FACULTY OF ECONOMICS AND BUSINESS

KU LEUVEN

Alleviating financial barriers for women-owned enterprises in Tanzania

Dissertation presented to obtain the degree of Doctor in Business Economics (PhD) at KU Leuven

by

Vanessa Naegels

Number 711 2020

Doctoral Committee

Advisors

Prof. dr. Bert D'Espallier	KU Leuven
Prof. dr. Neema Mori	University of Dar es Salaam Business School University of Agder

Members

Prof. dr. Niels Hermes	Rijksuniversiteit Groningen
Prof. dr. Nick Deschacht	KU Leuven
Prof. dr. Stef Adriaenssens	KU Leuven

Chair

Prof. dr. Sandra Rousseau	KU Leuven

Acknowledgements

Five years ago when I started my PhD, I naively believed I would change the world, or at least a tiny part of it. Two years later I was convinced I would never obtain my doctorate. Yet, here I stand today, with my degree, ready to take on a new adventure. These past five years have been some of the most challenging, but also some of the most rewarding of my life. I would like to thank a few people who have supported me along this journey.

Thank you to my committee members Nick Deschacht, Niels Hermes and Stef Adriaenssens for your useful recommendations which allowed me to tremendously improve my work. You enabled me to a write a PhD which I am proud to present. Thank you Stef for your guidance with respect to my field research. Thank you to the chair of my committee Sandra Rousseau to ensure my public defense runs smoothly. I would also like to thank my co-supervisor Neema Mori without whom this research project would not have been possible. You provided us with the essential link to the University of Dar es Salaam Business School. You were an excellent host during our visits and provided much needed help during the field research.

Thank you Bert D'Espallier for giving me the opportunity to prove myself as a researcher. I started this PhD with a rather cursory knowledge of entrepreneurial finance. Yet you answered any questions I had, patiently and without judgment. Your boundless enthusiasm for research in general, and for development finance in particular is contagious. The field visits I undertook, and the many conferences and presentations we attended fueled my passion for female entrepreneurship. The conversations we had during our stay in Tanzania reminded me of why I started my PhD; to make a positive change in the world. During these past few years I always felt like I had the freedom to pursue my own research interests as well as other projects. Since I was passionate about education, you allowed me to teach a seminar in one of your courses and provided me with useful feedback. It has led me to my current job. Finally, I am grateful that, for you, the PhD researcher will always be more important than the research.

Since I started working at KU Leuven I met several amazing colleagues. I shared many interesting conversations and fun moments over lunch with my fellow PhD candidates Ilse, Jens, Machteld, Prabesh, Jann, Lode, Emma, and Eline. In particular, I would like to thank

Carolien. Your mental strength, resilience, and ability to multitask amaze me. You have taught me so much about what it means to never give up. Lies, we are two of a kind, both slightly too perfectionist for our own good. You were always there for me when I needed to vent about the PhD, or about other concerns. You have become a dear friend to me. You always know how to cheer me up. We both know never to underestimate the power of chocolate.

There are a few other colleagues whom I would like to thank for their support in the past few years. Margot and Viviane, your office door was always open when I needed a chat. I hope we will continue our yearly visits to the Christmas market. Geert, I am very grateful for your administrative support during my PhD, and now. Thank you Anne-Mie, Daisy, Tom, and Ann for granting me the opportunity to fulfill my dream and become a teacher. Thank you Heidi, Vicky, Joeri, Christine, and Guy for welcoming me into the team with open arms and for creating such a pleasant working atmosphere. Finally, I would like to thank my colleague Dorien. Finishing my PhD while starting a new job has been stressful at times. Whenever I was unsure if I could manage it all you were there to reassure me. Your limitless optimism always cheers me up. We are a top team!

I am grateful to my family for their lasting support. Thank you mum and dad for the many opportunities you have given me in life. I stand where I am today thanks to your continuous investment in my education. I also feel privileged to have travelled the world at such a young age. It has taught me to be open-minded and inquisitive, qualities which were indispensable during my PhD. Thank you Wendy for being the best sister I could wish for. You are one of the biggest supporters of all my academic endeavors. You always have my back and I know I can count on you for advice and help.

Over the past five years I have often wondered why I started this PhD. Yet I never regretted embarking on this journey. Without it I would never have met you, Kenneth. We were introduced three years ago at the Christmas party. Since then you have become my friend, my biggest supporter, and my rock. I know the stress of the PhD often took its toll on my mood. You endured every bad day and were always there for me; even through the burden of finishing your own PhD. Thank you for always believing I would achieve my doctorate, even when I did not. Thank you for always encouraging me, whatever goal I choose to pursue. With you by my side I am ready for the next big adventure.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

AIC	Akaike Information Criterion
BIC	Bayesian Information Criterion
BRELA	Business Registration and Licensing Agency
CPIA	Country Policy and Institutional Assessment
FINDEX	Financial Inclusion Index
GDP	Gross domestic product
IFC	International Finance Corporation
ILO	International Labor Organization
IV	Instrumental Variable
Ln	Natural logarithm
LRM	Logistic Regression Model
MFI	Microfinance institution
MIT	Ministry of Industry and Trade
MSME	Micro, small, and medium sized enterprise
NPO	Non-profit organization
NPV	Net Present Value
OLS	Ordinary Least Squares
PRM	Probit Regression Model
SACCO	Savings and credit cooperative organization
SME	Small and medium sized enterprise
SSA	Sub-Saharan Africa
Stddev	Standard deviation
UDBS	University of Dar es Salaam Business School
UNIDO	United Nations Industrial Development Organization
VICOBA	Village community banking
WES	Women Entrepreneurship Survey
WOE	Women-owned enterprise

Introduction

"Money in the hands of a poor woman makes a lot of difference. For the first time she has cash in her hand. She can make decisions and she is in the driver's seat of her own life. Everybody in the family now looks at her very differently. She is not a burden in the family, she's an income earner. She now looks at the world in a different way. She feels that she can conquer the whole world"

- Muhammad Yunus, founder of Grameen Bank[1]

1. Female entrepreneurship in emerging economies

Entrepreneurship is often seen as the engine of economic growth (Urban, 2010; Stevenson & St Onge, 2005a). Small and medium sized enterprises (SMEs) have been shown to create employment, enhance competition, and increase productivity as well as innovation (Beck et al, 2006; Watson, Newby & Mahuka, 2009; World Bank, 2004; Audretsch, 2018). In recent years, more and more women in emerging economies have started businesses (Baughn, Chua & Neupert; 2006). Research shows that female entrepreneurs contribute substantially to poverty reduction as they invest a larger portion of profits into their families and communities compared to male entrepreneurs. This positively affects their family members' education, health and nutrition (Lock & Lawton Smith, 2016; United Nations, 2008; VanderBrug, 2013). Furthermore some women-owned enterprises (WOEs) are more effective at stimulating employment than male-owned enterprises (Kevane & Wydick, 2001).

Nevertheless, the relationship between entrepreneurship and economic growth is not irrefutable. Beck, Demirgüç-Kunt and Levine (2005) show that although countries with a more extensive SME sector seem to exhibit a larger growth in GDP per capita, there is no proof of a causal relationship. Critics assert that the contribution of SMEs to economic growth in emerging economies is limited by their small size and modest growth rate (Winborg & Landström, 2001; Beck, Demirgüç-Kunt & Levine, 2005; Shah & Saurabh, 2015).

[1] Cited from an nterview with 'Women and Girls Lead' (citation shortened). See https://www.youtube.com/watch?v=cDeXYEtByck&list=PL8xS4P51fJ56IZO5OWh2Q6L5Q6VSI5cev

A possible reason why these businesses remain small is a barrier to access to finance (World Bank, 2006; Beck & Demirgüç-Kunt, 2008). Financial markets in emerging economies are sometimes less developed leading to a lack of external financing for businesses (Peng & Heath, 1996; Khanna & Palepu, 1997; Hainz, 2003). Furthermore, there is a lot of asymmetric information between borrowers and credit providers, which leads to unattractive borrowing terms (Menkhoff, Neuberger, & Suwanaporn, 2006). As a result many SMEs in emerging economies are financially constrained (Beck & Demirgüç-Kunt, 2006; McKenzie & Woodruff, 2008; Carreira & Silva, 2010). Research shows that female-owned SMEs experience more difficulties in raising finance, compared to male-owned SMEs (Stevenson & St-Onge, 2005a; Asiedu et al, 2013; Hansen & Rand, 2014).

The aim of this thesis is to gain more insight into why female entrepreneurs in emerging economies are financially constrained and how this can be alleviated. More specifically we provide an overview of the financing mix of WOEs and highlight the most important problems they face. We investigate how the entrepreneurs' perceptions of formal loans influence the financing decisions they make. Furthermore, we look at the impact of networking and of the institutional framework on the financing mix. In what follows I will first provide an overview of the current state of the art concerning the financing barriers of WOEs. Subsequently I will present the Women Entrepreneurship Survey which serves as the starting point of this thesis. Finally, I provide a brief overview of the four chapters which make up the thesis.

Research indicates that female entrepreneurs use less formal loans to finance their businesses compared to their male counterparts (Stevenson & St-Onge, 2005a; Asiedu et al., 2013). Traditionally, this has mainly been attributed to a lack of funding supply. Some studies report that women are discriminated against by credit providers (Agier & Szafarz, 2013; Alesina, Lotti, & Mistrulli, 2013). Others argue that WOEs are credit constrained and face tougher loan requirements because they are smaller, less profitable, and riskier compared to male-owned enterprises (Aterido, Beck & Iacovone; 2013). However, more and more studies demonstrate that a low demand for loans might be more pressing than a lack of supply. Over the last decade, the microfinance industry has known a rapid expansion in emerging economies. Many organizations providing development support engage in some sort of micro-lending. Furthermore, private investors seeking profit are attracted to the market by a combination of high interest rates and high repayment rates from the predominantly female borrowers (McIntosh & Wydick, 2005). The result may be an abundant supply of credit rather than a shortage.

The literature points to three principal reasons for the female entrepreneurs' low demand for formal credit. First, studies show that some female entrepreneurs have limited growth intentions and hence do not need a lot of external financing (Shane, 2009; Manolova et al, 2012). These women can be categorized as subsistence entrepreneurs who are pushed into entrepreneurship by a lack of other prospects. They start businesses in order to survive or slightly increase their income. Running a business allows them to combine earning a living with taking care of household responsibilities (Crecente-Romero, Giménez-Baldazo, & Rivera-Galicia, 2016; Kuzilwa, 2005; Baughn, Chua & Neupert, 2006). Subsistence entrepreneurship contrasts with the traditional definition of entrepreneurs as innovators. An entrepreneur exploits an opportunity in the market, introduces a new product or service with the aim of making a profit (Schumpeter, 1934; 1942). Despite their limited growth rate, female-owned subsistence businesses positively impact the welfare of their communities (Lock & Lawton Smith, 2016) which is why this thesis focuses both on innovative and on subsistence entrepreneurship.

Second, some female entrepreneurs avoid using credit because they are risk averse (Watson & Robinson, 2003). Prior research shows that compared to men, women are more likely to avoid situations with an uncertain outcome (Sexton & Bowman-Upton, 1990), such as borrowing where there is a high probability of default. Furthermore, women prefer to maintain control of their business. When taking out a loan, the business is monitored by the bank and part of business profits go towards paying off the loan (Watson, Newby & Mahuka, 2009; Mukhtar, 2002; Treichel & Scott, 2006). As a result of these issues, female entrepreneurs prefer to use internal rather than external financing sources to finance their business (Watson, 2006).

Third, some female entrepreneurs are discouraged from applying for loans because they expect to be rejected (Singh, 2014; Moro, Wisniewski, & Mantovani, 2017). This fear of rejection stems from the entrepreneurs' perceptions of loans and their assessment of the probability that they will be turned down. Some women do not apply because they expect to be discriminated against by credit providers (Cavalluzzo, Cavalluzzo, & Wolken, 2002). Others expect to face unattractive borrowing terms, or fear that they will have to bribe loan officers (Brown et al, 2011; Chakravarty & Xiang, 2013). This highlights the importance of studying the psychological processes, as well as entrepreneurial cognition, which govern financial decision making (Mindra & Moya, 2017; Fraser, Bhaumik & Wright, 2015).

2. The Women Entrepreneurship Survey

The starting point of this thesis is the Women Entrepreneurship Survey (WES). The WES was executed in 2013 by professor Neema Mori and focuses on female entrepreneurs in Tanzania. Tanzania is the largest country in East Africa and one of the fastest growing economies in Sub-Saharan Africa (SSA). Table 1 provides a comparison of Tanzania's annual GDP growth[1] over the last 15 years compared to neighboring countries as well as to the average in SSA. From 2003 to 2018, GDP growth in Tanzania was higher than the average across all SSA countries. In most years annual GDP growth was higher than in many neighboring countries. When computing the average of the yearly economic growth from 2003 to 2018, Tanzania (6,43%) comes in third place behind Rwanda (7,45%) and Mozambique (6,66%).

It is estimated that, in Tanzania, between 27% and 40% of GDP growth arises from micro-, small-, and medium-sized enterprises (MSMEs). The country also holds many female entrepreneurs; women own more than half of all small businesses. However, less than 25% of all businesses are WOEs. This demonstrates that women mainly run small businesses (Ministry of Industry & Trade MIT, 2012). This could be one of the reasons why more than 60% of women lived below the poverty line in 2012, compared to 36% of the entire population (Mwasalwiba, Dahles & Wakkee, 2012).

Although the entrepreneurial climate has improved since the economic reforms in the 1990s, the institutional environment in Tanzania is still not very conducive to business growth

[1] "Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources". Retrieved from: http://datatopics.worldbank.org/world-development-indicators/

(Mwasalwiba, Dahles & Wakkee, 2012; The World Bank & The International Finance Corporation IFC, 2013). High levels of bureaucracy result in lengthy procedures to start a business (29,5 days on average), to apply for a construction permit (184 days on average), and to register property (67 days on average). Starting and registering a business costs on average 40% of income per capita. Tax rates are also quite high, on average 44% of commercial profit (World Bank, 2020). These costs could further increase when government officials request bribes (Mwasalwiba, Dahles & Wakkee, 2012).

However, one of the most severe problems Tanzanian businesses encounter is a lack of capital. The WES identifies three important financial hurdles faced by WOEs. First, female entrepreneurs use very little formal loans to finance their businesses. In 2013, 85% of WOEs were financed exclusively with personal savings. Application rates for formal loans are very low. Second, women encounter several social barriers when trying to access finance. More than half of the female entrepreneurs interviewed in the WES argue that access to finance is not women-friendly. Third, issues with regard to formal loans stem both from demand as well as from supply side factors. Demand side issues include the women's lack of property rights over collateral and their financial illiteracy. Supply side issues include discrimination by credit providers and unfavorable loan requirements. The high prevalence of female entrepreneurship, coupled with the developing institutional framework and the lack of business financing make Tanzania an interesting context for the purpose of this research.

Table 1. GDP growth Tanzania and neighboring countries[1]

Country	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*Avg*[2]
Tanzania	***6,67***	***7,50***	***7,48***	***6,53***	***6,77***	***5,69***	***5,27***	***6,34***	***7,67***	***4,50***	***6,78***	***6,73***	***6,16***	***6,87***	***6,79***	***5,20***	***6,43***
Burundi	-1,22	4,83	0,90	5,41	3,45	4,86	3,81	5,12	4,03	4,45	4,92	4,24	-3,90	-0,60	0,50	1,60	2,65
Democratic Republic Congo	5,58	6,74	6,14	5,32	6,26	6,23	2,86	7,11	6,87	7,09	8,48	9,47	6,92	2,40	3,73	5,76	6,06
Kenya	2,93	5,10	5,91	6,47	6,85	0,23	3,31	8,41	6,11	4,56	5,88	5,36	5,72	5,88	4,86	6,32	5,24
Malawi	5,71	5,42	3,27	4,70	9,60	7,64	8,33	6,87	4,85	1,89	5,20	5,70	2,80	2,48	4,00	3,50	5,12
Mozambique	6,50	7,81	8,72	9,85	7,43	6,88	6,35	6,69	7,12	7,20	7,14	7,44	6,59	3,76	3,74	3,26	6,66
Rwanda	2,20	7,45	9,38	9,23	7,68	11,17	6,26	7,34	7,78	8,82	4,71	7,62	8,87	5,98	6,06	8,67	7,45
Uganda	6,47	6,81	6,33	10,78	8,41	8,71	6,80	5,64	9,39	3,84	3,59	5,11	5,19	4,78	3,86	6,09	6,36
Zambia	6,94	7,03	7,24	7,90	8,35	7,77	9,22	10,30	5,56	7,60	5,06	4,70	2,92	3,76	3,40	3,79	6,35
Sub-Saharan Africa	4,24	6,53	6,23	6,14	6,62	5,35	3,05	5,58	4,45	4,00	5,02	4,67	2,82	1,19	2,55	2,41	4,43

Notes: 1. Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. http://datatopics.worldbank.org/world-development-indicators/

2. Mathematical average from 2003 – 2018.

3. Overview of the chapters

The chapters in this thesis focus on four different, but related aspects concerning the financing mix of WOEs in emerging economies. Chapter 1 explores the financing mix of WOEs and identifies the different problems entrepreneurs face. It highlights how these issues are embedded in the institutional framework. Chapter 2 concentrates on one of the most severe constraints, excessive collateral requirements; and investigates how networking with fellow entrepreneurs influences perceived problems with collateral. Chapter 3 explores one of the major demand-side constraints in formal lending: borrower discouragement. It looks at the process through which female entrepreneurs become discouraged.. Finally, chapter 4 takes a step back and investigates discouragement in a wider context. It examines how regulatory and normative institutions influence discouragement.

3.1. An institutional view on access to finance by Tanzanian women-owned enterprises

The first chapter of this thesis uses the WES data to explore the financing mix of female entrepreneurs. More specifically we aim to answer the following research questions: *a. What are the most important problems Tanzanian female entrepreneurs experience when accessing bank and microfinance loans? and b. How are these problems embedded in the institutional framework?* We find that female entrepreneurs make limited use of formal loans to finance their business. Two potential causes arise from the data: (1) negative perceptions of bank and microfinance loans and (2) negative perceptions of the institutional environment. While the application rates for bank and microfinance loans are very low, more than 80% of applications are successful. This implies that the limited use of formal loans is most likely caused by a lack of demand, rather than a lack of supply. Furthermore, it indicates that female entrepreneurs only apply for loans when they are reasonably certain their application will be accepted.

3.2. Perceived problems with collateral: The value of informal networking

From the first chapter of this thesis we learn that negative perceptions concerning bank and microfinance loans potentially dissuade entrepreneurs from applying for these loans. One of the most problematic aspects appears to be collateral requirements. Furthermore, our findings suggest that networking influences the financing mix of female entrepreneurs. In the second chapter we build on these insights and use the WES data, complemented with qualitative interview data, to investigate *how networking with fellow entrepreneurs influences perceived problems with collateral.* We differentiate between two types of networking. Formal networking measures whether respondents participate in business support programs. Informal networking measures whether respondents gather information and business advice in conversations with other entrepreneurs. We find that entrepreneurs rely more on informal networking than on formal networking. Additionally, our results show that networking has the potential to alleviate as well as aggravate perceived collateral issues, depending on the setting in which it takes place. Informal networking reduces the likelihood that an entrepreneur perceives problems with collateral whereas formal networking increases the likelihood of collateral problems.

3.3. The process of female borrower discouragement

From the first two chapters of this thesis we learn that the female entrepreneurs' limited reliance on formal loans is most likely caused by a lack of demand for these loans rather than a lack of supply. We also find that female entrepreneurs are potentially discouraged from applying due to their negative perceptions of formal loans and of the institutional environment. In the third chapter we build on these findings and investigate *how female entrepreneurs become discouraged*. We define a discouraged borrower as an entrepreneur who needs extra financing for her business but has not applied for a formal loan (bank or microfinance loan) in the last year, and is currently not reimbursing a formal loan. Using in-depth qualitative interviews analyzed following a grounded-theory method, we build a model of the process through which female entrepreneurs become discouraged.

Our model is built around three main themes: a) where do the entrepreneurs' perceptions originate from, b) what are their perceptions with respect to formal loans, and c) how do these perceptions lead to discouragement. We find that discouraged borrowers' perceptions are shaped both by their own past experiences with loans as well as stories they hear from others. The entrepreneurs' negative perceptions can be divided into four main categories: (1) unattractive borrowing terms, (2) the risk involved in borrowing, (3) inappropriate behavior by loan officers, and (4) an unfavorable business environment. The discouraged borrowers' negative perceptions of various attributes, related to loans, give rise to a negative attitude towards formal loans in general. As a result of their negative attitude, most informants do not intend to apply for a bank or microfinance loan in the future.

3.4. The role of the institutional framework in alleviating borrower discouragement

We investigate how the entrepreneurs' perceptions of formal loans influence whether they apply for a loan in chapter 3 of the thesis. We only focused on female entrepreneurs in Tanzania which makes it difficult to study the impact of institutions. Nonetheless, from the first chapter of the thesis we know that the institutional framework significantly impacts the financing mix of businesses. Consequently, in the final chapter we investigate *how regulatory and normative institutions influence discouragement*. In order to answer our research question we widen the research context and include eighteen countries in SSA. The focus on SSA is motivated by the high level of entrepreneurship and economic growth in this region. At the same time businesses in SSA face significant institutional voids which impede their access to resources and constrain their growth (Smallbone & Welter, 2001; Mori, 2014; Detragiache, Tressel & Gupta, 2008). Furthermore, previous studies show that discouragement is widespread in the region (Honohan & Beck, 2007; Chakravarty & Xiang, 2013; Asiedu et al, 2013). In order to obtain a wide variation in institutional contexts we include both low- and high-income countries. Furthermore, we study businesses owned in majority by men as well as majority WOEs. Results indicate that an effective institutional framework has the potential to alleviate discouragement. More specifically we identify four institutional factors which reduce the probability that a business is discouraged: (1) an effective protection of property and contract rights, (2) a low incidence of corruption in the public sector, (3) gender-equal regulations, and (4) gender-equal cultural practices.

Chapter 1

An institutional view on access to finance by Tanzanian women owned enterprises*

Abstract

We investigate the limited use of bank and microfinance loans by Tanzanian female entrepreneurs. Using survey data, we observe that female entrepreneurs mainly use informal sources to finance their businesses. We analyze how perceptions of gendered cognitive and normative institutions determine whether a female entrepreneur applies for a formal loan. Following results stand out: first, we find that high collateral requirements, interest rates and personal guarantee requirements make formal loans unattractive. Second, female entrepreneurs only apply when they expect to be successful. Since they perceive access to finance to be more problematic for women, female entrepreneurs are discouraged from applying. Third, female entrepreneurs perceive they have insufficient access to financial knowledge which again prevents them from applying. This study contributes to theory by exploring the effect of entrepreneurs' perceptions of the institutional business environment on financing behavior. Furthermore, we show that the low use of formal loans by female entrepreneurs is primarily demand-driven, which calls in question the effectivity of policy recommendations aiming to increase supply of formal loans.

* This article is based on joint work with Neema Mori and Bert D'Espallier.
It has been published in 2018 in *Venture Capital, an International Journal of Entrepreneurial Finance, (20)*2.
This research has been supported by the Belgian Development Cooperation through VLIR-UOS. VLIR-UOS supports partnerships between universities and university colleges in Flanders (Belgium) and the South looking for innovative responses to global and local challenges. Visit www.vliruos.be for more information.
The authors would like to thank the anonymous reviewers for their constructive feedback which greatly improved the quality of our work.

1.1. Introduction

Entrepreneurs are influenced by, and interact with their environment. Consequently, entrepreneurship research increasingly adopts an institutional viewpoint. Institutional theory states that individuals are influenced by regulatory, normative and cognitive institutions which determine appropriate behavior and grant entrepreneurs legitimacy (Scott, 2001). Previous research shows significant institutional voids in emerging economies and economies in transition creating important barriers to entrepreneurship. In short the business environment in economies in transition or emerging economies is "hostile in social, economic and political terms" (Smallbone & Welter, 2001, p. 260-261). Specifically, legal and financing institutions are inefficient and the political framework is unstable (Scheela et al, 2015; Peng, 2002). Businesses are subject to long administrative procedures, corruption and extremely high taxes (Amine & Staub, 2009). This leads to a larger informal economy, smaller businesses and more reliance on informal institutions like networks and trust (Smallbone & Welter, 2001).

Female entrepreneurs are more disadvantaged by institutional voids than male entrepreneurs because it is harder for them to deal with the consequences of ineffective formal institutions (Amine & Staub, 2009). Furthermore, gendered informal institutions both cultivate a negative societal view on female entrepreneurship and lead to a traditional role reserved for women in the economy (Welter & Smallbone, 2008; Pathak, Golz & Buche, 2013).

One of the most important consequences of inefficient institutions is the lack of small business finance. Insufficient access to finance is the largest constraint to business growth for WOEs (women owned enterprises) in Tanzania (ILO, 2014). Consequently, the research questions we aim to answer are the following: *a. what are the most important problems Tanzanian female entrepreneurs experience when accessing bank and microfinance loans? and b. how are these problems embedded in the institutional framework?*

Previous research finds that institutional voids lead to underdeveloped capital markets, more asymmetric information between lenders and borrowers, and higher credit risk (Peng & Heath, 1996; Hainz, 2003; Khanna & Palepu, 1997). This leads to unattractive borrowing terms for formal loans (Menkhoff et al, 2006). However these studies mostly rely on quantitative international databases to investigate the influence of institutions on national entrepreneurship rates. Consequently, these studies mostly create basic insights on a national level, not on the level of individual businesses or entrepreneurs. Another strand of literature investigates the financing problems individual entrepreneurs face and links it to entrepreneurial and business characteristics. This strand of literature does not take into account the environmental and institutional influence.

We argue that the entrepreneurs' perceptions of institutions and not the institutions themselves may drive financing behavior. We aim to contribute to literature on institutional theory and small business financing in emerging economies by exploring how entrepreneurs' perceptions of gendered normative and cognitive institutions influence demand for formal loans. With its high economic growth but less developed institutional framework, Tanzania is an interesting context to study this relationship. First we map the financing mix of Tanzanian female entrepreneurs. From this we deduce the main problems they face namely access to bank and microfinance loans. We find that this is primarily caused by a lack of loan applications. We then explore how female entrepreneurs' perceptions of borrowing terms, gender inequality in access to finance and, access to financing knowledge influence whether or not entrepreneurs apply for formal loans. We also investigate which entrepreneurs report most problems with respect to borrowing terms when accessing formal loans.

Our paper is structured in the following way. The literature review presents the current state of the literature as well as how our study contributes to it. This is followed by a methodology section and the results of our analyses. The implications of our research are reviewed in the discussion and conclusion section.

1.2. Literature review

1.2.1. Institutional theory and entrepreneurship

Corporate behavior and strategies are influenced by the institutions companies are subjected to (Peng, 2002). These consist of written and unwritten rules which define appropriate behavior (North, 1990). This institutional influence has three dimensions. The regulatory pillar consists of formal laws and rules that actors need to follow in order to avoid punishment. The normative influence concerns informal norms and values, often originating from culture. The cognitive pillar consists of an individual's personal understanding of his environment and self-imposed limitations about possible actions and strategies (Scott, 2001; Hoffman, 1999; Baugh, Chua & Neupert, 2006). Rates of entrepreneurial activity vary between countries, and entrepreneurs operate in interaction with their environment. As a result it is tedious to study entrepreneurship independent from its context (Pathak, Golz & Buche, 2013). Institutions influence "entrepreneurial attitudes and motives, the resources that can be mobilized, as well as the constraints on and opportunities on/for starting and running a business" (Welter & Smallbone, 2011, p. 108). Consequently, institutional theory is being used more and more often as a framework to research company behavior (Welter & Smallbone, 2011).

Previous research shows that formal institutions influence the relative costs and benefits of starting and running a business (as compared to those of traditional employment) (Pathak, Golz & Buche, 2013). More specifically, a stable regulatory environment with adequate rule enforcement facilitates access to resources and stimulates entrepreneurship. Lengthy procedures, inadequate property laws, high levels of taxation, and high unemployment benefits however increase the opportunity cost which makes entrepreneurship less attractive (Yousafzai, Saeed & Muffatto, 2015; Estrin & Mickiewicz, 2011). Informal institutions influence the feasibility and desirability of being an entrepreneur (Pathak, Golz & Buche, 2013). Normative institutions in particular, influence the social acceptability and image of entrepreneurs in society (Yousafzai, Saeed & Muffatto, 2015). Finally, cognitive institutions influence individuals' perceptions of their ability to run a business (Yousafzai, Saeed & Muffatto, 2015). It has been proven that individuals with higher levels of self-efficacy are more likely to start a business (Pathak, Golz & Buche, 2013). Cognitive institutions also influence the dispersion of skills needed to start a business (Busenitz, Gómez & Spencer, 2000). In our study, we focus on perceptions of normative and cognitive institutions and investigate how these perceptions influence individual financing behavior.

1.2.2. Institutions in emerging economies

In emerging economies, entrepreneurship plays an important role. Subsistence entrepreneurs are pushed into entrepreneurship where they can earn a basic income. Innovative entrepreneurs are pulled into entrepreneurship by new business opportunities that arise from a developing market (Smallbone & Welter, 2001; Baughn, Chua & Neupert, 2006). Institutional theory is a particularly appropriate framework when researching entrepreneurship in emerging economies because its businesses are more strongly influenced by institutions (Hoskisson et al, 2000; Welter & Smallbone, 2008).

Furthermore, the business environment in economies in transition or emerging economies appears to be “hostile in social, economic and political terms” (Smallbone & Welter, 2001 p260-261). Previous research shows that the political framework can be unstable (Peng, 2002) and that legal and financial institutions are often inefficient in emerging countries (Scheela et al, 2015). Formalization procedures are extremely long and complex resulting in a large informal economy and a high incidence of corruption (Amine & Staub, 2009). Even more businesses are driven into informality by excessive taxation and unpredictable government officials (Smallbone & Welter, 2001). Additionally, rule enforcement mechanisms are weak or absent (Welter & Smallbone, 2011).

These institutional deficiencies cause uncertainty, and high costs constrain business startups and growth (Peng & Heath, 1996). Consequently, in many emerging economies informal institutions substitute formal institutions. Personal trust and networks reduce risks and transaction costs in unstable environments and ensure contracts are enforced (Smallbone & Welter, 2001). Networks also help to interpret regulations and avoid harassment and corruption (Peng & Heath, 1996; Peng, 2001).

Another important consequence of institutional voids is the lack of capital for small businesses (Hitt et al, 2004). A lack of investor protection leads to underdeveloped capital markets (La Porta et al, 1997; 2000; Peng & Heath, 1996). Furthermore, inefficient judicial systems cause financiers to be more reluctant to lend out money because they cannot count on the judiciary power to intervene (Khanna & Palepu, 1997). Also, a high degree of information asymmetry between credit providers and entrepreneurs leads to high collateral requirements (Hainz, 2003). On top of that, weak property rights and the lack of enforcement mechanisms means entrepreneurs often cannot use their assets as collateral (Estrin & Mickiewicz, 2011). Loan terms are made even less attractive by a lack of competition between banks which leads to rent extraction (Menkhoff et al., 2006). Finally, complex formalization procedures and high tax rates cause small businesses to remain informal further limiting financing opportunities (Smallbone & Welter, 2001; Aga & Reilly, 2011).

Entrepreneurs in emerging economies use informal institutions to alleviate the financing gap resulting from inefficient formal institutions. According to Peng and Heath (1996), growth through networks is the dominant strategy in emerging countries because organizations cannot obtain the necessary resources to grow either internally or through mergers and acquisitions. Instead entrepreneurs rely on their personal networks as a method of financial bootstrapping. Small business owners who cannot access formal loans borrow from family, friends or other informal sources. Not all entrepreneurs have access to networks or mechanisms of personal trust. Especially smaller or informal business most likely have to follow different strategies, like for example bribery (Welter & Smallbone, 2011). Another coping strategy employed is serial entrepreneurship. Since a lack of formal finance prevents businesses from growing, entrepreneurs run multiple small businesses to ensure sufficient income. Revenue from the different businesses is later used to start a more substantial enterprise (Smallbone & Welter, 2001).

1.2.3. Institutions and female entrepreneurship

Female entrepreneurs encounter different institutional forces than male entrepreneurs. This results in different rates of male- and female entrepreneurship. Just like male entrepreneurs, some women go into entrepreneurship to take advantage of new opportunities. However, in emerging economies, traditional pull factors leading to innovative entrepreneurship disadvantage women. Whether an individual starts a business depends on his or her degree of self-efficacy (confidence in your abilities to succeed as an entrepreneur) and fear of failure. However in emerging economies, where there is low female participation to the economy (or low opportunity to participate) and/or low female educational attainment, even women who are confident in their abilities to successfully run a business might be discouraged to do so (Pathak, Golz & Buche, 2013; Baughn & Neupert, 2006). Furthermore, in emerging economies the profession of entrepreneur is associated with men and masculine characteristics (Baughn & Neupert, 2006). Similarly, Amine and Staub (2009) find that although entrepreneurship is regarded favorably in Sub-Saharan Africa, female entrepreneurship is frowned upon. This could potentially dissuade otherwise motivated women from starting a business (Welter & Smallbone, 2008).

Given the hazardous environment they face it is rather surprising that so many women in emerging economies still start businesses. However, female access to the labor market is constrained. Consequently, the need to earn an income pushing women into self-employment is stronger than the lack of factors pulling women into entrepreneurship (Yousafzai, Saeed & Muffatto, 2015). Additionally, the traditional role of women is taking care of the family. The flexibility of self-employment allows them to combine housework with earning an income. This also pushes women to become entrepreneurs (Baughn & Neupert, 2006). However, these elements suggest that the role of women as entrepreneurs will be mostly limited to subsistence businesses.

Once women own a business they are disadvantaged by ineffective formal institutions in various ways. For example, corrupt government officials are more difficult to deal with for women than for men (Amine & Staub, 2009). Nevertheless, Estrin & Mickiewicz (2011) find that male and female rates of entrepreneurship are equally sensitive to the strength of property rights and the incidence of corruption. Another formal institution which disadvantages women is inheritance laws. Women often cannot inherit assets and consequently cannot use them to satisfy collateral requirements (Amine & Staub, 2009).

However, the largest burden on female entrepreneurs in emerging economies comes from gender-discriminatory informal institutions (Welter & Smallbone, 2008) which have two main effects. First women still hold a very traditional role in society. Female entrepreneurs have to combine running their businesses with household responsibilities. This means that they have less time to spend on their businesses compared to male entrepreneurs and cannot fully exploit business opportunities (Pathak, Golz & Buche, 2013). Because of time constraints it might also be difficult for female entrepreneurs to go through the time consuming process of formalizing their businesses so they potentially face more harassment from government officials (Amine & Staub, 2009). The traditional role of women also leads to lower levels of human capital among female entrepreneurs (Baughn, Chua & Neupert, 2006). Informal businesses and less educated entrepreneurs have less access to formal credit (Aga & Reilly, 2011; Verheul et al, 2001).

A second aspect of gendered informal institutions is the negative view of society on female entrepreneurship. Subsequently, many female entrepreneurs lack the crucial networks and support of family and friends which are essential to access business resources such as capital (Amine & Staub, 2009). Furthermore, the position of women in society increases the importance of family support during business startup because women (especially widows and young women) are not supposed to act independently (Welter & Smallbone, 2008). This is also reflected by the restriction in freedom of movement often imposed on women (Estrin & Mickiewicz, 2011). The lower value placed on female entrepreneurship also leads to female owned businesses being concentrated in high competition/low profit sectors (Baughn, Chua & Neupert, 2006). Finally, a negative societal view on female entrepreneurship leads to discrimination by capital providers (Youssafzai, Saeed & Muffatto, 2015).

1.2.4. Tanzania

Tanzania is the largest country in East Africa and one of the fastest growing economies in Africa with a real GDP growth of around 7% in 2013 and 2014 compared to 5.3% in neighboring Kenya. Despite this, almost 36% of the population and 60% of women lived under the poverty line in 2012 (Mwasalwiba, Dahles & Wakkee, 2012). The MSME sector contributes between 27% (MIT, 2012) and 40% (Woldie et al, 2012) to the national GDP. Women owned businesses (WOEs) represent 54.3% of this sector. Hence, female entrepreneurs can potentially contribute a lot to Tanzania's economy demonstrating the importance of stimulating female entrepreneurship. Despite this, in 2012, only 25% of all firms were owned by women indicating that they mainly own small businesses (MIT, 2012).

After Tanzania's unification in 1964, it became a socialist nation with mainly large publicly owned and subsidized companies. Private initiatives and entrepreneurship were discouraged. The economic policy was reformed only in 1995, consequently, the entrepreneurial framework in Tanzania is still developing. In recent years, the country established good relations with many Asian countries leading to foreign investments and international trade. This is advantageous for Tanzania but many small businesses cannot compete with the cheaper and often higher quality products of Chinese firms (Mwasalwiba, Dahles & Wakkee, 2012). This makes them less profitable and unattractive to lenders.

Since the 1990's, improvements in legislation led to a decrease in bureaucracy and corruption. However it still takes 40 days to obtain a construction permit and 20 days for a business license and corruption is frequent (Mwasalwiba, Dahles & Wakkee, 2012; The World Bank & The International Finance Corporation IFC, 2013). The financial sector in Tanzania is severely underdeveloped. Less than 20% of companies has a loan or credit line and more than 80% exclusively uses internal sources for investment. This might be caused by unachievable borrowing terms set by banks. Often an enormous amount of collateral is needed, more than 2.5 times the loan amount. (The World Bank & IFC, 2013). As a result of the limited institutional environment, networks are of paramount importance in Tanzania. However, networking is harder for women who are sometimes prohibited to go out (Stevenson & St-Onge, 2005a; Mwasalwiba, Dahles & Wakkee, 2012). Tanzanian culture disadvantages female entrepreneurs in several other ways. Traditionally women stay at home and take care of the household (Mwasalwiba, Dahles & Wakkee, 2012) leaving less time for business activities. Girls are often less educated and do not receive business education. Furthermore, women are discouraged from using property as collateral out of fear for failure (ILO,2014; Stevenson & St-Onge, 2005a).

