Financial Inclusion and Entrepreneurship in Six Sub-Saharan African Countries: Evidence from FinAccess and FinScope Survey Data

Lewis-Landry GAKPA

Research Paper 525

AFRICAN ECONOMIC RESEARCH CONSORTIUM
CONSORTIUM POUR LA RECHERCHE ÉCONOMIQUE EN AFRIQUE

Bringing Rigour and Evidence to Economic Policy Making in Africa

Financial Inclusion and Entrepreneurship in Six Sub-Saharan African Countries: Evidence from FinAccess and FinScope Survey Data

By

Lewis-Landry GAKPA
Ecole Nationale Supérieure de Statistique et d'Economie Appliquée (ENSEA)-Abidjan, Côte d'Ivoire

AERC Research Paper 525
African Economic Research Consortium
May 2023

THIS RESEARCH STUDY was supported by a grant from the African Economic Research Consortium. The findings, opinions and recommendations are, however, those of the author and do not necessarily reflect the views of the Consortium, its individual members or the AERC Secretariat.

Published by: The African Economic Research Consortium
P.O. Box 62882 – City Square
Nairobi 00200, Kenya

ISBN 978-9966-61-228-1

Contents

List of tables

Abstract

This paper investigates how financial inclusion affects individuals' decisions to start businesses in the context of six Sub-Saharan African countries, using micro-data from the FinScope and FinAccess surveys. To do so, we use an instrumental variable (IV) technique to assess the empirical relationships. Overall, the results reveal that access to banking services, formal non-banking services, informal financial services and mobile money services positively and significantly influence the decision to start businesses in the six countries, namely Kenya, Rwanda, Tanzania, Uganda, Namibia and Zambia. Furthermore, although the results show that a range of both demand- and supply-side barriers prevent individuals from accessing banking services for entrepreneurial purposes, supply-side constraints are the most common barriers to individuals starting a business. In view of the above, policy interventions should first aim at creating an enabling environment to increase people's access to all types of financial services and, secondly, address both supply- and demand-side constraints to promote entrepreneurship and economic growth. These measures should be aimed at increasing the level of financial inclusion with a view to stimulating entrepreneurial activities, which are the real pillars in development and poverty reduction process in Sub-Saharan African countries.

Keywords: Financial inclusion, Entrepreneurship, Sub-Saharan Africa, FinScope, FSD-FinAccess.

1. Introduction

For a number of years, policy makers and researchers have recognized entrepreneurship as a key factor in economic development (Schumpeter, 1934; Brixiová, 2010; Aghion, 2017; Fan and Zhang, 2017). The underlying reason is that entrepreneurship is an important driver for promoting innovation and structural transformation of economies (Audretsch et al., 2002). Some economists such as Bruton et al. (2013), Brixiová and Asaminew (2010) and Tobias et al. (2013) go even further to argue that entrepreneurship is one of the most effective tools in the global fight against poverty and, therefore, encourage policy makers in low-income countries to include entrepreneurship as a key element of their inclusive growth strategies (Brixiová and Égert, 2017). Similarly, according to Tchamyou (2016), promoting entrepreneurship, i.e. job creation, is one of the main remedies for dealing with the demographic surge, with its consequences in terms of high unemployment rate in African countries.[1]

Given the importance of entrepreneurial dynamics as a driver of poverty reduction, much of the theoretical and empirical literature in recent years has focused on identifying and analysing the potential forces that can influence entrepreneurial activities. Thus, among the many factors identified in the literature, the issue of access to financial services features prominently[2] (Schumpeter, 1934; McKinnon, 1973; Beck et al., 2009; Kerr and Nanda, 2009; Demetriades and Rewilak, 2019). Indeed, several theoretical studies have attempted to document how access to financial services can stimulate business creation. In this regard, we can mention those of King and Levine (1993), who identified two channels through which financial development can boost business creation. First, as the financial sector develops, *ex ante* screening by lenders improves and entrepreneurs with high skill potential who are short of funds are able to obtain funds and thus start their businesses. Second, entrepreneurs are able to diversify risks more easily in more financially developed countries. Consequently, they invest in riskier and more profitable projects. In the same vein, the work of Evans and Jovanovic (1989), followed by Kan and Tsai (2006), demonstrates that financial constraints limit entrepreneurial activities. The theoretical work of Klapper et al. (2004) also points in the same direction. Indeed, these authors argue that access to credit allows for greater market entry by talented new entrepreneurs, who would otherwise be constrained by lack of inherited wealth and lack of connection to the network of wealthy incumbents. Thus, greater access to credit for both individuals and firms (since small and micro enterprises are often started by individual borrowers), will increase the productivity returns to investment.

However, despite these theoretical arguments, from an empirical point of view, authors have so far failed to find clear and robust evidence of positive effects of access to financial services on entrepreneurship. As an illustration, in terms of positive effects, we can cite the work of Skyes et al. (2016), Blattman et al. (2014), Cho and Honorati (2014), Fan and Zhang (2017), and in terms of insignificant effects, the studies of Grimm and Paffhausen (2015) as well as Van Rooyen et al. (2012).

Many arguments have been put forward in the literature to explain such a gap between theoretical predictions and empirical results. The main argument is that the availability of solid empirical evidence to support or refute these theories has been limited so far, due to lack of adequate data on access to financial services. Indeed, most of the empirical work uses measures of the financial sector collected from financial institutions, such as private credit or the total value of bank deposits, which do not capture the distribution and allocation of these bank deposits or credit across the population (Ellis et al., 2010). Moreover, these indicators are still mostly limited to formal financial service providers. However, there is evidence that informal and semi-formal providers reach a much larger proportion of the population in many developing countries than banks. Indeed, several studies have pointed out that small firms, which consistently report higher barriers to growth than medium or large firms, are less likely to access formal finance (Brixiová et al., 2020). Developing a better understanding of the role of access to and use of financial services as a whole (including formal, semi-formal, informal and mobile money accounts) is therefore an important and currently understudied area.

Another argument is that the issue of endogeneity has also not been considered in previous empirical studies. Indeed, it is quite likely that being an entrepreneur can also influence financial inclusion (reverse causality), in the sense that entrepreneurs offer more collateral than those without businesses to obtain better access to credit and other financial services. Other sources of endogeneity may also arise from the existence of unobserved factors that may be correlated with both the dependent and independent variables. For example, some socio-demographic variables (e.g. age and gender) may have a direct impact on both entrepreneurship and access to financial services.

Ignoring this potential interdependence could lead to misleading conclusions about the actual relationship between financial inclusion and entrepreneurship and potentially over- or underestimate the true impacts of each of these. This, in turn, can have important consequences in terms of the effectiveness of economic strategies and policies to be implemented to foster both financial inclusion and entrepreneurship in developing countries.

This study therefore aims to contribute to the empirical literature, using the results of the more recently available FinScope and FinAccess household surveys on the use of financial services in analysing the relationship between financial inclusion and entrepreneurship in the context of Sub-Saharan African countries.[3]

By retaining the micro-data from the FinAccess and FinScope financial inclusion surveys, we will be able to more adequately address how people's access to and use of financial services affects their decision to start small and micro businesses. This

is because the data is extremely rich and contains a wealth of information that is not available from any other source (Ouma et al., 2017). These databases contain nationally representative information on the use of and access to both formal and informal financial services. These surveys, therefore, capture important dimensions of financial inclusion as they are specifically designed to measure access to financial services (Allen et al., 2021). They provide a better understanding of the financial situation of a population, focusing on market needs and attitudes towards the provision and use of formal and informal financial services. The questionnaires are based on the analysis of what respondents have and what they can do with what they have. Despite the richness of these new databases, they have been under-used in empirical work to date. Also, most previous work has focused on developed countries and very little has focused on developing countries, such as those in Sub-Saharan Africa, due to lack of data (Lyons and Contreras, 2017). Yet, one of the major development challenges facing Sub-Saharan Africa is the existence of high youth unemployment and low labour force participation rates among the working-age population (Anyanwu, 2014; Brixiová et al. 2015; AERC, 2014). Promoting entrepreneurship, i.e. job creation, is emerging as one of the main remedies to address the soaring unemployment in Sub-Saharan African countries.

In view of the above, this study aims to investigate the influence of financial inclusion on entrepreneurship in six Sub-Saharan African countries using an instrumental variable estimation procedure to address the endogeneity problems suspected in the literature between the two variables.

In addition, the study goes further by seeking to identify which of the barriers to accessing financial services (supply- or demand-side) is most related to the likelihood of an individual committing to borrowing or saving for the purpose of business creation. This identification seems important to us as it will provide policy makers with more precise information on the types of barriers (demand- or supply-side) that they should focus on to boost entrepreneurship as an engine of economic growth.

