An Empirical Investigation of the Interplay between Microcredit, Institutional Context and Entrepreneurial Capabilities

Understanding under which conditions microcredit is used by new, growing ventures, is becoming increasingly pertinent to scholars. This paper investigates the interplay of the use of microcredit with individual entrepreneurial capabilities and the moderating role of institutional development in Sub-Saharan Africa. Our findings show that higher constraints to entrepreneurial capabilities is associated with higher use of microcredit. In addition, we find that new, growing ventures use microcredit more where *either* economic *or* political institutions are less developed. Our findings suggest the importance of the existence of some type of institutional strength that must be in place to form the basis for microcredit activity. This allow for speculation as to whether microcredit works as the literature currently assumes.

Keywords: Capabilities; entrepreneurial finance; institutions; microfinance.

1. Introduction

Entrepreneurial activity is strongly influenced by the context it is embedded in (Baumol 1990; 1993; Autio and Acs 2010; Welter 2011). Particularly in emerging markets, entrepreneurs face a number of challenges, such as the mixed success of innovation (Bradley, McMullen, Artz, and Simiyu 2012), weak institutions (Acemoglu 2003) and low human capital levels (Acs and Virgill 2010). One particular challenge for these entrepreneurs is access to finance (Honohan 2007) which can lead them into 'poverty traps' (Berthelemy and Varoudakis 1996), ultimately undermining their ability to freely choose among options (Gries and Naudé 2011) and pursue the goals they value (Alkire 2005). A financial sector that is well developed, on the contrary, would give them the instrumental capability to more adequately participate in economic exchange (Beck, Demirgüç-Kunt, and Ross 2007; Sen 1999).

To respond to funding challenges that particularly characterize developing economies, the provision of microfinance to entrepreneurs has been regarded as an important part of the strategy through which livelihoods could be improved (Mair and Martí 2006; Peredo and McLean 2006; Khavul 2010). Microfinance Institutions (MFIs) pursue profit making

strategies that facilitate and support the ongoing activity of capital provision to entrepreneurs whilst also trying to extend their services and drive outreach (Morduch 1999; Fernando 2006). By providing microcredit, savings, insurance and retirement plans, individuals are able to obtain capital which can be used to finance the creation and the survival of new ventures (Campbell 2010; Khavul 2010). As such, microcredit allows entrepreneurs to build assets and economic resources, whilst creating employment opportunities and services for local communities (Helms 2006). This can ultimately have an effect on individuals' capabilities and the contexts entrepreneurs operate in (Mair and Marti 2009).

Current debates in the microcredit and microfinance literature have focused on the dynamics through which microcredit is deployed, particularly to women, as well as its effectiveness (cfr. among others Mair, Marti, and Ventresca 2012; Milanov, Justo, and Bradley 2015; Chliova, Brinckmann, and Rosenbusch 2015), how microfinance institutions function (cfr. among others, Morduch 1999; Armendariz and Morduch 2007) as well as their level of sustainability (cfr. among others, Morduch 2000; Gonzales- Vega 1994), and their ability to shape the context they operate in (cfr. among others, Mair and Marti, 2006; Khavul, Chavez and Bruton 2013). Research has also indicated that institutional quality determines the performance of MFIs in periods of financial crisis (Silva and Chávez 2015), and that institutions influence how entrepreneurial finance is channelled to entrepreneurs in developing economies (Eid 2005). However, Beck (2007) and, McKenzie and Woodruff (2008) indicate that small and medium sized businesses, often called "missing middle," offer high returns on investments in these contexts. Yet, they remain underserved financially and overlooked by researchers. We also know that empirical access to finance is a critical issue for firms in developing economies and microcredit is a particularly type of high-risk debt which may not always be sought after (George 2005; Hulme 2000).

In addition, if context shapes entrepreneurship and sets the boundaries for entrepreneurial action (Welter 2011), it is not clear a) whether ventures using microcredit are those whose capabilities are constrained the most by the environment they operate in, and b) under which institutional conditions these ventures actually use microfinance to fund their business needs. The question about when and where entrepreneurs decide to pursue or forgo the option of using microfinance loans still remains unanswered (Khavul 2010). In this paper, we ask the following question: how do formal institutions shape the use of microcredit by firms with varying entrepreneurial capabilities? To answer these questions, our empirical analysis focuses on the use of microcredit by firms in Sub Saharan Africa, characterized as a context with a high level of constrained capabilities. Often viewed as institutionally homogenous (Rivera-Santos et al., 2015), we highlight the institutional heterogeneity of this context and the varying capabilities associated with it. We test predictions using data from the World Bank's Enterprise Survey, the Economic Freedom of the World Report index (2011), as well as the World Economic Forum Global Competitiveness Report (2008). Our findings indicate that microcredit is indeed used in areas where individuals' entrepreneurial capabilities are more constrained. At the same time, in these contexts microcredit tends to be mostly used where there is *either* a well-developed market *or* a well-functioning political-judicial system which guarantee a minimal "rule of game". It is only under those institutional conditions that firms, constrained by their capabilities, are prone to/can use microcredit to finance their business activities.

