014) who argues that research in finance should acknowledge individuals' lack of rationality in decision making.

We employ both survey data and semi-structured interview data with Tanzanian female entrepreneurs. There are different reasons why Tanzania is an interesting context for this study. More than half of micro, small and medium sized enterprises in Tanzania are female owned. However only a quarter of all businesses are owned by women. This shows that although there are many female entrepreneurs, they mainly run small businesses (Ministry of Industry and Trade MIT, 2012). According to Lindvert, Patel, Smith, and Wincent (2019), Jagero and Kushoka (2011) and Mori (2014), WOEs in Tanzania are growth-constrained due to a lack of external financing. Aterido, Beck, and Iacovone (2013) study access to finance across nine Sub Saharan African (SSA) countries. They find that Tanzania has the lowest percentage of female entrepreneurs who use formal banking services, less than 10%. This is a result of the entrepreneurs' negative perceptions towards loans. Female entrepreneurs complain of high collateral requirements (Kira & He, 2012; Naegels, Mori, & D'Espallier, 2018) which is not surprising given that Tanzanian banks request collateral of up to 240% of the loan. Tanzania is one of the countries with the highest collateral to loan value in SSA, where the average is 206% (World Bank, Enterprise Surveys). As a result of their negative perceptions female entrepreneurs are often discouraged from applying for formal loans. Chakravarty and Xiang (2013) study discouragement among ten low-income countries across different continents. They find that Tanzania is country with the second highest proportion of female discouraged borrowers (52%).

We assess the effect of networking on problems with collateral through a probit regression model. We distinguish between the effects of formal and informal networking with fellow entrepreneurs. We also explore whether female entrepreneurs' perceptions change once they come in contact with formal loans. The model controls for other determinants of collateral requirements and problems with collateral. We confirm the reliability of our findings by supplementing the quantitative analysis with qualitative interview data. The remainder of the paper is organized as follows. Section two discusses relevant literature and specifies hypotheses. Section three describes the data and methodology. The results of our analyses are discussed in section four followed by a discussion and conclusion in

section five.

2. Literature review

2.1. Subsistence entrepreneurship in emerging economies

Schumpeter (1934; 1942) describes entrepreneurship as a process of "creative destruction" where an entrepreneur exploits an opportunity in the market to introduce a new product, service or technology and hence disrupting the current market equilibrium. Kristiansen (1997) and Kuzilwa (2005) expand this definition by suggesting that innovation is context-specific. An entrepreneur first fulfils his lower needs such as food and shelter before working towards business growth. In countries with well-developed and liberal institutions one would expect to see innovative entrepreneurs such as defined by Schumpeter (1934). However, in countries in transition such as Tanzania the institutional environment is more conducive to subsistence entrepreneurs (Harper, 1998). These are individuals who are pushed into entrepreneurship by the need to survive and sustain their family rather than pulled into it by an opportunity to exploit. These businesses are generally smaller, grow at a slower pace and are less profitable (Kevane & Wydick, 2001; Smallbone & Welter, 2001; Yousafzai, Saeed, & Muffatto, 2015).

Women in emerging economies are even more likely than men to become subsistence entrepreneurs. On the one hand women are pushed into entrepreneurship as a result of gender discriminatory cultural practices. They are responsible for the majority of the housework. Running a business is easy to combine with household duties because it offers more flexibility than regular employment. Furthermore, women are often less educated than men which makes it difficult to find a paid job. Unemployed women start small businesses to earn a living. On the other hand, factors which traditionally pull individuals into entrepreneurship disadvantage women. Entrepreneurship is primarily considered a male profession. Only a few sectors are seen as acceptable for women. These are mostly low profit sectors like craft-making and selling or small-scale farming which are not very innovative. Additionally, due to their lack of education, self-confidence and socialization women have a harder time identifying worthwhile opportunities to exploit (Brines, 1993; Jiggins, 1989; Stevenson & St-Onge, 2005; Yousafzai et al., 2015).

This study follows the approach by Kuzilwa (2005) who states that all income earning activities in emerging economies can be seen as entrepreneurial. The women in our sample are both innovative and subsistence entrepreneurs. Some studies suggest that female subsistence entrepreneurs do not want their business to grow. Fleck (2015) states that women pursue different goals than men when starting a business. Women attach less importance to profitability and growth and more to personal goals such as work-life balance and self-development. Furthermore women are more risk-averse than men and deliberately choose for a slower growth rate for their business (Cliff, 1998; Morris, Miyasaki, Watters, & Coombes, 2006). Entrepreneurs who do not want their business to grow do not use a lot of external debt (Morris et al., 2006). Hence, problems with collateral would be less relevant for them. Consequently, to ensure the relevance of our sample we check whether respondents in our study want to invest in their business.

2.2. Networking and perceived problems with collateral

There are several ways through which networking could influence female entrepreneurs' problems with collateral. First, since female entrepreneurs are on average less educated with respect to financial issues and entrepreneurship than male entrepreneurs, they use their networks as a source of financial information (Hoang & Antoncic, 2003; Burt, 1992; Ibarra, 1992; Stevenson & St-Onge, 2005; Lock & Lawton Smith, 2016). Literature on entrepreneurial learning demonstrates that entrepreneurs learn by observing and imitating role models, such as fellow entrepreneurs (Cope, 2011; Zozimo, Jack, & Hamilton, 2017). Through networking, female entrepreneurs access business ideas, advice and financial facilities (Mwasalwiba, Dahles, & Wakkee, 2012) and learn how to behave when dealing with finance providers (Hoang & Antoncic, 2003; Le & Nguyen, 2009).