Using a sample of six Sub-Saharan African countries and after taking into account the endogeneity issue suspected in the literature between financial inclusion and entrepreneurship, we find that: (i) financial inclusion measured by the use of banking services, formal non-banking services, informal financial services and possession of a mobile money account positively affects individuals' decision to engage in entrepreneurship; (ii) access to a bank account can play an important role in helping individuals access credit for business creation. Indeed, econometric analysis (for Kenya, Rwanda, Namibia and Zambia) shows that individuals who cite supply-side barriers to accessing a bank account are less likely to save and borrow for entrepreneurial purposes than individuals who use them for purposes other than entrepreneurship. In Tanzania and Namibia, these results show that individuals who cite demand-side constraints to accessing a banking service are less likely to save and borrow for entrepreneurial purposes than those who use these services for other

purposes. These results, which represent, to our knowledge, the first quantitative estimates of the negative effect of access barriers on business creation, provide further strong evidence of the importance of addressing both supply- and demand-side access barriers, and in particular barriers to formal services to contribute to business creation and economic growth.

The rest of the paper is structured as follows. Section 2 reviews the theoretical and empirical literature. Section 3 describes the data and methodology used in the study. Section 4 examines the empirical results and section 5 concludes and proposes policy recommendations.

2. Literature Review

2.1 Theoretical Literature

From a theoretical point of view, the contribution of Schumpeter (1911) can be considered as one of the first in this sense[4]. Indeed, the author is one of the first to have linked finance to entrepreneurship through two of the main functions of banks, namely the selection of the best borrowers and the provision of credit, which is paramount for the start-up and execution of innovative activities, which he assimilates to entrepreneurship. This vision of Schumpeter is confirmed by the work of Patrick (1966). Indeed, the author (cited by Ghanem and Achouche, 2017), in his analysis of the role of the financial system, argues that the financial system performs two main functions, which are the transfer of resources from the traditional sectors to the modern sectors and the promotion of entrepreneurial initiative in these modern sectors.

Following this seminal work by Schumpeter (1911), the literature has widely discussed the links between entrepreneurship and growth constraints of small firms and their limited access to financial services. Several reasons are given in the literature to explain this limited access to financial services, especially in the context of under-development. These include weak property rights, lack of financial skills among entrepreneurs, lack of collateral, information asymmetry, lack of traceability, and lack of risk management infrastructure for lending institutions. Also, according to van Stel et al. (2007), minimum capital requirements to start a business can hamper entrepreneurship if entrepreneurs lack the resources to meet these capital requirements. Authors such as Cassar (2004) suggest that financial constraints are important in determining the likelihood of new business creation. Hsu (2004) draws attention to the difficulty faced by entrepreneurs without an established reputation in convincing external sources to provide financial capital. Thus, the relaxation of financial constraints would have an impact on entrepreneurial activities.

Credit institutions can thus satisfy entrepreneurial demand for credit through access to sufficiently large amounts of credit, reducing the risk of economically inefficient economies of scale, and thus increasing the attractiveness for potential entrepreneurs to launch capital-intensive business projects. In addition, the use of financial intermediaries also allows entrepreneurs to use a financial infrastructure to conduct business with low operating costs, thus providing a new incentive for entrepreneurial activity that would otherwise fail due to prohibitive operating costs.

Following the above-mentioned authors, Aghion et al. (2007) have theoretically formalized the relationship between credit constraints and the creation and post-creation growth of new firms. The authors' findings state that an increase in the level of financial development[5] favours the entry of small firms, discourages entry by larger firms that do not have better long-term prospects, and favours the growth of all firms that survive after entry. In the same vein, De Gregorio and Guidotti (1995) argue that a well-functioning financial system can foster a response to business opportunities by competent entrepreneurs. Increased access to credit by the private sector, especially small and medium-sized firms, could stimulate the development of entrepreneurship. In this sense, lack of access to credit for households and potential entrepreneurs is often cited as a barrier to development in poor countries, many of which are in Sub-Saharan Africa (Demirgüç-Kunt et al., 2018).

Most recently, Fan and Zhang (2017) extended the model developed by Aghion et al. (2007) to theoretically investigate how the development of financial inclusion[6] could affect the entrepreneurs' training. The model results suggest that the development of financial inclusion alleviates credit constraints on entrepreneurial activities through reduction of information asymmetry in financial transactions and, furthermore, this effect is stronger in industries with fewer barriers to entry. They also argued that the development of financial inclusion can stimulate the growth of entrepreneurship through three main mechanisms, namely reducing the costs of starting a business for those who are unable to self-finance or access external finance, and increasing the expansion opportunities and innovation capabilities of entrepreneurs. Also, other mechanisms that facilitate the link between financial inclusion and entrepreneurship have been mentioned in the literature. One of them is the ability of individuals to save money in an appropriate way, through mobile bank accounts. Indeed, in addition to the security they offer, they also allow their users to better track and manage their savings, avoid carrying a lot of cash and more easily resist the temptations to spend them quickly (Ashraf, 2009; Jakiela and Ozier, 2016). The availability of such an instrument may, in some cases, encourage people to invest in setting up a business.

In sum, in line with the pioneering work of Schumpeter (1934) followed by King and Levine (1993), access to and use of financial services should, from a theoretical perspective, play a key role in entrepreneurial dynamics.

2.2 Empirical Literature

The various theoretical arguments have generated a more or less extensive empirical literature on the subject. Sykes et al. (2016) in their paper have extensively outlined the empirical work that has examined the role of finance in promoting entrepreneurship. After a synthesis of existing work, the literature shows that the relationship between financial inclusion and job creation outcomes (i.e. entrepreneurship) is mixed. Indeed, a first group of studies finds an inconclusive relationship between financial inclusion and job creation. In this category, we can cite studies by Arcand et al. (2013), Meager et al. (2003), Crépon et al. (2014), Van Rooyen et al. (2012), Nayar (2014),

Banerjee et al. (2013), Field et al. (2013). These authors show that particular inclusive finance measures, namely microfinance, have had little impact on the growth of microenterprises. For example, van Rooyen et al. (2012) explain this result for the case of Zimbabwe by the repeated political unrest and economic crises.

Alongside this work, another group of studies finds a positive link between financial inclusion and youth job creation outcomes. These include studies by Patel (2014), Cull et al. (2014), Greeley and Chaturvedi (2007), Kondo (2007), Kondo et al. (2008), Dunn and Arbuckle, (2001), Blattman et al. (2014). Cull et al. (2014) explain such results by the fact that increased financial inclusion leads to better risk management, better capital allocation, and lower transaction costs. This should be an argument for business creation.

More recently, Fan and Zhang (2017) empirically test the relationship between financial inclusion and entrepreneurship using data from 19 Chinese industries over the period 2005-2014. By constructing a multidimensional index of financial inclusion, the authors show that greater financial inclusion leads to a significant increase in entrepreneurship, and that this effect is stronger in industries with fewer barriers to entry. They explain their results by the fact that increasing financial inclusion can alleviate credit constraints on entrepreneurial activities by reducing information asymmetry. Work by Beck et al. (2012) and Pagano and Pica (2012) has shown that access to financial services is positively associated with employment growth in developing countries compared to advanced countries due to the existence of large informal sectors.

In the literature, two reasons are put forward to explain the ambiguity of the empirical results: the use of inappropriate data on access to financial services by individuals and households, which does not allow for a careful examination of the relationship, and the endogeneity of financial inclusion indicators (Fan and Zhang, 2017). On this point, an interesting theoretical literature indicates that entrepreneurship can also affect financial inclusion (Armendáriz and Morduch, 2010; Kerr and Nanda, 2009; Vos et al., 2007). Indeed, individuals' entrepreneurial decisions can also significantly affect their access to and use of financial services. Yet, the literature has rarely focused on addressing the issue of endogeneity in the relationship between financial inclusion and entrepreneurship, and when it has, the focus has been mainly on cash and capital constraints in developed countries such as the United States and Europe (Lyons and Contreras, 2017).

This study is therefore a contribution to this literature and to the value of exploiting FinScope and FinAccess rich databases to better address the link between financial inclusion and entrepreneurship in the context of six Sub-Saharan African countries.

3. Data and Methodology

3.1 Data Source and Sample Selection

In this study, we use secondary data from FinScope and FSD-FinAccess surveys on access to and use of financial services in six Sub-Saharan African countries conducted between 2015 and 2018, respectively. Countries were selected based on the availability of FinScope or FinAccess survey data.