We aim at making a number of contributions. From an academic perspective, we unfold the relationship between the use of microcredit by new, growing ventures in contexts characterized by underdeveloped institutions. This has been overlooked by past work in the area. By shedding light on the conditions under which this form of finance is used, we seek to illuminate the challenges associated with policy interventions in Sub-Saharan Africa (Obeng

and Blundel 2013). At a practitioner's level, our work helps understand where microcredit is mostly used by new ventures in the "missing middle". In making such arguments, we argue that areas with the most constrained entrepreneurial capabilities require more radical structural change if individuals are to realise their entrepreneurial potential and ultimately contribute to economic growth. In this vein, we believe that this provides useful evidence to the microfinance industry regarding how their interventions may be most usefully channeled towards potential entrepreneurial talent.

The paper is structured as follows. First, we conceptualise the conditions under which new ventures are more likely to use microcredit to fund their operations. To do so, we use Sen's (1999) capabilities approach to look at individual firms capabilities and how these influence new firms in using microcredit. Second, we discuss our methodological approach to assembling a dataset. Finally, we present our results and discuss their implications, concluding with suggestions on future research opportunities.

2. Theoretical Background

Sen's (1999, 2005) 'capabilities approach' introduced the notion that development should be conceptualized as freedoms, i.e., how and why individuals are able or constrained in their ability to act. Because individuals have ideas about the type of lives they want to live, they act in accordance with such aims (Sen 1999). Following the capabilities approach, antecedents and consequences of individual circumstances can be highlighted using non-monetary indicators: capability constraints need to be understood with respect to the individual's freedom, i.e., how and why individuals are able or constrained in their abilities to do or to be (Alkire 2005). In the capabilities approach, a person's freedom refers to the genuine opportunity to realize whatever it is that they are trying to achieve (Alkire, 2005). This, in turn, determines 'what they do' (Anand et al., 2009). Building on Sen's (1999)

argument, Nambiar (2013) further reports that capabilities are synonymous with individuals feeling constrained or enabled by their immediate circumstances whereas Robeyns (2005), Sen (2005) and Nussbaum (2000) indicate that it is an individual's environment which creates heterogeneities in capabilities. Severely restricted capabilities are therefore associated with an inability to act in accordance with ones' aims.

Prior work shows that context is particularly important in shaping entrepreneurial capabilities: by setting boundaries, it can be the space for the emergence of opportunities whilst also placing limitations upon them (Welter 2011; Estrin, Korostelevab, and Mickiewiczc 2013). Context influences enterprising activities at the intersection of different levels of analysis, situating theories and empirical patterns within their natural settings (Zahra, Wright, and Abdelgawad 2014). Evans (2002) and Sen (1999), among others, indicate that the institutional context indeed influences capability development. Both Sen (2005) and Nussbaum (2000) explain that expanding individual freedoms are central to advancing capabilities; this expansion is guided by institutional frameworks. The proposition here is that institutional development impacts freedoms, such as those related to economic opportunities, property, finance, and other basic services (Nussbaum, 2000; Sen, 2001; Stiglitz, 1998), and this impact capability development. On the one hand, as Robeyns (2005) reports, the capabilities of entrepreneurs requires appreciating that there are heterogeneities in their abilities to achieve their aims. On the other hand, institutional failure can increase transaction costs which limit the appropriability of entrepreneurial rents, reducing the perceived attractiveness of entrepreneurial opportunities and leading to suppression of entrepreneurial activity (Baker et al., 2005).

The development of financial insitutions, which provide adequate financial services, is categorised by Sen (1999) as an instrumental capability. Contexts where financial insitutions are underdeveloped contribute to the creation of 'poverty traps' (Berthelemy and Varoudakis

1996) as it reduces the perceived attractiveness of entrepreneurial opportunities. This, in turn, hinders the ability of individuals to adequately participate in economic exchange and overall capabilities (Sen 1999). Microcredit developed in contexts characterised by limited access to resources (Peredo and Chrismas, 2006) as a solution for individuals who are constrained by the environment, which inhibits the pursuit of lucrative opportunities (Sen 2005). As such, microcredit acts as a means towards the expansion of entrepreneurs' capabilities (Ansari, Munir and Gregg 2012) who can incrementally improve their capabilities of achieving small scale solutions to macro social problems (Moyo 2009). This leads to the formulation of the following hypothesis:

Hypothesis 1. *New ventures are more likely to use microcredit where capabilities are constrained.*

Microcredit was initiated as a solution to the financial need of entrepreneurs in developing countries with no access to financial services. The inability of these individuals to offer the necessary collateral to access traditional financial intermediaries (Umoh, 2006) coupled with limited property rights, lack of employment, and a verifiable credit history resulted in extremely high transaction costs for lenders, namely interest rates and repayment plans (De Soto 2000; Yunus 1999). Under these institutional conditions, market exchange is typically trust-based with entrepreneurs relying on personal networks for business (Fafchamps 1997, 2001) rather than market-based mechanisms.

The weakness of markets, namely *economic institutions* (North 1987), creates uncertainty. Uncertainty makes resource allocation decisions difficult and compounds an entrepreneur's inability for wealth creation (Seelos 2007). Major consequences of this are that the appropriability of entrepreneurial rents become limited, perceived attractiveness of entrepreneurial opportunities is reduced, and entrepreneurial activity may be suppressed

(Baker et al., 2005). As such, the inadequate development of financial services reduces the perceived attractiveness of entrepreneurial opportunities, hindering the ability of individuals to adequately participate in economic exchange (Sen 1999).