Second, networking potentially generates an information spillover from borrowers to the finance community. Female entrepreneurs in emerging economies often run small, informal businesses with limited financial accounts (Stevenson & St-Onge, 2005; Lock & Lawton Smith, 2016). This makes it difficult for credit providers to assess their creditworthiness or the risk of moral hazard. Furthermore, loan contracts cannot always be secured with collateral because many women do not own sufficient assets. In those cases, relationship lending can be used to complement or substitute collateralized lending. Relationship lending implies that credit providers network with borrowers to procure soft, private information about them (Menkhoff, Neuberger, & Rungruxsirivorn, 2012; Mori, 2014). It is not unlikely that borrowers pass on soft information about the entrepreneurs within their network. Additionaly, banks sometimes rely on existing, trustworthy borrowers to introduce and recommend new clients (Coleman, 1988; Granovetter, 1985; Nguyen et al., 2006). When entrepreneurs network with peers by asking for business advice, they might share proprietary information about their business. This information can then be passed on to credit providers who can use it to reduce asymmetric information and adjust borrowing terms for new borrowers (Berger & Udell, 1995; Harhoff & Körting, 1998).

Third, entrepreneurs' perceptions of collateral could be directly influenced by the perceptions of their network members. Traditionally, most theories and models in finance are based on the assumption that economic agents are rational beings who try to maximize their personal utility. However, studies on behavioral finance demonstrate that people suffer from bounded rationality (Aggarwal, 2014; Forbes, Hudson, Skerratt, & Soufian, 2015). This entails that individuals try to make rational decisions within the boundaries of the information they possess and their cognitive ability to process this information (Simon, 1955). As a result, people rely on a wide range of heuristics to simplify everyday financial decision making (Aggarwal, 2014; Forbes et al., 2015; Simon, 1955). One of these heuristics is social influence. Research in social psychology shows that people's perceptions are shaped by the perceptions of their peers. Individuals internalize the beliefs, values and norms of those they trust or consider to be knowledgeable (Ajzen & Fishbein, 1980; Fishbein & Ajzen,

1975; Kelman, 1958; Latané, 1981). Previous studies show that both individual and institutional investors occasionally exhibit herding behavior. Herding occurs when a majority of investors imitate the behavior of others causing prices to deviate from their fundamental values. This mainly arises in declining markets or when there is a lot of uncertainty (Chang & Lin, 2015; Fang, Shen, & Lee, 2017; Yao, Ma, & He, 2014).

The literature suggests that female entrepreneurs in emerging economies are also sensitive to social influence. Richardson, Howarth, and Finnegan (2005) investigate the challenges faced by female entrepreneurs in Ethiopia, Zambia and Tanzania. They report that female entrepreneurs believe business associations do not help them in developing their businesses and accessing resources. The authors find that these perceptions often originate from stories of other entrepreneurs' negative experiences with such associations rather than from personal experiences. Along similar lines, the International Labor Organization (2003) reports that Zambian female entrepreneurs are discouraged from applying for formal loans because of stories they hear from fellow entrepreneurs whose applications were rejected or who faced excessive interest rates. Based on above arguments, we formulate the following hypothesis:

Hypothesis 1. Networking with fellow entrepreneurs influences female entrepreneurs' perceptions of problems with collateral.

There are several factors which limit the effectiveness of formal networking to small businesses in Sub-Saharan Africa. First, government instances and formal procedures are associated with high levels of bureaucracy, inefficiency and corruption (International Labour Organization ILO, 2003; Mwasalwiba et al., 2012; Dutta et al., 2012). In this context, formal institutions are often too rigid to gain access to resources such as capital whereas informal networking is more flexible (Smallbone & Welter, 2001). Kapri (2019) argues that in case of political instabilities in emerging economies, formal institutions do not work properly. Subsequently when entrepreneurs perceive political instability to be a severe problem they rely on their informal networks to get things done.

Second, due to economic instabilities, there are little incentives to maintain long term business relationships. Moreover, an inefficient judicial system means it is costly to take business disputes to court. This further prompts individuals to defect on formal contracts, especially if their economic value is limited. As a result, networks in Tanzania generally consist of tight informal relationships (Beck et al., 2006; Biggs & Shah, 2006). Enforcement relies on mutual trust and information sharing within the community (Beck et al., 2006; Biggs & Shah, 2006). This makes informal networking especially effective when dealing with women for whom it is very important to uphold a good reputation (Agier & Szafarz, 2013; Rahman, 1999). Furthermore, female entrepreneurs in Tanzania are sometimes barred from formal networking because gender discriminatory cultural practices limit the time they can spend on business activities and prevent them from travelling freely (Mwasalwiba et al., 2012; Stevenson & St-Onge, 2005). Based on these arguments we formulate the following hypothesis:

Hypothesis 2. The effect of informal networking is stronger than the effect of formal networking.

3. Methodology

We used a survey to collect data on entrepreneurial and business characteristics, on financing sources, and on female entrepreneurs' perceptions about various issues in the business environment. The survey used was developed by Stevenson and St-Onge (2013) and modified and translated into Kiswahili to suit the Tanzanian environment. This modified questionnaire was piloted in 10 women-owned enterprises and feedback was incorporated in the main questionnaire which was executed in August 2013 via face-to-face interviews (Saunders, Lewis, & Thornhill, 2003). Our final database consists of data on 212 Tanzanian female entrepreneurs.

Tanzania is made up of zones and regions. To identify respondents, we selected the Central, Northern, Lake, and Eastern zones because they contain many SMEs (Ministry of Industry and Trade MIT, 2012). Through random sampling we picked the Tanga, Dodoma, Dar es Salaam, and Mwanza regions. The women owned enterprises (WOEs) were obtained by systematic sampling on lists solicited from local municipalities and training institutions. WOEs are businesses where women have the majority ownership, manage the enterprise, and are liable for risks associated with the business (Richardson et al., 2005).