To sum up our literature review, we conclude that the institutional framework composed of legal, normative, and cognitive institutions has an important influence on business operations and strategies. In emerging economies, institutional voids lead to lower rates of entrepreneurship and business growth. One of the most important consequences of institutional voids is the problematic supply of business financing. Inefficient formal institutions lead to underdeveloped capital markets, discrimination by loan officers, and unattractive borrowing terms. Female entrepreneurs are disproportionately disadvantaged by gendered formal and informal institutions. Previous research investigates the effects of institutions on entrepreneurship and access to finance on a national level. However, entrepreneurs are heterogeneous in their reactions to institutional forces. Entrepreneurial behavior is influenced by the context in which the entrepreneur operates and by business and entrepreneurial characteristics (Welter & Smallbone, 2011). Consequently, it is important to look at the effect of institutions on the level of individual entrepreneurs.

We argue that an entrepreneur's reaction to institutional forces depends on his or her perception of these forces. How a female entrepreneur perceives normative institutions will determine what she considers acceptable behavior. It will also influence whether she believes she will face discrimination when applying for business finance. Similarly, a female entrepreneur's perception of cognitive institutions will affect her self-efficacy. It will also influence whether she believes she has enough knowledge to secure business financing. We will analyze the financing mix of Tanzanian female entrepreneurs and identify the main problems they face. We then study the underlying causes of these problems by linking them to entrepreneurs' perceptions of normative and cognitive institutions. We also identify the characteristics of female entrepreneurs and WOEs most sensitive to these problems which allows for specific policy recommendations.

1.3. Data and methodology

1.3.1. Sample and data collection

We gathered data on entrepreneurial characteristics, business characteristics, and financing sources through surveys on 212 Tanzanian female entrepreneurs. Tanzania is divided in zones and regions. We selected the Central, Northern, Lake and Eastern zones because they contain many SMEs (MIT, 2012). Through random sampling we picked the Tanga, Dodoma, Dar es Salaam, and Mwanza regions. Respondents were obtained by systematic sampling on lists solicited from local municipalities and training institutions. WOEs are businesses where women have the majority ownership; directly, manage and/or run the enterprise; make key business decisions; and are responsible for risks associated with the business (Richardson, Howarth & Finnegan, 2005).

The questionnaire used was developed by Stevenson & St-Onge (2013) and modified and translated into Kiswahili to suit the Tanzanian environment. The new survey was piloted in 10 enterprises and feedback was incorporated in the main questionnaire which was executed in August 2013 using a face to face interview technique (Saunders, Lewis, & Thornhill, 2003). The survey consists of mainly closed-end questions with multiple numerically coded answering options; some are nominal, some are ordinal. Only two questions in our survey require continuous responses: number of workers and age of the business. We also incorporated one open question which gauges ways in which respondents would solve perceived problems with respect to Tanzania's institutions.

The variables defined in our study are separated into financing sources, business and entrepreneurial characteristics, problems respondents experience when accessing loans, and respondents' perceptions of the institutional environment. The financing sources are: savings and sale of assets (only during the startup phase), loans from family and friends, bank loans, microfinance loans, informal finance providers (money lenders and informal savings), and loans by external organizations like the government and donors. The use of these sources was measured using dummies separately during business start-up and during 2012 (referred to as the growth stage).

The second group of variables consists of business characteristics. The main sector of activity of a WOE is measured by three dummies; Trade, Services, and Manufacturing. Business size is measured by the amount of full-time employees, business age is measured in years. Location is measured by an ordinal variable; businesses are located either in an urban or peri-urban (0) or rural (1) area. There are three levels of formalization: registration with the Municipality, the SME section of the MIT, and with BRELA. Business formality is measured using a dummy equal to 1 if a WOE is registered with at least one organization. Finally, organizational structure is measured by a dummy equal to 1 if the WOE is a sole proprietorship.

The third group of variables measures entrepreneurial characteristics. The entrepreneurs' age is measured using an ordinal variable equal to 1 if the respondent is less than 24 years old, equal to 2 if the respondent is between 25 and 39 years old, equal to 3 if the respondent is between 40 and 55 years old, and equal to 4 for respondents older than 55. The respondent's education level is captured by an ordinal variable equal to 1 in case of primary school or less, 2 for secondary school, 3 for post-secondary but non-university education, 4 for vocational or technical training, and 5 for university or college education. Female entrepreneurs' marital status is also measured with an ordinal variable. It equals 1 for single women, 2 for married women, 3 for divorced or separated women, and 4 for widowed women. Finally, the network of an entrepreneur is measured by a dummy variable equal to 1 if the respondent has taken part in a business support program with other female entrepreneurs.

The problems female entrepreneurs experience when accessing bank or microfinance loans were self-reported and measured using survey questions that could be answered by "yes, this is a problem" (coded 0) or "no, this is not a problem" (coded 1). The difficulties measured were: high collateral requirements, high interest rates, a loan amount which is too small, a loan term which is too short, the need for a personal guarantee, the need for a co-signor, and finally loan officers who do not take female entrepreneurs seriously. The female entrepreneurs' perceptions of their country's institutional framework was measured using statements with which respondents could agree, disagree, or have no opinion on. Topics ranged from regulation and harassment, over business knowledge, to support from family and gender equality.

The average age of entrepreneurs in our sample is 30.2. Nearly 30% of our respondents have not completed secondary school. Nevertheless, they are eager to learn new skills as 50% participated in entrepreneurship- or small business management training. The majority of women (65.57%) in our sample are married. 78% of respondents want to improve their business next year and half of them have already invested in a new product.

This suggests that entrepreneurs want to invest in their business and might need external finance to grow.

The average business in our sample is only 9 years old. A large majority (70%) of WOEs in our sample are located in an urban area. The average number of employees is 4.36 but the median is only 2. Although almost all WOEs grow so that a worker is needed, only one in four companies succeeds in growing beyond the micro level (5 employees). 73% of WOEs are legally formalized, most of them at the lowest level. 83% of respondents are sole proprietorships. Most are active in the Services sector (44.81%) and the Trade sector (30.19%). Need for finance is high, in combination with low access this will lead to problems. Table 1.1. summarizes the above mentioned descriptive statistics.

Table 1.1. Descriptive statistics

Panel A: Ordinal and continuous variables

Variable	*Mean*	*Median*	*Stddev*	*Min*	*Max*
Business size	4.36	2	6.41	0	60
Business age	9.12	7	6.84	1	33
Age of the entrepreneur	1.92	2	0.62	1	4
Education of the entrepreneur	2.62	2	1.52	1	5
Marital status of the entrepreneur	1.90	2	0.69	1	4

Panel B: Dummy variables

Variable	*% of WOEs in "0" category*	*% of WOEs in "1" category*
Trade sector (0 = not active in this sector)	69.81	30.19
Services sector (0 = not active in this sector)	55.19	44.81
Manufacturing sector (0 = not active in this sector)	75	25
Location (0 = Urban or peri-urban)	95.75	4.25
Formalization (0 = not formalized)	27.83	72.17
Organizational structure (0 = not organized as a sole proprietorship)	17.45	82.55
Network (0 = Not participated in support program with other female entrepreneurs)	70.14	29.86

1.3.2. Methodology

The variables in our dataset are analyzed using univariate and multivariate statistics. More specifically, we first use descriptive statistics and agglomerative, hierarchical clustering to determine the financing mix used by female entrepreneurs. We use the Jaccard distance measure to assess the similarity and dissimilarity of data points. Contrary to under the Simple Matching method, two observations are considered similar if they have a value of 1 for the same variables but not when both observations have a value of 0 (Gilbert, 1884; Everitt, 1986). In the two clusterings, (one for start-up and one for growth-stage financing) we opted for five clusters to achieve a balance between the Calinski-Harabasz stopping rule and what is most useful for interpretation (Calinski & Harabasz, 1974). We checked the robustness of our results with a different distance measure (Simple Matching) and different clustering methods (Ward's method and Weighted Average Linkage) (Everitt, 1986).

Once we have insight in the financing mix, we deduce the main financing problems entrepreneurs encounter. We explore how these problems are influenced by entrepreneurs' perceptions of normative and cognitive institutions by providing relevant descriptives of the survey questions. Next, we use logistic regressions to identify which female entrepreneurs and WOEs suffer most from the three main problems that arise when accessing debt. Three logistic regressions are run, in each regression the problem (dependent variable) is regressed against entrepreneurial and business characteristics (independent variables). All three regression have the following functional form:

$$(Y = 1|X_k) = P(Y) = \frac{e^{\alpha+\beta_1 X_1+\beta_2 X_2+\cdots+\beta_k X_k+\epsilon}}{1+e^{\alpha+\beta_1 X_1+\beta_2 X_2+\cdots+\beta_k X_k+\epsilon}}$$

Y is equal to problems with collateral requirements (regression 1), problems with interest rates (regression 2), and problems with personal guarantees (regression 3) respectively; P(Y) denotes the probability of success (Y = 1) given the explanatory variables. To allow for a more intuitive interpretation, in every regression, success is defined as the female entrepreneur *not experiencing a specific problem*; X_k is the set of independent variables (sector, business age, organizational structure, location, formality, entrepreneurial age, education, marital status, network, the interaction between organizational structure & education, interaction between business formality & education, and interaction between business sector & marital status); and α is the Y intercept.

For every regression we report the pseudo R^2, the c-statistic, the Hosmer and Lemeshow Goodness of Fit value, and the percentage of correctly classified observations to check the quality of the model (Lavalley, 2008; Sainani, 2014). We test the robustness of our results using probit regressions.

1.4. Results

Our results section is composed of three parts. In the first part the financing mix of WOEs is analyzed and the most important financing problems are identified. In the second section we discuss four underlying causes of these problems and how they are related to entrepreneurs' perceptions of cognitive and normative institutions. The third and final section deepens the analysis and identifies which female entrepreneurs and WOEs are most disadvantaged by these financing problems.

1.4.1. Financing mix and financing problems

Entrepreneurs' own savings are by far the most used method (85.38%) when starting up a business followed by loans from family and friends (36.32%). On average, these numbers show that it is difficult for starting WOEs to use external and formal financing methods. Nevertheless, demand for external finance during the growth stage is high, 55.19% of WOEs applied for at least one external source in 2012. The financing instrument most used is bank loans (almost 25% of WOEs) but its use is still limited compared to the high percentages of own funds and loans from relatives used during the start-up phase. Moreover, almost 20% also use informal savings during the growth stage, marginally more frequently used than microfinance (17.92%). The other financing instruments are much less popular. Table 1.2. gives an overview of the financing mix used during startup and growth.

Table 1.2. Financing mix during startup and growth stages (in % of WOEs)

Financing sources	*Startup*	*Growth*
Own savings	85.38%	-*
Family & Friends	36.32%	13.68%
Bank loans	16.51%	23.58%
Informal savings	15.57%	18.40 %
Microfinance	14.15%	17.92%
Sell an asset	4.72%	-*
Moneylender	3.77%	3.77%
Government loan	1.42%	2.36%
Donor	0.94%	1.89%

*Notes: * The financing sources "own savings" and "sell an asset" were not an option in the survey questions related to growth stage financing*

We use a cluster analysis to distinguish between different financing profiles among female entrepreneurs; this allows for a more detailed analysis of the financing mix. During startup the largest cluster, 65% of respondents, uses a mix of financing sources although personal funds (own savings and the sale of an asset) are predominant. Almost 30% of respondents form another cluster using loans provided by family and friends supplemented by personal funds and informal instruments. A minority (less than 5%) are gathered in a formal financing cluster using bank loans and microfinance to start up a business supplemented by 20% of cluster members with loans by relatives. Table 1.3. summarizes these results.

Table 1.3. Cluster analysis at startup

Financing sources	*Cluster 1*	*Cluster 2*	*Cluster 3*	*Cluster 4*	*Cluster 5*
Personal funds	0.99	0.79	0	0	0
Formal finance	0.33	0	1	0	0
Family & Friends loans	0.09	1	0.2	0	0
Informal finance	0.21	0.10	0	1	0
External organizations finance	0.03	0	0	0	1
Cluster size (in % of WOEs)	65.09	29.25	4.72	0.47	0.47

Notes: These figures represent each cluster's mean value for each financing source

We check the robustness of our clusters with a different distance measure (Simple Matching) and a different clustering method (Ward's linkage & Weighted Average Linkage). Results are comparable for Weighted Average Linkage; using Simple Matching or Ward's Linkage changes the results slightly.

We execute the same analysis for the year prior to the survey (labelled growth stage). The first cluster (50% of WOEs) does not use any external finance; the majority of cluster members did not apply for finance. The second cluster contains about a third of WOEs. They all use bank loans and/or microfinance to finance the growth of their business combined with loans provided by family and friends and informal finance. There is also a cluster encompassing only 6% of respondents who use only informal finance. We again check the robustness; the results are comparable when we use Ward's linkage and robust when we use weighted average linkage. Table 1.4. contains results of the cluster analysis.

Table 1.4. Cluster analysis during growth stage

Financing sources	*Cluster 1*	*Cluster 2*	*Cluster 3*	*Cluster 4*	*Cluster 5*
Formal finance	0	1	0	0	0.5
Family & Friends loans	0	0.24	0	1	0.13
Informal finance	0	0.33	1	0	0.63
External organizations finance	0	0	0	0.1	1
Cluster size (in % of WOEs)	50	35.38	6.13	4.72	3.77

Notes: These figures represent each cluster's mean value for each financing source.

From these numbers we identify following financing problems. Firstly, startups have difficulties getting loans from banks or MFIs. Instead they use personal funds (own savings, sale of an asset & loans from family and friends). This is in line with previous research showing that institutional voids create the need to bootstrap to access resources. Secondly access to formal loans is easier for growing WOEs but it is not sufficient; instead they are being complemented with informal funds and personal savings. This is in line with previous research describing the importance of networks (i.e. savings groups) to access resources. More than 70% of respondents name access to finance as the most important constraint to starting and growing a business. Especially loans from banks and MFIs seems to be problematic. This illustrates what has been shown by previous research; namely that institutional voids in emerging economies make it harder for businesses to get loans.

1.4.2. Underlying mechanisms

We now turn to the mechanisms underlying these problems and how they are influenced by entrepreneurs' perceptions of normative and cognitive institutions. Our data shows that success rates during the growth stage, for bank (85%) and for microfinance loan (93%) applications are very high. At the same time, application rates are low; 28% for microfinance loans and 18% for bank loans. In Table 1.5. we report the main barriers of access to formal loans as mentioned by female entrepreneurs. The three most pressing issues entrepreneurs experience when borrowing from banks or MFIs are all related to borrowing terms. 85% of respondents experience difficulties with high interest rates, 83% with collateral requirements, and 71% of respondents mention the need for a personal guarantee. These unattractive borrowing terms help to explain the low application rates for bank and microfinance loans.

Table 1.5. Problems when accessing bank or microfinance loans

Problem	*Percentage of WOEs*
Interest rates are too high	85.38
Collateral requirements are too high	83.96
Required to provide a personal guarantee	70.75
The term of the loan is too short	67.92
The amount of approved loan is too small	66.04
Required to have a co-signor	59.91
Women entrepreneurs are not taken seriously by loan officers	41.98

Table 1.6. reports female entrepreneurs' perceptions of normative and cognitive institutions. Being an entrepreneur is an acceptable profession for women and only 12% of respondents mention lack of family support when starting up a business. Nevertheless, when their business starts to grow, 30% of female entrepreneurs complain about a lack of family support. This is perhaps related to the fact that as the business grows, women spend less time on their traditional role, namely taking care of household responsibilities. Female entrepreneurs are also rather positive about their chances of accessing finance. 74.16% of respondents feel that women and men have the same opportunities to access finance. Furthermore, 82.25% feel that they have the same opportunities to own & register property. Nonetheless, only 38% of women feel that access to credit is women-friendly and 42% of respondents believe that loan officers do not take women seriously.

With respect to cognitive institutions, respondents feel that information and advice on how to start a business is readily available. Moreover, 81.34% of respondents feel that women and men have equal access to entrepreneurship training. Furthermore, a majority of respondents state that their education adequately prepared them for their role as entrepreneur. However, this is contradicted by the fact that 91% of respondents believe they need more skills to be successful entrepreneurs. 60.19% of female entrepreneurs mention a lack of knowledge on new markets, 73.68% bring up a lack of IT skills, 66.03% mention a lack of knowledge on business development services and 72.25% state they are insufficiently informed about business regulations. Most importantly however, slightly more than half of female entrepreneurs state that information about financing sources is not widely available.

Table 1.6. Female entrepreneurs' perceptions of the institutional environment

Statement	% of respondents who agree
Getting support from my family is a barrier to starting up my business	11.79
Getting support from my family is a barrier to growing my business	29.86
Loan officers do not take female entrepreneurs seriously	41.98
Access to credit is women-friendly	38.28
Women and men have the same opportunities to access business finance	74.16
Women and men have the same opportunities to own and register property	83.25
Women and men have the same opportunities to participate in entrepreneurship education and training programmes	81.34
Entrepreneur is seen as an acceptable role for women by society	80.38
Finding information on how to start a business is a challenge	20.28
My education & experience prepared me well for my role as entrepreneur	58.37
Insufficient knowledge on new markets is a barrier to growing my business	60.19
I need more skills to operate my business successfully and make it grow	91.39
Making better use of IT would enable female entrepreneurs to compete more effectively	73.68
Information about business development services is widely available to female entrepreneurs	33.97
Information about financing sources is widely available to female entrepreneurs	44.50
Information about business regulations is widely available to female entrepreneurs	27.75

Based on these data, following main conclusions can be drawn. First, the low application rates coupled with high success rates suggest that entrepreneurs only apply for loans if they think they will succeed. Consequently the low use of formal loans is related to a lack of applications, not to a lack of credit supply. Second, female entrepreneurs perceive borrowing terms to be extremely unattractive, which prevents them from applying for bank and microfinance loans. Third, although entrepreneurs' perceptions of normative institutions are generally positive, respondents perceive some gender inequality when it comes to access to finance. Previous research shows that a negative societal image on female entrepreneurship discourages otherwise competent individuals from starting a business (Pathak, Golz & Buche, 2013). Along these lines, we conjecture that perceived gender-differences in access to finance are discouraging female entrepreneurs in our dataset from applying for bank and microfinance loans. Fourth, although entrepreneurs' perceptions of cognitive institutions are generally positive, female entrepreneurs feel that they have insufficient access to information about financing sources. Again, this perceived difference in access to financial information seems to prevent female entrepreneurs from applying for formal loans.

1.4.3. The most disadvantaged female entrepreneurs and WOEs

We now deepen the analysis and investigate which female entrepreneurs face the most problems with collateral, interest rates, and personal guarantee requirements when borrowing from a financial institution (bank or MFI). This allows policy makers or banks and MFIs to focus their efforts on the most financially excluded entrepreneurs. Borrowing terms are used by creditors to reduce risk and asymmetric information. Credit risk is related to characteristics of the debtor (Menkhoff, Neuberger & Suwanaporn, 2006; Hanedar, Broccardo & Bazzana, 2014). We first build a baseline model where we regress difficulties with collateral, interest rates, and personal guarantees (dependent variables) against business and entrepreneurial characteristics (independent variables). We include the following characteristics: business sector, business age, organizational structure, location, formality, age of the entrepreneur, education, marital status, and network.

We also include an extended model with interaction effects because we expect the effects of business formalization and organizational structure to vary with the education level of an entrepreneur. Educated entrepreneurs are better at exploiting business opportunities; their firms are generally more successful. Firms led by more educated female entrepreneurs are therefore less risky (Barringer, Jones & Neubaum, 2005, Verheul et al, 2001) and are subject to less strict lending requirements (Abdulsaleh & Worthington, 2013). As such, we expect sole proprietorships led by highly educated entrepreneurs to experience less problems compared to sole proprietorships led by less educated entrepreneurs. Similarly, we expect informal WOEs led by more educated entrepreneurs to experience less problems compared to informal WOEs led by less educated entrepreneurs. In order to investigate these moderating effects we include the following interaction terms: organizational structure*education and formalization*education. We observe that the quality of our model increases when we add the interaction terms.

Table 1.7. presents the results of our regression analyses. Panel A displays results for issues with collateral requirements, panel B for issues with interest rates, and panel C for issues with personal guarantee requirements. In every panel, columns 1 and 2 correspond to the baseline model and columns 3 and 4 to the extended model. In all regressions, an independent variable equal to 1 implies that a female entrepreneur does not experience any problems with that borrowing term.

Results

Table 1.7. Regression results

Independent variable	**Panel A: Collateral**				**Panel B: Interest rates**				**Panel C: Personal guarantee**			
	Baseline model		*Model w. interaction*		*Baseline model*		*Model w. interaction*		*Baseline model*		*Model w. interaction*	
Dependent variables	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*
Manufacturing	-0.68	-0.4	-0.84	-0.5	-0.95	-0.55	-1.26	-0.68*	-0.85*	-0.52*	-0.95*	-0.58**
Trade	-1.17*	-0.66**	-1.33**	-0.75**	-0.28	-0.22	-0.42	-0.28	-1.12**	-0.67***	-1.19**	-0.71***
Ln(Business size)	0.14	0.08	0.27	0.14	0.1	0.06	0.09	0.05	0.02	0.01	0.02	0.02
Ln(Business age)	0.15	0.09	0.14	0.07	-0.03	-0.01	-0.04	-0.02	0.32	0.2	0.32	0.19
Organizational structure	-0.4	0.1	-2.28*	-1.32*	-0.47	-0.23	-0.86	-0.46	0.33	0.18	-0.57	-0.38
Location									0.14	0.08	-0.12	-0.08
Formalization	-0.4	-0.27	-1.77*	-1.04**	-0.84*	-0.47*	-3.05***	-1.71***	-1.25***	-0.76***	-2.53***	-1.52***
Age of the entrepreneur: 2	-0.2	-0.1	-0.05	0.02	-0.09	-0.04	-0.06	-0.02	0.34	0.21	0.39	0.25
Age of the entrepreneur: 3	0.24	0.14	0.19	0.14	0.03	0.01	0.1	0.03	0.38	0.27	0.35	0.26
Education: 2	0.88	0.49	-0.04	-0.04	-0.6	-0.34	-1.17	-0.68*	0.46	0.3	-0.05	-0.02
Education: 3	0.82	0.41	-1.38	-0.86	-0.9	-0.46	-2.25	-1.28	-0.46	-0.27	-1.65	-1.02
Education: 4	1.77*	1.05**	-1.35	-0.73	0.51	0.29	-1.52	-0.87	0.48	0.32	-1.22	-0.75
Education: 5	1.24	0.69*	-2.98	-1.74*	0.02	0.04	-2.75	-1.60*	0.59	0.38	-1.66	-1.04
Marital Status: 2	-0.03	-0.01	-0.07	0.08	1.04	0.56*	1.27**	0.73**	0.85*	0.49*	0.97**	0.58**

Marital Status: 3	0.37	0.17	0.55	0.31	2.07**	1.20**	2.73***	1.58***	1.71**	1.01**	2.02***	1.23***
Marital Status: 4	0.13	0.13	0.17	0.18	1.73	0.96	1.88	1.10*	-0.82	-0.43	-0.94	-0.48
Network	-1.07**	-0.59**	-1.09**	-0.60**	-0.66	-0.32	-0.67	-0.34	0.06	0.01	0.09	0.04
Organization structure*Education			0.81**	0.47**			0.18	0.11			0.3	0.19
Business formality*Education			0.52	0.30*			0.87**	0.49***			0.48*	0.30**
Quality of the models:	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*	*Logit*	*Probit*
McFadden Pseudo R^2	0.0741	0.0761	0.1099	0.1141	0.1037	0.1053	0.1485	0.1512	0.1164	0.1172	0.1338	0.1356
Pearson X^2 stat. (α=0.05)	186.95	183.49	178.33	172.19	188.33	182.59	180.67	177.41	195.07	193.44	190.33	188.36
C-statistic	0.6982	0.7014	0.7364	0.7384	0.7289	0.7323	0.7745	0.7751	0.7219	0.7215	0.7305	0.7309
% Correctly Classified	82.99	82.99	84.54	84.02	84.54	84.54	85.57	85.57	74.75	74.75	76.24	76.24

*Notes: * p < 0.10, ** p < 0.05, *** p < 0.01*

As can be seen in table 1.7., both business- and entrepreneurial characteristics influence the likelihood that female entrepreneurs report issues with collateral, interest rates or personal guarantees. However, the effects of business characteristics are slightly more robust than the effects of entrepreneurial characteristics. We see that WOEs in the trade sector are the most disadvantaged, as they are more likely to experience issues with all three borrowing terms. Businesses in the manufacturing sector are more likely to suffer from personal guarantee requirements.

Surprisingly, formalized businesses are also much more likely to experience difficulties with high interest rates, personal guarantee requirements, and collateral requirements. Furthermore, the extended model demonstrates that education positively moderates the impact of formalization on problems with interest rates and personal guarantee requirements. When calculating the margins, we find that the probability of an informal business experiencing problems with interest rates when the owner has at most completed primary school is 45%, compared to 40% when the owner has attended university or college. For a formal business these probabilities are respectively equal to 92% and 87%. The probability of an informal business suffering from collateral requirements, when the owner has at most completed primary school, is 46% compared to 31% when the owner has a university or college degree. For a formal business these probabilities are respectively 88% and 78%. In panel B we see that married entrepreneurs are less likely to suffer from personal guarantee requirements and high interest rates (only the extended model). The same applies to female entrepreneurs who are divorced or separated.

Remarkably, in panel A we observe that female entrepreneurs who are part of a network have a higher chance of reporting problems with collateral requirements. Furthermore, the extended model indicates that WOEs organized as sole proprietorships are also more inclined to suffer from collateral requirements (panel A, column 3). This relationship is once again positively moderated by education. The probability of a partnership, limited liability, or cooperative experiencing problems if the entrepreneur has at most attended primary school is equal to 59%, compared to 51% if the owner has a university or college degree. The same comparison for a solely owned WOE yields probabilities of respectively 92% and 84%. The baseline model indicates that there is also a direct effect of education on issues with collateral requirements but this relationship is not robust. It disappears once the interaction terms are incorporated.

The negative relationship between networks and collateral issues is remarkable given previous research. Networks are used in contexts with inefficient institutions, like Tanzania, to reduce risk and information asymmetry and improve access to resources (Peng & Heath, 1996). Yet, for Tanzanian female entrepreneurs, being part of a network aggravates problems associated with bank or microfinance loans. This could be related to our measure of networks which captures relationships between the respondent and other female entrepreneurs, not between the respondent and loan officers. It is likely that these relationships are more important to access informal finance or information and less important to access formal finance. Nevertheless this does not explain why being part of a network negatively influences access to finance.

The negative effect of formalization also seems strange at first because past research establishes that business formalization reduces risk and eases access to finance (MIT, 2012). This could signify that although informal businesses are required to provide more collateral, they are more willing or capable to do so resulting in fewer problems. Finally, prior research shows that sole proprietorships are more risky because there is no separation between the business and the entrepreneur (Kira & He, 2012). Additionally, single owners have no partners to supplement their knowledge or experience (Carter, William & Reynolds, 1997). This explains the negative influence of sole proprietorships on issues with collateral requirements we find.

The quality of our regressions is good. The adjusted R^2's are between 0.07 and 0.15. Furthermore our models have good discriminatory capability. All regressions have c-statistics north of 69% and on average more than 80% of observations are correctly classified. The sensitivity of our collateral regressions are very low but this is probably caused by the high proportion of respondents who experience problems. This is not problematic because classification is not the goal of our analysis, and more importance should be given to the goodness of fit of our models (Hosmer & Lemeshow, 2000). All regressions exhibit adequate goodness of fit as demonstrated by the insignificant Hosmer and Lemeshow goodness of fit tests. To test the robustness of our results we replicate every regression (both baseline and extended models) using probit (see columns 2 & 4 in every panel). Our results are fairly robust.

1.5. Conclusions and discussion

1.5.1. Summary of main results

We investigate the financing mix of Tanzanian WOEs, identify the most important problems that female entrepreneurs encounter in accessing finance, and link them to entrepreneurs' perceptions of the institutional environment.

We find that female entrepreneurs mainly rely on personal savings, loans from family and friends, and other informal sources to finance their businesses. The use of bank loans and microfinance loans is very limited, especially during business startup. We find that this is related to a lack of applications and identify three mechanisms contributing to this. First, loan terms are unattractive. 85.38% of respondents complain about high interest rates, 83.96% complain about high collateral requirements, and 70.75% criticize the need for a personal guarantee. Second, respondents feel discouraged from applying because they believe they will be rejected. 62% of respondents feel that access to credit is not women-friendly and 42% believe that loan officers do not take them seriously. These perceived barriers fuel fear of getting rejected which prevents female entrepreneurs from applying. Third, a lack of financing knowledge might also restrict the use of bank and microfinance loans. 91% of respondents believe they need more skills in order to be successful entrepreneurs and more than half of female entrepreneurs mention that they have insufficient knowledge about financing opportunities. Given that female entrepreneurs only apply for loans if they believe they will be accepted, a lower level of self-efficacy (confidence in your abilities to succeed) might prevent them from applying. A lower level of human capital also makes female entrepreneurs more risky to credit providers, further exacerbating the problem of unattractive borrowing terms.

We deepen our analysis by investigating which female entrepreneurs and WOEs report most issues with borrowing terms. We find that WOEs in the trade sector as well as formalized WOEs are most likely to complain about collateral requirements, interest rates, and personal guarantee requirements. Furthermore, unmarried owners as well as female entrepreneurs who are part of a network together with other female entrepreneurs suffer more from high collateral requirements. A higher education alleviates problems for formal businesses and sole proprietorships. Finally, contrary to previous research, our data shows that entrepreneurs who are part of a network are more likely to experience problems with collateral requirements. Also contrary to previous research, we find that formalized businesses are more likely to experience issues with collateral requirements, interest rates and personal guarantee requirements.

1.5.2. Contributions and policy recommendations

While exploratory, we believe this study makes some important contributions to theory. Previous research studying entrepreneurship from an institutional viewpoint explains variations in national levels of (female) entrepreneurship through variations in the institutional climate. While these studies demonstrate impact of institutions on business finance, they mostly create insights on a national level, not on the level of individual entrepreneurs. However, entrepreneurs are heterogeneous in their reactions to their institutional and business environment. We take a next step by exploring how individual entrepreneurs' perceptions of gendered normative and cognitive institutions prevent them from applying for formal loans.

Our results contrast with previous findings in two main ways. First, we show that entrepreneurs' perceptions of institutions are different from the way the institutional environment in emerging economies is typically described. More specifically, previous research describes a negative societal view on female entrepreneurship leading to discrimination by loan officers as well as difficulties for women to use assets as collateral. However, our data shows that our respondents perceive "entrepreneur" to be an acceptable role for women and that both genders have equal opportunities to register and use assets as collateral. Nevertheless, respondents do feel that access to finance is hard for female entrepreneurs and consequently might still be discouraged from applying for a loan. Second, our findings also contrast with previous research because they suggest that perceptions of institutions primarily drive financing behavior and not the institutions themselves. Previous research stresses the effect of institutional voids on the supply of business finance, where it leads to discrimination and a lack of credit providers. Our data shows that the influence of entrepreneurs' perceptions on their demand for formal loans may actually be more important. Female entrepreneurs perceive that they have less chances of getting a loan and consequently fail to apply for one. This is independent of whether this perception matches reality or not.

We make the following policy recommendations. Female entrepreneurs feel that access to finance is not gender neutral and some entrepreneurs state that they are not taken seriously by loan officers. Ensuring loan officers remain unbiased and take objective decisions might alleviate this situation. Nevertheless, the importance of the influence of perceptions implies that policy makers will not be able to promote the use of formal loans simply by enforcing gender-equality or anti-discrimination laws. Instead they need to focus on changing entrepreneurs' perceptions and educating them. The need for IT education as well as providing women with information on markets, business regulations and business development support services is especially large.

1.5.3. Limitations and suggestions for future research

Our research is not without flaws. Our measure of the entrepreneur's network is imperfect and consequently does not capture the entire impact of business networks on issues with collateral requirements, interest rates or personal guarantee requirements. Moreover, it is possible that loan characteristics influence the borrowing terms entrepreneurs are subject to and consequently the problems they experience fulfilling them. Hence, one could try controlling for loan size or loan terms when looking at problems with borrowing terms. We suggest the following topics for future research. First, our investigation into the influence of perceptions of institutions on individual behavior is exploratory in nature. Future research could try to investigate the causality between both concepts. Second, currently informal savings groups as well as digital lending schemes like Tigo Nivushe (Gordon, 2016) are being used to alleviate problems related to bank and microfinance loans. Although very useful they usually offer small loans, insufficient for growing businesses. Future research could look into alternatives for formal loans, better suited to the needs of female entrepreneurs. Finally business formality and networking with other female entrepreneurs are both associated with more collateral and personal guarantee issues. Future research could be aimed at identifying underlying mechanisms.

Chapter 2

Perceived problems with collateral: the value of informal networking*

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.

---

* This article is based on joint work with Neema Mori and Bert D'Espallier.
It has been published in 2020 in *International Review of Economics and Finance, 65.*
This work was supported by the Belgian Development Cooperation via VLIR-UOS – Vlaamse Interuniversitaire Raad University Development Cooperation.

2.1. 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; Ernst & Young, 2011). The growth of these women owned enterprises (WOEs), however, is severely constrained by their lack of financing (Stevenson & St-Onge, 2005a; IFC, 2011; Asiedu et al, 2013). 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 (Mori, 2014; IFC, 2011; Beck, Demirguç-Kunt & Maksimovic, 2005).

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 (Stiglitz & Weiss, 1981; Bester, 1987; Besanko & Thakor, 1987). 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 (Nagano, 2018; Smallbone & Welter, 2001; Bermpei, Kalyvas & Nguyen, 2018; Bruton & Ahlstrom, 2003; Hainz, 2003). Furthermore, the value of collateral relative to loan value is often higher in emerging economies (Menkhoff, Neuberger & Suwanaporn, 2006; Hanedar, Boccardo & Bazzana, 2014). 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; Demirguç-Kunt, Beck & Honohan, 2008). 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 (Mori, 2014; IFC, 2011). 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 (Mori, 2014; Amine & Staub, 2009; Fletschner, 2009). 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 (Hanedar, Broccardo & Bazzana, 2014; Berger, Frame & Ioannidou, 2011; Degryse & Van Cayseele, 2011; 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 (Olsen & Cox, 2001; Bernasek & Shwiff, 2001; Coco & Pignataro, 2013; Kiraka, Kobia & Katwalo, 2013). 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 (Kon & Storey, 2003; Chakravarty & Xiang, 2013; Brown et al, 2011). 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 et al, 2019) 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 et al, 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 of 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 (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. Hanedar, Broccardo & Bazzana, 2014; Berger, Frame & Ioannidou, 2011; Degryse & Van Cayseele, 2011; Jimenez, Salas & Saurina, 2006). Beck, Demirgüç-Kunt and Maksimovic (2005), and Beck et al (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 (MIT, 2012). According to Lindvert et al (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 (Naegels, Mori & D'Espallier, 2018; Kira & He, 2012) 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 the 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.

2.2. Literature review

2.2.1. 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 disrupts 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 (Smallbone & Welter, 2001; Kevane & Wydick, 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 (Stevenson & St-Onge, 2005a; Yousafzai, Saeed & Muffatto, 2015; Jiggins, 1989; Brines, 1993).

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 a slower growth rate for their business (Cliff, 1998; Morris et al, 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.

2.2.2. 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, 2005a; Lock & Lawton Smith, 2016). Literature on entrepreneurial learning demonstrates that entrepreneurs learn by observing and imitating role models, such as fellow entrepreneurs (Cope, 2011; Zozima, 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, 2005a; 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 (Mori, 2014; Menkhoff, Neuberger & Rungruxsirivorn, 2012). 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 (Granovetter, 1985; Coleman, 1988; Nguyen, Le & Freeman, 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 et al, 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; Simon, 1955; Forbes et al, 2015). 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 (Kelman, 1958; Latané, 1981; Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). 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 (Yao, Ma & He, 2014; Fang, Shen & Lee, 2017; Chang & Lin, 2015).

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 for small businesses in Sub-Saharan Africa. First, government instances and formal procedures are associated with high levels of bureaucracy, inefficiency and corruption (ILO, 2003; Mwasalwiba, Dahles & Wakkee, 2012; Dutta, Kar & Roy, 2013). 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 (Biggs & Shah, 2006; Beck et al., 2006). Enforcement relies on mutual trust and information sharing within the community (Biggs & Shah, 2006; Beck et al., 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 (Stevenson & St-Onge, 2005a; Mwasalwiba, Dahles & Wakkee, 2012). Based on these arguments we formulate the following hypothesis:

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

2.3. 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 (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, Howarth, & Finnegan, 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 (Berger, Frame & Ioannidou, 2011; Carter, Williams & Reynolds, 1997; Aga & Reilly, 2011; 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 (Biggs

& Shah, 2006; Barringer, Jones & Neubaum, 2005; Abdulsaleh & Worthington, 2013). 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 (Wooldridge, 2002; Horowitz & Savin, 2001). 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 (Webb et al., 1966; Denzin, 1978; Neuman, 2011). We use semi-structured interviews to confirm or disconfirm the results of our quantitative analyses. In 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 (Patton, 1990; Glaser & Strauss, 1967). This entails "strategically selecting information-rich cases that provide unique knowledge regarding the issues of central importance" (Kaczynski, Salmona & Smith, 2014, p. 132). 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, Corley & Hamilton, 2012; 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, 2012; Naegels, Mori & D'Espallier, 2020).