In the spirit of the microfinance movement, loans are designed to facilitate entrepreneurs to engage more effectively in the market. MFIs provide entrepreneurs financial capital which enables them to penetrate markets (Baker et al., 2005) or to create new ones (Mair, Marti, and Ventresca 2013. Although indebtedness may determine the nature of the opportunities being pursued, we know that it tends not impact upon an entrepreneurs willingness to take loans for working capital purposes (Dichter 2007, Bradley et al., 2012). As such, entrepreneurs tend to be willing to accept the risks associated with capturing opportunities when they have access to greater financial capital (Evans and Leighton 1989). This allows entrepreneurs to view the appropriability of their context more positively, ultimately increasing returns and the venture's ability to survive in the long-term (Baker et al., 2005; Montgomery 2005). These arguments thus lead us to formulate the following hypothesis:

Hypothesis 2. *New ventures are more likely to use microcredit where economic institutions are less developed.*

In addition to economic institutions, North (1987) argues that *political-judicial* institutions provide the necessary structures of law which allow for the enforcement of property rights. These are especially important for entrepreneurs who need clear indications about the residual claimants for the returns they may generate (Desai, Dyck, and Zingales 2004). Strong legal environments contribute to national economic growth (North 1987; Rigobon and Rodrik 2005) since they allow wealth producers to form expectations about value creation (Scully 1988; McMullen 2011) and to effectively innovate (Acemoglu and

Robinson 2012), while facilitating adequate development of the financial system (Shleifer and Vishny 1997; Levine 1998).

Institutional weakness arises from lapsed legal frameworks and corrupted contexts which is driven by limited accountability. Corruption hinders the formation of human capital necessary for economic growth and development (Becker, 1964, Benhabib and Spiegel 1994) and erodes the institutional capacity of government to deliver public services. In addition, Aidis et al., (2012) show that economic returns to entrepreneurs are lower when corruption is higher. This is due to the increased uncertainty stemming from unnecessary bureaucracy and the imposition of severe financial constraints on entrepreneurs (Anokhin and Schulze 2009). Corruption thus reduces economic investments, distorts markets, hinders competition and creates inefficiencies by increasing the costs of doing business (Pak Hung 2001). These type of environments are a common feature in the developing world (Easterly 2001b, Moyo 2009, North 1970) and result in both individual capabilities (Gupta et al*.,* 2002) and economic incentives for entrepreneurial action being impacted and reduced.

In the context of MFIs, Massey (2011) finds that corruption does not affect the ability of MFIs to lend. This suggests that MFIs may not be refrained from lending to ventures operating in environments with less developed political-judicial institutions. However, the amount of financial capital utilised by such firms tends to be driven by their willingness to take loans and engage with the MFI, as well as by the uncertainty that corrupt contexts bring. For microcredit borrowers, weak political-judicial institutions and the presence of corruption represent a key part of the appropriability of that national context – whether they perceive there to be potential for profit given aspects of the institutional environment (Baker et al., 2005). In effect, political-judicial systems have an instrumental role for businesses and their absence or weakness leads to serious uncertaintities (Sen 1999). One consistent logic of microcredit is the group lending methodology which gives borrowers collective support

through local networks. This acts as what Lawrence et al. (2002) describe as "proto-institutions" – network arrangements which substitute for a lack of formal institutions and help to avoid the negative implications associated with bribery and weak legal systems (Khanna and Palepu 1997; Webb et al., 2010). This network effect has similarly been identified in the absence of the group lending methodology because it provides a level of network legitimacy in an entrepreneur's set of exchange relationships by signalling to other members of the market (Viswanathan et al., 2010). As such, the use of microcredit allows entrepreneurs to substitute for the weakness in political-judicial institutions. Based on the preceding argument, entrepreneurs are likely to survive and prosper when they make greater use of microcredit. In contexts that threaten this progress, the use of microcredit is a vital tool to this end. Thus, the following hypothesis is formulated:

> **Hypothesis 3***: New ventures are more likely to use microcredit where political-judicial institutions are less developed.*

Although the rationale of microcredit is to lend to those entrepreneurs operating in contexts with constrained capabilities, institutions are complex and heterogeneous. Roth and Kostova (2003) highlight the particular existence of "institutional imperfections" in developing economies; such heterogeneity should be understood with respect of a blend of developed and under-developed formal institutions. As demonstrated by Nambiar (2013), the development of an institutional context may only partially enable one aspect of capabilities whilst simultaneously being restrictive elsewhere. Thus, we expect to see a complex constellation of broader institutional factors associated with diverse restrictions on capability constraints. This concerns the immediate environmental "conversion factors" (Sen, 1999) that define an entrepreneur's capabilities as well as the broader presence of regulative institutional

characteristics that interact to determine the usage of microcredit. As such, we suggest that there must be some form of development in existing economic and/or political-judicial institutions which allows new ventures to access microcredit. However, the combination of the elements of the institutional framework which produce these outcomes has been overlooked. Bringing together hypothesis 1 through to hypothesis 3, we formulate following new hypothesis:

> **Hypothesis 4***: New ventures are more likely to use microcredit in environments characterized by high constrained capabilities where economic institutions are more (less) developed and political-judicial institutions less (more) developed.*

3. Methodology

To test our hypotheses, we used data by the World Bank through its annual Enterprise Survey. We focused on countries in Sub Saharan Africa since this has been consistently depicted as one of the areas with seriously restricted capabilities. In particular, the World Bank (2011) reports an increase in Sub-Saharan urban population by 114 percent between 1990 and 2009, and an increase in people living with less than $1 a day by 183 percent; also, the average life expectancy at birth results to be 52.5 years, compared with 71.5 years for North Africa and 69.2 years for the world. Still, the prevalence of HIV for people aged 15-49 is nearly 7 times the world's average (World Bank, 2011).