We include in our sample entrepreneurs who have used formal loans before as well as those who have not in order to avoid the selection bias inherent to studies focusing on determinants of collateral requirements. The amount of collateral required can only be observed for borrowers whose applications were approved. This leads to biased results if variables that determine whether the bank approves an application, also determine the level of collateral required (Chakraborty & Hu, 2006). Furthermore if we only observe those who have used formal loans before we would exclude the potentially extensive group of discouraged borrowers who do not apply because they perceive problems with collateral. This could lead to a severe underestimation of the problem (Chakravarty & Xiang, 2013).

The dependent variable in our model is a dummy equal to 1 if the respondent perceives that collateral requirements for bank or microfinance loans are problematic. The main independent variables in our model relate to two different types of networking. Formal networking with fellow entrepreneurs is measured using a dummy variable equal to 1 if the respondent has previously participated in a formal business support program with other female entrepreneurs. Informal networking with fellow entrepreneurs is measured using a dummy variable equal to 1 if the respondent relies on other female entrepreneurs for information and business advice via informal conversations.

We also include a number of control variables in our model. Entrepreneurs who have used formal loans before might be more experienced with procedures and requirements. This could affect their perception of problems with collateral. We control for this effect using two dummy variables equal to one if a WOE has borrowed from a bank of MFI respectively at business start-up or in 2012. Conform with previous studies we use business industry and size as proxies for credit and default risk (Barbosa & Moraes, 2004; Fatoki & Asah, 2011). According to Kira and He (2012) Tanzanian businesses active in the retail or wholesale industry have the weakest asset structure. Tanzanian businesses active in the agriculture or manufacturing industry have most assets available. Consequently, we measure industry

using three dummy variables which capture whether the business is active in the retail and wholesale sector, in the agriculture or manufacturing sectors, or in other sectors. Business size is measured by the logarithm of the number of workers in the firm.

We control for organizational structure and business formality as proxies for the degree of asymmetric information between borrower and lender as well as for the amount of assets available to use as collateral (Aga & Reilly, 2011; Berger et al., 2011; Carter, Williams, & Reynolds, 1997; Dabla-Norris & Koeda, 2008). The organizational structure is measured using a dummy equal to 1 if the business is incorporated. Business formalization is measured by a dummy equal to 1 when a WOE is registered with either the local government offices, with the SME section of the Ministry for Industry and Trade (MIT), or with the Business Registrations and Licensing Agency (BRELA). Finally, we control for the entrepreneur's education level because of its influence on the amount of collateral required as well as on the amount of assets available to use as collateral (Abdulsaleh & Worthington, 2013; Barringer, Jones, & Neubaum, 2005; Biggs & Shah, 2006). Education is measured using five dummy variables which capture the respondent's highest achieved degree: primary school, secondary school, non-university post-secondary education, vocational or technical training, or a university/college. Finally we use a dummy variable equal to 1 if the respondent has participated in an entrepreneurship or small business management training program. Given that we include a lot of nominal and dummy variables in our dataset we check and confirm that we have no combinations of categories for which there are no observations.

Our measure of perceived collateral problems is dichotomous, consequently we need a limited dependent variable model. The Probit Regression Model (PRM) and the Logistic Regression Model (LRM) predict values within the logical zero to one range and produce similar results (Horowitz & Savin, 2001; Wooldridge, 2002). They have both been utilized in traditional research considering SMEs' access to finance (Ogubazghi & Muturi, 2014). We use a probit regression model to examine the effect of networking as well as other business- and entrepreneurial characteristics on the probability of experiencing collateral issues. Logistic regressions are used as robustness checks. For every regression we report the pseudo R^2, the p-value of the chi-square test of joint significance, the Pearson X^2 statistic, the c-statistic, and the percentage of correctly classified observations to evaluate the quality of the model (Sainani, 2014).

This study employs data triangulation to ensure the validity of our findings (Denzin, 1978; Neuman, 2011; Webb, Campbell, Schwartz, & Sechrest, 1966). We use semi-structured interviews to confirm or disconfirm the results of our quantitative analyses. In

Table 1
Summary statistics.

Panel A: Quantitative variable

	Mean	*Median*	*Standard deviation*	*Minimum*	*Maximum*
Size of the business (# of employees)	4.36	2	6.42	0	60

Panel B: Nominal variables

Variables		*Percent distribution (%)*
Industry:	Retail & Wholesale	44.81
	Agriculture & Manufacturing	10.38
	Other sectors	44.81
Education[1]:	Primary	27.36
	Secondary	36.32
	Non-university post-secondary	5.66
	Vocational/Technical	7.55
	University/College	22.64

Panel C: Dummy variables

Variables		*% of businesses in "0" category*	*% of businesses in "1" category*
Reason to start business:	Wanted to be my own boss	68.40	31.60
	A market opportunity	56.60	43.40
	Increase my income	30.66	69.34
	Could not find paid employment	85.85	14.15
	Flexibility to combine housework with earning money	48.58	51.42
	I do not have the skills for paid employment	91.51	8.49
	My previous employment ended	92.45	7.55
Perceived problems with:	Collateral requirements	16.04	83.96
	Interest rates[1]	11.32	85.38
	Personal guarantee requirements[1]	24.53	70.75
	Accessing finance when starting a business	27.36	72.64
	Accessing finance when growing a business[1]	25.00	74.53
	Plan to invest in the development of the business next year[1]	15.57	77.83
	Formal networking[1]	69.81	29.72
	Informal networking	32.08	67.92
	Use of formal loans at startup	73.58	26.42
	Use of formal loans in 2012	62.74	37.26
	Incorporation	84.91	15.09
	Formalization	27.83	72.17
	Attended training	50.00	50.00

1 Percentage distribution does not add up to 100 because of missing values.

Table 2
Correlations.