2.4. Results

2.4.1. Descriptive statistics

Table 2.1. 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 suggests 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 2.2. 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.

Table 2.1. 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 (%)*	*Variables*		*Percent distribution (%)*
Education[1]:	Primary	27.36	Industry:	Retail & Wholesale	44.81
	Secondary	36.32		Agriculture & Manufacturing	10.38
	Non-university post-secondary	5.66		Other sectors	44.81
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

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

Table 2.2. 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***

*Notes: * p < 0.10, ** p < 0.05, *** p < 0.01*

2.4.2. Hypotheses testing

Table 2.3. 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.

Table 2.3. 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%

We now run multivariate probit regressions. Table 2.4. 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 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, $p < .05$). 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, $p < .05$; Model 3: 0.85, $p < .01$). 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, Howarth and Finnegan (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.

Table 2.4. Regression results baseline model

Panel A: Probit regression coefficients[1]

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 (α =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[2]

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

Notes: 1. Use of logistic regressions yielded similar results and are reported in Table A 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

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 as 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. 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.

2.4.3. 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 (DeMarzo, Vayanos & Zwiebel, 2003; Brandts, Giritligil & Weber, 2015). 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 et al, 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 2.5. 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 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% of observations are correctly classified.

The direct effect of formal networking on problems with collateral is still positive (Panel A, Model 1: 1.17, $p < .01$; Model 2: 1.33, $p < 0.01$; Model 5: 1.31, $p < .01$). The interaction term between formal networking and the use of a formal loan in 2012 is negative (Panel A, Model 1: -1.00, $p < .10$; Model 2: -0.98, $p < .10$). 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, Howarth and Finnegan (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, $p < .10$). 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 slightly 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 interview data supports the findings of our quantitative analysis: networking could bias entrepreneurs' perceptions of formal loans. The informants acknowledge that the stories they hear from others 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 the potential to bias perceptions of formal loans, at least some entrepreneurs are aware of this and critically reflect on the stories they hear. 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.

Table 2.5. 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 (α =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

*Notes: 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

2.5. Discussion and conclusion

Most existing research related to collateral focusses on the determinants of collateral requirements (Hanedar, Broccardo & Bazzana, 2014; Berger, Frame & Ioannidou, 2011; Degryse & Van Cayseele, 2011; Jimenez, Salas & Saurina, 2006) and does not take into account the effect of networking with fellow entrepreneurs (Demirgüç-Kunt & Maksimovic, 2005; Beck et al., 2006). 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 (Smallbone & Welter, 2001; Richardson, Howarth & Finnegan, 2005). 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, since 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 et al, 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, Demirgüç-Kunt and Maksimovic (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 (Hanedar, Broccardo & Bazzana, 2014; Berger, Frame & Ioannidou, 2011; Degryse & Van Cayseele, 2011; Harhoff & Körting, 1998; Jimenez, Salas & Saurina, 2006; Berger & Udell, 1995). 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, Broccardo & Bazzana, 2014; Menkhoff, Neuberger & Suwanaporn, 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 of formal loans. 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.

2.6. Appendix

Table 2.A.1: 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
Prob > chi^2	0.0433	0.1310	0.0820
Pearson X^2 stat (α =0.05)	150.82	178.68	182.19
C-statistic	0.7220	0.7357	0.7510
% Correctly Classified	85.37	84.47	83.90

*Notes: * p < 0.10, ** p < 0.05, *** p < 0.01*

Table 2.A.2. 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 > chi^2	0.0165	0.0190	0.0294	0.0109	0.0036
Pearson X^2 stat (α =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

*Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$*

Chapter 3

The process of female borrower discouragement*

Abstract

Recent literature on entrepreneurial finance identifies 'borrower discouragement' as an important phenomenon explaining why female entrepreneurs hold less capital to grow their venture. But how do you become a discouraged borrower? We use grounded theory to model the process through which female entrepreneurs become discouraged. Our inductive theoretical model suggests that entrepreneurs make a conscious choice not to apply for formal loans because of negative perceptions with respect to loan application, allocation, and payback procedures. We show that these perceptions are shaped by both internal information sources, i.e. through personal experiences; and by external information sources, i.e. through social interactions. We demonstrate that negative perceptions cause an unfavorable attitude towards formal loans which together with entrepreneurs' perceptions of relevant societal norms lead to a low intention to apply for formal loans.

---

* This article is based on joint work with Neema Mori and Bert D'Espallier.
A short article based on this research has been published on the website *the Conversation.* This article can be found on https://theconversation.com/why-tanzanian-women-entrepreneurs-dont-apply-for-formal-loans-102429.
We would like to thank our research assistants Ntuli Mwakanema, Mercy Dugange, Yasmine Ramadhan and Rosemary Mayenga as well as our colleague Kenneth De Beckker. They assisted us in conducting the interviews and translating and transcribing them. We would also like to thank professor Stef Adriaenssens, professor Helle Neergaard, professor Alea Fairchild and all participants of the 2018 ECSB/ISBE GENSIG Confreat. Their valuable input helped us to significantly improve our work.
This work was supported by the Belgian Development Cooperation via VLIR-UOS – Vlaamse Interuniversitaire Raad University Development Cooperation.

3.1. Introduction

Bottom of the pyramid entrepreneurship is an essential driver of economic growth in emerging economies (Sarkar, 2018). However, many small and medium sized enterprises (SMEs), and especially those owned by women, are financially constrained which severely inhibits their growth potential. Female entrepreneurs are less likely to use formal loans from banks or microfinance institutions (MFIs) to finance their businesses (Stevenson & St-Onge, 2005a; Asiedu, Kanyama, Ndikumana & Nti-Addae, 2013) and in general hold less capital in the early stages of their venture (Alsos, Isaksen & Ljunggren, 2006; Orser, Riding & Manley, 2006).

Traditionally, this has been attributed to a lack of funding *supply*. Some studies report that female entrepreneurs are discriminated against by credit providers (Agier & Szafarz, 2013; Alesina, Lotti & Mistrulli, 2013) or face tougher loan requirements because they are seen as more risky (Aterido, Beck & Iacovone, 2013; Hansen & Rand, 2014). Other studies observe similarities between men and women in application procedures thus going against the discrimination hypothesis in terms of access to loans (Carter, Shaw, Lam & Wilson, 2007). A wide range of studies report that female entrepreneurs face hidden or 'latent' borrowing constraints sometimes referred to as 'second-order gender effects' (Wu & Chua, 2012). For instance, Marlow and Patton (2005) argue that the entrepreneurial financial system is male-oriented which leads to negative perceptions towards female borrowing, translating into a disadvantage in borrowing conditions. Amine and Staub (2009) find that women entrepreneurs face unfavorable lending conditions caused by the local regulatory, normative, and cognitive institutional context, whereas Lindvert, Patel and Wincent (2017) show female entrepreneurs are restricted in building sufficient 'social capital' to succeed.

Focusing on supply-side issues however, paints a very partial picture, and recent studies emphasize *demand-side constraints* in formal lending. Whereas in many economies the recent financial crisis caused a negative supply shock in business financing as capital markets dried up (Del Giovane, Eramo & Nobili 2011), the microfinance industry has known a rapid expansion in many emerging economies. In addition, private investors seeking profit are attracted to the micro-lending market by a combination of high interest rates and high repayment rates from the predominantly female borrowers (McIntosh & Wydick 2005). The result is *abundant* supply of credit in many developing regions. Therefore, any reported market imperfection in formal lending to female entrepreneurs, is likely to be the result of demand-side barriers. Specifically, the large amount of asymmetric information in emerging economies gives rise to two important demand side issues preventing microloans from being allocated efficiently: *over-indebtedness,* i.e. the excessive demand for loans; and *borrower discouragement.*

Discouraged borrowers are entrepreneurs with good investment projects, who do not apply because they fear rejection (Kon & Storey, 2003). For some discouraged borrowers, this fear is misplaced; they would actually get a loan if they applied (Freel, Carter, Tagg & Mason, 2012). According to Cowling, Liu, Minniti and Zhang (2016) underinvestment caused by misplaced discouragement could amount to more than 1.5 billion dollars each year in the US. Along similar lines, Freel et al. (2012) show that, in the US, there are twice as many discouraged borrowers than rejected applicants. For emerging economies in Eastern Europe and Asia the situation is even worse. For every rejected applicant there are three discouraged borrowers (Gama, Duarte & Esperança, 2017). Consequently, excluding discouraged borrowers would bias any estimate of credit constraints (Jappelli, 1990).

The existing literature on discouragement shows two main shortcomings. First, it mainly focuses on developed economies (Cavalluzzo, Cavalluzzo & Wolken, 2002; Cole & Sokolyk, 2016; Xiang, Worthington & Higgs, 2015). Only a handful of studies look at emerging economies (Brown, Ongena, Popov & Yesin, 2011; Chakravarty & Xiang, 2013; Raturi & Swamy, 1999; Gama et al., 2017) where discouragement is more widespread due to high levels of asymmetric information (Kon & Storey, 2003). Secondly, previous studies mainly use logistic regressions to investigate which business, entrepreneurial, and environmental characteristics influence the probability of an entrepreneur being discouraged. While these studies are able identify which entrepreneurs are most likely to be discouraged, little is known about how and why borrowers end up being discouraged (Rostamkalaei, Nitani & Riding, 2020).

Our study aims to open up this black box by inductively building a theoretic model of the process through which borrower discouragement occurs. To this end, we conduct in-depth interviews with Tanzanian female discouraged borrowers, analyzed using the Gioia methodology. We provide a comprehensive overview of the entrepreneurs' perceptions towards formal loans, and subsequently investigate how these perceptions lead up to discouragement. Hence, we contribute to the emergent literature on the effect of demand side issues, more specifically borrower discouragement, on financial constraints experienced by female entrepreneurs.

We focus on female entrepreneurs because they are more likely to be discouraged than male entrepreneurs (Chakravarty & Xiang, 2013; Raturi & Swamy, 1999; Gama et al., 2017). We focus on Tanzania because in a study done by Chakravarty and Xiang (2013), which looks both at developed and at emerging economies, Tanzania is the country with the second highest percentage of discouraged borrowers, i.e. more than 40% of businesses in the Tanzanian sample are discouraged. Furthermore, in Tanzania female entrepreneurship is widespread (52% of small businesses are female-owned) (MIT, 2012), thereby making Tanzania arguably a fruitful study-ground to investigate the issue of borrower discouragement.

In what follows we provide an overview of the literature on borrower discouragement to position our research. We then expound on our research context and methodology. This is followed by our findings narrative and the discussion of our model. In the discussion and conclusion section we offer recommendations to alleviate discouragement and reflect on areas for future research.

3.2. Literature

3.2.1. Conceptual framework on borrower discouragement

Kon & Storey (2003) present a theoretic framework on borrower discouragement. Their model is an extension of the traditional credit rationing model in markets with imperfect information by Stiglitz and Weiss (1981). In this model it is demonstrated that, due to asymmetric information, credit providers cannot accurately screen potential borrowers which increases the equilibrium interest rate. Borrowers with safe projects who are not willing to pay higher interest rates drop out of the market. This implies that, above a certain cut-off point, there is a negative relation between credit providers' profits and the interest rate. If, at this cut-off point the market has not been cleared, credit rationing occurs. In equilibrium, some entrepreneurs cannot borrow even though they are willing to pay a higher interest rate because credit provider's profits are already maximized.

Kon and Storey (2003) build on the model by Stiglitz and Weiss (1981) by adding feedback effects. Entrepreneurs anticipate that information asymmetry causes credit providers to make screening errors and reject good borrowers. Potential borrowers only apply for a loan if the expected return is larger than the expected cost. Expected application costs are 'financial, i.e. the cost of providing information or the amount of collateral needed; 'in kind', i.e. the time it takes to complete the application process; and 'psychical, i.e. the cost of having to divulge confidential information to external parties. As such, the behavior of discouraged borrowers can be captured using the following equation:

$$(1 - b_G)(X_G - D - w) > K_i \qquad (1)$$

The left hand side of the equation describes the expected return of applying for a bank loan and investing it in a positive NPV project. B_G equals the probability that the bank rejects a borrower with a positive NPV project, X_G is the return of the project; D is the interest rate on the loan; and w is the opportunity cost of applying for a bank loan. The right hand side of the equation represents the application cost K_i. Firms differ with respect to their application costs. Rearranging terms provides an application condition, proposing that a firm will apply for a bank loan only if:

$$X_G > (D + w + K_i/(1 - b_G) \qquad (2)$$

The right hand side of this equation captures the effective borrowing cost y_i defined as the "sum of the interest payments, the opportunity cost, and the effective application cost" (Kon & Storey 2003, p. 39). Figure 3.1. shows the circumstances under which borrower discouragement occurs. The Y-axis measures the effective borrowing cost y_i for each firm i. The line denoted AC_GP shows the level of y_i when there is perfect information and banks make no screening errors (b_g=0). Under this condition all firms with positive NPV projects apply for a bank loan and there are no discouraged borrowers. When there is asymmetric information and banks make screening errors (b_g>0), AC_GP shifts up to AC_G'. Thus, for some firms, the effective borrowing cost y_i is larger than the return of their positive NPV project denoted by X_G. The number of firms applying for a bank loan drops from N_G to G_A. The borrowers between N_G and G_A are labelled as discouraged borrowers who fail to apply in spite of having positive NPV-projects.

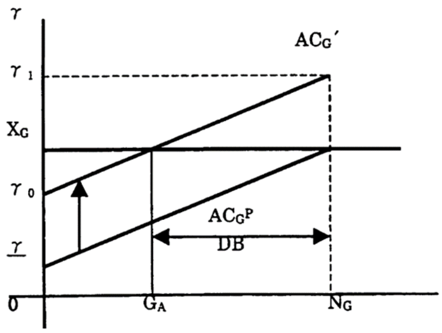

Figure 3.1. Conditions for discouragement
Reprinted from Kon & Storey, 2003, p40

Kon & Storey (2003) define discouraged borrowers as: “good borrowers who do not apply for a bank loan because they feel they will be rejected” (p. 37). Empirical studies building on the work by Kon & Storey (2003) have taken over the concept but extended this definition in two main ways. First, in practice it is hard to distinguish between discouraged borrowers with a low credit risk, who would receive a loan if they applied, and high-risk discouraged borrowers, who would not receive a loan (Freel et al., 2012). Both categories have never applied and thus any application outcome is unobservable *ex ante* (Cowling et al., 2016; Watson et al., 2009; Xiang et al., 2015). Assessing the risk of discouraged borrowers is even harder in emerging economies than in developed economies. Due to asymmetric information there is a lack of reliable, publicly available credit information. Furthermore, research shows that micro- or small enterprises often operate informally and do not do not always keep formal financial accounts (Mori, 2015; Dutta, Kar & Roy, 2012). Hence, we choose to study both low-risk and high-risk discouraged borrowers. Nevertheless these two types of discouragement are quite distinct. While the former represents a market imperfection due to foregone growth potential, the latter represents an efficient self-rationing mechanism (Rostamkalaei et al., 2020). This entails that policy makers should focus their efforts on alleviating low-risk discouragement. In order to address these differences we conducted a follow-up survey to shed some light on the actual credit risk of our sample

There is considerable discussion in the literature about the proportion of high vs. low-risk discouraged borrowers. Han et al. (2009) argue that most discouraged borrowers in the US represent poor credit risks. Furthermore, Rostamkalaei et al. (2020) show that a significant proportion of discouraged borrowers in the UK are informally rejected by their loan officers and subsequently decide not to submit a formal application. This is supported by studies which find that discouraged firms are significantly less profitable (Cole & Sokolyk, 2016; Cowling et al., 2016) and have higher credit risks compared to non-discouraged firms (Cavalluzzo et al., 2002; Chakravarty & Yilmazer, 2009; Han et al., 2009). Nevertheless, Cole and Sokolyk (2016) estimate that between 21% and 55% of their sample of American discouraged borrowers would receive a loan if they applied. While no comparable figures exist for emerging economies, Han et al. (2009) expect borrower discouragement to be less efficient in less sophisticated financial markets. Discouragement only acts as an efficient self-rationing mechanisms if potential borrowers are aware banks distinguish between good and bad applicants. When there is a lot asymmetric information between borrowers and lenders, bad applicants know they might be mistaken for good applicants and apply anyway.

The second extension of the definition by Kon & Storey (2003) concerns the discouraged borrowers' perceptions related to formal loans. According to the Kon and Storey (2003) model borrowers are discouraged from applying because they perceive they will be rejected. Discouraged borrowers who hold different perceptions which do not comply with this definition are excluded. Subsequent empirical studies however, have identified discouraged borrowers based on a wider range of negative perceptions towards formal loans. Some entrepreneurs become discouraged because they perceive discrimination in credit allocation (Cavalluzzo et al., 2002; Fraser, 2009). Others fail to apply because they expect to face unattractive borrowing terms such as high interest rates and collateral requirements (Brown et al., 2011; Raturi & Swamy, 1999). Some discouraged borrowers perceive corruption in the loan allocation process or believe the process will take too much time (Brown et al., 2011; Levenson & Willard, 2000; Chakravarty & Xiang, 2013). Finally, some perceive loans as too risky or believe they might lose control of the business (Watson et al., 2009). Our study follows an inductive approach and allows to tease out the whole spectrum of negative perceptions that lead up to discouraged borrowing. To this end, we start from a general definition of discouragement which does not specify the perceptions held by a discouraged borrower *ex ante;* an entrepreneur who is in need of business financing but does not apply because of his/her negative perceptions (Gama et al., 2017). We identify discouraged borrowers based on this definition and then ask them about the exact nature of their perceptions of formal loans. As such, we inductively model the process through which female entrepreneurs become discouraged, which as far as we know, has not been studied before.

3.2.2. Determinants of borrower discouragement

According to Kon & Storey's (2003) model laid out above, three basic determinants can cause borrowers to become discouraged: (a) the difference between the bank interest rate and the interest rate of alternative financing sources, (b) the application cost, and (c) the likelihood that the bank makes a screening error. An increase in any of these factors will lead to an increase in the likelihood that a borrower becomes discouraged (Kon & Storey, 2003; Chakravarty & Xiang, 2013). If the bank interest rate is higher than the interest rate set by any other formal or informal lender, the opportunity cost of applying for a bank loan will be higher. If the application cost or the likelihood of a screening error increase, so will the effective borrowing cost of applying for a bank loan.

Previous empirical studies explore how business, entrepreneurial, and environmental characteristics influence these basic determinants and consequently lead to variation with respect to the probability of being discouraged. Raturi and Swamy (1999), Chakravarty and Xiang (2013); Moro, Wisniewski and Mantovani (2017) and Gama et al. (2017) for instance show that female entrepreneurs are more likely to be discouraged than male entrepreneurs. Several possible explanations exist. First, women might refrain from applying for a loan because they expect to be discriminated against by credit providers (Haines, Orser & Riding, 1999; Diagne, 1999; Alesina et al., 2013). Kara and Molyneux (2017) offer a similar explanation for the limited access to mortgage loans by ethnic minorities in the UK. Few studies find actual proof of gender discrimination (Buttner & Rosen, 1992). Yet, female entrepreneurs in emerging economies perceive they face tougher requirements, or are rejected more often than their male counterparts (Asiedu et al., 2013; Richardson, Howarth & Finnegan, 2004). Second, women have significantly lower levels of entrepreneurial and financial self-efficacy compared to men (Farrell, Fry & Risse, 2016). Consequently, they are less confident about their chances of being successful if they submit a loan application (Cavalluzzo et al., 2002; Bellucci, Borisov & Zazzaro, 2010). Finally, women are generally more risk averse than men (Chaganti, 1986). Hence, they are less likely to engage in situations with an uncertain outcome such as applying for a loan (Singh, Riding & Orser, 2014).

Another important entrepreneurial characteristic which impacts discouragement is education. Less educated entrepreneurs are probably less aware of the application process, i.e. how to apply for loans, which documents to supply, etc. They therefore face higher application costs. Additionally, less educated entrepreneurs are considered more risky by credit providers and are more likely to face tougher credit constraints or have their applications rejected. Consequently, less educated individuals are more likely to be discouraged (Cowling et al., 2016; Chakravarty & Xiang, 2013; Raturi & Swamy, 1999). The same applies to younger entrepreneurs (Fraser, 2009) or younger businesses (Cole & Sokolyk, 2016; Cowling et al., 2016; Mac an Bhaird et al., 2016).

Smaller businesses are more likely to be discouraged (Han et al., 2009; Cole & Sokolyk, 2016; Xiang et al., 2015). Banks have less information about the credit quality of small firms without audited financial statements. Thus they are more likely to make screening errors. Furthermore, smaller firms are considered more risky, they face higher interest rates or collateral requirements (Gama et al., 2017). Finally, the business industry also influences the likelihood of discouragement (Freel et al., 2012; Xiang et al., 2015; Raturi & Swamy, 1999). Firms active in an industry with a strong asset structure are considered less risky and face more lenient requirements. Firms active in an industry which requires a lot of investments have bigger financing needs and hence are less likely to be discouraged. Firms active in sectors with traditionally low profit margins (wholesale and retail) are seen as more risky, their applications are more often rejected. Therefore, these businesses are more likely to be discouraged (Riding & Haines, 2001; Freel et al., 2012).

From the empirical literature we can conclude that several determinants of discouragement, relating both to entrepreneurial characteristics (such as *gender* and *education level*) and business characteristics (*size* and *industry*), have been identified. As far as we know, no study has provided in-depth information about the process through which borrowers become discouraged and the perceptions leading up to borrower discouragement. Understanding this process is nonetheless a necessary precondition to stimulate value-creating entrepreneurship at the base of the pyramid (Yessoufou, Blok and Omta, 2018).

3.3. Sampling and methodology

The aim of this study is thus to inductively build a model of the process through which borrowers become discouraged. To this end, we conduct in-depth interviews with discouraged female entrepreneurs in Tanzania. The choice for Tanzania is given in by the fact that it has a high proportion of discouraged borrowers. In a study by Chakravarty and Chiang (2013), more than 40% of the entrepreneurs in their sample were discouraged.

Furthermore the majority (52%) of small business in Tanzania are female-owned (MIT, 2012); making it a useful study-ground to conduct our investigation.

We argue that a qualitative method is more suitable to achieve our goal than a quantitative method. First, qualitative research produces deeper knowledge and is better suited for process-oriented research, to answer “how” questions (Gioia, Corley & Hamilton, 2013). Second, our study deals with perceptions which are inherently difficult to measure quantitatively. In-depth interviews allow us to ask informants about their perceptions and get an idea of how they were formed. This is known as an “emotionalist” research approach (Eriksson & Kovalainen, 2008; Silverman, 2008). Finally in contrast to quantitative research, qualitative research tends to be inductive (Kaczynski, Salmona & Smith, 2014; Creswell, 2009), which matches the setup of this study.

All participants in our research are female discouraged borrowers from Dar es Salaam, the largest city and economic capital of Tanzania. In this study we define a discouraged borrower as an entrepreneur who needs extra financing for her business but has not applied for a formal loan (bank or microfinance loan) in the last 12 months, and is currently not reimbursing a formal loan. This is similar to the approach used by Gama et al. (2017). Among the many different definitions of borrower discouragement used in the literature, we purposively use this broad definition to capture all possible reasons why informants become discouraged.

We used purposeful sampling (Patton, 1990; Glaser & Strauss, 1967) to select informants. This means using existing research to find out where the phenomenon of discouragement is most likely to occur and selecting informants accordingly (Silverman, 2008). This is why we focus on small female-owned businesses in emerging economies (Cole & Sokolyk, 2016; Moro, Wisniewski & Mantovani, 2017; Kon & Storey, 2003). We ensure multiple entry points into the population by combining two sampling frames: a list of entrepreneurs who followed a business training program at University of Dar es Salaam Business School (UDBS), and a list of participants to an informal loan group. We supplemented these lists with personal contacts of our research assistants and used snowball sampling to identify additional informants.

Appendix 3.A.1. provides an overview of each informant’s characteristics as well as how she was recruited. Owing to the multiple entry points our sample is reasonably varied with respect to several business and entrepreneurial characteristics proven to impact the probability of discouragement (see section 3.2.2.) (Patton, 1990). Informants are aged between 21 and 57. The most experienced entrepreneur started her business in 1995, the most recent business started in 2017. The majority of discouraged borrowers in our sample is active in the wholesale or services sector. This is not surprising since previous studies suggest businesses in low profit sectors with limited assets are more likely to be discouraged (Freel et al., 2012). 52% of our informants attended university. In 2014, less than 1% of Tanzania's female population had a university degree. Hence, our sample is not necessarily representative of all discouraged women in Tanzania across all levels of education. Previous work reports that a higher education level reduces the probability of an entrepreneur being discouraged (Cowling et al., 2016; Chakravarty & Xiang, 2013; Raturi & Swamy, 1999). Nevertheless, our sample distribution demonstrates borrower discouragement is not limited to less educated individuals.

Before the data collection we contacted all informants multiple times through email and telephone to explain the purpose of the study and specify the conditions for taking part. We collected our data through 33 face to face interviews which lasted for approximately one hour, and took place at UDBS in September 2017. Ten interviews were conducted in English, the remainder in Swahili. All interviews were recorded. During the interviews we included the following two questions to ensure all informants fit our definition of a discouraged borrower: (1) Do you currently hold a loan from a formal financial institution (bank of MFI)?, and (2) Have you applied for such a loan in the past year? We also check whether informants have basic knowledge of banks and microfinance institutions. Based on the responses to these questions we exclude four informants from the analysis. We use a semi-structured interview technique. This entails that you depart from a topic list with preformulated questions (Eriksson & Kovalainen, 2008). Our topic list is based on previous work concerning discouraged borrowers (i.e. Han et al., 2009; Chakravarty & Xiang, 2013; Brown et al., 2011; Raturi & Swamy, 1999). The advantage of the semi-structured interview technique is that you can still adapt your questions to individual informants which suits our inductive research set-up (Eriksson & Kovalainen, 2008; Silverman, 2008).

Throughout the interviews we asked informants questions about their perceptions of formal loans and the reasons why they do not apply for formal loans. We used neutral and open questions to avoid imposing our own assumptions onto the informants (Eriksson & Kovalainen, 2008). We used probing to find out where their perceptions, thoughts, and feelings originated from; and how they contributed to their decision not to apply for a loan. After a while the same elements kept coming up in different interviews which suggests theoretical saturation. This is defined in the literature as the point where all categories in the data are well-developed which means that gathering extra data most likely will not yield new insights (Glaser & Strauss, 1967; Corbin & Strauss, 2008; Nelson, 2017; Saunders et al., 2018). During the interviews we asked questions to assess the informants' credit quality. In November 2018 we contacted all informants again through telephone and asked them similar follow-up questions. This was done to check whether the informants' answers were consistent[1].

We analyze our data from the interviews using a 'grounded theory' inspired approach known as the Gioia methodology, which is a systematic method used to inductively build new theory from data (Glaser & Strauss, 1967; Strauss & Corbin, 1998). This methodology is especially useful to theorize processes (Gioia et al., 2013; Gehman et al., 2017). Furthermore, the Gioia methodology is an example of 'interpretive research'. Interpretivism assumes that how people understand reality, as well as their subsequent behavior, is shaped by their interpretation of information and events they are exposed to (Gioia & Chittipeddi, 1991; Neuman, 2011; Grant & Perren, 2002). In line with this assumption we investigate how entrepreneurs' perceptions of formal loans and ultimate discouragement are guided by the people, events and information they are exposed to.

After translating and fully transcribing all interviews we started coding them. According to the Gioia methodology there are three stages of coding. As you go from one stage to the next, labels evolve from empirical first order codes, to more theoretical and abstract second order themes, and finally aggregate dimensions (Gioia et al., 2013). In a first stage we code all relevant text using labels which remain as close as possible to the data to prioritize informants' interpretations. We take care not to impose our preconceptions onto the data, but rather let the data guide the analysis. We continue with this stage until no new codes emerge. In a second stage we compile a list of all codes and look for similarities and dissimilarities between them. We group similar codes and arrive to a much shorter list of first order concepts. We start looking for structure emerging from the data and group similar first order concepts into slightly more abstract second order themes.

In the third stage of coding we use existing theory as an interpretative lens for our data, to theorize the empirical patterns we find (Lindvert et al., 2019; Verver & Koning, 2018).

[1] An overview of data collected in the follow-up surveys can be found in Appendix 3.A.4.

We draw upon the theory of Reasoned Action, a theory which contends that a person's behavior is governed by his perceptions, his attitudes, and his interpretation of relevant societal norms. It explains voluntary human behavior by linking it to a person's intention to perform behavior. This behavioral intention is influenced by a person's attitude towards the behavior, and his beliefs with respect to relevant norms. These are in turn shaped by behavioral and normative beliefs. Behavioral beliefs concern the individual's beliefs towards performing the behavior and its consequences. Normative beliefs capture a person's beliefs of what others want him to do; an answer to the question 'do the people who are close to me want me to perform this behavior' (Ajzen & Fishbein, 1977; Ajzen, 1985). The basic principles of the theory of Reasoned Action are summarized in Figure 3.2.

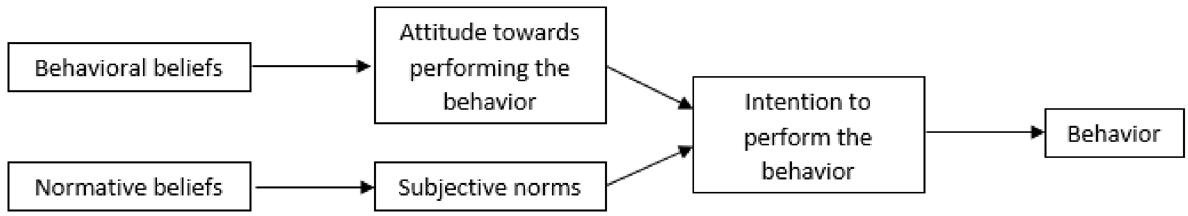

Figure 3.2. Theory of reasoned action
Adapted from: Ajzen & Fishbein, 1980, p8.

By iteratively switching between data and theory we progress from second order themes to more abstract aggregate dimensions. We then start vetting the data for relationships between these aggregate dimensions. Finally, we build a dynamic model of the process of borrower discouragement based on the list of second order themes, the list of aggregate dimensions, and the relationships between the dimensions.

3.4. Findings

The starting point of our analysis is the list of 'first order concepts' which captures informants' perceptions on a variety of topics related to formal loans. These range from high application costs, to inefficient regulatory institutions, or a lack of suitable alternatives for bank and microfinance loans. To better manage the large amount of interview data we group similar perceptions into 'second order themes'. For example the following first order concepts: (1) 'Loan amounts are too small, (2) 'Interest rates are too high', (3) 'The loan term is too short'; are summarized in the following second order theme: 'Unattractive borrowing terms'. Similar second order themes are then grouped into 'aggregate dimensions'. Appendix 3.A.2. provides an overview of the progression from first order concepts, across second order themes, to aggregate dimensions.

We use the second order themes and aggregate dimensions to build our model of the process of borrower discouragement. The model is essentially composed of three main themes: a) where do the entrepreneurs' perceptions originate from, b) what are their perceptions with respect to formal loans, c) how do these perceptions lead to discouragement. Our model is summarized in Figure 3.3. In this section, we will break down and explain this model in a stepwise fashion. We subsequently formulate 'propositions' concerning the process of discouragement with respect to each of the main themes. To back up our findings and illustrate how we move from the interviews to our conclusions, we include a selection of informant quotes in the text. Appendix 3.A.3 provides a more inclusive overview of informant quotes per second-order theme identified.

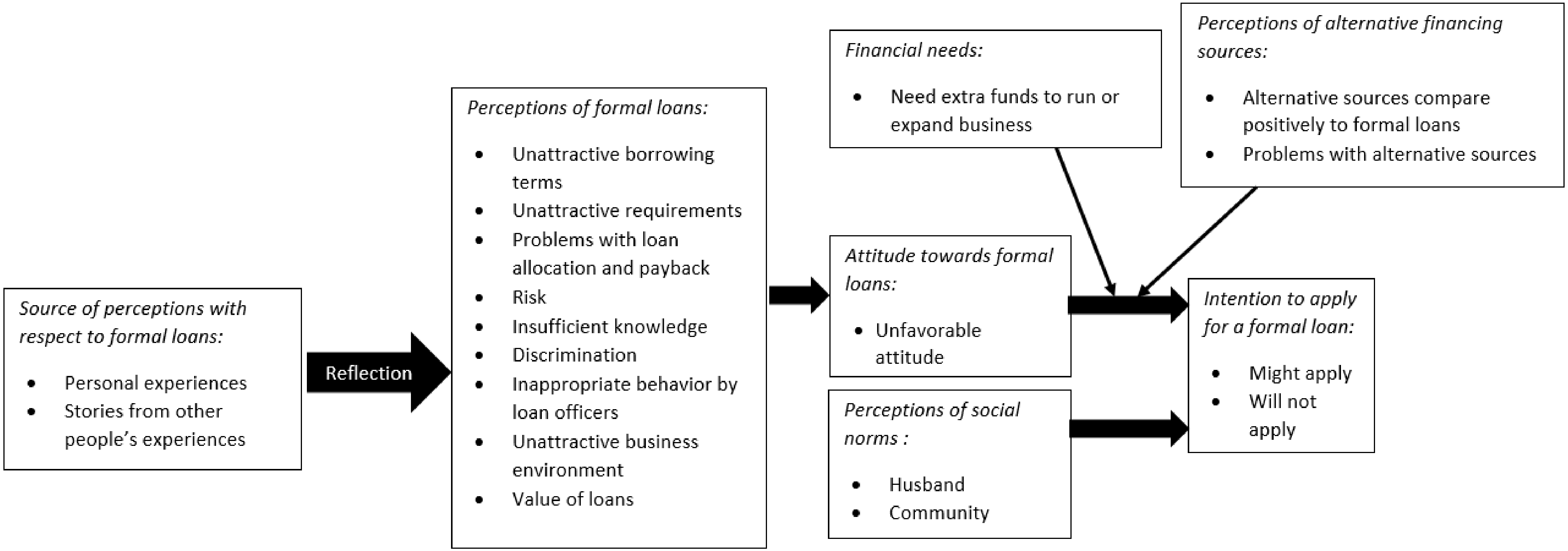

Figure 3.3. Model of the process of female borrower discouragement

3.4.1. The origin of perceptions

Proposition 1: *Through personal experiences and stories from others, discouraged borrowers form expectations of problems associated with formal and informal loans. This shapes their perceptions of applying for a formal loan. The effect of experiences and stories is limited by reflection mechanisms.*

The discouraged borrowers' perceptions of formal loans are shaped both by internal (through personal experiences) and by external (through social interactions) information sources. This is similar to results by Capon, Fitzsimons and Prince (1996) who find that investors choose between different mutual funds by relying on their previous experiences as well as advice from others. We identify three types of personal experiences which shape perceptions. First, some informants had negative experiences with loans in the past. They either applied and were rejected, or experienced difficulties in paying back their loan. Second, some visited credit providers with the intention of applying for a loan but after gathering information decided against it. Either because they felt they did not meet the demands, or because they were unwilling to do so. This is reminiscent of the phenomenon of informal rejection described by Rostamkalaei, et al. (2020) in the UK. Third, some informants were previously employed as lawyers or business consultants. Through their job they have first-hand experience with the issues borrowers deal with. They have seen many entrepreneurs who defaulted and had their collateral seized and auctioned. Another common issue is the suboptimal use of loans, for example to pay for a child's wedding or a new dress. One informant used to work as a credit and legal officer for both a bank and an MFI. She mentions she knows loan officers are corrupt because she used to request bribes herself. Furthermore, her experience with verbal harassment inspires her not apply.

Informants mention two main sources of stories which influence their perceptions of formal loans. First, fellow entrepreneurs tell them about their negative experiences with loans. Sometimes these stories are covered in the media (i.e. newspaper, televised news, internet) but most often they come from within an entrepreneur's personal network (i.e. family, neighbor). These stories concern entrepreneurs who had to bribe loan officers or defaulted and sold their collateral. Second, some informants have friends who work for banks or MFIs whose stories offer a unique insight in the supply side of formal loans. These friends tell them about extremely high interest rates, corruption, and harassment. This harassment takes on a variety of forms; from verbal insults, to regular unannounced visits to the entrepreneurs' home or workplace. Some informants even mentioned unwanted sexual advances. Informant 7 mentions one of her friends who works for a bank even explicitly advised her not to take a loan.

"Initially, I had a bank loan from X but as time went on, because this business was just starting, the interest rate was so high, it was 20%, and then when it came to January 5 I could no longer break even. After paying the loan, the rest of the profit that is left I no longer managed to run the initials of the business" - ***Informant 26***

"I've actually SEEN people, while working in the bank, who've had to sell their houses to pay back the loan and a VERY cheap price … It's common to see a person take a loan because their child is getting married … So if you're gonna take out money, as a loan, for a wedding … You're not going to be able to pay back at all. They're gonna come and take that stuff, sell out the house and whatever you put in as collateral" - ***Informant 2***

"I have done it myself when I was working at the bank sometimes the customer needs the loan …. they don't care of the loss, if interest is high they just want to get the money … we used to tell them 'if you want to get the loan fast make sure the amount you get you consider me too there'. Sometimes the people are not qualified so they give us bribes and we fill in false information … I have done that job in microfinance institution X so I used to see how we harassed the people, so until today that makes me to be afraid to take a loan" - ***Informant 12***

"You hear about people saying 'yeah the loan officer was her relative so they helped him get a loan faster. Maybe they didn't even meet all the requirements but she had access to a loan'. Yeah it happens, you hear about it … There are stories and you READ in newspapers" - ***Informant 17***

Surprisingly, we noticed that personal experiences and stories which discourage informants' from applying for a formal loan, concern both formal and informal loans. Entrepreneurs clearly understand the difference between both types of loans but they expect similar problems to occur. Only a few informants explicitly differentiate between them. When exposed to information about problems with informal loans they contrast it with their expectations of formal loans.