Twenty seven Sub-Saharan countries were included in the survey. The Enterprise Surveys collect firm level information on the business environment, how it is perceived by individual firms, how it changes over time, and the various constraints to firm performance and growth (World Bank 2011). Firm level data is available from 2002; however, since data prior to 2006 were collected by different units within the World Bank and employed different survey questions for different countries, our analysis focuses on data collected from 2006. In

addition, the Enterprise Survey is addressed to operating businesses that employ a minimum of 5 employees; this eliminates most of the subsistence-driven and self-employment forms of entrepreneurship, something that Karnani (2007) has defined as "misguiding" in that the focus on subsistence entrepreneurship does not help us in understanding and/or explaining economic development. Similarly, Mead and Liedholm (1998) have shown that within an African context small and medium sized enterprises generate significantly more jobs than larger scale enterprises yet remain chronically underfunded. By concentrating on ventures with 5 or more employees, we are able to focus on the "missing middle" of the microfinance sector which have the greatest potential for driving economic growth and is consistently under researched (Sleuwaegen and Goedhuys 2002). To date, this is a group of entrepreneurs who have received sparse attention within the microfinance literature, which has heavily focused on microfinance institutions themselves rather than on recipients of their services (cfr. among others, Mair and Marti, 2006; Moss, Neubaum, and Meyskens, 2015; Silva and Chavez, 2015).

For what concerns our conceptualization of entrepreneurship as new ventures, consistent with prior research in both developed and developing countries, we limited our analysis to those firms that were not part of larger firms and were less than 10 years old (Benson 2001; Fadahunsi and Rosa 2002; Reuber and Fischer 2002; BarNir, Gallaugher, and Auger 2003; Park and Bae 2004; Bhagavatula, Elfring, Van Tilburg, and Van de Bunt 2010). Based on these parameters, our sample size for analysis was 5255 out of the 16847 firms in the original Enterprise Survey dataset.

3.1 Measures

We measured the use of microcredit by new ventures using an indicator of whether a firm used microcredit to finance its working capital. The relevant question from the survey (K3) asked respondents to estimate, over the latest fiscal year, the proportion of their establishment's working capital that was financed from a range of sources: (a) internal funds / retained earnings, (b) borrowed from banks, (c) borrowed from non-financial institutions, (d) purchases on credit from suppliers and advances from customers, and (e) other (moneylenders, friends, relatives, etc.). Because only a portion of the surveyed firm's purchased fixed assets in any given year, we focused on the financing of working capital. This represents a recurrent decision for new firms and readily applies to all respondents in the survey. In the sample, the percentage of microcredit used to finance working capital varied between zero and one hundred and was provided in the original World Bank dataset as an integer over that range. We converted that into a proportion measure. Since only 4 percent of the sample firms made use of microcredit, we created an indicator variable for our main analysis, based on whether a firm used microcredit. Nevertheless, we used the proportion in supplementary analysis.

One relevant consideration for the validity of our measure pertains to cases where the entrepreneurs may not actively look for microcredit funding. The pecking order hypothesis from the finance literature suggests that, if available, internal funds are typically the first option for financing a business (Myers and Majluf 1984). Therefore, in our analyses, we seek to tease out this explanation of the variability in the proportion of microcredit used by modelling the availability of internal funds / retained earnings as an endogenous characteristic of the firm and controlling for the probability of self-seleciton into the category of firms with no sufficient internal funds, i.e. those who are likely to look for external options such as microcredit.

We measure *capability constraints* at the level of the individual firm following Sen's (1999, 2005) capability approach and focusing on the perceived constraints to the entrepreneurs' functioning, i.e., the pursuit of valuable activities and positive choices that the entrepreneur is able to make concerning the operation of his/her business. Our measure of capability constraints is as a composite of the degree to which the following were perceived as obstacles: telecommunication, electricity, transportation, access to land, inadequately educated labor force, crime theft and disorder, tax administration, customs and trade regulations, labor regulations, business licensing and permits, and practices of competitors in the informal sector. These factors are argued important for the entrepreneurial process in developing economies because they can affect the degree to which the potential value of opportunities is appropriable (Baker et al., 2005). 'Hard' (e.g. transportation, telecommunications, electricity) and 'soft' (education systems, business environment, taxes) infrastructure constraints can reduce the capabilities of entrepreneurs to create value as profits are eroded into sections of the economy outside of the entrepreneur's control (Khanna and Palepu 1997). The data for these items came from the Enterprise Survey. For each of these issues, respondents indicated on 5 point scale (from "no obstacle" to "very severe obstacle") the degree to which it constituted an obstacle to the current operations of their establishment. We then used these items to create a reflective indicator of "capabilities constraints." The overall reliability (alpha) of the scale was 0.77.

We measured *development of economic institutions* as a composite of several country-level factors, obtained from the World Economic Forum's Global Competitiveness Report (2008). We included the scores of four main pillars of the competitiveness index – goods market efficiency, financial market sophistication, market size, and business sophistication – as well as the score for the intensity of local competition. In deriving the scale we used the standardised value of each component. We then used these items to create a reflective

indicator of "development of economic institutions." The reliability (alpha) of the scale was 0.94.