The study thus uses 2018 FinAccess national survey data for Kenya; 2018 Finscope national survey data for Uganda; 2016 Finscope national survey data for Rwanda; 2017 Finscope national survey data for Tanzania; 2017 Finscope national survey data for Namibia; and 2015 Finscope national survey data for Zambia.

The choice of these national surveys is justified by the fact that FinAccess and FinScope surveys were conducted using broadly similar stratified random sampling and a common methodology for defining financial access components (Ouma et al., 2017).

It is important to recall that FinScope is a FinMark Trust initiative that aims to identify barriers to retail financial access by focusing on individuals' perceptions.

The questionnaires are based on the analysis of what the respondents have and what they can do with what they have. The dimensions that are considered are the individual, the household and the community. First, the survey aims to identify the capabilities and limitations of individuals who use financial services: personal characteristics, attitudes and perceptions about life, the future, money and financial service providers, financial capabilities and social networks (Finmark Trust, 2011). For the household, Finscope considers the respondent's decision-making power, the fact that they hold their own money, and the structure and assets of the household. At the community level, the availability of infrastructure, connectivity and financial products and services are taken into account. The *FSD-FinAccess* surveys are similar to the *FinScope* surveys but are not conducted by Finmark Trust. Instead, they are conducted by Financial Sector Deepening - FSD Africa.

3.2 Empirical Model and Estimation Technique

To examine the effect of financial inclusion indicators on the probability of business creation, we start with a probit regression of the following form:

$$Prob\ (Y = 1) = F(\beta X) \quad (1)$$

Where Y is the binary dependent variable measuring entrepreneurship. X denotes the vector of explanatory variables, including the different indicators of financial inclusion. β is the probit score. The control variables used in the specification are taken from the standard literature on entrepreneurship.

A major problem with this specification is the existence of probable endogeneity and reverse causality. For example, reverse causality may exist if an individual who wants to start a business or who alrea dy has a business turns to financial institutions for financial services, which could lead to an upward bias in the coefficient. Conversely, the coefficient may be biased downwards if people are less likely to use financial services due to the remoteness of financial institutions, and at the same time more likely to become self-employed due to low labour market opportunities, as is found in rural areas (Faggio and Silva, 2014). Other sources of endogeneity may arise from the existence of unobserved factors that may be correlated with dependent and independent variables. For example, some sociodemographic variables such as age and gender may have a direct impact on both entrepreneurship and access to financial services. To address these possible cases, we use an instrumental variable approach in this study.

As another objective of this study is to examine the extent to which barriers to accessing financial banking services might limit the ability of households to start businesses, we specify the following equation:

$$\mathrm{F_i} = \omega_1 \mathrm{Barr_i} + \omega_2 \mathrm{Z_i} + \varepsilon_\mathrm{i} \quad (2)$$

Where F_i, is a variable taking the value 1 if the individual uses all types of savings and borrowing mechanisms (bank financial services, formal non-bank, informal, mobile money services) for business creation purposes and the value zero, if the individual uses them for other purposes than business creation. $Barr$ is a dummy variable taking the value 1 if the individual cited supply-side access barriers to holding a bank account and the value zero if they cited demand-side access barriers instead. Indeed, in the questionnaires, individuals are asked why they do not have a bank account. Some of the responses were considered to be supply-side barriers while others reflect a lack of demand for financial services. We classify them as either supply-side or demand-side constraints, as shown in Table A-1 in the Appendix. *Z* is a set of control variables including age, gender, marital status, place of residence (urban or rural) and finally the respondent's education level.

3.3 Identification Problems and Post-estimation Tests

In the empirical model (1), the proxy of entrepreneurship has the potential to become endogenous to the decision to access or use financial services (financial inclusion), which could lead to inconsistent parameter estimates and biased results. Indeed, it is very likely that being an entrepreneur can also influence financial inclusion (reverse causality), in the sense that entrepreneurs offer more collateral than those without businesses to obtain better access to credit and other financial services. There is therefore need to identify an effective measure of financial inclusion. Such a variable should be highly correlated with the assumed endogenous variable but not with the residuals. This means that it should not directly affect the dependent variable. In practice, finding such an instrument is difficult.

In this study, we use "the proportion of individuals who have access to credit or who borrow" as an instrument to control for financial inclusion in the model. Indeed, as suggested in the work of Lusardi and Mitchell (2014) and Peng et al. (2018), financial inclusion, through access to and use of financial services, can be influenced by interaction with others. Thus, we argue that intuitively, the proportion of people who have access to credit or who borrow should not have a direct effect on the likelihood of an individual engaging in entrepreneurship. Based on all the above, we argue that the instrument does not belong to the baseline regression but rather influences entrepreneurship through financial inclusion.

To test the validity of the instrument, we apply the F-test of the instrument's coefficient in the first regression of the first stage and use the rule of thumb of Staiger and Stock (1997), according to which for an *F-statistic* greater than 10, one does not have to worry about the problem of weak instruments.

3.4 Presentation of Variables

3.4.1 The entrepreneurship variable

To capture entrepreneurship, we look at different stages of the entrepreneurial process. First, we observe whether the individual saves money for the purpose of starting a business or borrows money for the same reason, and finally, whether he or she is a business owner. Saving or borrowing for business creation purposes can be interpreted as measures taken for the maintenance or expansion of existing businesses, or for the creation of new ones. Therefore, these variables can be interpreted either as a mechanism by which financial inclusion supports business ownership or as indicators of concrete entrepreneurial activities. To these two modalities, we add a third one related to business ownership, whether founded, inherited, wholly owned or not.

The following questions were asked to respondents in the FSD-FinAccess and FinScope surveys, respectively: (i): *"What did you mostly put money away for in the past 12 months?"*, the answer: *"Starting or expanding my business"* was used for the

variable *"Save for business"*; (ii): *"Thinking about the money you borrowed from [....], what was this money for?"*, the answer: *"Starting or expanding your business"* was used for the variable *"Borrow for business"*. The third dependent variable concerns business ownership, whether founded or inherited, wholly owned or not. In each country, respondents were asked the following question in the FSD-FinAccess and FinScope surveys, respectively: *"Please tell me in which of these ways you got money in the past 12 months?"* and *"Please tell me how you get the money you spend?* The main response modalities include: *(i) Employed / Salaries / wages from a company / business; (ii) Farming (crops, keeping livestock, fishing, aquaculture) / Salaries / wages from a farm business (farm worker); (iii) Salaries/wages from government; (iv) Self-employed in own business / Running own business/Self-employed*; *(v) other*. Similar to the work of Blanchflower (2004), Fossen (2012) and Caliendo et al. (2014), the modality *"Self-employed in own business / Running own business/Self-employed" was used for the variable "Owns a business"*

3.4.2 The financial inclusion variable

The term "financial inclusion" refers to providing access to financial services to "all" (Global Findex, 2021). The United Nations identifies two main dimensions to financial inclusion (UNCDF, 2006). The first is access to a "wide variety" of "formal" financial services. The second is the ability to choose from 'multiple providers' of financial services. Some limit themselves to 'direct' access to services (Beck et al., 2009), while others suggest considering 'indirect' access through a family member or friend (Chidzero et al., 2006; Beck and Demirgüç-Kunt, 2008).

In this study, with a view to better appreciating the role of financial inclusion in an individual's decision to start a business, the term 'financial inclusion' is broadly defined by the fact that an individual reported using at least one type of financial service, whether formal, banking or informal or having a mobile money account.[7] Indeed, the literature on financial inclusion distinguishes between access to and use of formal and informal financial services or mobile money accounts.

Respondents were asked specific questions about the type of financial services used. If they report using bank financial services, formal non-bank financial services, having a mobile money account that is not linked to a formal financial institution, and if they use informal financial services understood as those provided by informal financial operators, such as community finance groups (e.g. group/chama), family/friend/neighbour, Shopkeeper, then they are reported as financially included.

In sum, we retain four variables to measure financial inclusion: (i) use of banking services; (ii) use of formal non-banking financial services; (iii) ownership of a mobile money account; and (iv) use of informal financial services.