Informants do not automatically internalize all information they draw from personal experiences or stories. They reflect on its relevance for their current personal situation. We identify three examples of such 'reflection mechanisms' in the data. The first one concerns the influence of a rejected loan application. Previous studies show this discourages an entrepreneur from applying again in the future (Cavalluzzo et al., 2002; Xiang et al., 2015). However informant 16, who was rejected in the past, believes the reason given by the loan officer was not genuine, but an excuse not to give her a loan. Consequently this rejection plays no role in her decision not to apply. Instead it is the high interest rate which discourages her.

Interviewer: *"I'm going back to your loan with X, in your case, you were not given loans because you were seen as a risky?"*

Informant 16: *"No, that was different, it was because they're trying to get us to open accounts with them … Loans have got insurance … like I said our bosses have accounts with them, we had a relationship with them. They could study the way our business was going so that was just an excuse"*

Interviewer: *"Do you think that this influenced you on deciding whether you were going to apply again for a loan? Or, do you not consider this?"*

Informant 16: *"I was actually searching for a bank which could give, actually, when I came to realize the amount of interest I was paying I thought it's good that I didn't apply it"*

Interviewer: *"So the rejection was not exactly a setback?"*

Informant 16: *"No it wasn't actually"*

The other two reflection mechanisms concern the effect of stories about other entrepreneurs' experiences. Informants state they do not always believe stories people tell them, especially when they do not know the person it happened to. Something happens to someone in the community and the story is passed on between community members as hearsay. This confirms findings by Pattacchini and Rainone (2017) who find that members of a network only influence each other's financial decisions in case of long term, close relationships originating from mutual trust. Finally, some informants mention they believe the stories they hear, but would not act in a similar fashion since the stories are not applicable to their personal situation.

"Even what I hear it might be even diluted already. It might have a little of bit salt, sugar, but if I hear it direct from you as maybe a perpetrator or a victim, it has a different view. If I hear from someone who heard from someone it's completely, totally different" ***- Informant 1***

Informant 2: *"It's common especially for us women, … I take out a loan for my business but I guarantee you, I'm not gonna use the whole amount on the business. If I have a friend who's getting married, I will take out a little bit of that money and give it … I'm not supposed to use it to buy food, but I will because I can't look at my children hungry. I'll pay their school fees with that money, I'll buy my new dress … And so at the end of the day, I will definitely not be able to pay it back on time because part of the money has gone into expenses that were not originally supposed to be utilized for that money"*

Interviewer: *"Do you think that influences you in whether or not you decide to apply for a loan?"*

Informant 2: *"No, no it doesn't. Because I don't, I mean it's, it's sort of interrelated. I wouldn't take a loan if I'm not able to pay back. I wouldn't take a loan if I don't have use for it at the moment. That's how I operate, but it's not how many people operate"*

3.4.2. Female entrepreneurs' perceptions about formal loans

Proposition 2: *Discouraged borrowers hold negative perceptions towards the following six aspects of formal loans: (1) borrowing terms, (2) application and payback procedures, (3) risk associated with loans, (4) discrimination, (5) loan officers' behavior, (6) business environment.*

Informants complain of unattractive borrowing terms, high interest rates seem to be most problematic. Informants also mention loans are too small and need to be paid back too quickly. The entrepreneurs argue that applying for a loan is expensive and takes a lot of time and effort. All informants complain about high collateral requirements. Nevertheless, in the follow-up survey, almost half of them argue that they have access to land and/or a house to supply as collateral if necessary (see Appendix 3.A.4.). A closer look at the interview data demonstrates that even if they do own assets, informants are unwilling to use them as collateral. They fear that in case of payment arrears their assets will be sold. Nearly all informants worry about not being able to pay back loans and the negative consequences this would entail. Apart from losing collateral they believe they will face harassment, humiliation or abuse at the hands of loan officers, as well as an increase in interest rates. Furthermore, informants fear that a failure to pay back in time would curb business growth and negatively affect their health or that of their family members. Finally, in the case of group loans, informants fear they will be held responsible for the share of fellow group members.

In contrast to previous work, (Mori, 2014; IFC, 2011; Asiedu et al., 2013) the informants in our study do not believe they face discrimination when borrowing from banks or MFIs. In fact some respondents feel women are actually favored by financial institutions. The perceptions held by our informants seem to be grounded in reality as most studies provide little evidence of discrimination against female entrepreneurs in emerging economies (Storey, 2004; Moro et al., 2017; Aterido et al., 2013; Aga & Reilly, 2011). Nevertheless informants argue they do fall prey to gender prejudices. According to them, loan officers believe women are not serious about doing business, have too much other responsibilities or will use the money for another purpose.

Inappropriate behavior by loan officers is a major theme in our data. Most often, this involves corruption; loan officers ask for bribes to speed up the application process or bend requirements. The informants also feel loan officers exploit their clients' lack of knowledge. Less educated entrepreneurs are traditionally more likely to be discouraged (Cowling et al., 2016; Chakravarty & Xiang, 2013; Raturi & Swamy, 1999). However, the majority of our sample of discouraged borrowers are highly educated. It seems as if their knowledge of formal loans is actually discouraging them. They do not apply for a loan because they know how interest rates are calculated, or because they are aware banks can seize their property. Furthermore, our informants argue that less educated entrepreneurs borrow from banks or MFIs because of stories from other entrepreneurs who received loans. However, these women are not aware of the risks associated with loans, nor do they know what to do with the money. Informants also mention that loan officers visit to try and convince them to take loans. Yet the entrepreneurs do not think formal loans could bring much value to them. They believe a loan would not improve their situation, lead to problems, or mainly benefit the credit provider. Only a few informants believe formal loans could help in developing the businesses, allow you to make bigger investments and help you pay for day-to-day needs.

Informants finally complain about the unattractive business environment. They argue that since 2015 there has been an economic downturn, increasing taxes, and changing regulations. This curbs informants' profits, limits their ability to pay back loans, and discourages from applying. In the follow-up survey eight informants mention that, over the last six months, their sales have decreased and five informants believe their profits have decreased (see Appendix 3.A.4.). Finally, informants complain of inefficient regulatory institutions. They argue that banks are under-regulated and that existing regulations are not enforced causing borrowers to run off with loans.

"I have a plot of land right now, I won't allow myself to take that plot of land as a security for the sake of getting loan. If I fail to repay back they will sell that land, they take their money so it would be like I start from stage one then I return from zero stage" - ***Informant 1***

"When the customer fails to pay they expose them to the public which it is not good. It's like embarrassing them and they will make announcements even in the streets. It's like degrading the customer" - ***Informant 12***

"I think, women are more considered because of women empowerment. It's not about the loan officer but it's about the bank in general, they are trying to empower women in the country" - ***Informant 10***

"They tell you the interest rate is 5% but when you calculate it, it is even higher. There was a time I calculated on my own I got the rate at 60% so they are very smart in explaining the rates" ***- Informant 7***

"A lot of women have small businesses, … they are not well informed, and educated, they don't know what questions to ask, what to look for in the agreement. The loan officer's biggest purpose is to generate as much profit as possible for a particular loan. I don't think they will give you extra information you haven't asked for. For them being silent about that is dishonest but if you didn't ask me then I don't give you any extra information" ***- Informant 2***

"The economic situation is really bad ... I have to sell whatever it is at a VERY cheap price as compared to others. That's the only way you survive because it's not doing well economically. So, if I go and take a loan, and then I have an interest rate to pay, while I'm selling myself at a lower profit margin" ***- Informant 10***

3.4.3. The effect of perceptions on behavior

Proposition 3: *As a result of their predominantly negative perceptions, discouraged borrowers hold a range of negative attitudes towards formal loans.*

Throughout the interviews we noticed informants generalize their negative perceptions of specific characteristics of formal loans, into a negative attitude towards formal loans in general.

For example, entrepreneurs hold negative perceptions of the risk of defaulting and having to sell their assets. This inspires the attitude that formal loans in general are risky. Others believe they will be excessively monitored by loan officers if they take out a loan. This leads to the following attitudes: if you take a loan you are not free, it is stressful, and it is a burden. Other negative attitudes towards formal loans held by our informants, include that loans are frustrating and some mention they do not understand loans, do not like loans, or that it makes them unhappy.

> *It's something that really scares personally, to take a loan, because, as a mother, I have my kids to think about … as an entrepreneur it's the biggest scare to take a loan"* ***- Informant 2***
>
> *"Although I have taken the loan I feel I am not free with my own business because every time I am monitored"* ***- Informant 9***
>
> *"It would be bothering to know someone is monitoring my business like this and, and then maybe I'm having a hard time paying due to the high interest rates and then it would be a burden"* *-* ***Informant 26***
>
> *"To be honest I don't like loans even to pay attention to their stories about loans I do not want at all"* ***– Informant 9***

Proposition 4: *Discouraged borrowers' attitudes towards formal loans shape their intention to apply for a formal loan.*

As a result of their negative attitudes, most informants do not intend to apply for formal loans in the future, even if they know this will probably limit business growth.

> *"Better to remain with a small capital with my freedom than increasing capital through a loan and gain more stress and pressure … that is why we can't develop further businesses"* ***- Informant 9***
>
> *"if I have other means of getting the money then I, then I definitely will do that. A loan will be the LAST thing I'm gonna do"* ***- Informant 2***

Proposition 5: *Discouraged borrowers' urgent financing needs and their perceptions of alternative financing sources, alter the relationship between attitude towards formal loans and intention to apply.*

Despite their predominantly negative attitude towards formal loans, some entrepreneurs state they might apply for a loan in the future. Two possible explanations arise from the data. First, our informants mention they do not have enough funds to run their business or expand business activities as planned. Second, informants mention alternative financing sources have their own problems and are no better than bank or microfinance loans. For example, accessing informal loans from SACCOs is costly and takes a long time. Furthermore, the loans are often too small to satisfy the entrepreneurs' financing needs. However, results from our follow-up survey suggest that at least some informants rely on alternative informal financing sources. Four informants identify family members, and two informants identify informal credit providers as the main creditors for their businesses. The combination of urgent financing needs and a lack of satisfactory alternatives for formal loans compel informants to apply for formal loans despite their negative perceptions and unfavorable attitudes.

"There was a SACCO … I wanted to be part of it but … if you wanted a loan, you have to have three times money … it didn't add up because if I had three times the money I wanted I could just save it up" ***- Informant 16***

"Just few days ago I took a loan from X [an informal loan group from an international NPO] but it is in groups, I didn't like it since you go there and waste much time" ***- Informant 3***

"We say no business man has ever succeeded without taking a loan. I don't know it, if it's a must but it's a saying, so eventually I might take a loan" ***- Informant 10***

Proposition 6: *Discouraged borrowers' perceptions of social norms further reduce their intention to apply for a formal loan.*

Bailey, Nofsinger and O' Neill (2003) report that an individual's financial decision making is shaped by social norms. In order to be accepted in society, people behave in accordance to the social norms they believe they are subject to. In our study, informants believe their husbands and communities do not want them to apply for formal loans. More specifically, informants claim their husbands do not allow them to use the house as collateral to access loans because they do not want their wives to become too successful. Consequently, informants decide not to apply because they expect their loan applications to be rejected. One informant states she does not want to apply for a loan because it is community tradition to run a business without loans.

"When I was starting in 2015, I was trying to find some capital but the problem they wanted house. and, the owner [of the house] is my husband. He says 'oh you can't take my house in order to take to get capital because I know you will be bigger so I can't help you' and then he started to even to kick me" ***- Informant 21***

3.5. Conclusion and discussions

In recent years the aggressive expansion of the microfinance industry in emerging economies has led to an abundant supply of loans for SMEs. Yet, it is consistently reported that female entrepreneurs hold less capital to finance the early growth stages of their ventures than male counterparts (Alsos et al, 2006; Marlow & Patton, 2005; Eddleston et al., 2016). Recent studies identify 'borrower discouragement' (i.e. entrepreneurs who need a loan but refuse to apply) as a major demand-side impediment for entrepreneurship (Chakravarty & Xiang, 2013; Gama et al., 2017). Discouragement prevents them from growing their business and thus from contributing to economic growth, poverty alleviation, and social change through valuable grassroots entrepreneurship (Sarkar, 2018).

In this study, we model the process through which female entrepreneurs become discouraged, which to our knowledge has not been done before. We focus on female entrepreneurs in emerging economies since previous studies show they are most at risk to become discouraged. Our model expands existing knowledge in three main areas: a) discouraged borrowers' perceptions of formal loans, b) the origin of these perceptions, c) how these perceptions lead to discouragement. This responds to Fraser, Bhaumik & Wright (2015) who call for more research on the effect of entrepreneurial cognition and perceptions on financing decisions.

We find that discouraged female borrowers hold a wide range of negative perceptions towards formal loans. For example, informants perceive interest rates and collateral requirements as being too high, too expensive and too time-consuming. They also believe formal loans are risky and fear that in case of default their collateral will be sold. It seems that the current design of formal loans does not fit the entrepreneurs' needs. This is confirmed by Meyer (2002) and Labie, Laureti and Szafarz (2017) who find that inappropriately designed products and a lack of flexibility prevent entrepreneurs from taking part in microfinance programs. Surprisingly, fear of being rejected is not very common[2]. Hence, our findings contrast with the original model by Kon & Storey (2003) whose definition of discouragement centers around fear of being rejection. Furthermore, in contrast to previous studies (Cavalluzzo et al., 2002) we show that the perception of gender discrimination is, in most cases, not conducive to borrower discouragement since

[2] In our follow-up survey only four informants think it is unlikely that they would get a loan if they applied.

informants do not feel loan officers discriminate against women. Tang, Deng and Moro (2017) show that trust in a loan manager has significant potential to alleviate discouragement. We build on this by showing that female entrepreneurs' lack of trust in loan officers and credit providers in general is an important contributing factor to their discouragement. Informants mention they do not apply for a loan because loan officers are corrupt, exploit their clients' lack of knowledge concerning formal loans, and are dishonest about the calculation of the interest rate.

Entrepreneurs' negative perceptions towards formal loans are guided by information gathered through personal experiences, such as previous loan applications, application attempts, and work experiences as well as through stories of other people's experiences with both formal and informal loans. Stories from peers seem to play a larger role for less educated entrepreneurs for whom they are the main source of information. However, even highly educated entrepreneurs are affected by stories of other people's negative experiences with loans. This could be why educated entrepreneurs, who according to previous studies, (Cowling et al., 2016; Chakravarty & Xiang, 2013) are less likely to be discouraged due to their business and financing knowledge, are still reluctant to apply for formal loans. Furthermore, we find that highly educated entrepreneurs are more aware of the problems associated with formal loans compared to less educated entrepreneurs.

The influence of personal experiences and stories, on perceptions regarding formal loans depends on the outcome of 'reflection mechanisms'. Entrepreneurs reflect on the relevance of information drawn from a specific experience or story. If it is not relevant to their personal situation the effect on perceptions will be limited. We identify three reflection mechanisms. First, an entrepreneur who believes she was rejected because of invalid reasons will not be discouraged. Second, a story of someone else's experience with loans will have limited impact on an entrepreneur's perceptions if the entrepreneur does not believe the story. Third, the impact of a story on an entrepreneur's perceptions will be limited if the entrepreneur believes she would act in a different way, compared to the person in the story, in the same situation.

We find that entrepreneurs' negative perceptions inspire a range of unfavorable attitudes towards formal loans. These attitudes then lead to a low intention to apply. However, if an entrepreneur has an acute need for extra funds and/or if alternative sources are unsuitable she might express the intention to apply for a formal loan despite an unfavorable attitude. Furthermore, female entrepreneurs believe various individuals and groups of people do not want them to apply for a formal loan. This creates extra barriers in the access to loans and contributes to the entrepreneurs' low intention to apply. At the time of the interviews, all informants were discouraged but some indicated they might apply for a formal loan in the future. This demonstrates that discouragement is not a permanent state. It also suggests that measuring borrower discouragement using a scale based on application intention, might be more insightful than the binary construct based on behavior used in previous studies (Chakravarty & Yilmazer, 2009; Freel et al., 2012; Brown et al., 2011).

The appropriate way to deal with discouraged borrowers depends on their credit risk. In the case of high-risk borrowers, discouragement is an efficient self-rationing mechanism and they should arguably not be encouraged to apply for a loan. Indeed, non-productive entrepreneurship is a persistent problem in low-income communities (Matos & Hall, 2020), and funding such ventures may put the entrepreneurs in a state of over-indebtedness. However, both our interview and follow-up survey data suggests that at least some, and possibly most of our informants, are low-risk discouraged borrowers. Only four informants mention problems in paying back their creditors over the last year. Almost half have access to a house or land to use as collateral and a quarter believes it is likely or very likely they would get a loan if they applied. For these entrepreneurs, discouragement causes foregone growth potential and they should be encouraged to apply for a loan.

Our results show that discouragement is driven by informants' negative perceptions towards formal loans. Hence, changing borrowers perceptions could potentially alleviate discouragement. We find that informants' perceptions originate from previous experiences with loans and loan officers. The same mechanism could be used to reduce discouragement (Fishbein & Ajzen, 1975). One could stimulate communication between discouraged entrepreneurs and loan officers from banks or MFIs. This provides loan officers with the opportunity to present their products and entrepreneurs with the opportunity to express their needs for financing. Loan officers should provide transparent and straightforward information about application, allocation, and reimbursement procedures as well as about the borrowers' rights and obligations. For example information about the different steps of the application process might alleviate the entrepreneurs' perception that applying for a loan takes a lot of time and money.

We also find that a lack of knowledge about formal loans prevents entrepreneurs from applying. Hence we suggest educating them on loan application procedures and loan requirements. Furthermore, the informants mention they do not know how to properly use a loan to boost profits. Consequently, advising them on ways to use loans responsibly might reduce their perception of formal loans as being extremely risky. Finally, our results show that female entrepreneurs' perceptions of formal loans are shaped by stories of others' negative experiences with loans. It is not unlikely that positive stories and positive perceptions are passed on in a similar way. Positive stories could counter the considerable influence of negative stories. We suggest setting up a learning environment where entrepreneurs who successfully used formal loans to expand their businesses, share their experiences with discouraged borrowers.

Next to negative perceptions concerning formal loans our informants also mention ineffective institutions. Hence we believe discouragement can be alleviated by improving the legal climate and by inducing a change in the cultural position of women. Strengthening legal institutions could reduce corruption among loan officers as well as other types of inappropriate behavior, such as discrimination or sexual harassment. It could prevent borrowers from running off with loans which causes stricter loan requirements for honest borrowers. Eliminating gender discriminatory cultural practices could make it easier for women to use their assets as collateral, could give female entrepreneurs more time to spend on business activities, and could increase the support they get from their husbands, loan officers, and communities.

While our methodology allows us to gain an in-depth understanding of the process through which entrepreneurs become discouraged, our study is not free from limitations. First, during the interviews we asked informants to tell us about past events. This could lead to a bias in recall (Gibbs, Lindner & Fischer, 1986). Second, we asked informants to tell us about their personal experiences with loans. This is subjective and informants might give socially desirable answers to avoid looking bad (Bertrand & Mullainathan, 2001). Third, informants might answer in a certain way because they hope we will lend them money (Narayan, Pritchett & Kapoor, 2009). To avoid this we clearly communicated that we are interested in understanding more about their businesses and funding-practices from a research-perspective but that we do not give out loans. Furthermore, some informants were acquaintances of the interviewers which could affect their answers. However this is also an advantage as they are more likely to trust the interviewer and more willing to discuss sensitive topics. Additionally, we assume that the relationships between the various components or our model are linear and run in one direction only, i.e. perceptions shape attitudes which in turn drives behavior. Yet, informants could suffer from cognitive dissonance. This means that their behavior influences their attitudes instead (Bertrand & Mullainathan, 2001). This would lead to feedback loops in our model. For example, informants could decide not to apply for a loan because they know they will be rejected. They then express a negative attitude towards formal loans to justify this decision.

Given our sample, we do not aim to generalize our findings. However, we identify several areas for future exploration. Results show that stories from others have a considerable effect on discouraged borrowers' perceptions. This could be explained by the tight community structures indicative of the sample environment (Patacchini & Rainone, 2017; Kahn, Liñares-Zegarra & Stavins, 2017). It would be interesting to test the effect of social influence in a different context as many studies highlight the entrepreneur's institutional context and interactions between the entrepreneur and the context as key influencing factors for value-creating entrepreneurship and poverty-alleviation in developing regions (Si, Ahlstrom, Wei & Cullen, 2020; Goel & Karri, 2020). In this study we identify several other institutional factors which could potentially affect discouragement. Future research could look at the impact of regulatory or normative institutions in more detail. Furthermore, we execute an in-depth analysis of female borrower discouragement. Future research could be aimed at comparing male and female borrowers. Do male discouraged borrowers in emerging economies hold different perceptions of formal loans compared to females? Is the effect of stories on male entrepreneurs' perceptions equally large, or are they inspired to a greater extent by personal experiences and education? Such research would contribute to a better understanding of borrower discouragement but would also help to pull out female entrepreneurship out of the stigma of being low-end subsistence entrepreneurship (Marlow and Swail, 2014). Similarly it would be interesting to investigate the effect of societal norms on male borrower discouragement. Is the effect of these norms on male entrepreneurs' intention to apply for formal loans equally strong as for female entrepreneurs? Finally, our model explores the isolated effect of perceptions, personal experiences and stories on the entrepreneur's decision not to apply for a loan. Future research could look into how the different determinants in our model interact and jointly affect behavior.

3.6. Appendices

Table 3.A.1. Sampling

ID	*Source*	*Age*	*Sector of business*	*Year*	*Location*	*Marital status*	*Nr chldr.*	*Education*
1	Participant program at	38	consulting	2013		Married	0	University
2	Participant program at	33	consulting	2014	Mbezi	Married	2	University
3	Participant program at	39	sewing	2011	Mbezi	Single	2	Secondary
4	Participant program at	50	lounge and shop	1997	Muhimbili	Married	1	University
5	Personal contact assistant	26	insurance agency	2012	Sinza	Single	1	Post-Secondary
6	Participant program at	54	bakery	2011	Tegeta	Widowed	2	Secondary
7	Participant program at	57	agribusiness production	2015	Mbezi	Divorced	2	University
8	Participant program at	26	stationary	2013	Mikocheni	Married	2	University
9	Personal contact assistant	37	saloon	2010	Mlalakua	Married	1	Secondary
10	Referred by other informant	23	selling handbags	2017	Mbezi	Single	0	University
11	Participant program at	45	selling clothes	2006	Kariakoo	Widowed	3	Secondary
12	Personal contact assistant	27	clothing store & grocery store	2013	Kimara	Single	0	University
13	Participant program at	39	catering, handcraft	2010	Mikocheni	Single	3	University
14	Personal contact assistant	37	saloon	1995	Mwenge	Divorced	2	Primary
15	Participant program at	35	selling cooking gas	2010	Chanika	Married	3	University
16	Personal contact assistant	40	cooking & selling snacks	2017	Nyumbari Ninapdishi	Single	0	Post-Secondary
17	Personal contact assistant	29	catering & branding and	2012 & 2015	Makongo Suu	Single	0	University
18	Member of informal loan	35	selling motorcycles	2012	Sinza	Single	0	University
19	Personal contact assistant	26	cake bakery	2016	Mbezi	Single	0	University
20	Personal contact assistant	31	selling food	2013	Sinza	Married	2	Primary
21	Personal contact assistant	30	dairy plant	2007	Mbezi, Ubungo	Married	3	Secondary
22	Participant program at	42	pharmacy	2003	Milimani City	Married	3	Secondary

23	Personal contact assistant	47	making & selling snacks	2007	Nyumbani	Married	7	Primary
24	Personal contact assistant	23	making spices	2016	Online	Single	0	University
25	Personal contact assistant	21	selling home decoration	2015	Mbezi	Single	0	University
26	Personal contact assistant	35	selling building materials	2016	Hazo Tegeta	Married	2	University
27	Personal contact assistant	28	saloon	2014	Mlalakua	Married	4	Post-Secondary
28	Personal contact assistant	34	cosmetics	2016	Mlalakua	Married	2	Secondary
29	Personal contact assistant	25	selling clothes	2016	Mwenge	Married	1	Post-Secondary

Table 3.A.2. Progression from 1st order concepts to aggregate dimensions

FIRST ORDER CONCEPTS	SECOND ORDER THEMES	AGGREGATE DIMENSIONS
• Previous formal and informal loan applications, rejections and payback • Current or previous job as lawyer, business consultant or working for a bank or MFI • Visited bank or MFI to get information but didn't apply • Media coverage of other's experiences with formal and informal loans • Stories of formal and informal loan experiences from friends, family, colleagues, neighbors and fellow entrepreneurs	Personal experiences	Source of beliefs with respect to formal loans
• Stories from friends working for banks or MFIs • Stories of formal and informal loan experiences from within community	Stories from other people's experiences	
• Insufficient knowledge on formal loans • Insufficient knowledge on optimal use of loans	Insufficient knowledge	Beliefs with respect to formal loans
• Detrimental economic climate • Government unsupportive of businesses • Inefficient regulatory institutions • Unfavorable political situation	Unattractive business environment	
• A lot of time and effort needed to acquire loans • Follow-up causes disturbance and stress • High application costs • Difficult to provide necessary information • Loan officers are not understanding in case of arrears • Small loan amounts	Problems with loan allocation and payback	
• High interest rates • Short loan and repayment terms	Unattractive borrowing terms	
• Need for bank account • Need for share in your business • Need for fixed salary • Need to be government employee or have a family member who is a government employee • High collateral requirements • Need to be married • Need for physical business location • Need for business license and a Taxpayer Identification Number (TIN) • Need for high capital • Need for sponsors or referees • Need to be part of a loan group	Unattractive requirements	

FIRST ORDER CONCEPTS	SECOND ORDER THEMES	AGGREGATE DIMENSIONS
• Fear of not being able to pay back • Fear of losing collateral in case of arrears • Fear that you or family members will suffer in case of arrears • Fear of harassment, humiliation and abuse in case of arrears • Fear of increased interest rate in case of arrears • Fear of lack of business growth in case of arrears • Fear of having to pay for group member debt	Risk	Beliefs with respect to formal loans (continued)
• Women are not discriminated against, they have an advantage compared to male entrepreneurs • Women are discriminated against • Small and young businesses are discriminated against • Entrepreneurs believed to be insolvent are discriminated against	Discrimination	
• Loan officers ask for bribes • Sexual harassment • Nepotism • Loan officers exploit clients' lack of knowledge • Loan officers believe women do not take their business seriously • Loan officers convince customers to open an account by promising access to loans and do not fulfill these promises • Loan officers visit entrepreneurs to try and convince them to get loans • Loan officers share confidential information	Inappropriate behavior by loan officers	
• Loans will not improve my situation • It allows you to make bigger investments • It can help develop your business • It can help pay your daily needs • It would lead to problems • It only benefits the credit provider, not me	Value of loans	
• It scares me • It stresses me • It's frustrating • I do not understand it • I do not like it • I am not free • It makes me unhappy • It's a burden	Unfavorable attitude towards formal loans	Source of beliefs with respect to formal loans

FIRST ORDER CONCEPTS	SECOND ORDER THEMES	AGGREGATE DIMENSIONS
• Husbands do not want their wives to be more successful than them • Women should be at home, taking care of the family	Husband	Norms concerning formal loans
• Community tradition not to get loans	Community	
• If loan characteristics were different, informant would apply • If business characteristics were different informant would apply • Informant might apply because she needs funds	Might apply for a formal loan	Intention to apply for a formal loan
• Informant does not apply because of loan characteristics • Informant does not apply because she prefers alternatives • I do not need a loan to succeed	Will not apply for a formal loan	
• Friendlier and more flexible follow-up • Lower costs • Lower interest rates • Less deposits needed on account • No business license needed	Alternative financing sources compare positively to formal loans	Evaluation of alternative financing sources
• It takes too much time • Too much personal information required • High costs • A lot of savings needed • High interest rates • Small loan amounts • Lower costs	Problems with alternative financing sources	
• Not enough capital to run the business • Want more capital to expand business	Need for extra funds	Financing needs

Appendices
Table 3.A.3. Representative quotes per second-order theme identified.

Personal experiences
"There was a time I borrowed and things did not go as I planned, sometime you can find the money you pay at the bank is very high while you could just top up that amount of money somewhere and gain the same amount you borrowed without interest" - Informant 28
"I have done it myself when I was working at the bank sometimes the customer needs the loan so they will not care how they will get the loan … we used to tell them if you want to get the loan fast make sure the amount you get you consider me too there. Sometimes the people are not qualified so they give us bribes and we fill in false information. You want 10 million but you deserve only 5 million so you have to bribe me so as I can feel in the forms you deserve the 10 million" - Informant 12
"Let me give you an example, there is a place where I went to borrow when I went to borrow, that loan officer who was assigned to give me the service, gave me a condition that if you want to get a loan or for you to get a loan, on time and the amount that you need, are you ready to give me 600,000!? … that really bored me a lot it totally bored me and I left it" - Informant 13
"I never applied, but I tried to talk to one of the loan officer that I know. I asked the loan officer … what if I apply for a loan … but he told me that, No, your business is so small, you cannot apply, I asked why, and then he said you do not have a title deed or a plot number" - Informant 3
Stories from other people's experiences
"They are a lot of information and to my side it might not help or decrease anything because there was a day I saw on tv a woman who had a pharmacy and at the end of the day she took empty boxed and filled them with stones. So if they go and they are not professional auditors they will be satisfied and yes it's a good business and they got a loyal customer but at the end of the day its nothing so they will think the time they take and effort of checking the business it has helped them but no it has not helped them at all" - Informant 12
"What frightens me most is to be killed heard someone has gone to get a loan from a bank and then they get robbed and kill her. So that frightens me so much, that whenever I think of going to take the loan, I think of my security because I believe it's the people from within the bank that are mostly responsible for those robbers as they are the ones with the information. And thinking that you have just loaned and that can risk your health or life so that frightens me" – Informant 9
"My neighbor borrowed 50 million … when the time reached she didn't repay even a cent so they had to auction the house for a certain million … so they come to throw her things out like dogs, that thing scared me a lot so imagined if it was me" - Informant 9
"I have seen one woman whose house was sold because she failed to repay the loan … she was given a loan and she failed to repay the loan so they can sell their house and they sell if for a lower price … I do not think It can happen to me because when you take the loan you have to fight with the situation and repay the loan" - Informant 14
"Because when you hear on the streets, some of the things might be true, or it might be someone who heard it from somebody else and they had a misconception about it … So, I think they help me to be more careful and I will, I will check on everything … Then I will decide, but I don't think what I've heard will prevent me from trying to get a loan". - Informant 7
"If you sit with … those who are being given in a groups, they tell you for example when someone join you have to pay a certain amount of money every week, then after they discuss about you and see if you can take a loan, so it's not possible that today you want a loan for next month, … so I think it's take a lot of time" - Informant 15

"I used to study with, the colleagues who work at a bank … when you talk about starting a business and all that they say the interests are high" - Informant 10	
"It was all over the media that there was a woman that was around at our place; yeah, they'd taken a loan and they failed to pay so their house was put up for rent and it's a sad story because she got mentally ill, frustrated yeah, she became crazy" – Informant 10	
Insufficient knowledge	
"If I get a chance I will like to learn more about a loan so as I can go and apply for it but I am afraid" - Informant 15	
"Maybe I should find someone so she can help me to understand what process I should pass through so as to get a loan" - Informant 23	
"They should provide education to me as an entrepreneur I have a certain amount of capital and from that capital how much loan can I get … example maybe I have 500,000 as capital so what amount of loan can I get as a loan … Second after getting the loan how should I invest it which can help me get high return and repay your loan and not go back to the same stage I was before" - Informant 25	
Unattractive business environment	
"They [female entrepreneurs] will be having a lot of stress due to thinking of the family from what I am getting I give it some to the family so as they can eat … a man they just think they have their own ways of getting money they don't worry about their children … a man doesn't worry they know mum will do it. So to him it is easy to get income fast than a woman … but for a business woman its important in the morning they have to make sure their kids are safe if all of them have been prepared to school or if they are young at least they are on safe environment so as when they go to work they will have a peace of mind" - Informant 9	
"The economic situation is really bad, especially here. So whatever I am trying to do … the profit margin has to be a little, I have to sell whatever it is at a VERY cheap price as compared to others. That's the only way that you can survive because it's not doing well economically, yeah. So, if I go and take a loan, and then I have an interest rate to pay while I'm selling myself at a lower profit margin" - Informant 10	
"Our country's still very poor and to locate someone who is in debt it's very hard, sometimes people run with money … And then to start business in Tanzania, even their own government does not support that much so you don't expect another private institution to do much for you. Because the foundation, the layout are not very clear to them as well" - Informant 16	
"It's really tough to have a business right now … a lot of people are just shutting down their businesses. Partly because of the loans but partly because people aren't spending the money. So as a business person … say maybe you took a loan say in 2016 or 2015 when the new president came in; and you thought you'd be able to pay back the money say in 2018. But because of the new, you know, government it's been REALLY hard to get the money … the change in the Bank of Tanzania rules, … because the government had initially put its money in other banks apart from the Bank of Tanzania, but it has recently retrieved that money, so what happens is the banks don't have the money to give out the loans and the banks survive on the loans … and so the actual loans that are still pending, are the ones that the banks are REALLY looking forward to get back the money. And so a little bit of a default, they're really harsh" - Informant 2	
Problems with loan allocation and payback	
"Them paying a visit will be pressuring me and stressing … At least they could be sending messages or emails … and asking for my progress rather than physically visiting and supervising you. That will cause a lot of pressure to me" - Informant 9	
"They have a voice over your business so you really can't control much … They can actually even have an employee from the bank come to your business, like say, twice a week, for maybe seven hours or eight hours to actually see how you work and if you're using the money according to what you actually asked it for" - Informant 2	

"I can relate that I think it takes a long time before, you can actually fill the forms … and then it takes a long time for you to actually get the loan" - Informant 10 "For example Bank X they give loans in groups but later when you read their details … you can find 'we give 300,000 as a loan but you have to save 100,000 in order to get 300,000 tsh' also you have to repay, they tell you, in a week for example 25,000 tsh" – Informant 11 "You know a person fail to pay a loan due to different factors, maybe someone got problems, but they [loan officers] only look at their side that what are they benefiting, they don't look at the other person's side. That is something that if possible to be removed or they should find another way" - Informant 24 "I think still it will be hard for me [to provide the information to the loan officer]. I don't think I keep proper record depending on the rules and requirements and most women in the streets they don't keep records in a formal way" - Informant 25
Unattractive borrowing terms
"The interest rates are very high, I think that is why many businesses collapse" - Informant 11 "When they are giving loans to groups … 300,000 it's is not enough you see that is why many women at home they lose their home utensils … So they should check and give them at least 1 million each so as they can see how they grow. Because 1 million someone can open a proper business station so they can expand their business and be able to repay the loan even weekly even if it is 20,000. Because 1 million and tell them to pay 80,000 per week that will be a problem" - Informant 11 "The amount they will give you is small compared to the one that you deposited … you will have to repay in a month 100,000 but when you calculate you don't have that 100,000" - Informant 14 "I think the banks have the highest interest rate … when I was calculating the amount I was going to pay until the loan was off it was actually going double" - Informant 16 "Women are given loans in groups of which the amount is small" - Informant 12 "There is insurance, though by my side it's not that much … Banks have too high [costs] though I have never, you know, I've never requested a loan with a bank directly, banks are too high compared to … like VICOBA or SACCOs". - Informant 20
Unattractive requirements
"Based on my views they ask for too much because when you go there they ask for a house, land and a person does not have … They should decrease collateral because a house is expensive" - Informant 9 To banks from what I heard it's like you have to have a certain amount in your account so as you can get a loan " - Informant 9 "Sometimes if you are not married they don't give you loan … You have to be in a group so as you can be guaranteed and get the loan … In order to get the loan you will need a relative who works for the government " - Informant 12 "If you go to the banks, they are telling you if you need a loan provide a title deed, I asked myself so I should bring my title deed just for 2 million? No way - Informant 15 "Sometimes the loan agreement could actually give the bank the mandate to have a percentage in your business … For them to actually give you the money, they would say, part of your collateral will be a percentage shares in your company" - Informant 2 "I do online business and most of the microfinance institutions wants someone who has a place already, has a frame, that has TIN [Tax Identification Number], that one whose business is registered" - Informant 24