We measured *development of political-judicial institutions* as a composite of several country-level factors, obtained from several sources. First, we used data from the Economic Freedom of the World Report index (2011) on the legal environment and corruption for each country and survey year. This approach was consistent with prior research both in developed and developing countries (Wan and Hoskisson 2003; Christa 2008; De Clercq and Dakhli 2009; Gwartney, Lawson and Hall, 2015; Sobel 2008; Smets and Knack, 2016). In particular we used area two of the index, which covers legal structure and the security of property rights. Its individual components include judicial independence, impartial courts, protection of property rights, military interference in rule of law and the political process, integrity of the legal system, legal enforcement of contracts, and regulatory restrictions on the sale of real property. The index score varies from one (the weakest) to ten (the strongest). We also used the index for item 5Cv of the Business Regulation section, which provides a score for extra payments and bribery. The score varies from one (the weakest) to ten (the strongest), with higher value suggesting that corruption is less problematic. Second, we used the corruption perception index from Transparency International for each country and survey year. Finally, we used data from the World Economic Forum Global Competitiveness Report (2008) on the first pillar (Institutions) of the Competitiveness Index as well as, from the detailed profile of each country, on the degree to which corruption was perceived as a problematic factor for doing business in the country. In deriving the scale we used the standardised value of each component. The reliability (alpha) of the scale was 0.90.

We control for a number of variables in order to rule out alternative explanations for variations in the usage of microfinance. At the country level, we controlled for each country's Human Development Index (from the United Nations), to factor out the country's overall

level of development (Chliova, Brinckmann, and Rosenbusch, 2015). At the level of the firm, we firstly controlled for its status as sole proprietorship since this is the most commonly used legal arrangement in developing countries (Umoh, 2006). Secondly, we control for the highest educational attainment of the owners since human capital affects firm outcomes in developing economies (Bradley et al., 2012; Umoh, 2006). Thirdly, we control for number of employees (logged) and annual sales (logged) as indicators of firm performance (Bruton et al., 2011). Lastly, we controlled for whether it was in a manufacturing sector as an indicator of industry which can have implications for the survival and performance of firms (Shane 2003). We include a summary table of all of our measures in Table 1.

Insert Table 1 about here

3.2 Analysis

Given the binary nature of our dependent variable, i.e., whether a firm uses microcredit or not to fund its working capital needs, we used a logit model in our main estimation and a robust option for calculating the standard error in order to deal with possible heteroskedasticity in the data. We also performed several supplementary analyses to establish the robustness of our results. First, in consideration of the excessive number of zeros in our data, we estimated a tobit model, for which we used the proportion of microcredit as the dependent variable. Second, we considered whether a firm financed its working capital entirely by internal funds / retained earnings. One might argue that the decision to rely entirely on internal funds may be driven by factors related to the external environment of the firm, thereby intersecting the realm of our theory. In order to ensure that such endogeneity in the funding decisions of the

ventures in our sample did not bias our estimation, we estimated our model on the sub-sample of firms not entirely financed by internal funds and included a self-selection correction (Heckman 1979) for the firms' reliance on internal funds. The correction was based on a probit estimation of whether a firm was entirely financed by internal finds, from which we derived the expected probabilities that a firm was not entirely financed by internal funds, to use as control variable in the estimation.

4. Results

Table 2 provides the descriptive statistics and correlations for the variables used in the analyses. As per our theorizing, this shows a very low correlation between capability constraints and our measurement of institutions. The correlation of capabilities with market environment is .07, with legal-judicial institutions -.01 and with human-development index .11.

Insert Table 2 about here

In Table 3 we provide the results of the logit estimation. In Model 1 we include only our control variables. In Model 2, we include the main effects for development of economic environment, development of legal-judicial institutions, and capability constraints. In Model 3, we include the individual interaction effects of economic environment and legal-judicial institutions with capability constraints. Finally, in Model 5 we include the joint interaction effect of economic environment and legal-judicial institutions with capability constraints.

Insert Table 3 about here

In Model 2, the main effects of market environment and legal-judicial institutions were negative and significant in the model ($\beta = -.47$, $p < .001$ and $\beta = -.41$, $p < .001$, respectively), suggesting that firms are less likely to use microcredit in more developed environments. The main effect for capability constraints was positive and significant ($\beta = .39$, $p < .001$). This suggests that the use of microcredit is more likely when ventures operate with constrained capabilities. In Model 3, the individual interactions of market environment and legal-judicial institutions with capability constraints did not improve the fit of the model and were not significant.

In Model 4, the addition of the joint interaction effect of market environments and legal-judicial institutions significantly improved the fit of the model (ΔChi-square = 11.2 (2df), $p < .01$). The three-way interaction effect was negative and significant ($\beta = -1.299$, $p < .05$). In order to understand the nature of the interaction we plotted the effect of capability constraints on the likelihood of using microcredit for four different development combinations of market environment and legal-judicial institutions: high-high, high-low, low-high, and high-high. The interaction plot is shown in Figure 1. The plot shows that the relationship between capabilities constrains and the use of microcredit is positive when market environment is more developed and the legal-judicial institutions less developed, and negative in the other two combinations, when they are both more or less developed.