3.4.3 Control variables

In the choice of explanatory variables, we retained those used in most empirical studies on entrepreneurship and/or financial inclusion (Bernat et al., 2017; Fan and Zhang, 2017). The choice of these indicators calls for some comments. These variables are:

- Education, which refers to the respondent's education level, coded as 0 if the individual has not followed the classical academic course or has only acquired a non-formal education and 1 if the individual has a formal education (primary, secondary or university level). The expected effect of this variable on the decision to start one's own business is ambiguous. Indeed, although people with higher education levels are better able to identify opportunities to start businesses and may have better management skills, they are the ones with better job offers in the labour market (Simoes et al., 2013).
- Age is another variable commonly used in the entrepreneurship literature. If entrepreneurial activity is related to innovations implementation, it is important to be up-to-date with knowledge and technical developments. In this scenario, young people would be more likely to become entrepreneurs (Bernat et al., 2017). However, if starting a business is facilitated by previous experience as an employee in particular industries and professions, then an entrepreneur would be an individual at a more mature life stage. Several studies find that there is an inverted U-shaped relationship between age and entrepreneurial activity (van der Zwan et al., 2012; Caliendo et al., 2011; 2014; Llussá, 2010).
- The respondent's gender is also assumed to influence the decision to become an entrepreneur. Most studies have shown that men are more likely to become entrepreneurs than their female counterparts (Minniti and Nardone, 2007; Allen et al. 2008; Wagner 2007).
- Residence: In empirical studies, being an urban resident increases the probability of being banked, and with a higher education and a network of clients and investors. Therefore, being an urban resident will increase the likelihood that a person is an entrepreneur.
- Marital status indicates whether the respondent is married, divorced, widowed or single. The expected effect is ambiguous. Indeed, being married may lead individuals to prefer to have a stable job rather than to be an entrepreneur, as this could generate a more secure income. However, it could also be argued that having support at home may contribute to a potential positive effect on self-employment.

Details on the variables coding are presented in Table A-2 in the Appendix.

4. Empirical Results and Discussions

4.1 Descriptive Results

Table 1 presents descriptive statistics for the variables of interest in the study.

Table 1: Descriptive statistics

	Kenya		Uganda		Tanzania		Namibia		Rwanda		Zambia	
Variables	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Entrep	0.181	0.385	0.095	0.294	0.132	0.338	0.096	0.294	0.165	0.371	0.162	0.369
Fininclu	0.855	0.351	0.773	0.418	0.696	0.459	0.798	0.401	0.917	0.275	0.616	0.486
Bank	0.027	0.164	0.254	0.435	0.143	0.350	0.700	0.458	0.229	0.420	0.260	0.439
formal_non_bank	0.756	0.429	0.540	0.498	0.473	0.499	0.540	0.498	0.625	0.483	0.303	0.459
Informal	0.501	0.500	0.472	0.499	0.078	0.269	0.247	0.431	0.817	0.386	0.391	0.488
Mobile account	0.140	0.347	0.483	0.499	0.554	0.496	0.303	0.459	0.444	0.496	0.151	0.358
Education	2.392	0.888	0.436	0.495	0.686	0.463	0.874	0.331	0.761	0.426	0.935	0.246
Age	36.970	14.91	35.566	15.425	38.195	16.281	38.756	16.338	39.305	16.249	34.660	14.397
Sex (male)	1.57	0.493	1.649	0.477	1.564	0.495	1.567	0.495	1.595	0.490	1.620	0.485
Urban residence	1.416	0.493	1.276	0.447	1.276	0.447	1.529	0.499	1.856	0.350	1.575	0.494
Marital status	3.023	1.284	2.798	2.012	1.785	1.162	2.043	1.663	2.389	1.254	2.306	1.415
Observations	8,669		3002		9,459		1,863		12,480		8,479	

Note: Gender and residence are dummy variables that are coded as 2 (male and urban) and 1 (female and rural), respectively. Fininclu, which stands for financial inclusion, represents the proportion of individuals financially included in the samples. For an explanation of other abbreviations, see Table A-2.

The results reveal that Kenya has the highest proportion of entrepreneurs, with an average value of 18.1%, followed by Rwanda (16.5%), Zambia (16.2%), Tanzania (13.2%), Namibia (9.6%) and Uganda (9.5%). With respect to financial inclusion, the results show some heterogeneity across countries. Rwanda and Kenya stand out as the countries that have made the most progress in their financial inclusion policies. Indeed, according to the figures, more than 91% and 85% of individuals, respectively, can access all forms of financial services. In Rwanda, for example, informal financial services are the most widely used. With a usage rate of 81.7% among respondents,

they are ahead of users of formal non-bank financial services (62.5%), mobile money (44.4%) and banking services (22.9%). In contrast, in Kenya, formal non-bank financial services are the most used (75.6%), followed by informal financial services, mobile money and banking services. This is followed by Namibia where access to financial services is fairly formal. Indeed, 70.0% of respondents reported using banking services and 54.0% formal non-bank financial services. They are followed by those who use mobile money (30.3%) and informal financial services (24.7%). In Uganda, over half 77.3% of respondents are financially included. Specifically, 54.0% use formal non-bank financial services, 48.3% use mobile money, 47% use informal financial services and 25.4% use bank financial services. In Tanzania, the use of mobile money financial services is higher, with over 55.4% of respondents using it. 47.2% of respondents report using formal non-bank financial services, 14.3% use bank financial services and only 7.8% use informal financial services. In Zambia, however, analysis of the data shows that those using informal financial services are the largest group. In fact, they represent 39.1%. 30.3% use formal non-bank financial services, 26.0% use bank financial services and 15.1% use mobile money services.

To test the statistical association between the dependent variable and the variables of interest, we use Spearman's correlation test (Annex Table A-3). The results show the presence of correlation between the different dimensions of financial inclusion (banking services, formal non-banking services, informal financial services and mobile money services) and the entrepreneurship indicator. Based on these results, it would seem that there is a very strong correlation between financial inclusion and entrepreneurship. In an attempt to confirm or refute this research hypothesis, it seems important to conduct econometric analysis.

4.2 Regression Results

Regression results in the different countries, using the instrumental variable method, are summarized in the table below.

Table 2: Regression results of the financial inclusion effects on entrepreneurship in the six countries

	Kenya				Rwanda			
	Entrep				Entrep			
Variables	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Use bank services	1.581 *** (0.2752)	---	---	---	0.165 *** (0.0536)	---	---	---
Use formal_non-bank	---	0.073*** (0.0112)	---	---	---	0.052*** (0.01711)	---	---
Use informal financial services	---	---	0.108*** (0.01667)	---	---	---	0.0375*** (0.012)	---
Mobile account	---	---	---	0.2873 *** (.0454)	---	---	---	0.0812*** (0.026332)
Education	0.0251*** (0.0064)	0.0252*** (0.005)	0.0359*** (0.00523)	0.039*** (.0054)	0.00029 (0.01097)	0.0117 (0.00894)	0.0205** (0.00831)	0.0057 (0.0098336)
Age	0.200*** (.0170)	0.149*** (.01537)	0.147*** (.01557)	0.170*** (0.01504)	0.00543*** (.001098)	0.0064*** (0.000948)	0.0061***** (0.000974)	0.0066*** (0.0009288)
Age^2	-0.0266*** (.00219)	-.01909*** (.00192)	-0.01866*** (.00196)	-0.02135*** (.001909)	-0.00007*** (.000010)	-0.00008*** (9.48e-06)	-0.00007*** (9.79e-06)	-0.00008*** (9.44e-06)
Gender (male)	0.036*** (.01028)	0.021*** (.008205)	0.0069 (0.00861)	0.026*** (0.008617)	-0.0040 (0.007467)	-0.0051 (0.0073274)	-0.0105 (0.0071462)	-0.0016 (0.0076522)
Urban residence	0.0950*** (.01112)	0.1080*** (.00895)	0.113*** (.008917)	0.1180*** (.00932)	0.00898 (.02101)	0.0367*** (.010812)	0.0518*** (.0103637)	0.0225* (.013018)
Marital status	.02278*** (.00459)	.018730*** (.00383)	.01470*** (.00396)	.02473*** (.00399)	.0084** (.00359)	.004992 (.003267)	.0039106 (.0032587)	.0054166 * (.003279)
Observations	8669	8669	8669	8669	12480	12480	12480	12480
F-stat for weak ident.	48.264	7230.189	1423.910	340.349	231.268	1864.822	8223.769	728.146