Spearman correlations	Perceived collateral problems	Formal network	Informal network	Use of formal loans at startup	Use of formal loans last year	Sector	Size of the business	Incorporation	Formalization	Education
Formal network	0.09									
Informal network	−0.09	0.15**								
Use of formal loans at startup	0.07	0.15**	0.01							
Use of formal loans last year	−0.01	0.00	0.11	0.38***						
Sector	0.10	0.03	−0.08	0.02	−0.03					
Size of the business	−0.01	0.09	−0.04	0.15**	0.05	0.44***				
Incorporation	−0.02	0.02	−0.05	0.01	−0.12*	0.17**	0.27***			
Formalization	0.02	0.01	0.09	0.02	0.01	0.01	0.19***	0.12*		
Education	−0.10	0.23***	−0.14*	0.05	−0.09	0.22***	0.36***	0.20***	0.12*	
Training	−0.10	0.38***	−0.07	0.21***	0.13*	0.20***	0.22***	0.05	0.06*	0.34***

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

September 2017 we interviewed 29 discouraged female entrepreneurs in Tanzania. Depending on the interviewee's preference, interviews were conducted in English or in Swahili. The interviewees are not the same women who took part in the survey to ensure the independence of both samples (Uzzi, 1999). We selected informants using purposeful sampling (Glaser & Strauss, 1967; Patton, 1990). This entails "strategically selecting information-rich cases that provide unique knowledge regarding the issues of central importance" (Kaczynski, Salmona & Smith 2014 p132). During the interviews we used neutral and open questions to identify the informants' perceptions of formal loans. We used probes to find out how the informants perceptions were formed.

We analyze the interview data using grounded theory (Gioia et al., 2013; Glaser & Strauss; 1967; Strauss & Corbin, 1998). After translating and fully transcribing the interviews we coded them in three separate stages. In the first stage we attach labels to all relevant excerpts of the transcripts. In this stage the labels remain as close as possible to the text in order to preserve the interviewees' interpretation. In the second stage of coding we group similar codes into slightly more abstract themes. In the third stage of coding we rely on existing theory to translate the empirical patterns we find into more abstract theoretic concepts (Gioia, Corley & Hamilton, 2013; Naegels, D'Espallier, & Mori, unpublished manuscript).

4. Results

4.1. Descriptive statistics

Table 1 displays summary statistics for the most important variables in our dataset. Panel A displays descriptive statistics for our only quantitative variable, the size of the business. Panel B displays frequencies for our nominal variables and Panel C for our dummy variables.

When asked about the reason they started a business, nearly 70% of respondents replied that they wanted to increase their income. This suggests that the female entrepreneurs in our sample attach some importance to profitability. However, half of our respondents also mention that they started their business because it allows them to combine housework with earning a living. Importantly, more than 40% of female entrepreneurs state that they started a business to take advantage of a market opportunity. These numbers confirm that our sample contains both innovative and subsistence entrepreneurs. Almost 80% planned to invest in the development of their business in 2014. This shows that although many entrepreneurs in our sample our subsistence entrepreneurs they strive towards business growth.

Respondents have negative perceptions of various aspects related to formal loans. The three most important issues are high interest rates (85% of respondents complain about this), high collateral requirements on formal loans (84%), and personal guarantee requirements (71%). Our data suggest that these negative perceptions stop female entrepreneurs from using formal loans. Less than 27% of respondents used bank or microfinance loan to start up their business and less that 38% used formal loans in 2012. The limited use of formal loans does not seem to be caused by a low need for financing: nearly 73% of respondents mention that accessing sufficient finance was a challenge when starting their business and 75% considers it a challenge in growing their business.

The average WOE employs 4 full time workers, excluding the owner. This demonstrates that not all WOEs are solely owned businesses with no growth potential. If we were to alleviate the financial barriers these businesses face, they could greatly contribute to local macro-economic development. Most female entrepreneurs engage in informal networking (68%). Formal networking is much less relied on (30%). The majority of WOEs are formalized (72%), though only 15% of businesses are incorporated. Finally, half of our respondents have participated in an entrepreneurship or business management program.

Table 2 displays Spearman rank correlations (Spearman, 1904) between the main variables in our study. Entrepreneurs who engage in formal networking are significantly more likely to engage in informal networking, to have started up their business with formal loans, to be more educated, and to have attended entrepreneurship or small business management training. Furthermore entrepreneurs who used formal loans to start up their business are significantly more likely to use formal loans to make further investments in their business, they have larger businesses and they are more likely to have attended training. Finally, larger businesses are significantly more likely to be incorporated, formally registered and led by more educated entrepreneurs or entrepreneurs who attended training.

4.2. Hypotheses testing

Table 3 shows the results of univariate t-tests. We see that formal networking is positively correlated with collateral problems. 31.46% of respondents who report problems with collateral engage in formal networking compared to 21.21% of respondents who do not perceive problems with collateral. However the difference is not statistically significant. Informal networking is negatively correlated with collateral problems. 66.29% of entrepreneurs who report collateral problems network informally compared to 76.47% of entrepreneurs who do not report collateral problems. Again the difference is not significant.

We now run multivariate probit regressions. Table 4 presents the results of our baseline regression model. Panel 1 displays the regression coefficients, Panel 2 displays margins. Margins capture the probability that the dependent variable is equal to one when the

Table 3
Results of t-tests.