Insert Table 4 and Figure 1 about here

Our robustness estimations of Model 4 from Table 3 are shown in Table 4. Model 1 presents the tobit estimation of the proportion of microcredit used by the firms. The three-way interaction effect of market environment, legal-judicial institutions, and capability constraints is negative and marginally significant ($\beta = -.32$, $p < .10$). This effect as well as the overall results is consistent with our main estimation. In Model 2, we present the logit estimation on the subset of ventures that were not financed by internal funds, while controlling for their endogenous self-selection into that category. Again, the three-way interaction effect is negative and marginally significant ($\beta = -1.129$, $p < .10$) and consistent with our main estimation. These findings corroborate the robustness of our results.

Insert Table 4 about here

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5. Discussion, Limitations and Future Research

Scholars have consistently linked entrepreneurial activity with economic growth. However, in developing countries individuals often lack the capabilities to access the market and obtain capital to fund new business opportunities. Acknowledging these challenges, microcredit developed to provide small amount of loans to allow such individuals to efficiently engage in economic exchange, build their ventures thus making wider economic contributions (McMullen 2011). However, entrepreneurship researchers have argued that contextual factors, both at the individual and institutional level, augment entrepreneurial activity (Baumol 1990; Estrin et al., 2013).

This paper highlights the contextual conditions under which new, growing ventures use microcredit. These ventures are classified as the "missing middle" and have been overlooked by mainstream academic research and practitioners' work, where a focus has been on individuals receiving microcredit for subsistence purposes and/or to develop micro-enterprises (Beck 2007). Yet, we know that microcredit developed as a solution to offer individuals the necessary financial instruments that would enable building entrepreneurial capabilities by developing new businesses. As such, this "missing middle" represents smaller firms within developing economies that have limited financial options even though they may offer returns on investments in these contexts (McKenzie and Woodruff 2008) and potentially provide much more significant economic externalities in terms of job and wealth creation (Karnani 2007). Although the term "missing middle" has been used for some time, there is very little research on this group of firms even though they're becoming a more prominent part of the microfinance picture and have a more significant economic impact than their micro counterparts (Khavul et al., 2013).

Because Sub-Saharan Africa is a region characterized by high constraints to individual capabilities and little attention has been paid to heterogeneity of capabilities across the continent (Rivera-Santos et al., 2013), our empirical analysis focuses on the use of microcredit in "missing middle" ventures in such countries. Specifically, we examine the degree to which microcredit is utilized by new ventures as a function of the country's institutional environment, measured as the development of economic and political institutions, and of the degree of constraints to a firm's capabilities, measured by the fruitfulness of the commercial environment. We then argue that microcredit is more likely to be used by those ventures that have higher restrictions to their capabilities only when there is some institutional arrangement, either at an economic or political-judicial level that sets "the rules of the game."

Our empirical results suggest that microcredit is indeed used by these new, missing middle ventures in contexts that present challenges both at the firm and institutional level of analysis. The identification of a positive effect between the use of microcredit and the constraints to entrepreneurial capabilities reinforces Sen's (1999) view and the notion that microcredit facilitates access to capital for those entrepreneurs that operate in regions with the most restricted capabilities. However, our results also show this happens only when there are the appropriate supporting institutional mechanisms, further suggesting that contextual features of the institutional environment shape microfinance activity. Particularly, the use of microcredit by the "missing middle" increases in contexts characterized by restricted capabilities and either a) well (less) developed economic (political-judicial) institutions, or b) less (well) developed economic (political-judicial) institutions. The underdevelopment of economic institutions can prevent entrepreneurs from forming contracts, ultimately increasing business uncertainty and compounding their ability to create wealth (Seelos 2007). This is theoretically consistent with the Mair and Marti (2009) argument who assert that MFIs act as institutional entrepreneurs in contexts of institutional weakness left open by underdeveloped economic institutions. Similarly, contexts where political-judicial institutions are characterized by high levels of corruption raise the fundamental threat of rent and asset expropriation, generating uncertainty in the business environment. This uncertainty undermines entrepreneurial aspirations of individuals and has a stronger effects on new ventures than on established ones (Kahneman and Tversky 1979). In such contexts, institutions in charge of transferring resources to one party to another, and designed to serve on behalf of the government or the people (including, thus, the government itself), may not be answerable to their principals.

However, our results also do show that we should consider the interaction between development of economic and political insitutions to fully understand the use of microcredit

by new, growing firms, and that heterogeneity of capabilities drives such relationship. Particularly, microcredit may help shape insitutional contexts characterized by heterogeneous capabilities, but foundational institutional support is needed in order to tackle such capability problems. Whereas prior work (Khavul et al., 2013; Mair and Marti, 2006; Mair, Marti, and Ventresca, 2012) has indicated that microcredit is used in contexts where only economic instutitions are to be developed, our work shows that there must be some formal institutional political framework in place for entrepreneurs to use microcredit in such contexts. Without it, the developmental role of microcredit may be overstated.