Risk
"I think they call themselves microfinance or something but the interest is, like you pay 30% of the money … within I think after one month. And then if you don't pay it up … you add another 30% until you finish up pay" **-** Informant 16
"Loans are provided in groups … some may be 5 but for one of them repaying the loan is a problem so you have to contribute all in a group so as you can reap the deficit" **-** Informant 14
"Sometimes you work hard in order to make sure you return that loan and if it doesn't mature you have sell your property … . If I fail to repay back they will sell that land, they take their money so it would be like I start from stage 1 then I return from zero stage" **-** Informant 1
"In case you fail they will take your collateral and you will not be able to continue the business and the business will fail, it is like going two steps behind" **-** Informant 8
"But if they give us high interest rates it becomes a problem since they will come take our assets. The assets may be small but someone has used so much time to get it and they come to take it, it becomes a problem and some may end up killing themselves, some run away from their families while they are supposed to provide for them" **-** Informant 27
"When the customer fails to pay they expose them to the public which is not good, it's like embarrassing them and they will make announcements even in the streets what they have done, so I find it's like degrading the customer" **-** Informant 12
"Interest increases every month if you delay to pay on installment and bond ownership is transferred to lender" **-** Informant 5
"At the end of the day you might lose even the house you have when you fail to repay the loan they come take your things" **-** Informant 6
Discrimination
"Whether you are a man or a woman, they treat you equally but there are some bank of course, they have their own system of … helping women, like women banks …But if you go to a normal bank they do business, they don't care whether you are a man or a woman" **-** Informant 1
"I think, women are more considered because of women empowerment. So it's not about the loan officer but it's about the bank in general that they are trying to empower women in the country" **-** Informant 10
"I think, definitely it would be easier for the male business people than for the female ones because the females they usually regard you as you have so many things on your plate, the kids, the pregnancies, the this and that, the, and they usually think for women it's very easy to give up on the business because they are not, in most cases we are not the sole providers of the family, euhm, this that kind of mentality." **-** Informant 26
"Loan officers should not discriminate the small business people because we are trying to make a living and it has to start as small so as the business can grow we are the ones should be empowered more than big businesses …if I take the loan I will return just like the rest of other businesses … we should be watched like the others … You need to do businesses with happiness … you end up doing business unhappily if you are not treated right. Of course you get the money but you are discouraged due to the fact that we are charged the same while we are two different levels " – Informant 9
"Those with small businesses will not get enough profit so they [loan officers] would rather provide loans to big businesses which have more profit so if you are taking 500,000 or 1,000,000 it is not easy they will just waste your time … they prefer big business which have already settled of which their businesses have already matured and have a stable market" **-** Informant 12
"We just hear that there are others who favor those who have money … to accept those who are still low in living standard like us, you see like, 'ah, no, what will that one pay', so it is like that, there are those with such behavior" **-** Informant 23

Inappropriate behavior by loan officers
"So from that time onward I was discouraged just by talking to him at home, and mind you he was the one who was convincing me to ask for a loan, he told me to open a bank account so that I can be able to borrow, so then when I talked to him and he said I can't get a loan" – Informant 3
"Someone I know borrowed money from one bank and the loan officer delayed the process, then she gave the officer some money … and the loan was faster she received her loan" - Informant 5
"It's happened to me … I think they have got a challenge that they have to enroll a lot of customers so they will use that as a trap to get, you know 'come to this bank, you'll get a loan'" - Informant 16
"When they're providing loans they're usually very cunning because they know that they're going to make a lot of money from you. They usually don't want to make it difficult for you" - Informant 26
"The way they come take the things at home .You will think they are not the ones who came to ask you to apply for a loan 'it will help you honestly'" - Informant 25
"I was working in a certain region … and one of the colleagues who he was working in bank … he was even fired for the allegation of asking bribe to a certain woman and that woman reported to the higher authorities" - Informant1
"The loan officer will like say like 'let me push up your thing, give me 2% of the loan'" - Informant 10
"I think there's a lot of favoritism. If you go there if you have a relative who is a loan officer they will make things easy for you but if they don't know you, you have to go through the hassle like anybody else does" - Informant 17
"I've seen how clever the bank officers can be. When you, you know, you put collateral, something that is viable for them, they would like to have that and so; I mean, the interest rates are very high. If you really know how to calculate, you'll find that you're paying at least 300% of the loan amount, so you're actually paying a lot of money back to the banks … I just wanna say, they are clever. They might use a language that you might not, If you're not careful, understand and at the end of the day when maybe for some reason you default, then it becomes really easy for them to take your asset … And you know, a lot of people … we feel having a lawyer present is expensive and so… we would just be desperate for the money, and sign, and get the money, but we don't really look through the fine print and see what really, the loan means and at the end of the day, … when you're struggling to pay the loan, then you realize they actually have the mandate to do 123 and there is nothing you can do" - Informant 2
"I applied for a loan but later we did not understand each other so I asked them to refund my money and they told me the money cannot be refunded and they make sure you sign that if you give out the money it will not be refunded" - Informant 6
"When I took a loan, … we ask how "how much is the interest", they tell you 18%, but you don't know how they calculate it … Once they tell you it's 18%, then you think it's 18% throughout. But I did experience that myself so, I was shocked when I was told that it's about 30 something. But I didn't know there is a way they calculate and then it goes that way" - Informant 7
"Also sometimes you might go to bank asking for a loan, you may find a male officer starting to court … sexually. You may find him saying, 'if you want me to help you fast, … if you do like that, I will do it fast just in three days, you will have a loan'" - Informant 13
"I think loan officers should not be greedy and stop harassing women for sex" - Informant 28
"For the male entrepreneurs they [loan officers] believe that because they're the providers of their families, they will work tooth and nail to make sure the business survives because they depend on it to serve their families compared to the female ones who, they know they're doing this to earn profit yes but when things don't turn out right, she can as well go home and tell the husband to provide and things like that. So there's usually that kind of think" - Informant 26

Value of loans
"The bank loan can help you to maybe to increase the magnitude of your investment and maybe some equipment which you are not able to pay without having to get a loan" - Informant 7
"The loan helps in developing your business and to sustain your day to day needs" - Informant 11
"It won't satisfy the needs of my business …it will bring me a lot of problems " - Informant 25
"Having a loan is good for a stable business but for trial business it's not good at all" - Informant 8
"I don't see if they help those small entrepreneurs that much, but what I see mostly is that they get profit" - Informant 15
"It is not good, it's like exploiting this entrepreneur" - Informant 3
"So it's like, you're working for them instead of working for yourself" - Informant 26
Unfavorable attitude towards formal loans
"I'm really scared to take loans … you'll be like a slave" - Informant 1
"I know X [an MFI] but I've never tried anything like … I've never really, I was never keen to them" - Informant 16
"There is a lot of disturbance to the loan, ESPECIALLY FOR US WOMEN" - Informant 22
"It would be a burden" - Informant 26
"I don't like it's not safe" - Informant 28
"It is too stressful, and I can't handle it and if I apply I won't get it … to be honest I don't like loans" - Informant 5
"I didn't want to commit myself to something that I know would cost me at the end of the day" - Informant 16
Norms: Husband
"It is difficult for my husband to give out a title deed, so I decide to quit because it brought some sort of conflicts, a fight between us, because my husband is not willing, he's an employee and he believe on his job" - Informant 22
"You know when you are in a relationship a man can tell you: 'You might fail to repay and they will come sell my things and my house also', so you know man usually will try to make you have fear I think it's because they don't want you to earn more income than them so if you have a business you might succeed and have more income than them" - Informant 29
"Sometimes they [husbands] might not have confidence that a wife can repay the loan. So they are scared of losing their property, sometimes because of some cultural issues, just doesn't want the wife to do the business" - Informant 7

Norms: Society
"Society believes men entrepreneurs can repay more than women since women have a lot of things to do like taking care of the children, we have a lot of things if we were given a loan we will won't use it well, if the children need school fees we will use the money for that. We will do this and that. We like beauty stuffs. We have a lot of things which makes them think we cannot do, but a man is seen capable to run a business and use the money effectively compared to a woman" - Informant 12
Might apply for a formal loan
"Maybe I try to apply and see because everything is an experiment" - Informant 9
"I'll have to take a loan anyway but the conditions are the ones that make the most of us shy away" - Informant 7
"I think a lot about that so I'm like 'no, let me just keep on saving and, my profit and then I'll see some day maybe I'll take'" - Informant 19
"I wish to ask for a loan when I already have an ability to circulate it fast because currently my timetable is divided twice school and business so it might come a time where I won't be able to circulate it fast, but if it reaches a time that I am done with school, I can stay at my business 24hrs maybe but for now no" - Informant 24
Will not apply for a formal loan
"I can't take out a loan at this time … Yes, I mean the whole purpose of having a business is for you to get the profits and actually expand, but if the money I'm working on … is just quantified by paying back the loan … if I have other means of getting the money then I, then I definitely will do that. A loan will be the LAST thing I'm gonna do"- Informant 2
"I think it has never been in my mind to get a loan from a bank" - Informant 10
"My vision is I believe if I don't take a loan also I can make it. If you manage to do something without taking loan it is best but if you can't manage it is better also to take loan" - Informant 1
"I am not ready to take a loan" - Informant 20
"So you see just decide not to take a loan so as you can live in peace" - Informant 1
Alternative financing sources compare positively to formal loans
"If I get money from somebody I know, yeah, you can talk your way out, you can negotiate a little bit of the interest, so it's better that way … you can ASK for more without interest increasing if you know that person … there are people who, they're not banks but they're people. They're not microfinance, it's not official but … they would lend you money and then you have to pay back with interest. Yeah, at a lower interest" - Informant 10
"This [loan from a VICOBA] is different from banks because this according to the explanations it's like they will check your business and give a loan then sign certain documents but they cannot say they want a collateral of anything .No I think collateral is your business location which they have seen it themselves, that's collateral" - Informant 9
"It has happened to my father … he was looking for more money to add in his business … because he was a local farmer he was not given [a bank loan] because he did not have a license so … he couldn't get a loan. He had to go to VICOBA to get a loan … So these institutions like banks he never got a loan from there" - Informant 12

"If you're gonna look for why women don't take loans from banks, it's because it's easier to get money from the VICOBA and SACCOs and so a wife can take money from a SACCO say and without informing the husband, and you know they don't really want a lot of collateral. They say I want your tv, I want your cushions, you know. They won't take it, but you'll have it in writing. When you default, they'll come and take that stuff, doesn't matter if you're using it or not. And so, a husband comes home and finds the house empty, it's a problem" - Informant 2

"These small, small VICOBAs they're, you know, they're really looking to help us, yeah. They're not based much on money no, they just need to help you, to help us, in developing our business … I have never had the loan from the bank, it was only from VICOBA …and I have already given them everything and we normally meet say like once per month so, it's like a friendly thing … they know Maria's business place is there … me myself at the end of the month I know it's my obligation that I have to pay … I think it's a different between those big banks institutions and VICOBA …VICOBAs or SACCOs, they are more friendly " - Informant 18

"For the SACCOs, the good thing is that we don't have to have unmovable property because us members we are security to each other" - Informant 7

"About cost I know on my side example at VICOBA they call it insurance of the loan. But it is not that expensive but to institutions like banks I believe it will be higher" - Informant 8

Problems with alternative financing sources

"The effort like what I heard from the first time every day I call them [VICOBA] even yesterday I called them what they told me is to wait and I have already waited, this is like the third month so I have gone too much … yesterday I called them, I am talking to that woman … and she is answering me she's on leave I told her it has been months and she tells me 'others take up to 3 months, you only 2 months' … that is the issue, that is why I call them every day they tell you 'we are busy we will come tomorrow', every day they say tomorrow but tomorrow doesn't reach"- Informant 9

"Just few days ago I took a loan from X [Informal loan group connected to international NPO] … but I didn't like it since you go there and waste much time. So I saw that kind of disturbance I didn't engage much, I just went to the seminar about entrepreneurship … I did not take a loan I just went to pay a visit" - Informant 11

"There are so many companies which give loans online but they want you to give your personal information which other companies don't require; for example to read you phone messages, and all other information they want to know. Something which I failed to give and at the end of the day I failed to get the loan. So they want to enter in your phone book read your messages which was too personal … 20,000 for a start they want to know more and the amount is not worth it … it's just an online loan from telecommunication company" - Informant 12

"There was a SACCOs … I wanted to be part of it but it's, it was quite very far … the conditions, if you wanted a loan, you have to have like three times money … it didn't add up because if I had three times the money I wanted I could just save it up … and then also when you borrow the money you have to pay 15% of the interest and then you also have to pay SACCOs I think a membership fee or something like that it was like more than 20 or 25% which is the same as in the banks so I didn't thought it was very helpful to me" - Informant 16

"If you are in a group or maybe a SACCOs … they don't have enough money to fund" - Informant 17

Need for extra funds

"It's the money I get from my business but the money is not enough … I believe my business will be bigger … because I wanted a big saloon, where I can do wedding makeup something like that so it's something like when you get enough money I can build a bigger saloon and get more income out of it" - Informant 9

"I'm doing a … very small business. I could purchase more and sell them but I can't because of the financial limits … My future plan is to like, I don't wanna sell only handbags, I wanna sell office shoes, yeah. So currently studying here at the MBA I come across a lot of people who are working so I know … they're really tired, it's hard for them to go out and shop. So what I do is I sell online. Everybody is online and then I deliver to them … So, but right now I'm focusing on the handbags, if I get enough capital, I'll start doing shoes … we say there is no business man that has ever succeeded without taking a loan, you have to take a loan. I don't know it, if it's a must but it's a saying that, yeah, so eventually I might take a loan" - Informant 10

"Sometimes you have to take money from another pocket. For example there is a month when business become difficult, so you have to find another source of money so that you can pay a salary to your employee or even sometimes you have to pay for rent, because it's rise and fall" - Informant 15

"A woman who goes to ask for a loan in a bank has exhausted these other means like SACCOs, VICOBA and whatnot, these local means. And now she's trying to expand her business and she needs a bank" - Informant 2

"No, actually you know in advance that it's going to be that way [that the interest rate is high], but then you don't have other options, … you're usually guided by the need, the goal that is ahead of you and sometimes you have to take the risk" - Informant 26

"If the bank conditions were easier and the interest rates are not TOO high, I would for sure go for a loan. I'll have to take a loan anyway but the conditions are the ones that make the most of us shy away" - Informant 7

Table 3.A.4. Data follow-up survey

ID	*Are you still in business?*	*Why not?*	*Have you started another business?*	*Over the past six months, have sales increased, stayed the same or decreased?*	*Over the past six months, have expenses increased, stayed the same or decreased?*	*Over the past six months, have profits increased, stayed the same or decreased?*	*Who are the most important creditors for your business?*	*Have you experienced problems in paying back creditors during the last year?*	*What is the likelihood that you would be granted a bank or microfinance loan if you applied for one now?*	*Do you have access to land or a house you could use as collateral if you had to?*	*Have you ever applied for a bank or microfinance loan and been rejected?*
2	Yes		No	Decreasing	Increasing	Decreasing	Suppliers	No	Neutral	Yes	No
3	Yes		No	Increasing	Increasing	Increasing	None	No	Likely	Yes	No
6	Yes		No	Increasing	Increasing	Increasing	Family	No	Neutral	Yes	No
8	Yes		No	Decreasing	Decreasing	Decreasing	Family	Yes	Unlikely	Yes	No
9	Yes		No	Decreasing	Decreasing	Decreasing	None	No	Very unlikely	Yes	No
10	No	Bankruptcy	No								
11	Yes		No	Decreasing	Staying	Increasing	Bank	Yes	Likely	Yes	No
13	Yes		No	Decreasing	Increasing	Decreasing	Bank	Yes	Unlikely	Yes	No
15	No	Bankruptcy	Yes	Increasing	Increasing	Staying	None	No	Likely	Yes	No
16	No	Bankruptcy	No								
17	Yes		Yes	Increasing	Increasing	Increasing	Family	No	Very likely	No	No
18	Yes		No	Decreasing	Increasing	Staying	Informal credit	No	Unlikely	No	No
20	Yes		No	Increasing	Increasing	Increasing	Suppliers,	Yes	Neutral	No	No
22	Yes		No	Decreasing	Staying	Increasing	Bank	No	Very likely	Yes	No
23	Yes		No	Increasing	Staying	Increasing	Family,	No	Likely	Yes	No
24	Yes		No	Increasing	Increasing	Increasing	None	No	Neutral	No	No
25	No	Bankruptcy	No								
26	Yes		No	Increasing	Increasing	Increasing	Informal credit	No	Neutral	Yes	No
28	Yes		Yes	Decreasing	Decreasing	Decreasing	None	No	Neutral	Yes	No
29	Yes		No	Increasing	Decreasing	Increasing	None	No	Very likely	Yes	No

Notes: [a] Only 20 out of 29 informants responded to this follow-up survey. Informants with the following ID numbers did not respond: 1, 4, 5, 7, 12, 14, 19, 21, 27

Chapter 4

The role of the institutional framework in alleviating borrower discouragement*

Abstract

Despite recent growth in the supply of debt in emerging economies, many entrepreneurs are discouraged from applying for formal loans because they expect to be rejected. Prior research is preoccupied with uncovering firm-level determinants of borrower discouragement but to our knowledge no existing study investigates the role of the institutional environment. Yet, research shows that the institutional context determines entrepreneurs' financing choices (Naegels, Mori & D'Espallier, 2018; Naegels, Mori & D'Espallier, 2020). This paper contributes to the literature by investigating how regulatory and normative institutions influence discouragement. We find that rigorous protection of property rights, effective contract enforcement, and gender equality in regulations and cultural practices significantly reduce the probability that an entrepreneur is discouraged. Furthermore, our data suggests that not taking into account the influence of institutions biases regression coefficients by falsely attributing differences in the likelihood of discouragement to gender of the owner and education level of the manager. Finally, our results show that effective regulatory institutions can transform discouragement from a market imperfection into an efficient self-selection mechanism.

* This article is based on joint work with Neema Mori and Bert D'Espallier.
This work was supported by the Belgian Development Cooperation via VLIR-UOS – Vlaamse Interuniversitaire Raad University Development Cooperation.

4.1. Introduction

In recent years, entrepreneurship in emerging economies has been growing rapidly (Peng, 2002). Yet, many businesses are growth-constrained by a lack of external financing. Research suggests that this is the result of a low demand for loans caused by discouragement (McIntosh & Wydick, 2005; Bateman, 2010; Brown et al., 2011). Discouraged borrowers are in need of a loan but do not apply because they expect to be rejected (Kon & Storey, 2003). Discouragement prevents creditworthy entrepreneurs from growing and contributing to economic growth (Rostamkalaei, Nitani & Riding, 2018). Consequently, it is important to investigate what causes discouragement and how to alleviate it.

Previous studies investigating the determinants of discouragement, focus on factors on the level of the entrepreneur or the business (Mac an Bhaird, Vidal & Lucey, 2016; Moro, Wisniewski & Mantovani, 2017; Chakravarty & Xiang, 2013). Little is known about the influence of the institutional context. Institutions define appropriate behavior based on written and unwritten rules. As a result, both individual behavior and corporate strategies are influenced by institutional forces (North, 1990; Peng, 2002; Hermes, Lensink & Meesters, 2009; Elkhuizen et al., 2018). This is especially relevant in emerging economies, where underdeveloped institutions hinder access to capital (Peng, 2002; Scheela et al., 2015; Mori, 2014). Previous studies show that the institutional forces entrepreneurs are exposed to influence the financing decisions they make. Inefficient formal institutions in emerging economies cause entrepreneurs to rely mainly on informal financing sources (Smallbone & Welter, 2001; Peng, 2002). Furthermore, the entrepreneurs' perceptions of the institutional context influences whether they use formal loans to finance their business (Naegels, Mori & D'Espallier, 2018).

Hence, this paper contributes to theory by investigating the effect of regulatory and normative institutions on the probability that an entrepreneur is discouraged. We focus on Sub Saharan African (SSA) countries. These countries are characterized by a (generally) high level of entrepreneurship and economic growth. At the same time, businesses in this region deal with significant institutional voids. Financial markets are underdeveloped, there is little protection of property rights, and corruption is common (Smallbone & Welter, 2001; Mori, 2014; Detragiache, Tressel & Gupta, 2008). Despite the growth of the microfinance industry and the emergence of mobile money, SSA remains the region with the second lowest percentage of adults having an account (34%) (Demirgüç-Kunt et al., 2014). Chakravarty and Xiang (2013) and Asiedu et al (2013) demonstrate that discouragement is common in the region. The paper continues with a brief overview of the theoretic framework of discouragement. This is followed by a review of the literature on institutions and discouragement, which leads to the formulation of hypotheses. In the third section, we describe our data and methodology. The main results are presented in section four. Section five encompasses discussion and conclusions.

4.2. Literature review

4.2.1. A theoretic framework of discouragement

Kon and Storey (2003) build a theoretic framework of borrower discouragement. The authors state that as a result of asymmetric information, credit providers cannot always distinguish between creditworthy and risky potential borrowers. Consequently they make screening errors and reject creditworthy borrowers. Submitting a loan application entails certain costs, yet the outcome is uncertain given that the application could be rejected. Entrepreneurs only submit a loan application if the expected returns are larger than the expected costs. Discouraged borrowers can be defined as "good borrowers who do not apply for a bank loan because they feel they will be rejected" (Kon & Storey, 2003, p. 37).

Two main issues arise when using this definition to empirically measure discouragement. First, the authors only study low-risk, creditworthy discouraged borrowers who would receive a loan if they applied (Han, Fraser & Storey, 2009). However, high-risk borrowers who would not receive a loan if they applied are excluded from the definition by Kon and Storey (2003). In practice discouragement is unobservable and it is difficult to know whether an applicant would be rejected until he or she applies (Mac an Bhaird, Vidal & Lucey, 2016; Cowling et al., 2016; Xiang et al., 2015). Furthermore, our study focusses on emerging economies where asymmetric information between borrowers and lenders is severe and where information about a borrower's credit risk is generally not publicly available (Kon & Storey, 2003; Anayiotos & Toroyan, 2009; Aga & Reilly, 2011). Since we cannot distinguish between high- and low-risk discouraged borrowers we include both these groups in our study. Nevertheless, the implications of discouragement differ between both types of borrowers. When low-risk discouraged borrowers cannot invest in positive net present value projects due to a lack of financing, this leads to foregone growth potential. In this case discouragement constitutes a market inefficiency. Discouragement among high-risk borrowers on the other hand can be regarded as an efficient self-rationing mechanism (Rostamkalaei, Nitani & Riding, 2018).

Second, according to Kon and Storey (2003) the only reason why entrepreneurs are discouraged is their fear of rejection. In contrast, some empirical studies state that entrepreneurs are also discouraged by unattractive borrowing terms such as high interest rates and collateral requirements (Brown et al., 2011; Rostamkalaei, 2017). Furthermore Orser, Riding, and Manley (2006) as well as Coleman (2000) argue that female entrepreneurs in emerging economies might be discouraged by the discrimination they expect to face when applying for a loan. This paper focusses only on entrepreneurs who are discouraged because they believe their application will be rejected. This fear of rejection is the result of asymmetric information between borrowers and lenders which causes lenders to make screening errors and reject creditworthy applicants. Other reasons for discouragement, such as unattractive borrowing terms or discrimination, do not stem from asymmetric information between borrowers and lenders which is essential in the theoretic framework of discouragement (Kon & Storey, 2003).

4.2.2. Institutional forces and discouragement

Entrepreneurs are influenced by the institutional context in which they operate. Institutions consist of written and unwritten rules, norms, and values which determine the optimal business strategies to follow in a specific context (Peng, 2002; North, 1990). Previous studies show that institutions influence various decisions entrepreneurs make, including financing decisions. Naegels, Mori, and D'Espallier (2018) show that entrepreneurs' perceptions of the institutional context influence their perceptions of formal loans. Furthermore, Naegels, Mori and D'Espallier (2020) find that the entrepreneurs' perceptions of institutions could affect whether they apply for a formal loan or not. Research shows that ineffective institutions in emerging economies increase the operating costs for small businesses. This could make it more difficult to reimburse loans, hence leading to discouragement.

Regulatory institutions and discouragement

Emerging economies are often characterized by underdeveloped regulatory institutions. This limits entrepreneurs' access to resources such as capital. It also leads to high transaction costs and high levels of information asymmetry between borrowers and lenders (Peng, 2002; Smallbone & Welter, 2001). Since high levels of asymmetric information are associated with high levels of borrower discouragement, we formulate the following general hypothesis:

Hypothesis 1: A weak regulatory framework leads to more discouragement.

We argue that there are three specific ways through which regulatory institutions could affect discouragement. First, regulatory institutions in emerging economies are associated with a lack of creditor rights protection and a weak rule of law (Anayiotos & Toroyan, 2009). As a result, some banks and microfinance institutions (MFIs) are unwilling to lend to poor or risky debtors because they cannot count on the judicial system to recover their investment (Barry & Tacneng, 2014; Gwatidzo & Ojah, 2014). This might cause some entrepreneurs to refrain from applying for a loan because they expect to be rejected. On the other hand, when property and contract rights are not well protected it is costly and time consuming for credit providers to seize collateral or recover defaulting loans. This could encourage high risk borrowers to apply for loans (Mac an Bhaird, Vidal & Lucey, 2016; Beck et al., 2006). Furthermore the lack of credit registries stimulates over-borrowing from multiple lenders among entrepreneurs who exploit information asymmetries. Based on these arguments we formulate the following open-ended hypothesis:

Hypothesis 1a: The degree to which property and contracts rights are enforced, influences borrower discouragement.

Second, the legal framework in emerging economies is sometimes marked by corruption. Corrupt municipal and tax officials put pressure on business profits. Bribes are usually required when officials find out businesses do not have all required licenses or have not paid enough taxes. Female entrepreneurs are worse off than male entrepreneurs because they are not always aware of their rights (Mori, 2014). If profits are lower, businesses are considered to be more risky and their applications are more likely to be rejected. This could again lead to discouragement when entrepreneurs anticipate on this rejection. At the same time bribes are sometimes required by loan officers to speed up the application process or to accept applications by entrepreneurs who do not fulfil all requirements. However, even when part of the loan is paid to the loan officer, interest is owed on the entire amount and debtors must pay back everything (Naegels, Mori & D'Espallier, 2020; Fletschner, 2009). Corruption by loan officers also takes the form of nepotism. Entrepreneurs who have a loan officer as a friend or member of their family have easier access to loans (Azim & Kluver, 2019; Naegels, Mori & D'Espallier, 2020). This leads to the following hypothesis:

Hypothesis 1b: The incidence of corruption leads to more discouragement.

Finally, regulatory institutions in emerging economies are often characterized by gender inequality. According to a study by the World Bank (2010), countries in SSA are sensitive to gender discrimination when it comes to "accessing institutions, using property, getting a job or dealing with taxes" (p. 7). In some countries, women are required by law to obey their husband or father and cannot apply for loans without their signature. Furthermore, women do not always have equal rights to property compared to men. In some countries women are prohibited from buying, owning or inheriting land (Amine & Staub, 2009; Mori, 2014). Female entrepreneurs are aware that without property to use as collateral, their chances of being granted a loan are very slim which discourages them from applying (Naegels, Mori & D'Espallier, 2020). Based on these arguments we formulate the following hypothesis:

Hypothesis 1c: Gender inequality in regulatory institutions leads to more discouragement.

Normative institutions and discouragement

Even when laws and regulations do not discriminate against women, female entrepreneurs might still be hindered by discriminatory cultural practices. In many cultures entrepreneurship is predominantly considered a male profession while women are regarded as the primary caregiver. Because of the time allocated to housework and childcare, women have less time to spend on their business. This makes it more difficult to run a profitable business. (Kiraka, Kobia & Katwalo, 2013; Baughn, Chua & Neupert, 2006; Yousafzai, Saeed

& Muffatto, 2015). The smaller size and lower profits of female-owned businesses increase the probability of being rejected if they apply (Madill, Riding & Haines, 2006; Hashemi, Schuler & Riley, 1996). Women are also socialized in a way that makes them submissive, risk-averse and with low levels of self-confidence, which could also lead to more discouragement (Jagero & Kushoka, 2011; Johnson, 2013).

Likewise, even when women have the right to use their marital home as collateral, their husbands are hesitant to agree. Some do not want their wives' business to grow as this stands in the way of household duties. Others are scared their wives will e become financially independent. This would lead to a loss of honor or social stigma (Amine & Staub, 2009; Naegels, Mori & D'Espallier, 2020). Finally, loan officers are sometimes unwilling to lend to women because of negative prejudices. They think that female entrepreneurs do not take their business seriously and will abandon it when things go downhill. They also feel that women possess less entrepreneurship skills compared to men (Agier & Szafarz, 2013; Winn, 2005; Naegels, Mori & D'Espallier, 2020). Using an experimental setting, Fay and Williams (1993) show that, because of preconceptions about traditional gender roles, loan officers hold female applicants to higher standards than male applicants. Women who expect to be rejected by discriminatory loan officers could be discouraged from applying for loans (Cavalluzzo, Cavalluzzo & Wolken, 2002; Brown et al, 2011).

Based on these arguments we formulate the following hypotheses:

Hypothesis 2: Weak normative institutions lead to more discouragement.

Hypothesis 2a : Gender inequality in normative institutions leads to more discouragement.

4.3. Methodology

4.3.1. Data

The data for this study originates from seven different databases compiled by the World Bank. Data on the level of individual businesses is drawn from the 2006/2007[1] waves of the Enterprise Surveys[2].

The World Bank uses stratified random sampling to select business owners and top managers as respondents. Using face-to-face interviews, data is collected on business characteristics as well as the business environment. Surveyed topics include access to finance, business performance, ownership, perceptions of the investment climate, and of the legal environment[3] (Chakravarty & Xiang, 2013).

Data on country level stems from the 2006 wave of the World Development Indicators, Gender Statistics, Doing Business, Global Financial Development, Women, Business & the Law and, Country Policy, and Institutional Assessment databases. These cover a very wide range of topics ranging from the incidence of corruption in the public sector to gender discrimination in laws and customs. The World Bank draws data from multiple sources such as national statistical agencies, central banks, the World Health Organization, and its own micro-surveys. More detailed information about the databases can be found on the website of the World Bank. We study businesses from eighteen SSA countries: Ethiopia, Burkina Faso, Burundi, the Democratic Republic of Congo, Gambia, Guinea Bissau, Guinea, Rwanda, Uganda, Tanzania, Angola, Cape Verde, Cameroon, Swaziland, Kenya, Mauritania, Namibia, and Nigeria.

The Enterprise Survey measures discouragement, our dependent variable, with two questions. A first question enquires whether the business applied for a loan or line of credit from a formal financial institution in 2005. For businesses who did not apply, a second question explores why. In accordance with the theoretic framework (Kon & Storey, 2003) we define a discouraged borrower as an entrepreneurs who has not applied for a loan or line

[1] For most countries the data originates from 2006. For Kenya and Nigeria the data originates from 2007. We execute a robustness check with data collected between 2013 and 2016. Results are discussed in section 4.4.4.

[2] Chakravarty & Xiang (2013) used this database when studying discouragement in developed and emerging economies.

[3] the World Bank: https://www.enterprisesurveys.org/methodology accessed on 23/05/2019

of credit because it expects to be rejected. For these businesses the dummy variable *discouragement* is equal to 1. It is equal to 0 for entrepreneurs who applied for a loan or line of credit in the year previous to the survey[4]. Figure 4.1. provides an overview of the distribution of our sample with respect to discouragement and clarifies which observations are included in our analyses. In total there are 7471 businesses in our dataset. 1886 of these businesses are included in our analyses. 1411 businesses applied for a loan or line of credit in the year preceding the survey and are not discouraged (*discouragement=0*). 475 businesses did not apply for a loan or line of credit because they feared rejection and are discouraged (*discouragement=1*). There are 3589 businesses in the dataset who did not apply for a loan or line of credit because the procedure is too complex, because interest rates or collateral requirements are unfavorable, or because the size and maturity are insufficient. Although quite extensive, we exclude this group of businesses from our analyses because they do not fit in the theoretic framework of discouraged borrowers (see section 4.2.1.). Furthermore, 1949 businesses did not apply for a loan or line of credit because they had sufficient internal financing. Determining the need for financing precedes the decision whether or not to apply for a loan. Consequently these businesses are excluded from all our analyses (Mac an Bhaird, Vidal & Lucey, 2016; Gama, Duarte & Esperança, 2017).

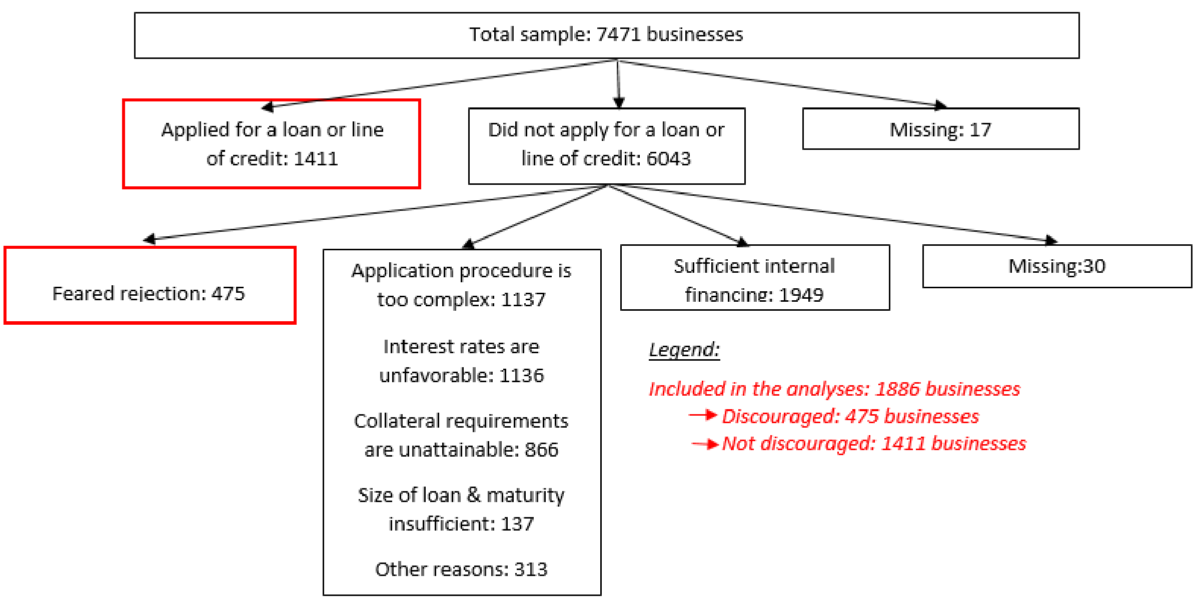

Figure 4.1. Distribution of sample with respect to discouragement

[4] This is similar to the approach followed by Moro, Wisniewski and Mantovani (2017) and Chakravarty and Xiang (2013).

Our independent variables of interest describe the institutional framework. We focus on three specific dimensions of the institutional framework: (1) regulatory institutions and corruption, (2) gender equality of regulatory institutions, and (3) gender equality of normative institutions. The proxy for regulatory institutions is the ordinal variable *property protection*. It captures the degree to which property and contract rights are enforced. The ordinal variable *public corruption* measures the transparency, accountability, and corruption in the public sector. A higher value signifies less corruption. The ordinal variable *entrepreneurship gender index* is our proxy for the degree of gender equality in regulations with respect to entrepreneurship. It ranges from 0 to 5, a higher rating signifies more gender equality. *Visit* is the proxy for the gender equality of normative institutions. It measures the percentage of women who participate in the decision to visit family, or friends. This variable is not available for 2006. Hence, we use the 2010-2012 waves of the Gender Statistics.

Following prior studies into the determinants of borrower discouragement (Mac an Bhaird, Vidal & Lucey, 2016; Mol-Gómez-Vázquez, Hernández-Cánovas & Köeter-Kant, 2019; Raturi & Swamy, 1999; Gama, Duarte & Esperança, 2017; Brown et al., 2011) we include a number of control variables into our model. The most important one is *female*, a dummy variable equal to 1 if at least one of the main owners of the business is female. We also take into account the top manager's education level using a nominal variable equal to 1 if he/she has no secondary school degree, 2 if he/she has at most a secondary school degree, 3 for a vocational degree, 4 if he/she has attended some university, 5 for a graduate degree, and 6 for a postgraduate degree. We include the top manager's experience measured by the number of years of managerial experience in the current sector.

We also control for business age, industry effects, legal status, the percentage of the firm that is privately owned, the percentage of sales exported, whether the business currently has a loan or line of credit with a formal financial institution, and whether the accounts were reviewed by an external auditor. The percentage of short term finance originating from internal funds and retained earnings serves as a proxy for the financing need. The variable *finance* measures to what extent the availability and cost of finance is perceived as an obstacle to the business. Finally we include two country-level control variables: gdp/capita[5] and the percentage of individuals or firms listed by a public credit registry. Table 4.A.1 in appendix provides an overview of how each variable in our study was measured as well as the database it was sourced from.

4.3.2. Empirical strategy

Since our independent variable is binary we use probit regressions to estimate our models (Horowitz & Savin, 2001). The main disadvantage of this approach is the potential that an unobservable variable is correlated with the institutional variables, as well as with the likelihood of discouragement. The effect of the unobservable variable on discouragement would then be attributed to the institutional variables. Furthermore, given that both our dependent as well as many of our independent variables originate from the same survey our data could be susceptible to common source bias (Podsakoff, MacKenzie & Podsakoff, 2012; Antonakis et al., 2010). Both of these issues could potentially lead to endogeneity.

Acemoglu, Johnson and Robinson (2001), who investigate the effect of institutions on economic growth, run into a very similar problem. They use instrumental variable (IV) regressions to alleviate the consequences of endogeneity. The authors argue that a country's current institutions are shaped by the early institutions developed during colonization. In turn, early institutions are correlated with colonial settler mortality. In countries with low mortality, settlers were able to replicate European-style settlements with a strong institutional framework. In contrast, in countries with high mortality, settlers were unable to establish extensive settlements. As a result, early institutions were not well developed. They did not protect property rights and were a breeding ground for corruption. More specific information on which instruments Acemoglu, Johnson and Robinson (2001) used; which are identical to the ones used in this study; can be found in appendix 4.A.1. The relationship between the instruments and the endogenous institutional variables in our study is graphically represented in figure 4.2.