Variables	Perceive problems with collateral	Do not perceive problems with collateral
% of respondents who use formal networking	31.46%	21.21%
% of respondents who use informal networking	66.29%	76.47%
Total	*84.36%*	*15.64%*

independent variables are fixed at certain levels. In Panel 1, Model 1 includes formal networking, Model 2 informal networking and Model 3 both. The quality of our regressions is good. For all specifications, the chi-square test indicates that the coefficients are jointly significant. Furthermore all specifications are robust to the inclusion of additional variables and replication using logistic regressions. The adjusted R^2's vary between 0.09 and 0.13. Furthermore our models have good discriminatory capability. All regressions have c-statistics north of 70 percent and on average more than 84 percent of observations are correctly classified.

Our results support hypotheses 1 and 2. Networking with fellow entrepreneurs is significantly related to female entrepreneurs' perceptions of problems with collateral but the effect differs depending on the type of networking. Informal networking reduces the likelihood that an entrepreneur perceives problems with collateral (Panel A, Model 3: 0.55, $p < 0.05$). An average entrepreneur who does not engage in informal networking has a 93.01% chance (Panel B, column 1) of reporting problems with collateral. This drops to 82.31% (Panel B, column 2) if she networks. Formal networking increases the likelihood that an entrepreneur perceives problems with collateral (Panel A, Model 1: 0.69, $p < 0.05$; Model 3: 0.85, $p < 0.01$). An average entrepreneur who does not engage in formal networking has an 82.31% probability (Panel B, column 2), of reporting problems with collateral. This increases to 96.19% (Panel B, column 4) if she networks.

The contrasting effects of formal and informal networking in our quantitative analysis confirm results by Richardson et al. (2005). Female entrepreneurs in emerging economies perceive that formal networking within business associations does not help them to develop their business or access resources whereas formal networking does. However, if respondents believe informal networking is simply more effective in helping them to access formal loans, we would expect the coefficient for formal networking to be insignificant or positive but less economically important than the coefficient for informal networking. The negative coefficient suggests that respondents believe formal networking somehow aggravates problems with collateral. We suspect that if female entrepreneurs engage in formal networking with the hopes of experiencing less problems with collateral they end up disappointed when the formal network fails to meet their expectations. This disappointment leads them to report more problems with collateral.

With respect to the control variables we find that businesses active in the retail and wholesale sector experience less problems with collateral compared to all other businesses except those active in the manufacturing and wholesale industries. This contrasts with previous findings by Kira and He (2012). Furthermore entrepreneurs who attended entrepreneurship or small business management training as well as those with a secondary school degree (compared to a primary school degree) are less likely to report problems with collateral. The other control variables are not significant.

Our interview data allows us to better understand the mechanisms which underlie the relationship between networking and perceived problems with discouragement. The informants clearly state that their opinions about collateral requirements are shaped both by their own previous experiences as well by stories they hear from others. Most often these stories are shared between entrepreneurs (and various other members of the community) in informal settings. This highlights the importance of informal over formal networking.

Table 4
Regression results baseline model.

Panel A: Probit regression coefficients[a]			
Variables	Model 1	Model 2	Model 3
Formal network	0.69**	-	0.85***
Informal network	-	−0.39	−0.55**
Use of formal loans at startup	0.43	0.46	0.39
Use of formal loans last year	−0.09	−0.03	−0.03
Retail & Wholesale sector	−0.71**	−0.66**	−0.73**
Agriculture & Manufacturing sector	−0.04	−0.12	−0.10
Size of the business	−0.12	−0.14	−0.14
Incorporation	−0.13	−0.20	−0.21
Formalization	0.22	0.32	0.29
Education: Secondary school	−0.53*	−0.47*	−0.63**
Education: Non-university post-secondary education	−0.37	−0.34	−0.48
Education: Vocational or technical education	−0.76	−0.44	−0.71
Education: University	−0.50	−0.29	−0.59
Training	−0.64**	−0.49**	−0.71***
Number of observations	*205*	*206*	*205*
McFadden Pseudo R^2	*0.1044*	*0.0901*	*0.1281*
Prob > chi^2	*0.0216*	*0.0975*	*0.0408*
Pearson X^2 stat ($\alpha = 0.05$)	*145.31*	*179.23*	*177.57*
C-statistic	*0.7189*	*0.7328*	*0.7501*
% Correctly Classified	*84.88*	*84.47*	*84.39*

Panel B: Margins[b]				
Variables	**Values**			
Formal network	0	0	1	1
Informal network	0	1	0	1
Probability Y = 1 (in %)	93.01	82.31	98.99	96.19

*p < 0.10, ** p < 0.05, *** p < 0.01.

[a] Use of logistic regressions yielded similar results and are reported in Table A in appendix.

[b] All other nominal and ordinal variables were fixed at the median, quantitative variables at the mean.

Furthermore the majority of these stories deal with other entrepreneurs' negative rather than positive experiences with loans. Surprisingly, informants indicate that their opinion of formal loans is influenced both by stories about formal and about informal loans. Even though informants are aware of the differences between both types of loans they expect the same problems to arise whether they use formal or informal loans.

We asked informants to recite some stories to us in order to determine why they play such a large role in the entrepreneurs' decision not to apply for loans. It seems as though the risk of losing one's collateral is seen as a bigger problem than the size of collateral requirements. Almost all interviewees told us they knew someone whose assets had been seized. They put a lot of emphasis on the consequences of having your house or land seized by the bank and sold. Among other elements they mentioned the effect this had on their friend or fellow entrepreneur's financial situation, health and well-being. Because these stories are so widespread and because it is easy for the interviewees to imagine themselves in the other entrepreneur's place they fear that the same could happen to them if they applied for a loan.