At the same time, we also show that microcredit is used in contexts where there is development of economic institutions. Yet, we identify that the use of microcredit is to be found in contexts with stronger economic institutions and weak political ones. It is precisely this interaction between developed economic institutions and underdevelopment of political ones that the literature has not addressed this far. Acemoglu and Robinson (2012) draw the distinction between extractive and inclusive institutions, arguing that extractive contexts (e.g. autocratic rule/weak governance) can have strong economic institutions. However, because these are less open politically, they may deter potentially novel businesses that spur economic growth. If microcredit is utilized by capability constrained firms in potentially extractive contexts, this suggests that the entrepreneurial activity being stimulated, even within the "missing middle", may be less productive for economic development (Baumol 1990). Our work, therefore, highlights the institutional conditions within which microcredit is used to fund the development of new entrepreneurial opportunities: if less favorable political contexts may lead entrepreneurs to capture opportunities which are less conducive to the overall development of the economy, the impact of microcredit in these nations may be somehow minimalistic. Conversely, in more politically inclusive economies, microcredit may help spur the creation of more competitive and innovative markets which can help diversify markets

beyond the basic services (e.g. food goods, provisions) often provided (Banerjee 2007). As such, the relationship between the nature of the institutional environment and the type of business opportunity pursued in the microfinance industry would be an interesting avenue for further study. Indeed, further study needs to dig deeper into the role of informal institutions in this process.

Overall, this encourages us to consider whether the relationship between microcredit, entrepreneurship and capabilities works as the literature currently assumes – microcredit is used by entrepreneurs in the most resource constrained environments where only economic institutions are to be shaped. As such, our findings suggests a more complex picture than extant research currently suggests and contribute to a better understanding of the use of microcredit at the level of the firm receiving it (Silva and Chávez 2015), with a need to consider institutional heterogeneities both within and across developing countries (Roth and Kostova 2003) and the interaction between a complex constellation of factors of institutions and capabilities (Nambiar 2013). It is therefore of key importance for future work to understand the dynamics through which microcredit is developed in contexts characterized by political institutional weakness. From a political perspective, most research has focused on the role of regulation in the microfinance sector (Cull et al., 2011) without considering the other aspects of political institutions we have theorized, and empirically identified, here. This would help scholars and practitioners alike in gaining a better understanding how microcredit works in varying political environments.

From a policy perspective our findings which suggest that new ventures need some level of institutional support to be able to pursue and fulfil their entrepreneurial aspirations, something that has strong implications given the recent political upheaval in North Africa, the Middle East and parts of Sub-Saharan Africa. In post-conflict contexts, often characterised by the lowest level of capability development, and where political institutions (or economic

ones) are still in the process of being redefined and shaped, the intervention of MFIs may be of key importance in stimulating entrepreneurial activity and the economy in some of the most challenging contexts. Emerging evidence suggests that many nations in Sub-Saharan Africa and beyond are developing the appropriate institutions through which financial institutions can stimulate the private sector (Naudé 2010). Microcredit could be an appropriate tool for augmenting entrepreneurial activity in those environments where individuals lack the basic individual and institutional infrastructure to fulfil their aspirations. As such, the ability of entrepreneurs to have access to improved instrumental capabilities is likely to be shaped by how varying institutional arrangements support them, determining where investors see scalable operations and therefore the diversity of financial services at the disposal of entrepreneurs.

Aside from the contribution and further reflection that our results stimulate, there are limitations to our study that need to be considered in any further extrapolation from our results. First, the study was cross sectional in nature and, as such, cannot make a reliable inference on the direction of the interplay between the effectiveness of the provision of microcredit on capabilities or on the institutional development over time. The nature of our data enabled us to study only the use of microcredit as a function of capability constraints, but a promising and much needed extension of the work concerns the reverse relationship, i.e. how the use of microcredit helps in improving entrepreneurial capabilities. Second, while large scale data are difficult to collect on this topic, the availability of the Enterprise Survey has enabled us to throw a glimpse at the use of microcredit across a large group of African countries. At the same time, as is true for any secondary dataset, the data offer limited insight into the conditions and rationale under which microcredit was (or was not) obtained. We hope that our insights can stimulate further research that would seek to elucidate this mechanism through more suitable research designs.

6. Conclusion

In this paper we asked, how do formal institutions shape the use of microcredit by firms with varying entrepreneurial capabilities? Our results demonstrate a need to consider the development of economic institutions – as extant research suggests – but also the development of political institutions to fully understand the use of microcredit by firms in Sub Saharan Africa's "missing middle". Importantly, our results underline the need for some kind of supporting institutional mechanism to allow entrepreneurs with restricted capabilities to use micocredit.

As the challenge of assessing the conditions under which microcredit is utilised continues, this paper offers one perspective in understanding this relationship from a firm and institutional level perspective. Our findings point to the severe challenges facing entrepreneurs using microcredit in developing economies where institutional contexts have to be developed. In order to spur entrepreneurial action through the provision of microcredit, the task may rest at the door of policy makers and the international community whose decisions will shape the long term future of both the microfinance industry and of the entrepreneurial activity.

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TABLE 1
Summary of Constructs and Measures

Construct	Measures	References
Capability Constraints	**Obstacles:** Telecommunication, electricity, transportation, access to land, inadequately educated labor force, crime theft and disorder, tax administration, customs and trade regulations, labor regulations, business licensing and permits, and practices of competitors in the informal sector.	(Baker et al. 2005; Khanna and Palepu, 1997; Robeyns, 2005; Sen, 1999)
Political-Judicial Institutions	Judicial independence, impartial courts, protection of property rights, military interference in rule of law and the political process, integrity of the legal system, legal enforcement of contracts, regulatory restrictions on the sale of real property, extra payments and bribery, corruption perceived as a problematic factor for doing business.	(Economic Freedom of the World Report Index 2011; Wan and Hoskisson 2003; Christa 2008; De Clercq and Dakhli 2009; Sobel 2008; World Economic Forum Global Competitiveness Report 2008).
Economic Institutions	Goods market efficiency, financial market sophistication, market size, and business sophistication, intensity of local competition	(World Economic Forum Global Competitiveness Report 2008).