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

	Uganda				Namibia			
	Entrep				Entrep			
Variables	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Use bank services	0.558***	---	---	---	0.0574***	---	---	---
	(0.1290)				(0.015958)			
Use formal_non-bank	---	0.0850***	---	---	---	0.077***	---	---
		(0.0185841)				(0.02163)		
Use informal financial services	---	---	0.066***	---	---	---	0.148***	---
			(0.0146)				(0.041723)	
Mobile account	---	---	---	0.083***	---	---	---	0.165***
				(0.0182)				(0.0439)
Education	0.0588***	-0.0011	0.0123	-0.0135	0.0084	0.0097	0.0190	-0.0120
	(0.0220)	(0.0127395)	(.0123184)	(0.0137034)	(0.019711)	(0.019828)	(.01957)	(.02159)
Age	-0.0003	0.0038**	0.003*	0.003**	0.010***	0.009***	0.0108***	0.009***
	(0.0021415)	(.0015293)	(.001569)	(.0015641)	(.00156)	(.00164)	(.00160)	(.00162)
Age^2	-9.16e-06	-0.00004***	-0.00004**	-0.00004**	-0.0001***	-0.0001***	-0.0001***	-0.00009***
	(.000022)	(.0000164)	(.0000168)	(.0000168)	(.000015)	(.000015)	(.000015)	(.000016)
Gender (male)	0.058***	0.039***	0.0348***	0.042***	-0.0006	0.0008	0.0036	0.0003
	(0.014)	(.0107384)	(.0106857)	(.010881)	(.0138837)	(.01400)	(.01423)	(.014253)
Urban residence	-0.026	0.0561***	0.0642***	0.0426***	0.030**	0.0252*	0.037**	-0.0057
	(0.0266)	(0.0147831)	(0.0147134)	(0.0153746)	(0.01445)	(0.014867)	(0.014493)	(0.01706)
Marital status	-0.00086	0.0010	0.0017	0.0006	-0.002	-0.0026	-0.0047	-0.002
	(0.0032)	(0.0028)	(0.0028)	(0.0028)	(0.0044)	(0.004512)	(0.0045)	(0.0046)
Observations	3002	3002	3002	3002	1863	1863	1863	1863
F-stat for weak ident.	40.892	861.973	1670.950	1144.598	2313.540	627.657	167.187	142.106

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

	Tanzania				Zambia			
	Entrep				Entrep			
Variables	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Use bank services	0.3539***	---	---	---	0.117***	---	---	---
	(0.051458)				(0.02137)			
Use formal_non-bank	---	0.067***	---	---	---	.098606***	---	---
		(0.009623)				(.017806)		
Use informal financial services	---	---	0.340***	---	---	---	0.068***	---
			(0.049648)				(.012386)	
Mobile account	---	---	---	0.0661***	---	---	---	0.210***
				(.009421)				(0.0381348)
Education	-0.0066	0.034***	0.051***	0.0240***	0.0417***	0.0425***	0.0519***	0.0448***
	(0.010253)	(0.007356)	(.007613)	(.007697)	(.014366)	(0.014335)	(0.01411)	(0.0142894)
Age	0.0042***	0.0065***	0.0058***	0.0059***	0.0132***	0.014***	0.014***	0.0138***
	(.001080)	(.0009734)	(.0010148)	(.0009767)	(.0013388)	(.001292)	(.001282)	(.001283)
Age^2	-0.00005***	-0.00007***	-0.00006***	-0.00006***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(.000010)	(9.95e-06)	(.0000104)	(9.98e-06)	(.000014)	(.0000143)	(.0000144)	(.0000142)
Gender (male)	0.0491***	0.0218***	0.0064	0.0284***	0.0269***	0.0276***	0.0147*	0.0321***
	(.008450)	(.0069141)	(.007365)	(.007004)	(.008778)	(.008766)	(.0086361)	(0.008999)
Urban residence	0.0581***	0.125***	0.140***	0.110***	0.051***	0.0541***	0.0710***	0.0427***
	(0.014003)	(0.009151)	(0.009467)	(0.009462)	(0.009307)	(0.009063)	(0.0081463)	(0.010181)
Marital status	0.0035	0.0051	0.0085**	0.0045	0.015***	0.013***	0.011***	0.014***
	(.003526)	(0.0033454)	(0.003452)	(0.003330)	(0.003714)	(0.00364)	(0.0036387)	(.0036919)
Observations	9459	9459	9459	9459	8479	8479	8479	8479
F-stat for weak ident.	318.981	6162.970	534.298	9129.043	1904.865	2640.011	5894.435	778.401

Notes: Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

To check the robustness of the instrument used in the different regressions, we apply the F-test of the instrument coefficient in the first regression of the first stage and use the rule of thumb of Staiger and Stock (1997), according to which for an F-statistic greater than 10, one does not have to worry about the problem of weak instruments. The various statistics reported are well above the critical values of Stock and Yogo (2005) and the value of 10 suggested by the "rule of thumb" of Staiger and Stock (1997). These tests therefore confirm the robustness of the chosen instrument.

The results reveal that access to banking services, formal non-banking services, informal financial services, and the use of mobile money service affect individuals' decision to start a business in the different samples. Indeed, the coefficients associated with the financial inclusion variable are all positive and significant, reflecting that these variables significantly and positively affect the decision to engage in entrepreneurship in the six countries. These results, which show that a person who uses both bank financial services, formal non-bank financial services, mobile money services and informal financial services, and is therefore financially included, is more likely to start a business than a person who does not, suggest a significant contribution of financial inclusion to entrepreneurship at the micro level. These results validate some theoretical assumptions that financial inclusion affects entrepreneurship through the credit and savings channel and are consistent with those of Gafni (2020), which reveal several reasons why financial inclusion should affect entrepreneurship in developing countries. First, financial inclusion, in addition to the security it provides, allows users to increase their savings, better track and manage them, use less cash, and more easily resist the temptations to spend them quickly or share them with spouses, neighbours or relatives (Ashraf, 2009; Jakiela and Ozier, 2016). As Dupas and Robinson (2013) suggest, these savings mechanisms can have a positive effect on business creation and operation in several ways. First, this opportunity for entrepreneurs to save larger amounts of money through financial inclusion will allow them to make larger investments in their businesses, rather than smaller, less efficient investments. Second, it allows them to save money safely outside of the business in the event of profits that can be used in times of lower profitability. Another channel through which financial inclusion could affect entrepreneurship would be better access to credit, whether through informal institutions, decentralized financial systems, banks or mobile money services. Each of these can push individuals to start and grow businesses. In this sense, the work of Banerjee and Newman (1993) shows in their theoretical model how lack of collateral prevents poor agents from engaging in entrepreneurship, and instead settling for subsistence or wage employment.

Looking more closely at the size of coefficients for the different financial inclusion proxies across countries, the results show that the use of formal banking services and mobile money services are the two modalities that are most associated with an increase in the probability of starting a business. In terms of economic implications, these results highlight the important relationship between business creation and the use of financial banking services, and on the the use of mobile money. These two modalities constitute an important factor in the decision to create a business in an

under-developed context. Thus, access to and use of bank-based financial services seems more suitable for business creation purposes, perhaps because they allow individuals to access larger sums of money or borrow in a more secure environment than semi-formal and informal lending mechanisms. In recent years, digitization through mobile money services has become an easier platform to support financial inclusion. Faced with barriers to accessing formal financial services, mainly banks, most individuals in developing countries, and particularly those in Sub-Saharan Africa, are resorting to this instrument. This mobile money account ownership has many advantages for its users. In addition to the direct employment and entrepreneurial opportunities offered by the mobile money ecosystem, mobile money also offers other entrepreneurial opportunities and stimulates development. Indeed, through mobile money, new customer segments and geographical areas can be reached, integrations with existing products and new product innovations can be developed, and access to capital and market information is improved. Moreover, in addition to increased security, mobile money services make peer-to-peer transactions faster and cheaper. The work of Wieser et al. (2019) supports this by explaining the increase in non-farm entrepreneurship by the high volume of payments received and the cost reductions achieved using mobile money. These results also speak to the same direction as Beck et al. (2018), who suggest that the use of mobile money payment services can boost business performance. Thus, given that about two-thirds of the world's unbanked people own cell phones (Demirgüç-Kunt et al., 2018), mobile money technologies may be able to serve those excluded by formal financial institutions in their entrepreneurial activities.

In summary, these results show that while the goal of financial inclusion can be promoted through formal non-bank, informal, and mobile money services, one of the best ways to promote entrepreneurship, and by extension economic growth and poverty reduction, is to implement strategies to improve access to bank and mobile money services.