4.3. Supplementary analysis: the effect of personal loan experiences

Our data shows that networking is significantly correlated with perceived collateral problems. Stories of other entrepreneurs' positive or negative experiences with loans are passed on in the community through formal and informal networking. These stories then shape female entrepreneurs' perceptions of formal loans. However stories reflect another entrepreneur's subjective account of what happened. There is no guarantee that these stories accurately portray reality. As a result, networking could actually bias entrepreneurs' perceptions of formal loans. Studies on the persuasion bias show that an individual's influence on a group's opinion does not only depend on the accuracy of the information he shares with network members but also on how well-connected he is within the network (Brandts, Giritligil, & Weber, 2015; DeMarzo, Vayanos, & Zwiebel, 2003). Research on herding demonstrates that individuals imitate the behavior of others even when it is based on false information. In some cases this can lead to suboptimal market outcomes (Bekiros, Jlassi, Naoui, & Uddin, 2018; Muchnik, Aral, & Taylor, 2013).

We test whether networking biases respondents' perceptions of collateral problems by including interaction effects between networking on the one hand and a dummy capturing previous experiences with formal loans on the other hand. Entrepreneurs who have used formal loans before might be less susceptible to the influence of networking. They have a frame of reference to judge the accuracy of other entrepreneurs' stories. Table 5 reports the results of this extended probit model (Panel 1 displays regression results, Panel 2 displays margins). In Panel 1, Model 1 includes formal networking as well as the first interaction term (formal networking * use of formal

Table 5
Regression results extended model.

Panel A: Probit regression coefficients[1]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Formal network	1.17***	1.33***	-	0.92***	1.31***
Informal network	-	−0.55**	−0.19	−0.28	−0.32
Use of formal loans at startup	0.43	0.38	0.50*	0.45	0.42
Use of formal loans last year	0.17	0.22	0.61	0.85	0.92*
Formal network * Use of formal loans last year	−1.00*	−0.98*	-	-	−0.81
Informal network * Use of formal loans last year	-	-	−0.81	−1.13*	−0.95
Retail & Wholesale sector	−0.76***	−0.79***	−0.65**	−0.74**	−0.78**
Agriculture & Manufacturing sector	−0.02	−0.08	−0.07	−0.04	−0.02
Size of the business	−0.08	−0.11	−0.14	−0.15	−0.12
Incorporation	−0.10	−0.20	−0.15	−0.14	−0.15
Formalization	0.22	0.30	0.33	0.31	0.32
Education: Secondary school	−0.52*	−0.63**	−0.48*	−0.67**	−0.66**
Education: Non-university post-secondary education	−0.41	−0.50	−0.27	−0.40	−0.44
Education: Vocational or technical education	−0.72	−0.68	−0.40	−0.67	−0.64
Education: University	−0.51	−0.61	−0.34	−0.66*	−0.67*
Training	−0.69***	−0.77***	−0.52**	−0.80***	−0.83***
Number of observations	*205*	*205*	*206*	*205*	*205*
McFadden Pseudo R^2	*0.1217*	*0.1442*	*0.0905*	*0.1450*	*0.1553*
Prob > chi^2	*0.0089*	*0.0119*	*0.0176*	*0.0044*	*0.0019*
Pearson X^2 stat ($\alpha = 0.05$)	*135.09*	*161.41*	*164.99*	*158.03*	*149.37*
C-statistic	*0.7374*	*0.7579*	*0.7402*	*0.7675*	*0.7703*
% Correctly Classified	*85.85*	*84.88*	*84.47*	*83.90*	*83.90*

Panel B: Margins[2]

Variables	***Values***							
Formal network	0	0	0	1	1	1	0	1
Informal network	0	0	1	0	0	1	1	1
Use of the formal loans in 2012	0	1	0	0	1	0	1	1
Probability Y = 1 (in %)	89.76	98.57	82.79	99.50	99.63	98.80	82.17	92.19

1 Use of logistic regressions yielded similar results and are reported in Table B in appendix, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
2 All other nominal and ordinal variables were fixed at the median, quantitative variables at the mean.

loans in 2012), Model 2 includes both formal and informal networking as well as the first interaction term. Model 3 includes informal networking and the second interaction term (informal networking * use of formal loans in 2012), Model 4 includes both types of networking and the second interaction term. Finally, Model 5 includes both types of networking and both interaction terms. For all specifications, the coefficients are jointly significant and results are again reasonably robust. The adjusted R^{2}'s vary between 0.09 and 0.16. All regressions have c-statistics of at least 73% and more than 84 percent of observations are correctly classified.

The direct effect of formal networking on problems with collateral is still positive (Panel A, Model 1: 1.17, $p < 0.01$; Model 2: 1.33, $p < 0.01$; Model 5: 1.31, $p < 0.01$). The interaction term between formal networking and the use of a formal loan in 2012 is negative (Panel A, Model 1: 1.00, $p < 0.10$; Model 2: 0.98, $p < 0.10$). An average female entrepreneur who engages in formal networking has a 98.80% chance (Panel B, column 6) of reporting problems with collateral if she has not used formal loans in 2012. This drops to 92.19% (Panel B, column 8) if she used bank or microfinance loans in 2012. These findings suggest that formal networking could bias female entrepreneurs' perceptions. As reported by Richardson et al. (2005), female entrepreneurs' perceptions of formal networking are mainly driven by stories they hear from fellow entrepreneurs. Our respondents could be exposed to negative stories about how formal networking does not facilitate access to finance. As a result they might overestimate the amount of collateral requirements on formal loans. When these female entrepreneurs finally apply for a loan, they notice that problems with collateral are less severe than expected.