TABLE 2
Descriptive Statistics and Correlations (N = 5,255)

	Mean	St.dev	1	2	3	4	5	6	7	8	9
1 Use of microcredit	0.04	0.20	1.00								
2 Capability constraints	-0.13	0.52	0.06	1.00							
3 Market environment	-0.11	0.88	-0.05	0.07	1.00						
4 Legal-judicial institutions	0.10	0.80	-0.01	-0.01	-0.07	1.00					
5 Human development index	0.40	0.07	0.03	0.11	0.44	0.51	1.00				
6 Sole proprietorship	0.73	0.45	-0.06	-0.07	0.17	-0.21	-0.12	1.00			
7 Education of owner	5.13	2.16	0.03	0.14	0.01	0.17	0.26	-0.33	1.00		
8 Employees (log)	2.10	0.98	0.04	0.10	0.01	0.18	0.06	-0.30	0.32	1.00	
9 Sales (log)	16.52	2.37	0.04	-0.04	-0.21	0.06	-0.07	-0.27	0.27	0.45	1.00
10 Manufacturing	0.24	0.43	0.03	0.03	-0.02	-0.05	0.03	-0.04	-0.01	0.03	0.00

Note: Correlations with an absolute value greater than 0.027 are significant at $p < .05$

TABLE 3
Logit Estimation of the Whether Firms Use Microcredit

	Model 1			Model 2			Model 3			Model 4		
	Coef.	Std. Err.		Coef.	Std. Err.		Coef.	Std. Err.		Coef.	Std. Err.	
Capability constraints				0.390	(0.12)	***	0.486	(0.14)	***	0.517	(0.14)	***
Market environment				-0.470	(0.09)	***	-0.475	(0.09)	***	-0.375	(0.11)	***
Legal-judicial institutions				-0.413	(0.10)	***	-0.405	(0.10)	***	0.008	(0.18)	
Market env. X Cap. constraints							0.236	(0.15)		0.083	(0.17)	
Legal-jud. Inst. X Cap. constraints							-0.036	(0.09)		-0.578	(0.23)	*
Market env. X Legal-jud. Inst.										0.786	(0.39)	*
Market env. X Legal-jud. Inst. X Cap. const.										-1.299	(0.63)	*
Human development index	2.145	(1.04)	*	6.603	(1.41)	***	6.658	(1.42)	***	6.147	(1.41)	***
Sole proprietorship	-0.453	(0.17)	**	-0.362	(0.18)	*	-0.353	(0.18)	*	-0.373	(0.18)	*
Education of owner	-0.002	(0.04)		-0.025	(0.04)		-0.024	(0.04)		-0.008	(0.04)	
Employees	0.044	(0.07)		0.113	(0.07)		0.103	(0.07)		0.127	(0.07)	+
Sales (log)	0.053	(0.04)		0.020	(0.04)		0.029	(0.04)		-0.005	(0.04)	
Manufacturing	0.254	(0.15)	+	0.184	(0.15)		0.191	(0.15)		0.205	(0.15)	
Constant	-4.719	(0.75)	***	-6.074	(0.78)	***	-6.234	(0.77)	***	-5.607	(0.78)	***
Log-likelihood	-899.4			-875.8			-874.7			-869.1		
Chi-square	36.4	***		87.2	***		84.9	***		88.3		
Δchi-square				47.0	***		2.3			11.2	**	
N	5,255			5,255			5,255			5255		

+ p < .10
* p < .05
** p < .01
*** p < .001

TABLE 4
Supplementary Estimations

	Tobit			Logit		
	Proportion of microcredit			Selection correction		
	Coef.	Std. Err.		Coef.	Std. Err.	
Capability constraints	0.143	(0.04)	***	-0.335	(0.34)	
Market environment	-0.108	(0.03)	***	-1.411	(0.39)	***
Legal-judicial institutions	0.001	(0.05)		-0.812	(0.33)	*
Market env. X Cap. constraints	0.012	(0.05)		0.067	(0.19)	
Legal-jud. Inst. X Cap. constraints	-0.127	(0.07)	+	-0.298	(0.25)	
Market env. X Legal-jud. Inst.	0.202	(0.10)	+	0.937	(0.37)	*
Market env. X Legal-jud. Inst. X Cap. const.	-0.318	(0.18)	+	-1.129	(0.68)	+
Human development index	1.705	(0.39)	***	11.745	(2.46)	***
Sole proprietorship	-0.107	(0.05)	*	-0.175	(0.20)	
Education of owner	-0.002	(0.01)		-0.051	(0.04)	
Employees	0.037	(0.02)	+	-0.842	(0.35)	*
Sales (log)	-0.003	(0.01)		0.003	(0.04)	
Manufacturing	0.060	(0.04)		0.183	(0.16)	
Self-selection correction for internal financing				5.465	(2.36)	*
Constant	-1.744	(0.23)	***	-2.412	(1.42)	+
LL	-801.2			-758.1		
F / Chi-square	5.990	***		120.7	***	
N	5,255			3,446		

+ p < .10
* p < .05
** p < .01
*** p < .001

FIGURE 1
Interaction Effect of Market Environment, Legal-Judicial Institutions, and Capability Constraints on the Likelihood of Using Microcredit