Regarding the explanatory variables, we find that the coefficient sign on education is positive and statistically significant in most of the countries in the sample. This result, which is in line with those of Koellinger et al. (2013), Furdas and Kohn (2010) and Bönte and Piegeler (2013), could be explained by the fact that a higher stock of human capital favours the adoption and assimilation of new technologies, and thus the increase in the creation of new firms (Bilic et al., 2011; Ashby and Seck, 2012). Thus, education level is beneficial for individuals' entrepreneurial intention and skills and, in general, highly educated individuals tend to be self-employed (Doms et al., 2010). Thus, education level is an important determinant in creating an entrepreneurial environment. The age of the respondent has a positive effect on the probability of being an entrepreneur. This result was expected insofar as for the age range considered in this study, the majority being young, they are more likely to become entrepreneurs (Bernat et al., 2017). Furthermore, the coefficient of the squared age variable is negative, confirming the presence of a threshold effect for the age variable and the existence of an inverted U-shaped relationship between

age and entrepreneurial activity. This result supports the life-cycle hypothesis that, as individuals' age increases, they are more likely to dissave for consumption. This should reduce their likelihood of engaging in entrepreneurial activity. Regarding the variable ''Gender of the respondent'', the coefficient associated with the "male" modality is significantly positive in the majority of the countries under study. The gender variable favours the probability of starting a business, and being male is a factor that increases entrepreneurial activities. This result is consistent with those of Minniti and Nardone (2007), Allen et al. (2008), and Wagner (2007), who showed that men are more likely to become entrepreneurs than their female counterparts. In contrast, in Rwanda and Namibia, this variable does not appear to be a significant determinant of entrepreneurial activity. The other control variables are consistent with theoretical and empirical predictions. Indeed, it appears that individuals living in urban areas are more likely to be entrepreneurs than those living in rural areas, and that there is a close relationship between marital status and entrepreneurial activities.

4.3 Results of the Model with Barriers to Access to Banking Financial Services and Entrepreneurship

In this sub-section, we attempt to determine the effect of the indicator of barriers of access to banking services on the likelihood that an individual will commit to borrowing or saving for business creation to provide policy makers with more precise information on the type of barriers to which they should pay particular attention to boost business creation in the context of developing countries and particularly in Sub-Saharan African countries. To do this, we construct from the data a binary variable that takes the value 1 if the individual cited supply-side barriers and 0 if the variable explaining non-use of banking services takes one of the demand-side constraints. Table A-4 in the Annex presents the descriptive statistics for this variable.

Next, we run a regression in which a discrete variable Fi, indicating whether or not the individual uses all types of savings and borrowing mechanisms (bank, formal non-bank, informal, mobile money) for business creation purposes, is compared to a dichotomous variable indicating whether or not the individual has cited barriers to accessing financial services. The results of the estimations are presented in Table 3 below.

Table 3: Bank-constrained individuals and entrepreneurship

	Kenya	Rwanda	Namibia	Uganda	Tanzania	Zambia
Variables	Uses financial services for business creation	Uses financial services for business creation	Uses financial services for business creation	Uses financial services for business creation	Uses financial services for business creation	Uses financial services for business creation

Continued on page 21

Barriers to accessing banking services (baseline: supply)	-0.0024*** (0.00057)	-0.0340*** (0.00347)	-0.0011*** (0.001195)	0.009*** (0.009681)	0.0042608*** (0.004889)	-0.000776*** (0.0021142)
Age	-0.00024 (0.00031)	-0.0047*** (0.001280)	-0.00004 (0.00004)	-0.00024 (0.000201)	-0.0002** (0.000094)	-0.0000526 (0.000066)
Gender	-0.0013 (0.00120)	0.0066 (0.004060)	0.0034 (0.003447)	0.0068 (0.008436)	0.0129*** (0.004025)	-0.00058 (0.002104)
Marital status	0.0011** (.000497)	0.0010 (0.0016144)	-0.00039 (.000403)	-0.003 (0.001952)	-0.004628*** (0.001709)	0.0013 (0.000933)
Residence	0.00357*** (0.0013643)	-0.0092 (0.006284)	-0.005 (0.005289)	0.0021 (0.010147)	0.0150*** (0.00555)	0.0011 (0.0020055)
Education	0.001 (0.00081)	0.0184*** (0.004)	0.0012 (0.0013236)	0.0527*** (0.009210)	0.018824*** (0.004235)	0.0042* (0.0024464)
Observations	8,427	12,480	1,863	3,002	8,098	6,267

The estimates show differential results across countries. For example, in Kenya, Rwanda, Namibia, and Zambia, survey results show that individuals who cite supply-side barriers to accessing a bank account are 0.24, 3, 0.1, and 0.07 percentage points less likely to save or borrow to start businesses than individuals who do not, respectively. In contrast, in Tanzania and Uganda, demand-side barriers are more likely to hinder this process. Indeed, individuals who cite demand-side barriers to accessing a bank account are 0.09 and 0.04 percentage points less likely to use their savings and loans to start businesses, respectively. These results could be explained by the fact that a higher proportion of non-users of banking services in Kenya, Rwanda, Namibia and Zambia claimed that fees are too high, which seems surprising given that interest rates seem to be lower, on average, in Kenya than in the other countries. This reflects a different access constraint or may be due to better financial education in these four countries. In contrast, a higher proportion of non-bank users in Tanzania and Uganda cited lack of money as a reason for not using banking services. These empirical results for Tanzania are consistent with Were et al. (2021) and Ndanshau and Njau (2021), respectively, who show that the main constraints to financial inclusion are demand-side and focus on insufficient income, limited financial education and limited access to digital financial services such as smartphones.

These results generally indicate that barriers to accessing banking services are an essential issue, as they negatively affect the ability of individuals to start businesses and therefore constitute a significant impediment to the development of entrepreneurial activities. These results provide empirical evidence of the importance of promoting financial inclusion, and addressing access barriers to banking services to contribute to the growth of entrepreneurial activities and thus economic growth. This finding converges with that of the World Bank (2008), which concluded that small business investments in Kenya may be limited due to inadequate and costly access to finance and that improving access to finance for small entrepreneurs should be a priority. Therefore, empirical findings could allow policy makers to reduce the consequences of these barriers in the economy of the respective countries.

5. Conclusion

In this paper, we analyse the influence of financial inclusion on the probability of business creation in a set of six Sub-Saharan African countries using micro-data from FinScope and FinAccess financial inclusion surveys. To do so, we use an instrumental variable estimation procedure to address the endogeneity issues suspected in the literature between the two variables. In addition, the study goes further by seeking to identify which of the barriers to accessing financial services (on the supply- or demand-side) is most related to the likelihood that an individual will commit to borrowing or saving for business creation. To this end, an indicator of supply-side and demand-side barriers to accessing banking services was constructed from responses to the survey data.

Overall, the results reveal positive and statistically significant effects of individuals' use of banking services, formal non-banking services, informal financial services, and mobile money services on business creation in an under-developed context. Having access to all of these financial tools increases the likelihood that individuals will save and borrow for business creation purposes. Thus, assuming a very close relationship between entrepreneurship and development, entrepreneurship emerges as a channel between financial inclusion and development and poverty reduction. The results show that while the financial inclusion goal can be promoted through formal non-bank and informal financial services, one of the best ways to promote economic growth and poverty reduction is to implement strategies to improve access to bank and mobile money services. Finally, the results show that barriers to accessing banking services are generally a critical issue. Furthermore, while descriptive statistics show that constraints to using banking services are demand-side rather than supply-side, the empirical results reveal that supply-side constraints are the most common constraints that individuals face in starting a business. Thus, while the work of Banerjee and Duflo (2011) has shown that finance is not the only barrier to entrepreneurship in poor countries, many of which are in Sub-Saharan Africa, policies to increase financial inclusion, such as facilitating access to savings, credit, and insurance products, and a regulatory framework that facilitates the entry and diffusion of mobile services, should help achieve more effective financial inclusion. This is especially important as the COVID-19 pandemic presents opportunities that could be seized to advance financial inclusion initiatives using digital platforms. African countries with under-developed digital financial services could potentially marshal their resources and

introduce appropriate financial regulations since, to date, development partners and central banks have been at the forefront of formulating and implementing strategies to support financial inclusion. There is great potential to leverage the scale of cell phone ownership and Internet access to create technological innovations in the financial sector to support entrepreneurship as the engine of job creation and inclusive growth, and thus poverty reduction in developing countries.

Notes

1 According to World Bank (2022) data, Sub-Saharan Africa unemployment rate for 2021 was 7.66%, a 0.38% increase from 2020. However, the number of unemployed has increased by a further one million due to high labour force growth rates in the region.

2 One of the channels identified in the theoretical literature through which financial development affects economic growth is the facilitation of business creation (Greenwood and Smith, 1997; Klapper et al., 2004).

3 Based on data availability, we selected six countries in Sub-Saharan Africa, namely Kenya, Rwanda, Tanzania, Uganda, Namibia and Zambia.

4 The author did not directly examine the link between financial development and entrepreneurship, but in his theory of economic evolution, he focused on two main phenomena, entrepreneurship as the realization of new combinations of production and thus innovation, and the banker as the producer of purchasing power and the negotiator of this loan. For the author, entrepreneurship is central to the process of economic change. He emphasizes the importance of the role of the banker in identifying entrepreneurs with promising innovation processes and providing the necessary credit for such innovative activities. It is based on this assumption that a new firm cannot be financed by profits from the economic circuit. Therefore, it is necessary to borrow credit in money or money substitutes for the purchase by the entrepreneur of the means of production necessary for his new combination.