The interaction term between informal networking and the use of a formal loan in 2012 is negative (Panel A, Model 4: 1.13, $p < 0.10$). The direct effect of informal networking on problems with collateral is still negative but no longer significant when the interaction effect is included. An average female entrepreneur who engages in informal networking has an 82.79% chance (Panel B, column 3) of reporting problems with collateral if she has not used formal loans in 2012. This drops to 82.17% (Panel B, column 7) if she has used formal loans in 2012. It seems that female entrepreneurs' positive perceptions about the value of informal networking; as implied by the results of the basic regression model; are slightly reinforced by positive experiences when female entrepreneurs apply for formal loans.

A closer look at the margins demonstrates that informal networking eases access to formal loans. An average female entrepreneur who used formal loans in 2012 has a 98.57% chance (Panel B, column 2) of perceiving problems with collateral if she does not engage in informal networking. This drops to 82.17% (Panel B, column 7) if she networks. It could be that entrepreneurs exchange information on how and where to best apply for formal loans, within their networks. It could also be that informal networking leads to a spillover of information to credit providers. When asking fellow entrepreneurs for business advice, respondents probably share confidential information about their businesses. In turn, these fellow entrepreneurs could share this confidential information with their credit providers when recommending the respondents as new borrowers. The effects of the control variables in the extended model are identical to their effects in the basic regression model.

Our qualitative interview data supports the findings of our quantitative analysis: networking could potentially bias entrepreneurs' perceptions of formal loans. A few informants acknowledged that the stories they hear from other entrepreneurs might not always accurately reflect what really happened. Interviewees mention that they are wary when they do not know where a story comes from. Sometimes stories about another entrepreneur's experiences with loans are passed on in the community as hearsay. By the time these stories reach our informants they could have been exaggerated or embellished. Furthermore interviewees state that other entrepreneurs' experiences with formal loans do not always apply to them. A few informants knew someone who used a loan to pay for personal expenses instead of investing it in their business. As a result they could not pay back the loan and their collateral was seized. Since they would not act in the same way our informants say they do not attach a lot of importance to these stories. This suggests that although networking has to potential to bias perceptions of formal loans, at least some entrepreneurs are aware of this and critically reflect on the stories they hear from other entrepreneurs. When entrepreneurs do not believe a story or when they feel like it is not relevant to their personal situation they will not let it influence their opinion of loans.

5. Discussion and conclusion

Most existing research related to collateral focusses on the determinants of collateral requirements (Berger et al., 2011; Degryse and Van Cayseele, 2000; Hanedar et al., 2014; Jimenez et al., 2006) and does not take into account the effect of networking with fellow entrepreneurs (Beck, Demirgüç-Kunt, Laeven, & Maksimovic, 2006; Beck, Demirgüç-Kunt, & Maksimovic, 2005) . This study contributes to the literature by investigating the effect of formal and informal networking on perceived problems with collateral. We find that female entrepreneurs' perceptions are shaped by those of their peers. Through their network entrepreneurs are exposed to stories about other people's positive and negative experiences with loans. The entrepreneurs partly base their opinions of formal loans on these stories.

Previous studies report that entrepreneurs who network face lower collateral requirements and as a result experience fewer problems with collateral than entrepreneurs who do not network (Le & Nguyen, 2009). In contrast, our results indicate that formal networking leads to more problems with collateral while informal networking leads to less problems. Existing research shows that formal networking does not fulfil female entrepreneurs' needs. Hence formal networking could be too rigid and inefficient to deal with institutional deficiencies (Richardson et al., 2005; Smallbone & Welter, 2001). Informal networking is more flexible. It can be used as a valuable source of business information and advice which facilitates access to finance. This is reflected in our results by the fact that entrepreneurs who use formal loans to finance their business are less likely to perceive problems with collateral when they network informally.

Previous studies show that female entrepreneurs' negative perceptions of various aspects of formal loans discourage them from applying (Chakravarty & Xiang, 2013; Mac an Bhaird, Vidal & Lucey, 2016). Our results contribute to the literature on discouraged borrowers by indicating that at least some of them are unnecessarily discouraged as networking biases their perceptions of problems with collateral. Formal networking causes female entrepreneurs to overestimate problems. Once entrepreneurs actually come into

contact with formal loans, the likelihood of perceiving problems with collateral decreases. Female entrepreneurs' biased perceptions lead to a suboptimal level of welfare as borrower discouragement leads to underinvestment (Cowling, Liu, Minniti, & Zhang, 2016). This coincides with findings by Aggarwal (2014) who states that behavioral biases and irrational behavior by economic agents causes a deviation from perfect markets.

If female entrepreneurs' negative perceptions do not reflect actual problems, we can reduce borrower discouragement and increase welfare by changing their perceptions, for example by providing transparent information about formal loans. Furthermore, our study suggests that networking could be an important tool to change perceptions. Our interview data suggests that discouraged borrowers' negative perceptions towards formal loans are to a great extent shaped by external factors such as pessimistic stories from members of their network. Our quantitative data suggests that this mechanism works both ways: informal networking also exposes entrepreneurs to positive stories of other entrepreneurs' experiences with formal loans. Hence, by stimulating information exchange between discouraged borrowers and entrepreneurs who successfully used loans in the past, borrower discouragement could potentially be reduced.