[5] GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Retrieved from: http://datatopics.worldbank.org/world-development-indicators/

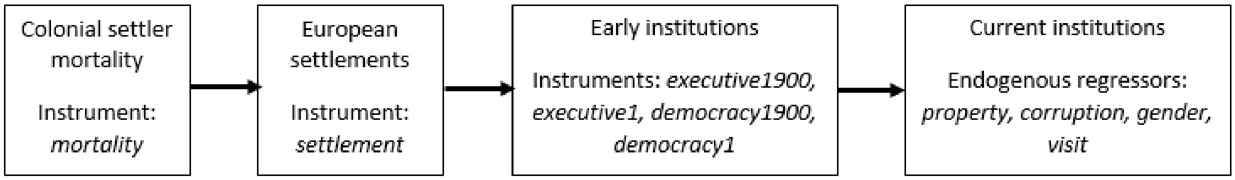

Figure 4.2. Relationship between instruments and endogenous regressors
Adapted from Acemoglu, Johnson & Robinson, 2001, p1370

We test the validity of our approach by checking whether the instruments fit two requirements. Firstly the instruments should be correlated with the endogenous institutional regressors. We empirically test this relationship by running a regression with the endogenous variables as dependent variables and the instruments as independent variables. The second requirement for the instruments is exogeneity. There is no reason to believe that any of the instruments would be correlated with the probability of discouragement once we control for our institutional regressors. For the exogeneity of the instruments to hold they should also be uncorrelated with the error term. In accordance with Acemoglu, Jonson and Robinson (2001) we run overidentification tests to check for this.

Given that we use both data on the level of businesses and on the level of countries we use clustered standard errors to allow for correlation of the error terms within countries (Moulton, 1990; Beck et al, 2006; Goodell & Goyal, 2018). We evaluate the quality of our regression models through the pseudo R^2, the c-statistic[6], and the percentage of correctly classified observations (Sainani, 2014). We run robustness checks using data from another wave of the Enterprise Survey as well as alternative indicators for regulatory and normative institutions.

4.4. Results

4.4.1. Descriptive and univariate statistics

Table 4.1. displays descriptive statistics for the firm-level variables in our sample, panel A for the ordinal and the continuous variables, panel B for the dummy variables. A quarter of entrepreneurs in our sample are discouraged because they expect their loan application to

[6] This statistic can be interpreted as the probability that the model correctly classifies a random pair (one where y=1 and one where y=0) of observations from the sample.

be rejected. This is slightly higher than the 17% of discouraged borrowers reported by Mac an Bhaird, Vidal and Lucey (2016) who use the same definition of discouragement. This could be caused by the fact that we study emerging economies while Mac an Bhaird, Vidal and Lucey (2016) study Eurozone countries, where the institutional framework is better developed. This suggests that our sample is well suited to investigate the effect of institutions on discouragement.

Four out of ten businesses in our sample have at least one main female owner. 42% have their accounts checked and certified by an external auditor. Slightly less than half of businesses currently hold a loan or a line of credit from a formal financial institution. The average business in our dataset is 12 years old, active in the manufacturing industry, organized as a limited liability company, and almost entirely privately owned. On average, businesses export less than 5% of their sales and finance 60% of their short term capital through internal funds and retained earnings. The average manager has a vocational degree and 11 years of managerial experience. More than half of managers consider the availability and/or cost of finance to be a problem.

Table 4.1. Descriptive statistics for firm-level variables

Panel A: Ordinal & continuous variables					
Variables	*Mean*	*Median*	*Stddev*	*Min*	*Max*
education of manager	3.59	4	1.64	1	6
experience of manager	11.18	9	8.44	0	54
business age in years	12.37	9	11.86	0	116
industry	0.76	0	0.86	0	2
legal status	1.30	2	0.92	0	2
% of shares privately owned	97.86	100	13.71	0	100
% of sales exported	4.63	0	15.75	0	100
% of short term finance from internal funds	60.04	60	31.12	0	100

Panel B: Dummy-variables		
Variables	*% of businesses in "0" category*	*% of businesses in "1" category*
discouragement (= 1)	74.81	25.19
at least one main owner is female (= 1)	59.89	40.11
financial statements checked by auditor (= 1)	57.48	42.52
business holds loan/line of credit from formal financial institution (= 1)	55.71	44.29
availability/cost of finance is obstacle to business (= 1)	47.08	52.92

Notes: Statistics were calculated based on the sample of 1886 businesses included in the main analysis. More information on which businesses are included in the main analyses can be found in section 4.3.1. and in figure 4.1.

Table 4.2. provides an overview of country-level variables for each of the 18 countries in our database. There is a large difference between the richest (Namibia 4555.1 dollar) and the poorest country (Rwanda 224.72 dollar). On average only 1.12% of businesses and individuals are registered with a public credit registry. This illustrates the severity of asymmetric information between borrowers and lenders in SSA. Cape Verde is an outlier when it comes to registry coverage (11.9%). Legal institutions seem to be most developed in Tanzania and least developed in Congo. Cape Verde has the most gender-equal laws whereas female entrepreneurs in Congo face discrimination in regulations. Women in Guinea suffer from discriminatory cultural practices. Less than 50% of women decide on whether to visit friends or family. Normative institutions are most gender-equal in Rwanda. Table 4.3. provides the correlation matrix for continuous variables (panel A) and for ordinal variables[7] (panel B). Some of our independent variables of interest are significantly correlated, hence we will not include multiple institutional variables in the same regression model.

[7] The coefficients in Panel B are computed using Spearman's rank correlation (Spearman, 1904).

Table 4.2. Descriptive statistics for country-level variables[a]

Variables	*ETH*	*BFA*	*BDI*	*COD*	*GMB*	*GNB*	*GIN*	*RWA*	*UGA*	*TZA*	*AGO*	*CPV*	*CMR*	*SWZ*	*KEN*	*MRT*	*NAM*	*NGA*
property protection	3	3.5	2.5	2	3.5	2.5	2	3	3.5	3.5	2	4	2.5	b	2.5	3	b	2.5
public corruption	2.5	3	2.5	2	2	2.5	2.5	3	3	3.5	2.5	4.5	2.5	b	3	2.5	b	3
entrepreneurship gender index	3	3	3	0	3	1	3	3	3	3	3	4	2	0	2	3	3	3
visit	77.8	52.3	77.7	b	b	b	42.2	81.2	59.5	49.5	b	b	53.3	51.4	73.1	b	78.3	54.9
gdp/capita	293	526	651.4	410.5	493.1	615.5	413.5	224.7	225	520.8	2723.5	2617.9	1224	3531.6	848.7	1115.6	4555.1	1754.4
credit registry	0	1.9	0.2	0	0	1	0	0.1	0	0	2.9	11.9	0.8	0	0	0.2	0	b

Notes: a Country abbreviations: ETH – Ethiopia, BFA – Burkina Faso, BDI – Burundi, COD – Democratic Republic of Congo, GMB – Gambia, GNB – Guinea Bissau, GIN – Guinea, RWA – Rwanda, UGA – Uganda, TZA – Tanzania, AGO – Angola, CPV – Cape Verde, CMR – Cameroon, SWZ – Swaziland, KEN – Kenya, MRT – Mauritania, NAM – Namibia, NGA - Nigeria
b These variables are not available for this country

Table 4.3. Correlation matrices

Panel A: Continuous variables[1]

Variables	*visit*	*experience*	*age*	*private*	*export*	*financing need*	*gdp*
experience	0.0575**						
age	0.1144***	0.5102***					
private	-0.1178***	-0.0069	-0.2252***				
export	0.0528**	0.1784***	0.1503***	-0.0127			
financing need	-0.2043***	-0.1166***	-0.1505***	0.0850***	-0.1290***		
gdp/capita	-0.1314***	-0.1363***	-0.0929***	0.0946***	-0.0114	0.0410*	
credit registry	-0.2649***	0.0224	0.0557**	0.0522**	-0.0705***	0.1057***	0.3063***

Panel B: Ordinal variables[2]

Variables	*property protection*	*public corruption*	*gender index*
public corruption	0.5590***		
entrepreneurship gender index	0.6301***	0.3887***	
education	0.0783***	0.1345***	0.0171

Notes: Statistics were calculated based on the sample of 1886 businesses included in the main analysis.
**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*
1 Coefficients were computed using Pearson's correlation
2 Coefficients were computed using Spearman's rank correlation

We execute t-tests to investigate whether the means of the variables of interest differ between discouraged and non-discouraged entrepreneurs, results are presented in table 4.4. We find that a better protection of property and contract rights is correlated with a lower incidence of discouragement. Furthermore, the average *public corruption* index is higher (signifying a lower incidence of corruption in the public sector) among non-discouraged borrowers. More gender equality in regulations is negatively correlated to discouragement. The same applies to gender equality in normative institutions. These results suggest that in general, a well-developed institutional framework is associated with a lower proportion of discouragement. We further investigate this claim using multivariate statistics.

Table 4.4. Results of t-tests

Variables	*Discouraged borrowers Mean / %*	*Non-discouraged borrowers Mean / %*
Hypothesis 1a:		
property protection	2.45	2.79***
Hypothesis 1b:		
public corruption	2.71	2.85***
Hypothesis 1c:		
entrepreneurship gender index	2.44	2.59***
Hypothesis 2:		
visit	56.11%	64.06%***
Total	25.19%	74.81%

Notes: Statistics were calculated based on the sample of 1886 businesses included in the main analysis.
**** The difference between the means or frequencies is significant at the 0.01 level*
*** The difference between the means or frequencies is significant at the 0.05 level*
** The difference between the means or frequencies is significant at the 0.10 level*

4.4.2. Multivariate probit regressions

Non-institutional determinants of discouragement

Table 4.5. displays the results of our basic regression model which explains the probability that an entrepreneur is discouraged only through business and managerial characteristics. It also controls for gdp/capita and the amount of information available about borrowers across different countries. This is similar to models specified by several previous studies (Mac an Bhaird, Vidal & Lucey, 2016; Brown et al, 2011; Chakravarty & Xiang, 2013).

The relationship between gender and discouragement has been widely debated in the literature. We find no significant difference between male and female-owned businesses; this is in line with previous research (Cavalluzzo, Cavalluzzo & Wolken, 2002; Han, Fraser &

Storey, 2009; Freel et al., 2012; Cole & Sokolyk, 2016; Cowling et al., 2016; Rostamkalaei, Nitani & Riding, 2018). The effect of the other control variables is also in accordance with prior studies. Enterprises led by a manager with a postgraduate degree are less likely to be discouraged compared to enterprises led by a manager without a secondary school degree. The same applies to businesses who have their accounts reviewed by an auditor or who currently have a loan or line of credit from a formal financial institution. Enterprises active in the retail sector are more likely to be discouraged than manufacturing businesses. Partnerships are less likely to be discouraged compared to publicly listed or privately held limited liability companies. Finally, the higher the percentage of the business that is privately owned, the more likely a business is to be discouraged.

Table 4.5. Basic regression models

Probit regression	*Dependent variable: discouraged*
female	-0.18
education level manager: secondary[1]	-0.02
education level manager: vocational	0.00
education level manager: some university training	-0.20
education level manager: graduate degree	0.03
education level manager: postgraduate degree	-0.45*
experience of top manager	0.00
perception of finance as an obstacle to the business	0.02
age of the business	0.00
industry: retail[2]	0.37*
industry: other industries	0.10
accounts reviewed by an auditor	-1.87***
company has line of credit or loan	-1.46***
% of short term financing from internal funds/retained earnings	0.00
legal status: sole-proprietorship[3]	-0.16
legal status: partnership	-0.34**
% of business privately owned	0.01***
% of sales that is exported	0.00
macro-variable: gdp/capita	0.00
macro-variable: credit registry coverage (% of adults)	-0.02
Number of observations	*1148*
McFadden Pseudo R^2	*0.3328*
C-statistic	*0.8818*
% Correctly Classified	*85.19*

Notes: Standard errors are clustered at country level. Consequently the chi2 statistic cannot be computed due to a lack of degrees of freedom. When standard errors are not clustered, chi2 statistic demonstrates that all coefficients are not simultaneously equal to 0.
1 Reference category: less than secondary education
2 Reference category: manufacturing
3 Reference category: publicly listed & privately owned limited liability companies
**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*

The influence of institutional forces on discouragement

We now expand the basic model by including the effect of institutional forces on discouragement. Results are displayed in table 4.6. Panel A contains regression coefficients: column 1 deals with hypothesis 1a, column 2 with hypothesis 1b, column 3 with hypothesis 1c and column 4 with hypothesis 2. We find support for all our hypotheses. All of the institutional variables have significantly negative coefficients (*property: -0.50**, public corruption: -0.85***, entrepreneurship gender index: -0.33***, visit: -0.02***). These results suggest that a more developed institutional framework is associated with a lower probability of discouragement.

We clarify the effects of the individual institutions on discouragement by calculating margins[9], displayed in Panel B of table 4.6. When property and contract rights are not well-protected (*property protection=1*) the probability that an entrepreneur is discouraged is 66%[10]. However, when property and contract rights are extremely well-protected (*property protection=6*) this probability decreases to 2%. This supports findings which arose from interviews with discouraged female entrepreneurs in Tanzania (Naegels, Mori & D'Espallier, 2020). When it is easier for credit providers to enforce contracts and recover money from defaulting lenders they are less risk-averse and more lenient when assessing potential borrowers. They also potentially set lower borrowing terms. This reduces the entrepreneurs' fear of being rejected leading to less discouragement. Gama, Duarte and Esperança (2017) draw a similar conclusion when investigating discouragement in emerging economies across Europe and Asia.

Our data shows that when there is a high incidence of corruption (*public corruption=1*) the average entrepreneur has an 86% probability of being discouraged. When there is little corruption (*public corruption=6*) the probability falls to almost 0%. This suggests that a higher incidence of corruption leads to more discouragement. When there is a high prevalence of corruption in the public sector various business procedures such as applying for a license or registering property take longer and tend to become more costly (Boehe &

[9] Margins capture the probability that a business is discouraged when the independent variables are fixed at specific levels (Bergtold, Yeager & Featherstone, 2017).
[10] We fix the other continuous variables at the mean and the ordinal and dummy variables at the median.

Barin Cruz, 2013; Smallbone & Welter, 2001). This leads to lower profits and makes it harder to reimburse costly loans which could in turn discourage some entrepreneurs from applying for loans (Naegels, Mori & D'Espallier, 2020). Furthermore, when corruption arises in credit allocation some entrepreneurs might be unwilling or unable to bribe loan officers in order to receive a loan and consequently be discouraged from applying (Brown et al., 2011; Levenson & Willard, 2000; Chakravarty & Xiang, 2013).

Our results indicate that gender-equality in regulatory institutions is associated with lower levels of discouragement. When the *entrepreneurship gender index* increases from 1 (signifying a low level of equality between genders) to 6 (signifying a high level of equality) the average probability of being discouraged falls by about 67%. We find a similar effect for gender equality in normative practices although the impact is smaller compared to the other institutional variables. In Guinea, on average, only 42% of women participate in the decision to visit friends or family. An average entrepreneur active in this country has a 36% chance of being discouraged. If this business would be located in Rwanda, where more than 81% of women decide on visits to family and friends, the probability of discouragement decreases to approximately 13%. Discriminatory regulations prevent women from using their assets as collateral or sign loan contracts in their own name. Discriminatory cultural practices lead to prejudices against women among loan officers. If female entrepreneurs expect to be rejected due to their lack of collateral or as a result of discrimination they might be discouraged from applying (Cavalluzzo, Cavalluzzo & Wolken, 2002; Fraser, 2009; Asiedu et al., 2013; Richardson, Howarth & Finnegan, 2004). Gender equality in regulatory and normative institutions ensure a level playing field for entrepreneurs and hence could lead to less discouragement.

In summary our results show that efficient regulatory institutions, as well as gender equality in regulatory and normative institutions, are associated with a lower likelihood of discouragement. When we compare our basic model (without the institutional variables) to our expanded models we note that once we include institutional variables, the correlation between some business-level determinants and discouragement seems to diminish (see Table 6 Panel A). This suggests that excluding institutional explanatory variables could potentially bias regression results. Differences in the likelihood of discouragement between entrepreneurs are falsely attributed to the industry and legal status, when they could actually be driven by institutional forces. When we compare the model fit statistics we see that the models which include institutional predictors have a better fit (average AIC is 564.4772, average BIC is 630.0280[11]) than the basic model (AIC is 708.4164, BIC is 789.1488). Finally, other measures of the quality of our model improve substantially when we take into account institutional predictors. McFadden Pseudo R^2 increases from 0.3328 (table 5) to on average 0.3617 (table 6, panel A, average from columns 1-4). The c-statistic increases from 0.8818 to on average 0.8959. The proportion of correctly classified observations improves from 85.19% to on average 88.66%.

[11] AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion

Table 4.6. Extended regressions models: with inclusion of institutional variables

Panel A: Probit regression coefficients[1]	*(1) Hypothesis 1a*	*(2) Hypothesis 1b*	*(3) Hypothesis 1c*	*(4) Hypothesis 2*
property protection	-0.50**	-	-	-
public corruption	-	-0.85***	-	-
entrepreneurship gender index	-	-	-0.33***	-
visit	-	-	-	-0.02**
education: secondary	0.17	0.11	0.05	0.01
education: vocational	0.06	0.05	-0.09	0.15
education: some university training	-0.21	-0.24	-0.46***	-0.31*
education: graduate degree	0.14	0.19*	-0.14	-0.03
education: postgraduate degree	-0.47*	-0.50*	-0.65***	-0.51
industry: retail	0.40*	0.37*	0.26	0.20
industry: other industries	0.06	-0.05	-0.03	0.08
accounts reviewed by an auditor	-0.90***	-0.86***	-0.91***	-0.54*
company has line of credit or loan	-1.42***	-1.39***	-1.42***	-1.04***
legal status: sole-proprietorship	-0.15	-0.12	-0.16	-0.09
legal status: partnership	-0.24	-0.20	-0.29*	-0.56
other control variables	yes	yes	yes	yes[2]
Number of observations	1043	1043	1148	866
McFadden Pseudo R^2	0.3724	0.3849	0.3768	0.3126
C-statistic	0.8981	0.9033	0.8999	0.8821
% Correctly Classified	86.58%	87.82%	88.07%	92.15%

Panel B: Margins[3]

Values	*Property protection*	*Public corruption*	*Values*	*Entrepreneurship gender index*	*Values*	*Visit*
1	65.62%	85.59%	*0*	67.63%	42	35.94%
2	46.30%	56.76%	*1*	55.24%	52	29.00%
3	27.83%	24.88%	*2*	42.23%	62	22.76%
4	13.94%	6.34%	*3*	30.17%	72	17.36%
5	5.73%	0.88%	*4*	0.20%	82	12.86%
6	1.98%	0.01%				

Notes: 1: Dependent variable for all regressions is discouraged
Standard errors are clustered at country level. Consequently the chi2 statistic cannot be computed due to a lack of degrees of freedom. When standard errors are not clustered, chi2 statistic demonstrates that all coefficients are not simultaneously equal to 0
Reference category for education: no secondary degree
2: Variable % of business privately owned not included due to collinearity.
**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*
3: Margins displays the probability that a business is discouraged for specific values of Property protection, Public corruption, Gender index and Visit. Other continuous variables are fixed at the mean, other nominal and ordinal variables are fixed at the median.

4.4.3. Multivariate IV-regressions

Our results suggest that regression models which explain discouragement without taking into account institutional factors are subject to an omitted variable bias. However there is no guarantee that the correlations we observe in our extensive model, which includes institutional variables, are not driven by an unobserved variable related to both the institutional context and the likelihood of discouragement. To address this we use an instrumental variable regression. The instruments we use are identical to those employed by Acemoglu, Johnson & Robinson (2001). We included more information about this approach in section 4.3.2.

In table 4.7. we check the validity of our instruments. In panel A we compute the correlation between the instruments and the endogenous institutional variables. Almost all instruments (*logem4, cons00a, cons1, democ1, democ00a, and euro1900*) are significantly positively or negatively correlated with the endogenous variables (*property protection, public corruption, gender index, and visit*). Furthermore, the instruments are also highly correlated with each other. In panel B we run ordinary least squares (OLS) regressions of the endogenous institutional variables on the instruments. The results confirm that our approach is valid, adjusted R^2 is higher than 0.31 in every regression. Additionally, the F-statistics range between 136.18 and 1161.09.

The results of our IV-regressions are displayed in table 4.8., the outcomes are comparable to those of our regular probit regressions. For three out of four models the Wald test of exogeneity shows we cannot reject the null hypothesis of exogeneity. The same test shows that the indicator for gender equality in normative institutions (*visit*) might be endogenous *(test statistic: 3.34*).* Finally, we run an overidentification test to check whether our instruments are exogenous. We never reject (with significance level 0.01) the null hypothesis that the instruments are uncorrelated with the error term. In summary, our results show that although some of our institutional variables could be endogenous, we find little indication that they bias coefficients in our probit regressions.

Table 4.7. Validity of the instruments

Panel A: Correlation between endogenous variable and instruments[1]

Variables	property protection	public corruption	entrepreneur-ship gender index	visit	logem4	cons00a	cons1	democ1	democ00a
public corruption	0.5192***								
entrepreneurship gender index	0.4524***	0.4976***							
visit	0.0253	-0.3202***	0.0480*						
logem4	-0.2193***	0.1773***	0.2518***	-0.6615***					
cons00a	0.1429***	-0.2550***	0.1354***	0.4322***	-0.6332***				
cons1	0.0228	0.2777***	0.3326***	-0.3401***	0.6897***	-0.4422***			
democ1	-0.1039***	0.1179***	0.2754***	-0.2537***	0.7039***	-0.3574***	0.9473***		
democ00a	0.1429***	-0.2550***	0.1354***	0.4322***	-0.6332***	1***	-0.4422***	-0.3574***	
euro1900	0.1139***	-0.2945***	0.0760***	0.4322***	-0.6425***	0.9974***	-0.4722***	-0.3817***	0.9974***

Panel B: OLS regressions of endogenous variables on instruments[2]

Independent variables	*Dependent variable property protection*	*Dependent variable public corruption*	*Dependent variable entrepreneurship gender index*	*Dependent variable visit*
logem4	-0.07***	-0.04***	0.39***	-8.94***
cons00a	1.46***	1.83***	5.84***	a
cons1	0.21***	0.17***	0.08***	-4.85***
democ1	-0.14***	-0.14***	-0.11***	4.66***
democ00a	a	a	a	a
euro1900	-0.09***	-0.11***	-0.34***	-0.07***
Number of observations	1472	1472	1472	1264
Adjusted R^2	0.3148	0.4742	0.7977	0.6031
F-statistic	136.18***	266.38***	1161.09***	480.69***

Notes: 1. Coefficients were computed using Pearson's correlation
**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*
*2. *** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*
a These variables were omitted because of collinearity

Table 4.8. IV-regressions

IV- regression coefficients[1]	*Hypothesis 1a*	*Hypothesis 1b*	*Hypothesis 1c*	*Hypothesis 2*
property protection	-0.86*	-	-	-
public corruption	-	-1.24**	-	-
entrepreneurship gender index	-	-	-0.62	-
visit	-	-	-	-0.02
control variables	yes	yes	yes	yes
Number of observations	932	932	932	716
Wald chi2 statistic	757.68***	644.43***	128.31***	4435.06***
C-statistic	0.8955	0.9081	0.8977	0.8846
% Correctly Classified	87.88%	89.48%	86.37%	91.76%
Wald test of exogeneity[2](statistic)	1	0.25	0.13	3.34*
Overidentification test[3] (p-value)	0.6971 / 0.4848	0.1753 / 0.7555	0.6042 / 0.0475**	0.4397 / 0.7961

Notes: 1 Dependent variable for all regressions is discouraged. For hypotheses 1a, 1b and 1c, the independent variables (property protection, public corruption, entrepreneurship gender index) are instrumented by logem4, euro1900, cons00a, cons1, and democ1. The instrument democ00a is not included due to collinearity. For hypothesis 2, the independent variable (visit) is instrumented by logem4, euro1900 and democ1. The instruments cons00a, cons1, and democ00a are not included due to collinearity.
**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*
2 The Wald test of exogeneity has the following H0 hypothesis: The independent variables included in the model are exogenous.
3 The overidentification test has the following H0 hypothesis: The instruments are uncorrelated with the error term. Due to the high levels of correlation between the instruments we had to separate the instruments into two groups to perform the overidentification test. We display both p-values. Overidentification tests were performed after regressions with non-clustered error terms.

4.4.4. Robustness checks

Institutions are unwritten rules which determine behavior (North, 1990), they can be difficult to capture. Hence, a concern with any study focusing on institutions is identifying the best possible measures of the institutional framework. We therefore test the robustness of our results by using alternative measures for the incidence of corruption, regulatory, and normative institutions as well as gender equality in those institutions.

Our alternative proxies for public corruption are *bribe,* which captures the incidence of bribery in the public sector, and *corruption obstacle*, a dummy variable equal to 1 when the respondent feels like corruption is a severe obstacle to the business. The alternative proxies for regulatory institutions are *court*, which measures the performance of the court system when resolving business disputes, and *regulatory*, a general rating of the business regulatory environment. The variable *equal property* is used as an alternative proxy for the measure of gender equality in regulations. It is a dummy variable equal to 1 if married women and men have equal rights to property. Finally, alternative proxies for gender equality in normative institutions are *purchase*: the percentage of women who participate in major household purchase decisions; and *beat*: the percentage of women who believe a husband is allowed to beat his wife if she goes out without permission. The final two variables are not available for 2006. Hence we use the 2010-2012 waves of the Gender Statistics.

The results of our robustness check are displayed in Table 4.A.2. in appendix. The results are similar to those of our main analyses. All coefficients retain their expected sign although some lose their significance. We no longer find a significant effect of regulatory institutions and corruption on discouragement. The quality of our models is good with an adjusted R^2 which remains above 0.30 and more than 84% of observations are correctly classified in every model.

Another issue is the possibility that institutions change throughout time. Consequently we re-estimate our models using more recent data. There is no recent data available of all 18 countries included in the main analyses. Consequently, in this robustness check we only include data from the following 10 countries: Ethiopia, Burundi, Guinea, Uganda, Tanzania, Cameroon, Kenya, Mauritania, Namibia, and Nigeria. Furthermore, the recent data does not date back to the same year. Depending on the country, the data was collected between 2013 and 2016. We control for this in our regression models. The results of this second robustness check are displayed in Table 4.A.3 in appendix. Our results are largely comparable to those of the main analysis. The coefficient of our proxy for regulatory institutions, *property protection,* loses its sign and significance. Surprisingly, the sign of the coefficient of the variable *entrepreneurship gender index,* our measure of gender equality in regulations, is reversed (*1.15****). This would suggest that a higher degree of gender-equality in regulations is associated with a higher incidence of discouragement. This contrasts the findings of our main analysis as well as the first robustness check. However it is important to note that due to the limited number of countries included in this dataset the variable *entrepreneurship index* only has two possible values and consequently might not be very reliable in this analysis. The quality of our regressions is good, adjusted R^2 is at least 0.38 and at least 92% of observations are correctly classified in all regressions.

To summarize, the results of both robustness checks provide reasonable support for our hypotheses that well-developed regulatory and normative institutions as well as gender-equality in the institutions could alleviate borrower discouragement.

4.5. Conclusions and discussion

Recently, an increasing number of studies in finance focus on discouraged borrowers. These are entrepreneurs or businesses in need of extra financing but who do not apply for (formal) loans because they expect to be rejected. Until now, most studies attempt to uncover the firm-level and entrepreneurial-level determinants of discouragement. However, like any element of corporate strategy, financing decisions are influenced by the institutional environment (North, 1990; Peng, 2002). We contribute to the literature by exploring the impact of regulatory and normative institutions on borrower discouragement.

Our main finding is that more developed regulatory and normative institutions in general are associated with less discouragement. More specifically we identify four different institutional factors which influence the probability that an entrepreneur is discouraged. The first one is the adequate protection of property and contract rights. When loan contracts are easily enforced, credit providers are confident in their ability to recover defaulted loans. As a result, loan officers are less risk-averse and more flexible when assessing potential borrowers (Gama, Duarte & Esperança, 2017). We suspect that potential borrowers are aware of this, and as a result, are less likely to fear the rejection of their loan application.

Secondly, we find a positive correlation between the incidence of corruption in the public sector and discouragement. Corruption puts pressure on business profits. Entrepreneurs know that if they make little profit they are more likely to be rejected by credit providers. Furthermore, in the case of corrupt loan officers, your chances of securing a loan may depend on personal connections with loan officers as well as on your ability to pay bribes (Naegels, Mori & D'Espallier, 2020; Amine & Staub, 2009). This causes discouragement among entrepreneurs who cannot afford, or are unwilling to pay bribes.

Thirdly, we find that discouragement is less prevalent in countries with a high level of gender equality in regulations. When women have less rights to property compared to men it is hard for them to use assets as collateral. Since collateral is necessary to access loans, female entrepreneurs who do not own sufficient assets are easily discouraged from applying (Naegels, Mori & D'Espallier, 2020). Furthermore, sometimes women require their husband's signature in order to apply for a loan (World Bank, 2010). Female entrepreneurs who know their husband will not grant their permission are discouraged.

Fourthly, data shows that discouragement is less prevalent in countries with a high level of gender equality in normative institutions. Gender discriminatory cultural practices put pressure on the profitability of female-owned businesses, restrict women's access to collateral, and give rise to discriminatory practices by loan officers. As a result, female entrepreneurs do not apply for loans because they expect to be rejected (Amine & Staub, 2009; Agier & Szafarz, 2013; Brown et al., 2011).

Our findings indicate that any model which explains the probability of discouragement only as a function of business-level and entrepreneurial-level characteristics, without taking into account the institutional framework, is likely biased. These models falsely attribute differences in the likelihood of discouragement between entrepreneurs to the industry or the legal status when they are actually driven by differences in the institutional context. Furthermore, the quality of our regression models increases substantially with the inclusion of institutional variables. For our model without institutional variables the McFadden R^2 is equal to 0.35, when we include institutional variables it increases to on average 0.38. This signifies that the extended model explains a larger proportion of the variability in discouragement. Our extended model also has a better discriminatory ability. The proportion of correctly classified observations increases from 83% to 87% when we incorporate institutional variables. The c-statistic increases from 0.88 to 0.90. Finally, the fit of our model significantly improves upon inclusion of the institutional variables. The Akaike Information Criterion decreases from 708.4164 to on average 564.4772. The Bayesian Information Criterion decreases from 789,1488 to 630,0280.

Discouragement is a substantial problem in SSA with the potential to severely curb business and economic growth. Consequently, it is important that policy makers and credit providers take measures to reduce discouragement. This study demonstrates that investing in a more effective institutional framework pays off because it reduces the likelihood of discouragement. Tackling corruption seems to be an especially effective strategy. Our data shows that reducing the incidence of corruption could potentially reduce the probability of discouragement for an average entrepreneur by 80%. Enforcing property and contracts rights could also lead to a sizeable reduction of discouragement by about 60%. Our results highlight the importance of gender equality in regulations and cultural practices. Interestingly we note that gender-equality is associated with less discouragement for both majority male and female-owned businesses. This suggests that more gender-equality can benefit both male and female entrepreneurs.

This paper tries to explore the effect of institutions on discouragement. We use data from the World Bank Enterprise Surveys which stems exclusively from businesses in the largest city of each country. Consequently, our results might not be generalizable to entire countries. Due to data limitations our indicators capture only part of the institutional framework. Future research could look into other institutional factors which conceivably also affect the likelihood of discouragement. For example, Chui, Lloyd and Kwok (2002) state that the values and standards one has to adhere to in certain cultures such as solidarity versus individualism determine the amount of debt held by businesses. Kon and Storey (2003) state that the incidence of discouragement depends on the availability and cost of alternative financing sources. Consequently, discouragement could also be affected by the rate of development of the financial markets (Peng, 2002). Similarly, whether a financial system is bank or market-oriented could make a difference (Öztekin & Flannery, 2012).

One of the main topics in the literature is the relationship between credit risk and discouragement. Most studies find that a proportion of discouraged borrowers would be rejected if they applied for a loan because of their high credit risk. These businesses should not be stimulated to apply because funds can be more efficiently allocated to others (Han, Fraser & Storey, 2009; Mol-Gómez-Vázquez, Hernández-Cánovas & Köeter-Kant, 2019; Rostamkalaei, NItani & Riding, 2018). Unfortunately we do not possess any information about the credit risk of the businesses in our database. Consequently we are unable to distinguish between high and low risk discouraged borrowers. Future research could look into how credit risk moderates the effect of institutions on discouragement. Finally, this paper investigates the impact of gender inequality in institutions on discouragement. We study the effect of gendered normative institutions separately from the effect of gendered regulatory institutions. It could be interesting to investigate how these interact to jointly affect discouragement.

4.6. Appendix

Table 4.A.1. Overview of variables used

Indicator	*Description*	*Level of the variable*	*Database*
Dependent variable: discouragement	Dependent variable, dummy. Equal to 1 if the respondent did not apply for a loan or a line of credit from a formal financial institution in 2005 because he did not think it would be approved. Equal to 0 if the respondent did apply.	business	Enterprise surveys
Hypothesis 1a	*Description*	*Level of the variable*	*Database*
Main indicator: court	Ordinal variable ranging from 0 to 4. Respondents were asked whether they agree that the court system is (1) fair, impartial and uncorrupted, (2) quick, (3) affordable, (4) able to enforce its decisions when resolving business disputes. For each statement the respondent agrees with, court increases with 1.	business	Enterprise surveys
regulatory	Ordinal variable ranging from 1 to 6. CPIA business regulatory environment rating assesses the extent to which the legal, regulatory, and policy environments help or hinder private businesses in investing, creating jobs, and becoming more productive.	country	Country Policy and Institutional Assessment
property protection	Ordinal variable ranging from 1 to 6. CPIA property rights & rule based governance rating assesses the extent to which private economic activity is facilitated by an effective legal system and rule-based governance structure in which property and contract rights are reliably respected and enforced.	country	Country Policy and Institutional Assessment
Hypothesis 1b	*Description*	*Level of the variable*	*Database*
Main indicator: public corruption	Ordinal variable ranging from 1 to 6. CPIA transparency, accountability, and corruption in the public sector rating assesses the extent to which the executive is accountable for its use of funds and the results of its actions by the electorate and by the legislature and judiciary, and the extent to which public employees within the executive are required to account for administrative decisions, use of resources, and results obtained.	country	Country Policy and Institutional Assessment
bribe	Dummy variable equal to 1 if the respondent agrees that it is common for a business in this sector to pay informal payments or gifts to get things done w.r.t. customs, taxes, licenses, regulations, etc.	business	Enterprise surveys
corruption obstacle	Dummy variable equal to 1 if the respondent feels like corruption is a major or severe obstacle to the operations and growth of the business.	business	Enterprise surveys

Appendix

Hypothesis 1c	*Description*	*Level of the variable*	*Database*
Main indicator: entrepreneurship gender index	Ordinal variable ranging from 0 to 4. It measures the degree of gender equality in regulations w.r.t. entrepreneurship. It is a composite of the following four questions: (1) Can a woman sign a contract in the same way as a man?; (2) Can a woman register a business in the same way as a man?; (3) Can a woman open a bank account in the same way as a man?; and (4) Does the law prohibit discrimination in access to credit based on gender?. For each question answered with "yes" the index increases with 1.	country	Women, Business and the Law
equal property	Dummy variable equal to 1 if married men and women have equal ownership rights to property	country	Gender Statistics

Hypothesis 2a	*Description*	*Level of the variable*	*Database*
Main indicator: visit	Data from 2010-2012 depending on when the survey was executed in each country. Quantitative variable equal to the percentage of women between 15 and 49 who participates in the decision of visits to family, relatives or friends.	country	Gender Statistics
purchase	Data from 2010-2012 depending on when the survey was executed in each country. Quantitative variable equal to the percentage of women between 15 and 49 who participates in major household purchase decisions.	country	Gender Statistics
beat	Data from 2010-2012 depending on when the survey was executed in each country. Quantitative variable equal to the percentage of women between 15 and 49 who believe a husband is justified in beating his wife when she goes out without telling him.	country	Gender Statistics

Control variables	*Description*	*Level of the variable*	*Database*
age	Quantitative variables measuring age of the firm in 2006 in years.	business	Enterprise surveys
female	Dummy variable equal to 1 if at least one of the main owners is female.	business	Enterprise surveys
education	Nominal variable measuring the education level of the top manager. Equal to 1 if this is less than secondary, equal to 2 for secondary, equal to 3 for vocational, equal to 4 if he/she has attended some university, equal to 5 if he/she has a graduate degree, and equal to 6 in case of a postgraduate degree.	business	Enterprise surveys
experience	Quantitative variable measuring how many years of management experience the top manager has in this sector.	business	Enterprise surveys
industry	Nominal variable equal to 0 for manufacturing, equal to 1 for retail, equal to 2 for other industries.	business	Enterprise surveys
legal status	Nominal variable equal to 0 for sole-proprietorships, equal to 1 for partnerships and equal to 2 for publicly listed and privately owned limited liability companies.	business	Enterprise surveys

private	Quantitative variable measuring what percentage of the business is privately owned.	business	Enterprise surveys
export	Quantitative variable measuring what percentage of the sales is exported.	business	Enterprise surveys
auditor	Dummy variable equal to 1 if the financial statements were checked and certified by an external auditor in 2005	business	Enterprise surveys
loan	Dummy variable equal to 1 if the business holds a line of credit or loan.	business	Enterprise surveys
financing need	Quantitative variable measuring what percentage of short term finance originated from internal funds/retained earnings in 2005.	business	Enterprise surveys
finance obstacle	Dummy variable equal to 1 if the respondent feels like the availability and/or the cost of finance is a major or severe obstacle to the operations and growth of the business.	business	Enterprise surveys
gdp	Quantitative variable measuring GDP per capita in 2010 dollars averaged from 2001 to 2007. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	country	World Development Indicators
credit registry	A quantitative variable measuring the percentage of businesses and adults who are registered with a public credit registry.	country	Doing Business
Instrumental variables	*Description*	*Level of the variable*	*Database*
mortality	Natural logarithm of colonial settler mortality.	country	Acemoglu, Johnson & Robinson (2001)
settlement	Fraction of the population which was of European descent in 1900.	country	
executive1900	Ordinal variable capturing constraints on the executive in 1900.	country	
executive1	Ordinal variable capturing constraints on the execute one year after independence of the colony.	country	
democracy1900	Ordinal variable capturing the degree of democracy in 1900.	country	
democracy1	Ordinal variable capturing the degree of democracy one year after independence of the colony.	country	

Table 4.A.2: Robustness checks alternative indicators institutions

Probit regression coefficients[1]	*Hypothesis 1a: court*	*Hypothesis 1a: regulatory*	*Hypothesis 1b: bribe*	*Hypothesis 1b: corruption obstacle*	*Hypothesis 1c: equal property*	*Hypothesis 2: purchase*	*Hypothesis 2: beat*
court	-0.01	-	-	-	-	-	-
regulatory	-	-0.26	-	-	-	-	-
bribe	-	-	-0.12	-	-	-	-
corruption obstacle	-	-	-	-0.02	-	-	-
equal property	-	-	-	-	-0.86***	-	-
purchase	-	-	-	-	-	-0.01	-
beat	-	-	-	-	-	-	0.01***
control variables	yes	yes	yes	yes	yes	yes	yes
Number of observations	1100	1043	1124	1143	1001	866	866
McFadden Pseudo R^2	0.3514	0.3542	0.3396	0.3338	0.3680	0.3041	0.3117
C-statistic	0.8889	0.8896	0.8853	0.8825	0.8994	0.8805	0.8819
% Correctly Classified	85.36%	85.52%	84.70%	85.13%	89.11%	91.11%	91.80%
AIC[2]	665.8205	637.3964	693.7194	706.2883	547.4006	369.8161	365.9622
BIC[3]	745.8695	706.6944	774.1137	786.9505	606.3056	412.691	408.8371

Notes: 1. Dependent variable for all regressions is discouraged

Standard errors are clustered at country level. Consequently the chi2 statistic cannot be computed due to a lack of degrees of freedom. When standard errors are not clustered, chi2 statistic demonstrates that all coefficients are not simultaneously equal to 0.

**** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*

2: Akaike Information Criterion

3: Bayesian Information Criterion

Table 4.A.3. Robustness checks alternative year[1]

Panel A: Probit regression coefficients[2]	*(1) Hypothesis 1a*	*(2) Hypothesis 1b*	*(3) Hypothesis 1c*	*(4) Hypothesis 2*
property protection	0.62	-	-	-
public corruption	-	-1.03***	-	-
entrepreneurship gender index	-	-	1.15***	-
visit	-	-	-	-0.02**
control variables[3]	yes	yes	yes	yes
control for year	yes	yes	yes	yes
Number of observations	466	466	522	428
McFadden Pseudo R^2	0.3937	0.4201	0.3869	0.4334
C-statistic	0.9090	0.9195	0.9058	0.9223
% Correctly Classified	92.70%	92.70%	92.34%	94.63%
AIC	184.3018	176.9874	207.9711	140.935
BIC	217.4553	210.1408	250.5478	165.2782

Notes: 1. Data originates from 2013, 2014, 2015, or 2016 depending on when the survey was executed in the respective countries.

2. Dependent variable for all regressions is discouraged

Standard errors are clustered at country level. Consequently the chi2 statistic cannot be computed due to a lack of degrees of freedom.

When standard errors are not clustered, chi2 statistic demonstrates that all coefficients are not simultaneously equal to 0.

***** Statistically significant at the 0.01 level; ** Statistically significant at the 0.05 level; * Statistically significant at the 0.10 level*

3. The definition of some control variables differs from the main analysis: The variable female is measured as dummy, 0 meaning there are no female owners and 1 meaning there is at least one female owner. The variable perception of finance as an obstacle to the business ranges from 1 to 5. 1 means access to finance is not an obstacle, 2 means it is a minor obstacle, 3 means it is a moderate obstacle, 4 means it is a major obstacle, and 5 means it is a very severe obstacle. The variable education is not available is this dataset and is hence not included.

General conclusion

The eighth sustainable development goal calls for decent work and economic growth for all[1]. Entrepreneurship is often considered the engine of economic growth in emerging economies (Sarkar, 2018). Nevertheless, the growth of many small businesses, especially those owned by women, is impeded by a lack of external financing (Stevenson & St-Onge, 2005a; Orser, Riding & Manley, 2006). In order to harness the full potential of female entrepreneurship it is imperative that both academics and policymakers attempt to alleviate financial barriers (Shah & Saurabh, 2015). Following the growing attention of policy makers for financial inclusion, the supply of finance has increased in recent years, mainly through an expansion of the microfinance industry (McIntosh & Wydick, 2005). Despite the abundance of organizations which offer microloans as well as bank loans, the use of such loans by female entrepreneurs in emerging economies remains low (Beck et al., 2006; IFC, 2011). This suggests that a lack of demand for formal loans, rather than a lack of supply, could be to blame.

The literature shows that various entrepreneurial and business characteristics have an important influence on whether entrepreneurs apply for a loan and whether their applications are successful. WOEs are less likely to apply for formal loans as well as less likely to be accepted (Hansen & Rand, 2013; Alesina, Lotti & Mistrulli, 2013; Chakravarty & Xiang, 2013; Gama, Duarte & Esperança, 2017). The same goes for smaller businesses, businesses active in less profitable sectors, less educated entrepreneurs, and younger entrepreneurs (Aga & Reilly, 2011; Agier & Szafarz, 2013; Aterido, Beck & Iacovone, 2013; Coleman, 2000; Hansen & Rand, 2014). Yet, entrepreneurs do not function independently from their environment. Institutions determine the opportunities and constraints faced by entrepreneurs and determine the available strategies and resources (Scott, 2001). In emerging economies, the institutional framework is often underdeveloped, consequently entrepreneurs use networking to fill the voids left by ineffective formal institutions (Smallbone & Welter, 2001). Consequently, it is important to study access to finance from the perspective of both institutional theory as well as networking theory.

[1] https://sustainabledevelopment.un.org/sdg8 Accessed on 25/05/2020

Most previous studies use the economic theory of rationality to explain an entrepreneur's choice of whether or not to apply for a loan (Mindra & Moya, 2017). This is typically described as a rational process in which entrepreneurs weigh the advantages of borrowing, such as the relationship that develops with credit providers, against the disadvantages, such as proprietary information that needs to be shared (Cosh, Cumming & Hughes, 2009; Gwatidzo & Ojah, 2014). On the other hand, behavioral finance research demonstrates that entrepreneurs are not fully rational. Entrepreneurial cognition and perceptions play an important role in determining the financing mix. If entrepreneurs perceive that the supply of loans does not satisfy their needs, they might be discouraged from applying (Fraser, Bhaumik, & Wright, 2015; Mindra & Moya, 2017). Hence, it makes sense to take into account entrepreneurs' perceptions when studying financing decisions.

This thesis aims to contribute to the literature by elaborating on the different dimensions of access to, and use of formal debt by female entrepreneurs in emerging economies. Chapters 1 and 4 focus on the role of the institutional framework. Chapters 3 and 4 focus on the phenomenon of borrower discouragement. Chapters 1, 2, and 3 take into account the effects of networking, and all chapters incorporate the role of perceptions. In what follows, I summarize the key findings of each chapter and establish how they contribute to the literature. I subsequently present some overarching policy recommendations as well as suggestions for future research.

1. Main findings and contributions to theory

Chapter 1 provides an overview of the different problems female entrepreneurs face with respect to their financing mix. In addition, we investigate the impact of the institutional framework on these problems. We find that female entrepreneurs mainly rely on personal funds as well as informal external financing, such as loans from family and friends or informal savings, to start their businesses. The use of formal external financing sources increases slightly as businesses grow. Yet, even during the growth stage of their business, less than 25% of female entrepreneurs use bank loans, and less than 20% use microfinance loans. This corroborates with previous research; the reliance of female entrepreneurs on external funding (Watson, 2006) and formal financial services is limited (Aterido, Beck &

Iacovone; 2013). Female entrepreneurs also complain about unattractive borrowing terms: 85% of respondents mention that interest rates are too high, 83% complain about high collateral requirements, and 71% criticize the need for a personal guarantee. This confirms results of prior studies which find that female entrepreneurs in emerging economies across the world experience similar problems when borrowing from banks and MFIs (Narayan, Pritchett, & Kapoor, 2009; Alakaleek & Cooper, 2018; Hallward-Driemeier, 2013). Using logistic regressions, we investigate which WOEs are most sensitive to issues with borrowing terms. Results show that businesses in the trade sector as well as formalized businesses are most likely to complain about collateral requirements, interest rates, and personal guarantee requirements. Furthermore, unmarried owners as well as female entrepreneurs who network with other female entrepreneurs, suffer more from high collateral requirements. Finally, education appears to alleviate problems for formal businesses and sole proprietorships.

Respondents hold negative perceptions of normative institutions. While getting support from family and friends is seemingly not an issue when starting a business; 30% of female entrepreneurs state that they lose this support when their business starts growing. Additionally, the majority of respondents believe that access to credit is not women-friendly and that loan officers do not take women seriously. Existing research suggests that the respondents' perceptions may be grounded in reality. Marlow and Patton (2005), as well as Eddleston et al. (2016), show that the entrepreneurial financial system is male-oriented which causes loan officers to negatively evaluate female entrepreneurship. According to Marlow and Patton (2005) this results in gender discrimination with female entrepreneurs facing worse borrowing conditions than male entrepreneurs. Cognitive institutions are also considered unfavorable: 91% of respondents argue that they need more skills to be successful entrepreneurs. Female entrepreneurs state that they lack knowledge concerning new markets, IT, business development services, business regulations, and financing sources. Low levels of financial and entrepreneurial self-efficacy (i.e. the assessment of one's own financial and business management capabilities) result in a lack of self-confidence among female entrepreneurs. This could stop some from applying for external financing (Mindra & Moya, 2017; Farrell, Fry & Risse, 2016). Furthermore, studies show that the entrepreneurs' negative perceptions of their financing and business knowledge are shared by finance providers (Jagero & Kushoka, 2011). There is some evidence that this results in tighter credit availability for women (Bellucci, Borisov & Zazzaro, 2010; Agier & Szafarz, 2013).

This study contributes to institutional theory by indicating that entrepreneurs' perceptions of the institutional environment shape their financial decision-making. Our data suggests that negative perceptions of cognitive and institutional perceptions could discourage entrepreneurs from applying for bank and microfinance loans. Furthermore, our findings suggest that the unique institutional climate present in emerging economies influences the entrepreneur's choice of financing sources. Institutional deficiencies cause uncertainty and high operating costs. Consequently, in many emerging economies, informal institutions such as networks and personal trust, often complement and/or substitute formal institutions (Ahlstrom & Bruton, 2006; Smallbone & Welter, 2001; Breza, 2016). This is clearly reflected in our data: respondents are more likely to turn to informal financing sources originating from within their personal network.

Chapter 2 focuses on one of the main problems female entrepreneurs face, namely high collateral requirements. It describes how networking affects perceived problems with collateral. We focus on collateral requirements since they are often used by credit providers to reduce information asymmetry and moral hazard (Besanko & Thakor, 1987; Bester, 1987; Stiglitz & Weiss, 1981). This is especially relevant in emerging economies where institutional deficiencies lead to high levels of information asymmetry (Smallbone & Welter, 2001). On the one hand collateral facilitates access to loans for small WOEs without an established credit history or extensive financial accounts. On the other hand it restricts access to loans to borrowers who own sufficient assets. This contradicts the principle of financial inclusion since capital should be allocated to entrepreneurs with positive net present value projects, irrespective of the assets they own (Beck & Demirgüç-Kunt, 2008). Many female entrepreneurs in emerging economies are unable to satisfy collateral requirements. This is often linked to discriminatory institutional practices which prevent women from claiming ownership of land or using their marital home as collateral (Amine & Staub, 2009; Fletschner, 2009; Mori, 2014). Our data shows that entrepreneurs rely more on informal than on formal networking. Respectively 68% and 30% of respondents engage in these two types of networking. This is to be expected based on prior research which states that informal institutions in emerging economies offer more flexibility and are more effective to facilitate access to resources than formal institutions (International Labor Organization ILO, 2003; Breza, 2016; Dutta, Kar & Roy, 2013; Smallbone & Welter, 2001). We find that the effect of networking on problems with collateral depends on the type. Informal networking reduces the likelihood that an entrepreneur perceives problems with collateral whereas formal networking increases the likelihood of collateral problems.

It is difficult to establish exactly what causes these opposing effects. The positive correlation between formal networking and perceived collateral issues could be explained by unfulfilled expectations. Research by Richardson, Howarth, and Finnegan (2005) suggests that entrepreneurs believe formal networks and business development programs do not facilitate access to finance or other business resources. This is supported by our data; more than half of respondents argue that women's business associations and groups do not offer them a lot of assistance. Furthermore, nearly half of respondents mention that business and industry associations do not advocate policies to better fulfil the needs of female entrepreneurs. If entrepreneurs engage in business support programs expecting it to ease access to loans and reduce collateral requirements, they might end up disappointed and report more problems. The negative correlation between informal networking and perceived collateral issues could be related to the information shared in informal settings. Research shows that female entrepreneurs use their personal network as a source of information on how and where to access finance under the most favorable conditions (Hoang & Antoncic, 2003; Stevenson & St-Onge, 2005a). Our interview data suggests that, through their personal network, respondents are exposed to stories of other entrepreneurs who do not own sufficient collateral, but are able to secure loans by bribing loan officers. This enables respondents to access loans without having to supply collateral which could lead to less perceived problems. The chances of this type of information being exchanged in formal settings such as business development support programs is probably smaller, especially since the Tanzanian government is currently taking measures to reduce corruption in the private and public sector (Paget, 2017).

We contribute to networking theory by showing that entrepreneurs' perceptions of collateral requirements are affected by interactions with members of their personal network. Networking has the potential to alleviate as well as aggravate perceived collateral issues, depending on the setting in which this networking takes place. This is an example of the phenomenon of social influence described in the literature. People's perceptions are shaped by the beliefs, values and norms of those they trust or consider to be knowledgeable (Ajzen & Fishbein, 1980; Latané, 1981). However, our results suggest that networking potentially biases entrepreneurs' perceptions. We find that once entrepreneurs come into contact with formal loans, they report fewer problems with collateral. If we assume that entrepreneurs who have prior experience with formal loans are less susceptible to social influence this finding could suggest that networking, especially in a formal way, leads to an overestimation of problems with collateral. This corresponds to the persuasion bias mentioned by DeMarzo, Vayanos, and Zwiebel (2003) as well as Brandts, Giritligil, and Weber (2015). The authors demonstrate that the beliefs of well-connected network members (i.e. members who have many direct links with other members) have a larger impact on the opinion of individual members. Additionally, research on herding demonstrates that individuals imitate the behavior of others even when it is based on false information (Bekiros et al., 2018; Muchnik, Aral, & Taylor, 2013).

Chapter 3 explores the process through which female entrepreneurs become discouraged. We provide an overview of the entrepreneurs' perceptions towards formal loans, investigate where their perceptions originate from, and describe how their perceptions cause discouragement. The entrepreneurs' negative perceptions can be divided into four main categories. First, almost all informants criticize the unattractive borrowing terms related to formal loans. High interest rates and collateral requirements seem to be two of the most pressing issues. Application procedures are also considered too lengthy and expensive. Second, many informants are concerned about the risks involved in borrowing, such as facing an increase in the interest rate in case of payment arrears, or losing their collateral. Third, discouraged borrowers denounce inappropriate behavior by loan officers. Some require bribes to speed up the application process or bend requirements. The highly educated informants mention that loan officers exploit less educated entrepreneurs' lack of financial literacy. They visit them at home or in their business to convince them to take out a loan. Finally, informants complain about the unfavorable business environment. They claim that the recent economic downturn curbs business growth and limits their ability to reimburse loans. They also state that inefficient regulatory institutions and lack of law enforcement is to blame for the illicit actions of both loan officers and borrowers.

The entrepreneurs' perceptions arise from their personal experiences as well as from stories they hear from others. Personal experiences fall in one of two categories: previous loan applications, or previous job experiences. Some entrepreneurs applied for a loan in the past and were rejected, others were unable to pay back loans and had their collateral seized. A few informants used to work as lawyers or business consultants. During this time, they experienced issues such as corruption among loan officers or the misuse of loans by borrowers. Stories passed on in communities most often relate to other entrepreneurs' negative experiences with both formal and informal loans. Some of our informants also shared stories they heard from friends who work in banks or microfinance institutions. These stories offer them a unique insight in the supply side of loans. We find that informants do not attach equal importance to all stories and experiences. The influence of a specific experience on their perceptions is limited when it is no longer relevant to their current situation. Similarly, informants do not attach a lot of importance to stories which they doubt to be true or which do not apply to their personal situation.

Negative perceptions towards loans lead to a negative attitude towards loans in general. Many entrepreneurs believe borrowing constrains their freedom to run their business as they see fit. Others feel like loans are risky or stressful. As a result of their negative attitude, most informants do not intend to apply for bank or microfinance loans. The entrepreneurs' intention to apply for loans is further reduced by the social norms they are subjected to. Many informants told us that their husbands do not approve of them using their house as collateral. Furthermore, borrowing is sometimes frowned upon in their community. Despite their negative attitude towards formals loans, some informants state they might apply sometime in the future due to an urgent need for financing as well as a lack of suitable alternatives.

We contribute to the emergent literature on demand-side issues, such as discouragement, which are responsible for the limited use of formal loans by female entrepreneurs. Existing studies on discouragement mainly focus on developed economies (Cole & Sokolyk, 2016; Xiang, Worthington & Higgs, 2015). However, discouraged borrowers are more prevalent in emerging economies due to the severity of the asymmetric information between borrowers and lenders (Kon & Storey, 2003). Furthermore, prior research concentrates on uncovering which business, entrepreneurial and environmental characteristics affect the probability of discouragement (Rostamkalaei, Nitani & Riding, 2020). This enables them to identify which entrepreneurs and businesses are most likely to be discouraged. Much less is known about how and why they become discouraged. To our knowledge, our study is the first to build a theoretic framework of the process through which entrepreneurs become discouraged

Chapter 4 takes a step back and investigates discouragement in a wider context. It links back to chapter 1 by exploring how the institutional environment affects discouragement. We identify four institutional factors which influence the probability that a business is discouraged. First, well-protected property & contract rights enable credit providers to recover defaulted loans, which avoids overly strict loan requirements (Gama, Duarte & Esperança, 2017). As a result, entrepreneurs are less likely to fear rejection and less likely to be discouraged. Second, a high incidence of corruption is associated with a high probability of discouragement. Corruption puts pressure on business profits and leads to nepotism among loan officers (Amine & Staub, 2009). This causes discouragement among entrepreneurs who cannot afford bribes. Third, gender-equal regulations ensure that women are able to sign loan contracts in their own name and supply collateral for their loans (World Bank, 2010). Finally, gender discriminatory cultural practices cause loan officers to be prejudiced against women (Agier & Szafarz, 2013; Brown et al., 2011). Female entrepreneurs might be discouraged from applying if they expect to be treated unfairly.

We contribute to the literature by demonstrating that existing research which describes the probability of discouragement only as a function of business-level and entrepreneurial-level characteristics, without taking into account the effect of institutional variables (Mac an Bhaird, Vidal & Lucey, 2016; Mol-Gómez-Vázquez, Hernández-Cánovas & Köeter-Kant, 2019; Gama, Duarte & Esperança, 2017; Brown et al, 2011), is sensitive to an omitted variable bias.

These studies attribute differences in the likelihood of discouragement between businesses to the industry or the legal status. However, these differences are actually driven by variations in the institutional context. Once we include institutional variables, the quality of our models, captured by R^2, the c-statistic, the percentage of correctly classified observations, and the Bayesian Information Criterion, vastly improves.

2. Policy recommendations

Stimulating entrepreneurship and promoting gender-equality in emerging economies is a priority for many policymakers and organizations, such as the World Bank. Many countries have taken measures in recent years to ensure that both male- and female-owned businesses have easier access to financing. In 2003 the Ministry of Industry and Trade in Tanzania released its SME Development Policy. One of the major objectives of this program is promoting access to finance for SMEs, with a special focus on WOEs (Stevenson & St-Onge, 2005a). A number of business associations and business incubators were founded specifically for women (UNIDO, 2012). Other countries in SSA have taken similar measures. For example Kenya founded the Women Enterprise Fund in 2007 to help develop and finance female entrepreneurship (Kiraka, Kobia, & Katwalo, 2013). The Federal SME Development Agency in Ethiopia provides business development support services to women to teach them how to apply for loans (Stevenson & St-Onge, 2005b). Credit providers have also taken a special interest in WOEs. MFIs sometimes prefer female over male borrowers since they are considered to be better credit risks (D'Espallier, Guérin, & Mersland, 2011). This has led to the emergence of special women' banks and MFIs which only cater to female clients (Mori, 2014; Stevenson & St Onge, 2005b).

The ongoing observation that female entrepreneurs rely so little on formal loans indicates that current policies and measures might not be very effective. This could be the result of a one-sided focus on the supply side constraints of access to finance. This thesis demonstrates that the low use of formal loans by female entrepreneurs mainly stems from demand-side constraints. More specifically, our results point towards the powerful impact of the entrepreneurs' perceptions, which potentially lead to discouragement and stop entrepreneurs from applying for formal loans. Consequently, any policy seeking to alleviate financial barriers for entrepreneurs should depart from these perceptions and demand-side constraints.

Based on the findings of this thesis, we formulate the following policy recommendations. First, entrepreneurs perceive that the current design of formal loans does not satisfy their needs. This coincides with findings by Labie, Laureti, and Szafarz (2017) who report that microfinance products are inappropriately designed and lack flexibility. We suggest setting up communication channels between credit providers and potential borrowers in order to align the demand for, and supply of, formal loans. This would provide entrepreneurs with the opportunity to outline their needs for financing, and would allow banks and MFIs to present their products.

Second, our respondents mention that loan officers are not always upfront when meeting with clients and arranging loan contracts. They believe borrowers are insufficiently aware of their rights and obligations. This could be alleviated by designing standardized documents with transparent information concerning application, allocation and reimbursement procedures. This information should be accessible and easy to understand for less educated entrepreneurs. Related to this, we argue in favor of educating entrepreneurs about application procedures, loan requirements and how to use loans to make a profit since entrepreneurs indicate that they lack knowledge in this regard.

Third, respondents denounce the unattractive business environment which puts pressure on business profits and inhibits their ability to reimburse loans. Our results highlight the importance of investing in the development of a country's institutional framework. We find that reducing corruption in the public sector, as well as ensuring an adequate protection of property and contract rights, are the most effective strategies to alleviate discouragement. Respondents perceive that access to finance is not women-friendly and that loan officers are prejudiced against female entrepreneurs. We contend that measures should be taken to ensure that both regulatory and normative institutions are gender-equal. Once the societal view of women as successful entrepreneurs becomes mainstream, loan officers might behave differently.

Finally, the results of this thesis show that stories entrepreneurs hear from members of their network potentially bias their perceptions and aggravate discouragement. We suggest setting up an environment where entrepreneurs who use formal loans to grow their business share their success stories with discouraged borrowers. These positive stories might help to counter the effect of the negative stories entrepreneurs are exposed to through their network, and stimulate them to apply for loans in the future.

3. Limitations and suggestions for future research

Following the advice of the evaluation committee we would like to draw attention to the following issues. First, the sample used in the first three chapters of the thesis consists only of WOEs. This choice is motivated by the fact that women tend to be more disadvantaged by institutional voids compared to men (Amine & Staub, 2009). Furthermore, prior research shows that WOEs are more likely to be financially constrained than male-owned enterprises, in emerging economies (Stevenson & St-Onge, 2005a; Aterido, Beck & Iacovone, 2013). Consequently, if we would have asked similar questions to male entrepreneurs we do not expect they would have the same perceptions of the institutional framework or experience the same problems with respect to formal loans.

Second, we would like to provide the following additional information concerning the sampling methodology relied upon in the WES. Geographically Tanzania can be divided into 8 zones comprising 25 regions. From all zones we purposively selected four: Central, Northern, Lake and Eastern. These zones were chosen because they contain the largest commercial zones with many small and medium sized enterprises. In addition, they have a wide representation of WOEs and contain a balance of urban and rural areas. We then used random sampling to select one region from each zone. The selected regions are Tanga, Dodoma, Dar es Salaam and Mwanza. We selected respondents by applying systematic sampling to various lists solicited from local municipalities and training institutions in the selected regions. In addition, we used a snowball sampling technique. We asked women who qualified as discouraged borrowers whether they knew other female entrepreneurs who also met the criteria and who would be willing to participate in our research. The snowball sampling was used in all four geographical areas in order to get unbiased responses and draw businesses from different sectors.

Third, in the first two chapters of the thesis, because of data restrictions we do not control for loan terms such as the interest rate or collateral requirements. It is possible that entrepreneurs who face higher collateral requirements are also more likely to perceive them as problematic. This means that our models might be sensitive to an omitted variable bias. In order to alleviate this issue we control for several variables which, according to prior research (Hanedar, Broccardo & Bazzana, 2014; Menkhoff, Neuberger & Suwanaporn, 2006), determine the level of these loan terms. Among other variables we control for business size, sector, and formality.

Fourth, a possible limitation of the first two chapters is the absence of data on the use of trade credit. Prior research shows that trade credit is a substantial source of financing for small businesses, especially in emerging economies. (Giannetti, Burkart & Ellingsen, 2008). Respondents in the WES were asked which financing sources they used to start their businesses. They were provided with the following answering options: personal savings, sale of an asset, bank loan, government loan, loan from family or friends, microfinance loan, money lender, informal savings, or other. In this final category respondents could specify any other source they used. No respondent mentioned trade credit as a additional source. It could be that trade credit was not used by our respondents to start their business. However, it is probable that entrepreneurs do not think of trade credit as a spontaneous source of funding since it is so well-embedded in day-to-day transactions with clients and suppliers. Nevertheless, we believe that the impact on the results of our study will be limited since we focus on the entrepreneurs' perceptions of bank and microfinance loans.

Fifth, in the first chapter, when we investigate the most important issues entrepreneurs face with respect to their financing mix, we grouped bank and microfinance loans together in the same category. This decision arises from the fact that only commercial MFI's were included in the study. These MFI's share many characteristics with banks (Cull, Demirgüç-Kunt & Morduch, 2009; D'Espallier et al., 2017) and they are both considered to be formal financial institutions. In chapter 3 of this thesis, results show that discouraged borrowers mainly expect the same problems to arise with both bank and microfinance loans, which confirms that it is appropriate to group these financing sources in the same category in the context of our study.

Finally, in the first chapter of the thesis we investigate Tanzanian entrepreneurs' perceptions of formal loans and of the businesses environment. These perceptions are driven by the institutional framework present in the country. We focus on Tanzania because there are many female entrepreneurs; at the same time, the country's institutional framework is still developing. Therefore, Tanzania is an interesting context to study the effect of entrepreneurs' perceptions of institutions on their demand for formal loans. We argue that our findings can potentially be generalized to other economies with a comparable institutional context.

This thesis contributes to different streams within the literature concerning access to finance for entrepreneurs in emerging economies. Nevertheless some important gaps in the literature remain. First, in chapters 1, 2, and 3 of this thesis we assume that the entrepreneurs' perceptions of loans, as well as the institutional environment, drive their decision not to apply for bank or microfinance loans. However, it is possible that entrepreneurs suffer from cognitive dissonance, which means that they will first present certain behavior and afterwards adjust their perceptions and attitudes to justify their behavior (Bertrand & Mullainathan, 2001). Future research could control for this by using an experimental setting where the entrepreneurs' perceptions are measured both before and after deciding whether or not to borrow (Just & Roberts, 2004).

Second, results from chapters 2 and 3 show that networking affects the entrepreneurs' perceptions of formal loans. We find that while formal networking leads to a higher probability of perceived problems with collateral requirements, informal networking has the opposite effect. More research is needed to establish the causes for these opposing effects. Using network analysis (Chiesi, 2015), future studies could investigate which kind of information is exchanged and what kind of power dynamics are at play between members of these networks.

Third, our results show that networking potentially biases the entrepreneurs' perceptions of formal loans. We find that negative stories of fellow entrepreneurs' experiences with loans lead to negative perceptions even if these stories do not always coincide with reality. Furthermore, our results show that once entrepreneurs come into contact with loans the effect of networking on their perceptions is smaller. This could indicate that more experienced entrepreneurs are more critical of the stories they hear. One could explore this issue from the viewpoint of behavioral finance to identify which behavioral biases lie at the foundation of this effect. Moreover, it could be interesting to investigate this from the angle of social influence theory (Kelman, 1958). How are an entrepreneur's perceptions of loans and financial decisions influenced by the opinions and behaviors of their network members?

Fourth, chapters 1 and 4 of this thesis demonstrate that the institutional framework has a large impact of the financing decisions of entrepreneurs. We focused on the effect of regulatory institutions as well as the degree of gender-equality in regulatory and normative institutions. Future research could look at the influence of other institutional factors. Some studies indicate that cultural dimensions, such as individualism versus solidarity, could influence the amount of debt held by businesses (Chui, Lloyd, & Kwok, 2002). Similarly, the structure of the financial system, bank-oriented or market-oriented could drive the entrepreneurs' financing decisions (Öztekin & Flannery, 2012).

Finally, one of the main themes in the discouragement literature is the relationship between discouragement and credit risk. Some discouraged borrowers have a high credit risk and should not be encouraged to apply for loans (Han, Fraser & Storey, 2009). Consequently, it would be interesting for future research to attempt to distinguish high-risk from low-risk discouraged borrowers in order to develop a tailored approach for each group. There are some indications in the literature that a more effective institutional framework increases the likelihood of discouragement for high-risk businesses (Mac an Bhaird, Vidal & Lucey, 2016; Gama, Duarte & Esperança, 2017), which is in contrast to the findings of chapter 4. Future research could look into how credit risk moderates the effect of institutions on discouragement.

References

Abdulsaleh, A., & Worthington, A. (2013). Small and medium-sized enterprises financing, A review of literature. *International Journal of Business and Management*, *14*(8), 36–54.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative Development, An empirical investigation. *American Economic Review, 91*(5), 1369–1401.

Aga, G., A., & Reilly, B. (2011). Access to credit and informality among micro and small enterprises in Ethiopia. *International Review of Applied Economics*, *25*(3), 313-329.

Aggarwal, R. (2014). Animal spirits in financial economics, A review of deviations from economic rationality. *International Review of Financial Analysis*, *32*, 179–187.

Agier, I., & Szafarz, A. (2013). Microfinance and Gender, Is There a Glass Ceiling on Loan Size? *World Development, 42*, 165-181.

Ahlstrom, D., & Bruton, G. (2006). Venture capital in emerging economies, Networks and institutional change. *Entrepreneurship, Theory and Practice*, *30*(2), 299–320.

Ajzen, I. (1985). From intentions to actions, a theory of planned behaviour. In Kuhl, J. & Beckmann, J. (Eds). *Action-Control, From Cognition to Behaviour*. (pp. 11-39). Heidelberg: Springer-Verlag.

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations, A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs (N.J.): Prentice Hall,

Alakaleek, W., & Cooper, S. (2018). The female entrepreneur's financial networks, Accessing finance for the emergence of technology-based firms in Jordan. *Venture Capital, New Perspectives on Women Entrepreneurs and Finance (Special Issue), 20*(2), 137-157.

Alesina, A. F., Lotti, F., & Mistrulli, P.E. (2013). Do women pay more for credit? Evidence from Italy. *Journal of the European Economic Association, 11*, 45-66.

Alsos, G., Isaksen, E. J., & Ljunggren, E. (2006). New venture financing and susequent business growth in men- and women-led businesses. *Entrepreneurship Theory and Practice, 30*(5), 667-686.

Amine, L. S., & Staub, K. M. (2009). Women entrepreneurs in sub-Saharan Africa, An institutional theory analysis from a social marketing point of view. *Entrepreneurship and Regional Development*, *21*(2), 183-211.

Anayiotos, G., & Toroyan, H. (2009). *Institutional factors and financial sector development, Evidence from Sub-Saharan Africa*, [Working Paper No. 09/258], International Monetary Fund. https://www.imf.org/external/pubs/ft/wp/2009/wp09258.pdf

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims, A review and recommendations. *The Leadership Quarterly*, *21*(6), 1086-1120.

Asiedu, E., Kanyama, I. K., Ndikumana, L., & Nti-Addae, A. (2013). Access to credit by firms in Sub-Saharan Africa, How relevant is gender. *The American Economic Review*, *103*(3), 293–297.

Aterido, R., Beck, T., & Iacovone, L., (2013). Access to finance in sub-Saharan Africa, is there a gender gap? *World Development, 47*, 102–120.

Audretsch, D. B. (2018). Entrepreneurship, economic growth, and geography. *Oxford Review of Economic Policy, 34*(4), 637-651.

Azim, M., & Kluvers, I. (2019). Resisting Corruption in Grameen Bank. *Journal of Business Ethics, 156*(3), 591-604.

Bailey, J., Nofsinger, J., & O'Neill, J. (2003). A Review of Major Influences on Employee Retirement Investment Decisions. *Journal of Financial Services Research, 23*(2), 149-165.

Barbosa, E., & Moraes, C. D. (2004). *Determinants of the firm's capital structure, The case of the very small enterprises*. RePEc, http,//EconPapers.repec.org/RePEc,wpa,wuwpfi,0302001.

Barringer, B. F., Jones, F. F., & Neubaum, D. O. (2005). A quantitative content analysis of the characteristics of rapid-growth businesses and their founders. *Journal of Business Venturing*, *20*,663–687.

Barry, T. A., & Tacneng, R. (2014). The impact of governance and institutional quality on MFI outreach and financial performance in Sub-Saharan Africa. *World Development, 58*, 1–20.

Bateman, M. (2010). *Why doesn't microfinance work?, The destructive rise of local neoliberalism*. New York, USA, Zed Books.

Baughn, C. C., Chua, B. L., & Neupert, K. E. (2006). The Normative Context for Women's Participation in Entrepreneurship, A Multicountry Study. *Entrepreneurship Theory and Practice, 30* (5), 687–708.

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium size enterprises, access to finance as a growth constraint. *Journal of Banking and Finance*, *30*(11), 2931–2943.

Beck, T., & Demirguc-Kunt, A. (2008). Access to Finance, An Unfinished Agenda. *World Bank Economic Review,* 22(3), 383-396.

Beck, T., Demirgüç-Kunt, A., Laeven, L. & Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance, 25*, 932–952.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2005). SMEs, Growth, and Poverty, Cross-Country Evidence. *Journal of Economic Growth*, *10*, 199-299.

Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth, Does firm size Matter? *The Journal of Finance*, *60*(1), 137–177.

Bekiros, S., Jlassi, M., Naoui, K., & Uddin, G. S. (2018). Risk perception in financial markets, On the flip side. *International Review of Financial Analysis*, *57*, 184–206.

Bellucci, A., Borisov, A., & Zazzaro, A. (2010). Does gender matter in bank – firm relationships? Evidence from small business lending. *Journal of Banking and Finance, 34*(12), 2968–2984.

Berger, A. N., & Udell, U. F. (1995). Relationship lending and lines of credit in small firm finance. *Journal of Business*, *68*(3), 351–381.

Berger, A. N., Frame, W. S., & Ioannidou, V. (2011). Tests of ex ante versus ex post theories of collateral using private and public information. *Journal of Financial Economics*, *100*(1) ,85–97.

Bergtold, J., Yeager, E., & Featherstone, A. (2017). Inferences from logistic regression models in the presence of small samples, rare events, nonlinearity, and multicollinearity with observational data. *Journal of Applied Statistics*, *45*(3), 528-546.

Bermpei, T., Kalyvas, A., & Nguyen, T. C. (2018). Does institutional quality condition the effect of bank regulations and supervision on bank stability? Evidence from emerging and developing economies. *International Review of Financial Analysis*, *59*, 255–275.

Bernasek, A., & Shwiff, S. (2001). Gender, risk, and retirement. *Journal of Economic Issues*, *35*(2), 345–356.

Bertrand, M., & Mullainathan, S., (2001). Do People Mean What They Say? Implications for Subjective Survey Data. *American Economic Review, 91*(2), 67–72.

Besanko, D., & Thakor, A. V. (1987). Collateral and Rationing , Sorting equilibria in monopolistic and competitive credit markets. *International Economic Review*, *28*(3), 671–689.

Bester, H. (1987). The role of collateral in credit markets with imperfect information. *European Economic Review*, *31*, 887–899.

Biggs, T., & Shah, M. K. (2006). African SMES, networks, and manufacturing performance. *Journal of Banking and Finance*, *30,* 3043–3066.

Boehe, D., & Barin Cruz, L. (2013). Gender and Microfinance Performance, Why Does the Institutional Context Matter? *World Development*, *47*, 121-135.

Bonini, S., Dell'Acqua, A., Fungo, M., & Kysucky, V. (2016). Credit market concentration, relationship lending and the cost of debt. *International Review of Financial Analysis*, *45*, 172–179.

Brandts, J., Giritligil, A. E., & Weber, R. O. (2015). An experimental study of persuasion bias and social influence in networks. *European Economic Review*, *80*, 214–229.

Breza, E. (2016). Field Experiments, Social Networks, and Development. In Bramoullé, Y., Galeotti, A., & Rogers, B. (Eds), *The Oxford Handbook of the Economics of Networks* (pp 411-439). Oxford University Press.

Brines, J. (1993). The exchange value of housework. *Rationality and Society*, *5*(3), 302–340.

Brown, M., Ongena, S., Popov, A., & Yesin, P. (2011). Who needs credit and who gets credit in Eastern Europe. *Economic Policy Journal*, *26*(65), 93–130.

Bruton, G. D., & Ahlstrom, D. (2003). An institutional view of China's venture capital industry, Explaining the differences between China and the West. *Journal of Business Venturing*, *18*(2), 233–259.

Burt, R. S. (1992). The social structure of competition. In N. Nohria, & R. G. Eccles (Eds.), *Networks and organizations* (pp. 57–91). Harvard Business School Press.