5 Financial development is defined as improving the delivery quality of the five key financial functions (risk management, information management and resource allocation, supervision of firms, mobilization and pooling of savings, and facilitation of economic transactions through financial infrastructure).

6 Financial inclusion is defined as the ability of individuals to access and use formal financial services.

7 In recent years, particularly in Sub-Saharan Africa, this type of account has become increasingly popular among populations that were previously excluded from the banking system.

References

African Economic Research Consortium – AERC. 2014. Youth employment: Opportunities and challenges. 40th Plenary Session of the AERC's Biannual Research Workshop, Lusaka, Zambia (November 30th).

Aghion, P. 2017. "Entrepreneurship and growth: Lessons from an Intellectual Journey". *Small Business Economics*, Vol. 48: 9-24.

Aghion, P., Fally, T. and Scarpetta, S. 2007. "Credit constraints as a barrier to the entry and post-entry growth of firms". *Economic Policy*, Vol. 22: 731-779

Allen, E., Elam, A., Langowitz, N. and Dean, M. 2008. Global entrepreneurships monitor 2007: Report on women and entrepreneurship. Babson Park, MA and London: Babson College and London Business School.

Allen, F., Carletti, E., Cull, R., Qian, J 'QJ', Senbet, L. and Valenzuela, P. 2021. "Improving access to banking: Evidence from Kenya". *Review of Finance*, Vol. 25, No.2: 403-447.

Anyanwu, J.C. 2014. "Does intra-African trade reduce youth unemployment in Africa?" *African Development Review*, 26, No. 2: 286-309.

Arcand, J.L., Dyer, P., Gonzalez, S.P. and Gardiner, D. 2013. *MEDA Maroc's 100 Hours to Success Impact Evaluation - Baseline study.* Geneva, Switzerland: International Initiative for Impact Evaluation, MEDA and ILO.

Armendáriz, B. and Morduch, J. 2010. *The Economics of Microfinance* (2nd Edition). Cambridge, MA: MIT Press.

Ashby, N.J. and Seck, O. 2012. Remittances, institutional quality, and entrepreneurship. University of Texas at El Paso, 79968.

Ashraf, N. 2009. "Spousal control and intra-household decision making: An experimental study in the Philippines". *American Economic Review*, 99(4):1245-77.

Audretsch, D.B., R. Thurik, I. Verheul and Wennekers, A.R. 2002. *Entrepreneurship: Determinants and Policy in a European US Comparison*. Boston, MA: Kluwer Academic.

Banerjee, A.V. and Duflo, E. 2011. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. Public Affairs.

Banerjee, A., Duflo, E., Glennerster, R. and Kinnan, G. 2013. The miracle of microfinance? Evidence from a randomized evaluation. National Bureau of Economic Research (NBER) Working Paper 18950.

Banerjee, A.V. and Newman, A. F. 1993. "Occupational choice and the process of development". *Journal of Political Economy*, Vol. 101, No.2: 274-298.

Beck, T. and Asli Demirgüç-Kunt. 2008. "Access to finance: An unfinished agenda". *The World Bank Economic Review,* 22(3): 383-396.

Beck, T., Asli Demirgüç-Kunt and Honohan, P. 2009. "Access to financial services: Measurement, impact, and policies". *The World Bank Research Observer*, Vol. 24, Issue 1: 119-145.

Beck, T., Büyükkarabacak, B., Rioja, F.K. and Valev, N.T. 2012. "Who gets the credit? And does it matter? Household vs firm lending across countries". *B.E. Journal of Macroeconomics*: Contributions 12.

Beck, T., Pamuk, H., Ramrattan, R. and Uras, B.R. 2018. "Payment instruments, finance and development". *Journal of Development Economics*, 133:162-186.

Bernat, L.F., Lambardi, G. and Palacios, P. 2017. "Determinants of the entrepreneurial gender gap in Latin America". *Small Business Economics*, *48*(3): 727-752.

Bilić, A. Prka and G. Vidović. 2011. "How does education influence entrepreneurship orientation?" *Management*, 16: 115-128.

Blanchflower, D.G. 2004. Self-employment: More may not be better. 10286. NBER Working Paper Series.

Blattman, C., Green, E.P., Jamison, J. and Annan, J. 2014. *Employing and empowering marginalized women: A randomized trial of microenterprise assistance*. Working Paper. Cambridge, Massachusetts: Massachusetts Institute of Technology.

Bönte, W. and Piegeler, M. 2013. "Gender gap in latent and nascent entrepreneurship: Driven by competitiveness". *Small Business Economics*, 41(4): 961-987. doi:10.1007/s11187-012-9459-3.

Brixiová, Z. 2010. "Unlocking productive entrepreneurship in Africa's least developed countries". *African Development Review*, Vol. 22, No. 3: 440-451.

Brixiová, Z., Ncube, N. and Bicaba, Z. 2015. "Skills and youth entrepreneurship in Africa: Analysis with evidence from Swaziland". *World Development*, Vol. 67C: 11-26.

Brixiová, Z. and Asaminew, E. 2010. Unlocking productive entrepreneurship in Ethiopia: Which incentives matter. African Development Bank Working Paper No. 116.

Brixiová, Z. and Égert, Balázs. 2017. "Entrepreneurship, institutions and skills in low-income countries". *Economic Modelling*, http://dx.doi.org/10.1016/j.econmod.2017.02.020.

Brixiová, Zuzana, Kangoye, T. and Yogo, T. 2020. Access to Finance among Small and Medium-Sized Enterprises and Job Creation in Africa, GLO Discussion Paper, No. 665, Global Labor Organization (GLO), Essen.

Bruton, G.D., Ketchen, D.J. and Ireland, R.D. 2013. "Entrepreneurship as a solution to poverty". *Journal of Business Venturing*, Vol. 28, No.6: 683-689.

Brixiová, Z., Kangoye, T. and Yogo, T. 2020. Access to finance among small and medium-sized enterprises and job creation in Africa. GLO Discussion Paper No. 665, Global Labor Organization (GLO), Essen.

Caliendo, M., Fossen, F.M., Kritikos, A. and Wetter, M. 2014. "The gender gap in entrepreneurship: Not just a matter of personality". *CESifo Economic Studies*. doi:10.1093/cesifo/ifu023.

Caliendo, M., Kritikos, A. and Fossen, F. 2011. Personality characteristics and the decision to become and stay self-employed. 5566 IZA discussion paper series.

Cassar, G. 2004. "The financing of business start-ups". *Journal of Business Venturing*, 19(2): 261-283.

CGAP and la Banque Mondiale. 2009. Financial Access 2009 : Measuring access to financial services around the World. Washington, DC: Consultative Group to Assist the Poor (CGAP) and World Bank.

Chidzero, A-M, Karen, E. and Anjali, K. 2006. "Indicators of Access to Finance Through Household Level Surveys – Comparisons of Data from Six Countries", *World Bank*, *The UK Department for International Development* (DFID) et *FinMark Trust*, 10 p.

Cho, Y. and Honorati, M. 2014. "Entrepreneurship programmes in developing countries: A meta regression analysis". *Labour Economics*, *28*: 110-130.

Cragg, J.G. and Donald, S.G. 1993. "Testing identifiability and specification in instrumental variable models". *Econometric Theory*, 9: 222-240.

Crépon, B., Devoto, F., Duflo, E. and Pariente, W. 2014. Estimating the impact of microcredit on those who take it up: Evidence from a randomized experiment in Morocco. NBER Working Paper Series 20144.

Cull, R., Ehrbeck, T. and Holle, N. 2014. Financial inclusion and development: Recent impact evidence. CGAP Focus Note No. 92.

De Gregorio, J. and Guidotti, E. 1995. "Financial development and economic growth". *World Development*, Vol. 23, Issue 3: 433-448.

Demetriades, P. and Rewilak, J. 2019. Finance and entrepreneurship in Sub-Saharan Africa. Presented at the Centre for Global Finance conference. SOAS University of London.

Demirgüç-Kunt, Asli, Klapper, L., Singer, D., Ansar, S. and Hess, J. 2018. *The Global Findex Database 2017: Measuring financial inclusion and the Fintech revolution*. Washington DC: World Bank.

Demirgüç-Kunt, Asli and Maksimovic, V. 1998. "Law, finance, and firm growth". *Journal of Finance* 53: 2107-2137.

Doms, M., Lewis, E. and Robb, A. 2010. "Local labour market endowments, new business characteristics, and performance". *Journal of Urban Economics*, 67: 61-77.