The data for this study was collected through surveys which makes it sensitive to survey bias. The questionnaire was translated in Swahili and administered face-to-face to ensure that respondents understood all the questions. Furthermore the questionnaire was administered by neutral researchers to make sure respondents understood they would not be given a loan upon completion of the survey. The dependent variable in our paper is also self-reported and perceptual. As a result, some entrepreneurs might report problems with collateral when they are not constraining. This is not necessarily problematic given that the focus of our paper is on female entrepreneurs' perceptions. Moreover, Beck et al. (2005) and Beck et al. (2006) also use self-reported financing constraints and find that in many cases they are binding.

Another potential limitation of our study is related to omitted variables. Previous studies looking at determinants of collateral requirements include a range of other control variables which might also influence problems with collateral (Berger et al., 2011; Berger & Udell, 1995; Degryse and Van Cayseele, 2000; Hanedar et al., 2014; Harhoff & Körting, 1998; Jimenez et al., 2006). However, due to data limitations we cannot control for all of these variables. Nevertheless, to minimize omitted variable bias we tested other model specifications including the following variables: age of the business, age of the entrepreneur, marital status, whether the entrepreneur has access to non-loan financial services with a bank or MFI, whether the entrepreneur owns the business premises, the main selling market for products, and whether the business is located in an urban or a rural area. Results did not change significantly when including any of these control variables. We did not directly control for the effect of loan terms. As a result, it is possible that our effects are partly driven by differences in the level of collateral requirements faced by our respondents. However, we do control for business size, sector, formality, education, etc which determine the amount of collateral a business has to supply (Hanedar et al., 2014; Menkhoff et al., 2006).

We show that female entrepreneurs' perceptions of problems with collateral are shaped by networking with fellow entrepreneurs. However, other groups potentially also influence female entrepreneurs' perceptions, attitudes and behavior. Future research could look into the effect of networking with family members, people affiliated to the government, etc; on female entrepreneurs' perceptions. Finally, more research is needed to explore why formal networking with fellow entrepreneurs leads to more perceived problems with collateral. For instance it would be interesting to analyze what kind of information is exchanged within these networks and how is it internalized by female entrepreneurs.

Acknowledgements

Funding: This work was supported by the Belgian Development Cooperation via VLIR-UOS – Vlaamse Interuniversitaire Raad University Development Cooperation.

Appendix

Table A
Robustness check baseline model

Logistic regression coefficients			
Variables	Model 1	Model 2	Model 3
Formal network	1.27**	-	1.56***
Informal network	-	−0.75	−1.03**
Use of formal loans at startup	0.83	0.83	0.79
Use of formal loans last year	−0.14	−0.08	−0.09
Retail & Wholesale sector	−1.34**	−1.19**	−1.43**
Agriculture & Manufacturing sector	−0.11	−0.22	−0.25
Size of the business	−0.26	−0.25	−0.31
Incorporation	−0.19	−0.35	−0.37
Formalization	0.32	0.55	0.49
Education: Secondary school	−0.86	−0.75	−1.08*
Education: Non-university post-secondary education	−0.59	−0.58	−0.76
Education: Vocational or technical education	−1.21	−0.73	−1.13
Education: University	−0.84	−0.52	−1.03
Training	−1.21**	−0.81*	−1.25**
Number of observations	*205*	*206*	*205*
McFadden Pseudo R^2	*0.1021*	*0.0872*	*0.1276*

(*continued on next page*)

Table A (*continued*)

Logistic regression coefficients			
Prob > chi²	*0.0433*	*0.1310*	*0.0820*
Pearson X^2 stat ($\alpha = 0.05$)	*150.82*	*178.68*	*182.19*
C-statistic	*0.7220*	*0.7357*	*0.7510*
% Correctly Classified	*85.37*	*84.47*	*83.90*

* p < 0.10, ** p < 0.05, *** p < 0.01.

Table B
Robustness check extended model

Logistic regression coefficients					
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Formal network	2.15***	2.40***	-	1.68***	2.38***
Informal network	-	−1.01**	−0.42	−0.55	−0.62
Use of formal loans at startup	0.83	0.75	0.87	0.88	0.82
Use of formal loans last year	0.28	0.32	0.94	1.36	1.47
Formal network * Use of formal loans last year	−1.81	−1.71	-	-	−1.44
Informal network * Use of formal loans last year	-	-	−1.26	−1.83	−1.53
Retail & Wholesale sector	−1.37**	−1.45**	−1.15**	−1.42**	−1.44**
Agriculture & Manufacturing sector	−0.07	−0.18	−0.16	−0.16	−0.10
Size of the business	−0.17	−0.22	−0.25	−0.32	−0.24
Incorporation	−0.15	−0.36	−0.27	−0.24	−0.26
Formalization	0.35	0.51	0.55	0.48	0.51
Education: Secondary school	−0.82	−1.05*	−0.75	−1.12**	−1.08*
Education: Non-university post-secondary education	−0.70	−0.83	−0.46	−0.63	−0.73
Education: Vocational or technical education	−1.21	−1.14	−0.67	−1.07	−1.08
Education: University	−0.87	−1.09	−0.58	−1.13	−1.17
Training	−1.22**	−1.34***	−0.85*	−1.39***	−1.42***
Number of observations	*205*	*205*	*206*	*205*	*205*
McFadden Pseudo R^2	*0.1182*	*0.1417*	*0.0937*	*0.1410*	*0.1505*
Prob > chi²	*0.0165*	*0.0190*	*0.0294*	*0.0109*	*0.0036*
Pearson X^2 stat ($\alpha = 0.05$)	*138.62*	*163.58*	*166.54*	*164.70*	*153.24*
C-statistic	*0.7354*	*0.7590*	*0.7416*	*0.7671*	*0.7709*
% Correctly Classified	*85.85*	*84.88*	*84.47*	*83.90*	*83.90*

* p < 0.10, ** p < 0.05, *** p < 0.01.

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