Busenitz, L. W., Gomez, C., & Spencer, J. W. (2000). Country Institutional Profiles, Unlocking Entrepreneurial Phenomena. *Academy of Management Journal, 43*, 994–1011.

Buttner, E. H., & Rosen, B. (1992). Rejection in the loan application process, Male and female entrepreneurs' perceptions and subsequent intentions. *Journal of Small Business Management, 30*, 58-65.

Caliński, T., & Harabasz, J. (1974). A Dendrite Method for Cluster Analysis. *Communications in Statistics, 3*, 1–27.

Capon, N., Fitzsimons, G., & Alan Prince, J. (1996). An individual level analysis of the mutual fund investment decision. *Journal of Financial Services Research, 10*(1), 59-82.

Carreira, C., & Silva, F. (2010). No deep pockets, some stylized empirical results on firms' financial constraints. *Journal of Economic Surveys, 24*(4), 731-753.

Carter, N., Williams, M., & Reynolds, P. (1997). Discontinuance Among New Firms in Retail, The Influence of Initial Resources, Strategy and Gender. *Journal of Business Venturing, 12*(2), 25–145.

Carter, S., Shaw, E., Lam, W., & Wilson, F. (2007). Gender, entrepreneurship, and bank lending, the criteria and processes used by bank loan officers in assessing applications. *Entrepreneurship Theory and Practice, 31*(3), 427-444.

Cavalluzzo, K. S., Cavalluzzo, L. C., & Wolken, J. D. (2002). Competition, small business financing, and discrimination, Evidence from a new survey. *Journal of Business*, *75*, 641–679.

Chaganti, R. (1986). Management in women-owned enterprises. *Journal of Small Business Management, 24*(4), 18–29.

Chakraborty, A., & Hu, C. X. (2006). Lending relationships in line-of-credit and nonline-of-credit loans, Evidence from collateral use in small business. *Journal of Financial Intermediation*, *15*, 86–107.

Chakravarty, S. & Yilmazer, T . (2009). A multistage model of loans and the role of relationships. *Financial Management*, *38*(4), 781–816.

Chakravarty, S., & Xiang, M. (2013). The international evidence on discouraged small businesses. *Journal of Empirical Finance, 20*, 63–82.

Chang, C.-H., & Lin, S.-J. (2015). The effects of national culture and behavioral pitfalls on investors' decision-making, Herding behavior in international stock markets. *International Review of Economics and Finance*, *37*, 380–392.

Chiesi, A. (2015). Network Analysis. In *International Encyclopedia of the Social and Behavioral Sciences* (Second ed., pp. 518-523). Elsevier.

Chui, A. C. W., Lloyd, A., & Kwok, C. C. Y. (2002). The determination of capital structure, is national culture a missing piece to the puzzle? *Journal of International Business Studies*, *33*, 99–127.

Cliff, J. (1998). Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size. *Journal of Business Venturing*, *13*(6), 523–542.

Coco, G., & Pignataro, G. (2013). Unfair credit allocations. *Small Business Economics*, *41*(1), 241–251.

Cole, R. A., & Sokolyk, T., (2016). Who needs credit and who gets credit? Evidence from the surveys of small business finances. *Journal of Financial Stability, 24*, 40–60.

Coleman, S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*, 95–120.

Coleman, S. (2000). Access to capital and terms of credit, A comparison of men- and women-owned small businesses. *Journal of Small Business Management*, *38*(3), 37-52.

Cope, J. (2011). Entrepreneurial learning from failure, An interpretative phenomenological analysis. *Journal of Business Venturing*, *26*(6), 604–623.

Corbin, J. & Strauss, A. K. (2008). *Basics of Qualitative Research, Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA, Sage.

Cosh, A., Cumming, D. & Hughes, A. (2009) Outside entrepreneurial capital. *The Economic Journal, 119*(540), 1494–1533.

Cowling, M., Liu, W., Minniti, M., & Zhang, N. (2016). UK credit and discouragement during the GFC. *Small Business Economics*, *47*(4), 1049-1074.

Crecente-Romero, F., Giménez-Baldazo, M., & Rivera-Galicia, L. (2016). Subjective perception of entrepreneurship. Differences among countries. *Journal of Business Research, 69*(11), 5158-5162.

Creswell, J. W. (2009). *Research design, qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA, Sage Publications.

Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2009). Microfinance Meets the Market. *Journal of Economic Perspectives, 23*(1), 167-192.

D'Espallier, B., Goedecke, J., Hudon, M., & Mersland, R. (2017). From NGOs to Banks, Does Institutional Transformation Alter the Business Model of Microfinance Institutions? *World Development, 89*, 19-33.

D'Espallier, B., Guérin, I., & Mersland, R., (2011). Women and repayment in microfinance, A global analysis. *World Development*, *39*(5), 758-772.

Dabla-Norris, E., & Koeda, J. (2008). Informality and bank credit, Evidence from firm-level data. [Working Paper], International Monetary Fund, https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Informality-and-Bank-Credit-Evidence-from-Firm-Level-Data-21885.

Degryse, H., & Van Cayseele, P. (2000). Relationship lending within a bank-based system, Evidence from european small business data. *Journal of Financial Intermediation*, *9*(1), 90–109.

Del Giovane, P., Eramo, G., & Nobili, A. (2011). Disentangling demand and supply in credit developments, A survey-based analysis for Italy. *Journal of Banking and Finance, 35*(10), 2719-2732.

Delcoure, N. (2007). The determinants of capital structure in transitional economies. *International Review of Economics and Finance*, *16*, 400–415.

DeMarzo, P., Vayanos, D., & Zwiebel, J. (2003). Persuasion bias, social influence, and undimensional opinions. *Quarterly Journal of Economics*, *118*(3), 909–968.

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2015). The Global Findex Database 2014, Measuring Financial Inclusion Around the World. [Policy Research Working Paper no. WPS 7255], World Bank Group, http://documents.worldbank.org/curated/en/187761468179367706/The-Global-Findex-Database-2014-measuring-financial-inclusion-around-the-world.

Denzin, N. (1978). *The research act, A theoretical introduction to sociological methods*. New York, Adline Publishing Company.

Detragiache, E., Tressel, T., & Gupta, P. (2008). Foreign banks in poor countries, Theory and evidence. *The Journal of Finance*, *63*(5), 2123–2160.

Diagne, A., (1999). *Determinants of household access to and participation in formal and informal credit markets in Malawi* [Discussion Paper 67], FCND, https://www.ifpri.org/publication/determinants-household-access-and-participation-formal-and-informal-credit-markets.

Dutta, N., Kar, S., & Roy, S. (2013). Corruption and persistent informality, An empirical investigation for India. *International Review of Economics and Finance, 27*, 357-373.

Eddleston, K., Ladge, J. J., Mitteness, C., & Balachandra, L. (2016). Do you see what I see? Signaling effects of gender and firm characteristics on financing entrepreneurial ventures. *Entrepreneurship Theory and Practice, 40*(3), 489-514.

Elkhuizen, L., Hermes, N., Jacobs, J., & Meesters, A. (2018). Financial development, financial liberalization and social capital. *Applied Economics*, *50*(11), 1268-1288.

Eriksson, P., & Kovalainen, A. (2008). *Introducing Qualitative Methods, Qualitative methods in business research*. London, SAGE Publications Ltd.

Estrin, S., & Mickiewicz, T. (2011). Institutions and Female Entrepreneurship. *Small Business Economics, 37*(4), 397–415.

Everitt, B. (1986). *Cluster Analysis*. 2nd ed. Chichester,Wiley.

Fang, H., Shen, C.-H., & Lee, Y.-H. (2017). The dynamic and asymmetric herding behavior of US equity fund managers in the stock market. *International Review of Economics and Finance*, *49*, 353–369.

Farrell, L., Fry, T. R. L., & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behavior. *Journal of Economic Psychology, 54*, 85-99.

Fatoki, O., & Asah, F. (2011). The impact of firm and entrepreneurial characteristics on access to debt finance by SMEs in king Williams' town, South Africa. *International Journal of Business and Management*, *6*(8), 170–179.

Fay, M., & Williams, L. (1993). Sex of applicant and the availability of business 'start-up' finance. *Australian Journal of Management*, *16*(1), 65-72.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior , An introduction to theory and research*. Reading, Addison-Wesley.

Fleck, E. (2015). To grow or not to grow, Challenges or choices for female entrepreneurs? *The Journal of Business Diversity*, *15*(2), 27–45.

Fletschner, D. (2009). Rural women's access to credit, Market imperfections and intrahousehold dynamics. *World Development*, *37*(3), 618–631.

Forbes, W., Hudson, R., Skerratt, L., & Soufian, M. (2015). Which heuristics can aid financial-decision-making? *International Review of Financial Analysis*, *42*, 199–210.

Fraser, S., (2009). Is there Ethnic Discrimination in the UK Market for Small Business Credit? *International Small Business Journal, 27*(5), 583-607.

Fraser, S., Bhaumik, S., & Wright, M. (2015). What do we know about entrepreneurial finance and its relationship with growth? *International Small Business Journal*, *33*(1), 70–88.

Freel, M., Carter, S., Tagg, S., & Mason, C. (2012). The latent demand for bank debt, Characterizing 'discouraged borrowers'. *Small Business Economics, 38*(4), 399–418.

Gama, A. P. M., Duarte, F. D., & Esperança, J. P. (2017). Why discouraged borrowers exist? An empirical (re)examination from less developed countries. *Emerging Markets Review*, *33*, 19-41.

Gehman, J., Glaser, V., Eisenhardt, K., Gioia, D., Langley, A., & Corley, K. (2017). Finding Theory–Method Fit, A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry, 27*(3), 1-18.

Giannetti, M., Burkart, M., & Ellingsen, T. (2011). What You Sell Is What You Lend? Explaining Trade Credit Contracts. *The Review of Financial Studies, 24*(4), 1261-1298.

Gibbs, M., Lindner R., & Fischer, A. (1986) Reliability of Two Survey Techniques, A Study of Innovation Discovery by Farmers. *Statistician, 35*(4), 429–39.

Gilbert, G. K. (1884). Finley's Tornado Predictions. *American Meteorological Journal, 1*, 166–172.

Gioia D. A., & Chittipeddi, K., (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal, 12*(6), 433–448.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research notes on the Gioia methodology. *Organizational Research Methods, 16*, 15-31.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory.* New York, Aldine.

Goel, S. & Karri, R. (2020). Entrepreneurial aspirations and poverty reduction, the role of institutional context. *Entrepreneurship and Regional Development, 32*(1-2), 91-111.

Goodell, J. W., & Goyal, A. (2018). What determines debt structure in emerging markets, Transaction costs or public monitoring. *International Review of Financial Analysis, 55*, 184-195.

Gordon, C. (2016, March 2). *Tigo Nivushe, Tanzania, 5 Ways to Build Trust in Digital Lending*. CGAP. http,// www.cgap.org/blog/tigo-nivushe-tanzania-5-ways-build-trust-digital-lending.

Granovetter, M. (1985). Economic action and social structure, The problem of embeddedness. *American Journal of Sociology*, *91*(3), 481–510.

Grant, P., & Perren, L. (2002). Small Business and Entrepreneurial Research. *International Small Business Journal*, *20*(2), 185-211.

Gwatidzo, T., & Ojah, K. (2014). Firms' debt choice in Africa, Are institutional infrastructure and non-traditional determinants important? *International Review of Financial Analysis, 31*, 152-166.

Haines, G. H., Jr., Orser, B. J., & Riding, A. L. (1999). Myths and realities, An empirical study of banks and the gender of small business clients. *Canadian Journal of Administrative Sciences, 16*(4), 291–307.

Hainz, C. (2003). Bank Competition and Credit Markets in Transition Economies. *Journal of Comparative Economics, 31*, 223–245.

Hallward-Driemeier, M. (2013). *Enterprising Women, Expanding Economic Opportunities in Africa*. Washington, World Bank, http://documents.worldbank.org/curated/en/509981468193131963/Enterprising-women-expanding-economic-opportunities-in-Africa.

Han, L., Fraser, S., & Storey, D. (2009). Are good or bad borrowers discouraged from applying for loans? Evidence from US small business credit markets. *Journal of Banking and Finance, 33*(2), 415-424.

Hanedar, E. Y., Broccardo, E., & Bazzana, F. (2014). Collateral Requirements of SMEs, The Evidence from Less-Developed Countries. *Journal of Banking and Finance, 38*, 106–121.

Hansen, H., & Rand, J., (2013). The myth of female credit discrimination in African manufacturing. *The Journal of Development Studies*, *50*(1), 81-96

Hansen, H., & Rand, J., (2014). Estimates of gender differences in firm's access to credit in Sub-Saharan Africa. *Economics Letters*, *123*, 374-377.

Harhoff, D., & Körting, T. (1998). Lending relationships in Germany – empirical evidence from survey data. *Journal of Banking and Finance*, *22*(10), 1317–1353.

Harper, M. (1998). *Profit for the poor, Cases in micro-finance*. London, London Intermediate Technology Publications.

Hashemi, S. M., Schuler, S. R., & Riley, A. P. (1996). Rural credit programs and women's empowerment in Bangladesh. *World Development, 24*, 635– 653.

Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and Efficiency of Microfinance Institutions. *World Development, 39*(6), 938-948.

Hitt, M. A., Ahlstrom, D., Dacin, M. T., Levitas, E. & Svobodina, L. (2004). The Institutional Effects on Strategic Alliance Partner Selection in Transition Economies, China Vs. Russia. *Organization Science, 15*(2), 173–185.

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship A critical review. *Journal of Business Venturing*, *18*(2), 165–187.

Hoffman, A. J. (1999). Institutional Evolution and Change, Environmentalism and the US Chemical Industry. *Academy of Management Journal, 42*, 351–371.

Honohan, P., & Beck, T. (2007). *Making finance work for Africa*. Washington, DC, World Bank, http://documents.worldbank.org/curated/en/254441468009032125/Making-finance-work-for-Africa.

Horowitz, J. L. & Savin, N. E. (2001). Binary Response Models, Logits, Probits and Semiparametrics. *Journal of Economic Perspectives, 15*(4), 43–56.

Hoskisson, R., Eden, L., Lau, C;-M., & Wright, M. (2000). Strategies in Emerging Markets. *Academy of Management Journal, 43*(3), 249–267.

Hosmer, D., & Lemeshow, S. (2000). *Applied Logistic Regression*. Hoboken, Wiley-Interscience.

Ibarra, H. (1992). Homophily and differential returns, Sex differences in network structures and access in an advertising firm. *Administrative Science Quarterly*, *37*, 422–447.

International Finance Corporation (IFC) (2011). *Strengthening Access to Finance for Women-Owned SMEs in Developing Countries*, Geneva, IFC, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_report_accesstofinanceforwomensmes.

International Labor Organization (ILO). (2003). *Tanzanian women entrepreneurs, Going for growth*, Geneva, ILO, https://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221137317_EN/lang--en/index.htm.

Jagero, N. & Kushoka, I. (2011). Challenges Facing Women Micro Entrepreneurs in Dar Es Salaam, Tanzania. *International Journal of Human Resource Studies, 1*(2), 1-9.

Jappelli, T. (1990). Who is credit constrained in the US economy? *Quarterly Journal of Economics, 104*, 220–234.

Jiggins, J. (1989). How poor women earn income in sub- Saharan Africa and what works against them. *World Development*, *17*(7), 953–963.

Jimenez, G., Salas, V., & Saurina, J. (2006). Determinants of collateral. *Journal of Financial Economics*, *81*, 255–281.

Johnson, S. (2013). From Microfinance to Inclusive Financial Markets, The Challenge of Social Regulation. *Oxford Development Studies, 41*(1), 35-52.

Just, D., & Roberts, M. (2004). The Illusion Of Control, Cognitive Dissonance And Farmer Perception Of Gm Crops [Working Paper], IDEAS RePEc, https://ideas.repec.org/p/ags/aaea04/19941.html.

Kaczynski, D., Salmona, M. & Smith, T. (2014). Qualitative Research in Finance. *Australian Journal of Management, 39*(1), 127–135.

Kahn, C., Liñares-Zegarra, M., & Stavins, J. (2017). Are there Social Spillovers in Consumers' Security Assessments of Payment Instruments? *Journal of Financial Services Research, 52*(1), 5-34.

Kapri, K. (2019). Impact of political instability on firm-level export decisions. *International Review of Economics and Finance*, *59*, 98–105.

Kara, A., & Molyneux, P. (2017). Household Access to Mortgages in the UK. *Journal of Financial Services Research, 52*(3), 253-275.

Kelman, H. (1958). Compliance, identification, and internalization, Three processes of attitude change. *Journal of Conflict Resolution*, *2*(1), 51–60.

Kevane, M., & Wydick, B. (2001). Microenterprise lending to female entrepreneurs, Sacrificing economic growth for poverty alleviation? *World Development*, *29*(7), 1225–1236.

Khanna, T., & Palepu, K. (1997). Why Focused Strategies May Be Wrong for Emerging Markets. *Harvard Business Review, 75*(4), 41–51.

Kira, A. R., & He, Z. (2012). The impact of firm characteristics in access of financing by small and medium-sized enterprises in Tanzania. *International Journal of Business and Management*, *7*(24), 108–119.

Kiraka, R. N., Kobia, M., & Katwalo, A. M. (2013). *Micro, small and medium enterprise growth and innovation in Kenya, A case study on the women enterprise fund* [Research report No. 47/13]. ICBE-RF, https://www.africaportal.org/publications/micro-small-and-medium-enterprise-growth-and-innovation-in-kenya-a-case-of-the-women-enterprise-fund/.

Kon, Y., & Storey, D. J. (2003). A theory of discouraged borrowers. *Small Business Economics, 21*(1), 37–49.

Kristiansen, S. (1997, October*). Determinants of entrepreneurial endeavour, Is there a formula for breeding business innovators?* [Conference paper]. International conference on African entrepreneurship and small business management, Dar es Salaam, Tanzania.

Kuzilwa, J. (2005). The role of credit for small business success, A study of the national entrepreneurship development fund in Tanzania. *Journal of Entrepreneurship*, *14*(2), 131–161.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1997). Legal Determinants of External Finance. *The Journal of Finance, 52*, 1131–1150.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor Protection and Corporate Governance. *Journal of Financial Economics, 58*(1–2), 3–27.

La Porta, R., Lopez-De-Silanes, F., & Zamarripa, G. (2003). Related lending. *Quarterly Journal of Economics*, *118*(1), 231–268.

Labie, M., Laureti, C., & Szafarz, A. (2017). Discipline and flexibility, A behavioural perspective on microfinance product design. *Oxford Development Studies, 45*(3), 321-337.

Latané, B. (1981). The psychology of social impact. *American Psychologist*, *36*(4), 343–356.

LaValley, M. P. (2008). Logistic Regression. (Statistical Primer for Cardiovascular Research). *Circulation*, *117*(18), 2395-2399.

Le, N., & Nguyen, T. (2009). The impact of networking on bank financing, The case of small and medium–sized enterprises in Vietnam. *Entrepreneurship, Theory and Practice*, *33*(4), 867–887.

Lehman, E., & Neuberger, D. (2001). Do lending relationships matter? Evidence from bank survey data in Germany. *Journal of Economic Behaviour and Organization*, *45*, 339–359.

Levenson, A. R., & Willard, K. L., (2000). Do firms get the financing they want? Measuring credit rationing experienced by small businesses in the U.S. *Small Business Economics, 14*(2), 83 – 94.

Lindvert, M., Patel, P., & Wincent, J. (2017). Struggling with social capital, Pakistani women micro entrepreneurs' challenges in acquiring resources. *Entrepreneurship and Regional Development, 29*(7-8), 759-790.

Lindvert, M., Patel, P., Smith, C., & Wincent, J. (2019). Microfinance traps and relational exchange norms, A field study of women entrepreneurs in Tanzania. *Journal of Small Business Management*, *57*(1), 230–254.

Lock, R., & Lawton-Smith, H. (2016). The impact of female entrepreneurship on economic growth in Kenya. *International Journal of Gender and Entrepreneurship*, *8*(1), 90-96.

Mac an Bhaird, C., Vidal, J.S., & Lucey, B. (2016). Discouraged borrowers, Evidence for Eurozone SMEs. *Journal of International Financial Markets, Institutions and Money, 44*, 46-55.

Madill, J., Riding, A., & Haines, G. (2006). Women entrepreneurs, Debt financing and banking relationships. *Journal of Small Business and Entrepreneurship, 19*(2), 121-142.

Manolova, T. S., Brush, C. G., Edelman, L. F., & Shaver, K. G. (2012). One size does not fit all, Entrepreneurial expectancies and growth intentions of U.S. women and men nascent entrepreneurs. *Entrepreneurship and Regional Development*, *24*(1-2), 7-27.

Marlow, S. & Swail, J. (2014) Gender, risk and finance why can't a woman be more. *Entrepreneurship and Regional Development, 26*(1–2), 80–96.

Marlow, S., & Patton, D. (2005). All Credit to Men? Entrepreneurship, Finance, and Gender. *Entrepreneurship Theory and Practice, 29*(6), 717-735.

Matos, S. & Hall, J. (2020). An exploratory study of entrepreneurs in impoverished communities, when institutional factors and individual characteristics result in non-productive entrepreneurship. *Entrepreneurship and Regional Development, 32*(1-2), 134-155.

McIntosh, C., & Wydick, B. (2005). Competition and Microfinance. *Journal of Development Economics, 78*(2), 271-298.

McKenzie, D., & Woodruff, C. (2008). Experimental Evidence on Returns to Capital and Access to Finance in Mexico. *The World Bank Economic Review, 22*(3), 457-482.

Menkhoff, L., Neuberger, D., & Rungruxsirivorn, O. (2012). Collateral and its substitutes in emerging markets ' lending. *Journal of Banking and Finance*, *36*, 817–834.

Menkhoff, L., Neuberger, D., & Suwanaporn, C. (2006). Collateral-Based Lending in Emerging Markets, Evidence from Thailand. *Journal of Banking and Finance, 30*, 1–21.

Meyer, R. L. (2002). The demand for flexible microfinance products, Lessons from Bangladesh. *Journal of International Development, 14*, 351–368.

Mindra, R., & Moya, M. (2017). Financial self-efficacy, A mediator in advancing financial inclusion. *Equality, Diversity and Inclusion, An International Journal, 36*(2), 128-149.

Ministry of Industry and Trade (MIT). (2012). *National baseline survey report for micro, small, and medium enterprises in Tanzania* [Research Report], MIT, http,//www.fsdt.or.tz/wpcontent/uploads/2016/05/MSME-National-Baseline-Survey-Report.pdf.

Mol-Gómez-Vázquez, A., Hernández-Cánovas, G., & Koëter-Kant, J. (2019). Bank market power and the intensity of borrower discouragement, analysis of SMEs across developed and developing European countries. *Small Business Economics*, *53*(1), 211-225.

Mori, N. (2014). *Women's Entrepreneurship Development in Tanzania, Insights and Recommendations [Research Report],* ILO, https://www.ilo.org/empent/areas/womens-entrepreneurship-development-wed/WCMS_430949/lang--en/index.htm.

Mori, N. (2015). Access to business development support services and performance of youth-owned enterprises in Tanzania. *Journal of Entrepreneurship, Management and Innovation*, *11*(2), 57-81.

Moro, A., Wisniewski, T. P., & Mantovani, G. M. (2017). Does a manager's gender matter when accessing credit? Evidence from European data. *Journal of Banking and Finance, 80*, 119-134.

Morris, M., Miyasaki, N., Watters, C., & Coombes, S. (2006). The dilemma of growth, Understanding venture size choices of women entrepreneurs. *Journal of Small Business Management*, *44*(2), 221–244.

Moulton, B. R. (1990). An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units. *The Review of Economics and Statistics*, *72*(2), 334-338.

Muchnik, l., Aral, S., & Taylor, S. J. (2013). Social influence bias, A randomized experiment. *Science (New York, N.Y.)*, *341*(6146), 647-651.

Mukhtar, S.-M. (2002). Differences in male and female management characteristics, a study of owner-manager businesses. *Small Business Economics*, *18*(4), 289-311.

Mwasalwiba, E., Dahles, H. & Wakkee, I. (2012). Graduate Entrepreneurship in Tanzania, Contextual Enablers and Hindrances. *European Journal of Scientific Research, 76*(3), 386–402.

Naegels, V., Mori, N., & D'Espallier, B. (2018). An institutional view on access to finance by Tanzanian women-owned enterprises. *Venture Capital*, *20*(2), 191–210.

Naegels, V., Mori, N., & D'Espallier, B. (2020). *The process of female borrower discouragement*. Unpublished Manuscript.

Nagano, M. (2018). What promotes/prevents firm bond issuance in emerging economies, Bank–firm relationship or information asymmetry? *International Review of Economics and Finance*, *56*, 161–177.

Narayan, D., Pritchett, L., and Kapoor, S. (2009). *Moving out of poverty. Vol. 2, Success from the bottom up*. Washington, World Bank, https://openknowledge.worldbank.org/handle/10986/11838.

Nelson, J. (2017). Using conceptual depth criteria, Addressing the challenge of reaching saturation in qualitative research. *Qualitative Research, 17*(5), 554-570.

Neuman, W. (2014). *Social research methods, Qualitative and quantitative approaches*. Harlow, Pearson Education.

Nguyen, T. V., Le, N. T. B., & Freeman, N. J. (2006). Trust and uncertainty, A study of bank lending to private SMEs in Vietnam. *Asia Pacific Business Review*, *12*(4), 547–568.

North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge, Cambridge University Press.

Ogubazghi, S. K., & Muturi, W. (2014). The effect of age and educational level of owner/managers on SMMEs' access to bank loan in Eritrea, Evidence from Asmara city. *American Journal of Industrial and Business Management*, *4*, 632–643.

Olsen, R., & Cox, C. (2001). The influence of gender on the perception and response to investment risk, The case of professional investors. *The Journal of Psychology and Financial Markets*, *2*(1), 29–36.

Orser, B., Riding, A., & Manley, K. (2006). Women Entrepreneurs and Financial Capital. *Entrepreneurship Theory and Practice, 30*(5), 643-665.

Öztekin, Ö., & Flannery, M. J. (2012). Institutional Determinants of Capital Structure Adjustment Speeds. *Journal of Financial Economics, 103*, 88-112.

Paget, D. (2017, November 2). Magufuli has been president for two years, how he's changing Tanzania. *The Conversation*. https,//theconversation.com/magufuli-has-been-president-for-two-years-how-hes-changing-tanzania-86777.

Patacchini, E., & Rainone, E. (2017). Social Ties and the Demand for Financial Services. *Journal of Financial Services Research, 52*(1), 35-88.

Pathak, S., Goltz, S., & Buche, M. W. (2013). Influences of Gendered Institutions on Women's Entry into Entrepreneurship. *International Journal of Entrepreneurial Behavior and Research, 19*(5), 478–502.

Patton, M. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA, Sage.

Peng, M. W. (2001). How Entrepreneurs Create Wealth in Transition Economies. *Academy of Management Executive, 15*(1), 95–108.

Peng, M. W. (2002). Cultures, Institutions, and Strategic Choices, Towards an Institutional Perspective on Business Strategy. In M. Gannon & K. Newman (Eds.). *The Blackwell Handbook of Cross-Cultural Management* (pp. 52–66). Blackwell, Cambridge.

Peng, M. W., & Heath, P. S. (1996). The Growth of the Firm in Planned Economies in Transition, Institutions, Organizations, and Strategic Choice. *The Academy of Management Review, 2*(21), 492– 528.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, *63*(1), 539-569.

Rahman, A. (1999). Micro-credit initiatives for equitable and sustainable development, Who pays? *World Development*, *27*(1), 67–82.

Raturi, M., & Swamy, A., (1999). Explaining ethnic differentials in credit market outcomes in Zimbabwe. *Economic Development and Cultural Change*, *47*(3), 585–604.

Richardson, P., Howarth, R., & Finnegan, G. (2005). *The Challenges of Growing Small Businesses, Insights from Women Entrepreneurs in Africa* [WEDGE, SEED Working Paper No. 47], International Labor Organization.

Riding, A., & Haines, G. (2001). Loan guarantees, Costs of default and benefits to small firms. *Journal of Business Venturing, 16*, 595–612.

Rostamkalaei, A. (2017). Discouraged borrowers aftermath of financial crisis, a UK study. *Journal of Small Business and Enterprise Development, 24*(2), 394-410.

Rostamkalaei, A., Nitani, M., & Riding, A. (2020). Borrower discouragement, the role of informal turndowns. *Small Business Economics*, *54*(1), 173-188.

Sainani, K. L. (2014). Logistic Regression. *Physical Medicine and Rehabilitation, 6*(12), 1175–1162.

Sarkar, S. (2018). Grassroots entrepreneurship and social change at the bottom of the pyramid, the role of bricolage. *Entrepreneurship and regional development, an international journal, 30*(3-4), 421-449.

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H. & Jinks, C. (2018). Saturation in qualitative research, Exploring its conceptualization and operationalization. *Quality and Quantity, 52*(4), 1893-1907.

Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research Methods for Business Students*. Sydney, Prentice Hall.

Scheela, W. E., Jittrapanun, I. T., & Trang, N. T. T. (2015). Formal and Informal Venture Capital Investing in Emerging Economies in Southeast Asia. *Asia Pacific Journal of Management, 32*(3), 597–617.

Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge, MA, Harvard University Press.

Schumpeter, J. A. (1942). *Capitalism, socialism, and democracy*. New York, Harper and Row.

Scott, W. R. (2001). *Institutions and Organizations*. Thousand Oaks, CA, Sage Publications.

Sexton, D. L., & Bowman-Upton, N. (1990) Female and male entrepreneurs, psychological characteristics and their role in gender-related discrimination. *Journal of Business Venturing*, *5*(1), 29 – 36.

Shah, H., & Saurabh, P. (2015). Women Entrepreneurs in Developing Nations, Growth and Replication Strategies and Their Impact on Poverty Alleviation. *Technology Innovation Management Review*, *5*(8), 34-43.

Shane, S. (2009). Why encouraging more people to become en- trepreneurs is bad public policy. *Small Business Economics*, *33*(2), 141–149.

Si, S., Alhstrom, D., Wei, J., *and* Cullen, J. (2020). Business, entrepreneurship and innovation towards poverty reduction. *Entrepreneurship and Regional Development*, *32*(1-2), 1-20.

Silverman, D. (2008). *Doing qualitative research, A comprehensive guide*. London, SAGE Publications.

Simon, H. A. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, *69*, 99–118.

Singh, R. (2014). *Gender Based Financing Preferences of SMEs, Discouraged Borrowers* (Doctoral dissertation, University of Ottawa, Ottawa, Canada) thesis. Retrieved from https,//ruor.uottawa.ca/bitstream/10393/30836/1/Singh_Richa_2014_thesis.pdf

Singh, R., Riding, A., & Orser, B. (2014). *Gender and Financing Preferences of SMEs, Discouraged Borrowers* [Conference Proceedings]. In ICSB World Conference Proceedings (p. 1). International Council for Small Business (ICSB).

Smallbone, D., & Welter, F. (2001). The Distinctiveness of Entrepreneurship in Transition Economies. *Small Business Economics, 16*(4), 249–262.

Spearman, C. (1904). The proof and measurement of association between two things. *American Journal of Psychology, 15*(1), 72–101.

Stevenson, L. & St-Onge, A. (2005a). *Support for Growth-oriented Women Entrepreneurs in Tanzania [Research Report]*, ILO, https://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/GOWE%20Tanzania.pdf.

Stevenson, L., & St-Onge, A. (2005b). *Support for Growth-oriented Women Entrepreneurs in Ethiopia, Kenya and Tanzania [Research Report]*, ILO, https://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221170055_EN/lang--en/index.htm.

Stevenson, L., & A. St-Onge. 2013. "National Assessment of Women's Entrepreneurship Development (WED) Framework Conditions: Assessors Guide." *In ILO-WED, Women's Entrepreneurship Development Programme* (pp. 155). ILO, Geneva, Zwitserland.

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review*, *71*(3), 393–410.

Storey, D. (2004). Racial and gender discrimination in the micro firms credit market? Evidence from Trinidad and Tobago. *Small Business Economics, 23*, 401–422.

Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research, Techniques and procedures for developing grounded theory*. Thousand Oaks, CA, Sage.

Tang, Y., Deng, C., & Moro, A. (2017). Firm-bank trusting relationships and discouraged borrowers. *Review of Managerial Science, 11*(3), 519-541.

Treichel, M., & Scott, J. (2006). Women-Owned businesses and access to bank credit, Evidence from three surveys since 1987. *Venture Capital, Gender and Entrepreneurial Finance, 8*(1), 51-67.

Troilo, M., Walkup, B. R., Abe, M., & Lee, S. (2019). Legal systems and the financing of working capital. *International Review of Economics and Finance*, *64*, 641-656.

UNIDO (2012). *Tanzania SME Development Policy 2003, Ten years after* [Research report], UNIDO, https://open.unido.org/api/documents/5403996/download/TANZANIA%20SME%20DE.

United Nations (2008). *Investing in women and girls - united Nations backgrounder [Research Report]*, United Nations, http://www.unis.unvienna.org/pdf/factsheet_women_2008_e.pdf.

Urban, B. (2010). *Frontiers in Entrepreneurship (Perspectives in Entrepreneurship).* Berlin Heidelberg, Springer.

Uzzi, B. (1999). Embeddedness in the making of financial capital, How social relations and networks benefit firms seeking financing. *American Sociological Review*, *64*(4), 481–505.

VanderBrug, J. (2013, September 4). *The Global Rise of Female Entrepreneurs*. Harvard Business Review. https,//hbr.org/2013/09/global-rise-of-female-entrepreneurs.

Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2001). *An Eclectic Theory of Entrepreneurship, Policies, Institutions and Culture* [Discussion Paper No. TI 2001-030/03],Tinbergen Institute, https://papers.tinbergen.nl/01030.pdf.

Verver, M., & Koning, J. (2018). Toward a Kinship Perspective on Entrepreneurship. *Entrepreneurship Theory and Practice, 42*(2), 1-36.

Watson, J., (2006). External funding and firm growth, Comparing female- and male-controlled SMEs Associate. *Venture Capital An International Journal of Entrepreneurial Finance*, *8*(1), 33-49.

Watson, J., & Robinson, S. (2003) Adjusting for risk in comparing the performances of male- and female- controlled SMEs. *Journal of Business Venturing*, *18*(6),773 – 788.

Watson, J., Newby, R., & Mahuka, A. (2009). Gender and the SME finance gap. *International Journal of Gender and Entrepreneurship*, *1*, 42–56.

Webb, E., Campbell, D., Schwartz, R., & Sechrest, L. (1966). *Unobtrusive measures, Nonreactive research in the social sciences*. Chicago, Rand McNally.

Welter, F., & Smallbone, D. (2008). Women's Entrepreneurship from an Institutional Perspective, The Case of Uzbekistan. *International Entrepreneurship and Management Journal, 4*(4), 505–520.

Welter, F., & Smallbone, D. (2011). Institutional Perspectives on Entrepreneurial Behavior in Challenging Environments. *Journal of Small Business Management, 49*(1), 107–125.

Winborg, J., & Landström, H. (2001). Financial bootstrapping in small businesses, Examining small business managers' resource acquisition behaviors. *Journal of Business Venturing, 16*(3), 235-254.

Winn, J. (2005). Women Entrepreneurs, Can We Remove the Barriers? *The International Entrepreneurship and Management Journal, 1*(3), 381-397.

Woldie, B., Mwita, I., & Saidimu, J. (2012). Challenges of Microfinance Accessibility by SMEs in Tanzania. *Thunderbird International Business Review, 54*, 567–579.

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA, MIT Press.

World Bank. (2004). *Review of Small Business Activities*. Washington, DC, World Bank.

World Bank (2010). *Women Business and the Law, Measuring Legal Gender Parity for Entrepreneurs and Workers in 128 Economies* [Research Report], World Bank, http://documents.worldbank.org/curated/en/545151468159600396/Women-business-and-the-law-measuring-legal-gender-parity-for-entrepreneurs-and-workers-in-128-economies.

World Bank. (2020). *Doing Business 2020.* Washington, DC, World Bank.

World Bank & The International Finance Corporation (IFC). (2013). *Tanzania Country Profile 2013* [Research Report], World Bank, http://documents.worldbank.org/curated/en/671751468339593978/Enterprise-surveys-Tanzania-country-profile-2013.

Wu, Z., & Chua, J. H. (2012). Second-order gender effects, the case of US small business borrowing cost. *Entrepreneurship Theory and Practice, 36*(3), 443-463.

Xiang, D., Worthington, A., & Higgs, H. (2015). Discouraged finance seekers, An analysis of Australian small and medium-sized enterprises. *International Small Business Journal, 33*(7), 689-707.

Yao, J., Ma, C., & He, W. P. (2014). Investor herding behaviour of Chinese stock market. *International Review of Economics and Finance*, *29*, 12–29.

Yessoufou, A. W., Blok, V. & Omta, S. W. F. (2018). The process of entrepreneurial action at the base of the pyramid in developing countries, a case of vegetable farmers in Benin. *Entrepreneurship and Regional Development, 30*(1-2), 1-28.

Yousafzai, S. Y., Saeed, S., & Muffatto M. (2015). Institutional Theory and Contextual Embeddedness of Women's Entrepreneurial Leadership, Evidence from 92 Countries. *Journal of Small Business Management, 53*(3), 587-604.

Zhang, X-m., Song, Z-l., & Zhong, Z. (2016). Does 'small bank advantage' really exist? Evidence from China. *International Review of Economics and Finance*, *42*, 368–384.

Zozimo, R., Jack, S., & Hamilton, E. (2017). Entrepreneurial learning from observing role models. *Entrepreneurship and Regional Development An International Journal*, *29*(9), 889–911.

Doctoral dissertations from the Faculty of Economics and Business, see:
http://www.kuleuven.ac.be/doctoraatsverdediging/archief.htm.