Dunn, E. and Arbuckle Jr., G. 2001. *The impacts of microcredit: A case study from Peru.* Washington, DC: USAID Assessing the Impact of Microenterprise Services (AIMS Project).

Dupas, P. and Robinson, J. 2013. "Savings constraints and microenterprise development: Evidence from a field experiment in Kenya". *American Economic Journal: Applied Economics*, 5(1): 163-92.

Ellis, K., Lemma, A. and Rud, Juan-Pablo. 2010. Investigating the impact of access to financial services on household investment. Overseas Development Institute.

Evans, D.S. and Jovanovic, B. 1989. "An estimated model of entrepreneurial choice under liquidity constraints". *The Journal of Political Economy*, Vol. 97, No.4: 808-827.

Faggio, G. and Silva, O. 2014. "Self-employment and entrepreneurship in urban and rural labour markets". *Journal of Urban Economics*, 84: 67-85.

Fan, Z. and Zhang, R. 2017. "Financial inclusion, entry barriers, and entrepreneurship: Evidence from China". *Sustainability,* 9*:* 1-22.

Field, E., Pande, R., Papp, J. and Rigol, N. 2013. "Does the classic microfinance model discourage entrepreneurship among the poor? Experimental evidence from India". *American Economic Review*, 2196-2226.

Finmark Trust. 2011. *Finscope Livelihoods Approach.* Irma Grundling.

Fossen, F.M. 2012. "Gender differences in entrepreneurial choice and risk aversion-A decomposition based on a microeconometric model". *Applied Economics*, Vol. 44, No.14: 1795-1812.

Furdas, M. and Kohn, K. 2010. What's the difference?! Gender, personality, and the propensity to start a business. 4778. IZA discussion paper series. Bonn. https://ideas.repec.org/p/iza/izadps/dp4778.html.

Gafni, H. 2020. Alternative digital methods of providing entrepreneurial finance. Copenhagen Business School, PhD series.

Ghanem, Y. and Achouche, M. 2017. "Financial development impact on firm dynamic creation: Panel data Evidence on MENA countries". *International Economic Journal*, Vol. 37: 94-111.

Greeley, M. and Chaturvedi, M. 2007. Microfinance in Afghanistan: A baseline and initial impact study for microfinance investment support facility for Afghanistan (MISFA). Brighton: Institute of Development Studies - IDS.

Greenwood, J. and Smith, D. 1997. "Financial markets in development, and the development of financial markets". *Journal of Economic Dynamics and Control, Vol. 21: 145-181.*

Grimm, M. and Paffhausen, A.L. 2015. "Do interventions targeted at micro-entrepreneurs and small and medium-sized firms create jobs? A systematic review of the evidence for low- and middle-income countries". *Labour Economics, 32*: 67-85.

Hsu, D. 2004. "What do entrepreneurs pay for venture capital affiliation?" *The Journal of Finance*, 59(4): 1805-1844.

Jakiela, P. and Ozier, O. 2016. "Does Africa need a rotten kin theorem? Experimental evidence from village economies". *The Review of Economic Studies*, 83(1): 231-268.

Kan, K. and Tsai, Wei-Der. 2006. "Entrepreneurship and risk aversion". *Small Business Economics,* 26(5): 465-47.

Kerr, W. and Nanda, R. 2009. *Financing constraints and entrepreneurship* (No. w15498). Washington, DC: National Bureau of Economic Research.

King, R. and Levine, R. 1993. "Finance, entrepreneurship and growth: Theory and evidence". *Journal of Monetary Economics*, Vol. 32: 513-542.

Klapper, L., Laeven, L. and Rajan, R. 2004. "Entry regulation as a barrier to entrepreneurship". NBER Working Paper 10380.

Koellinger, P., Minniti, M. and Schade, C. 2013. "Gender differences in entrepreneurial propensity". *Oxford Bulletin of Economics and Statistics*, 75(2): 213-234. doi:10.1111/j.1468-0084.2011.00689.x.

Kondo, T. 2007. *Impact of microfinance on rural households in the Philippines.* Mandaluyong: Asian Development Bank - ADB.

Kondo, T., Orbeta, A., Dingcong, C. and Infantado, C. 2008. "Impact of microfinance on rural households in the Philippines". *IDS Bulletin*, Vol.*39*(1): 51-70.

Llussá, F. 2010. Determinants of entrepreneurship: Are women different? Universidade de Sao Paulo. http://www.ead.fea.usp.br/semead/12semead/resultado/trabalhosPDF/595.pdf.

Lusardi, A., and Mitchell, O. S. 2014."The economic importance of financial literacy: theory and evidence". *Journal of Economic Literature*, Vol. 52, No.1, 5-44.

Lyons, A.C. and Contreras, S.A. 2017. "A simultaneous equation of youth entrepreneurship and financial inclusion across developing countries". Working Paper. Urbana, IL: University of Illinois at Urbana-Champaign.

McKinnon, Ronald I. 1973. *Money and Capital in Economic Development*. Washington, D.C., The Brookings Institution.

Meager, N., Bates, P. and Cowling, M. 2003. "An evaluation of business start-up support for young people". *National Institute Economic Review*, Vol. 186: 59-72.

Minniti, M. and Nardone, C. 2007. "Being in someone else's shoes: The role of gender in nascent entrepreneurship". *Small Business Economics*, Vol. 28, No. 2-3: 223-238.

Nayar, N. 2014. An integrated approach to empower youth in Niger, Senegal and Sierra Leone: Findings and lessons from the Youth Microfinance Project (Toronto, Plan Canada).

Ndanshau, M. O. and Njau, F. E. 2021. "Empirical investigation into demand-side determinants of financial inclusion in Tanzania". *African Journal of Economic Review*, Vol. 9, No.1: 172-190.

OECD. 2014.

Ouma, S., Odongo, T. and Were, M. 2017. "Mobile financial services and financial inclusion: Is it a boon for savings mobilization?" *Review of Development Finance*, Vol. 7: 29-35.

Pagano, M. and Pica, G. 2012. "Finance and employment" *Economic Policy*, Vol. 27, No. 69: 5-55.

Patel, P. 2014. Effectiveness of entrepreneurship development interventions for women entrepreneurs: An ILO-WED Issue Brief. Geneva, Switzerland: Women's Entrepreneurship Development Programme, International Labour Organization.

Patrick, H.T. 1966. "Financial development and economic growth in underdeveloped countries". *Economic Development and Cultural Change*, Vol. 14, No. 2: 174-189.

Peng, G., Liu, F., Lu, W., Liao, K., Tang, C. and Zhu, L. 2018. "A spatial-temporal analysis of financial literacy in United States of America". *Finance. Research Letters*, Vol. 26: 56-62.

Porteous, David. 2007. Financial service access and usage in Southern and East Africa: What do Finscope surveys tell us? FinMark Trust, Bankable Frontier Associates, 101.

Rooyen, C. van, Stewart and de Wet, T. 2012. "The impact of microfinance in Sub-Saharan Africa: A systematic review of the evidence". *World Development*, Vol. 40, No.11: 2249-2262.

Schumpeter, J.A. 1934. *The theory of economic development*. London: Oxford University Press.

Simoes, N., Moreira, S.B. and Crespo, N. 2013. "Individual determinants of self-employment entry: What do we really know?" MPRA Paper No. 48403.

Stock, J. H. and Yogo, M. 2005. "Testing for weak instruments in linear IV regression". In D.W.K. Andrews and J.H. Stock (Eds), *Identification and inference for econometric models: Essays in honor of Thomas Rothenberg*. New York: Cambridge University Press.

Staiger, D. and Stock, J.H. 1997. "Instrumental variables with weak instruments". *Econometrica*, 65: 557-586.

Sykes, J., Elder, S., Gurbuzer, Y. and Principi, M. 2016. Exploring the linkages between youth financial inclusion and job creation. Work4Youth Publication Series No. 42. Geneva, Switzerland: International Labour Organization.

Soumaré, I., Tchana Tchana, F. and Kengne, M. 2016. "Analysis of the determinants of financial inclusion in Central and West Africa". *Transnational Corporations Review* , Vol. 8, No.4: 231-249.

Tchamyou, V.S. 2016. "The role of knowledge economy in African business". *Journal of the Knowledge Economy*, DOI: 10.1007/s13132-016-0417-1.

Tobias, J.M., Mair, J. and Barbosa-Leiker, C. 2013. "Towards a theory of transformative entrepreneurship: Poverty reduction and conflict resolution in Rwanda's entrepreneurial coffee sector". *Journal of Business Venture*, 28 (6): 728-742.

UNCDF, 2006. *Building Inclusive Financial Sectors for Development*, United Nations Capital Development Fund (UNCDF), New York, 182 p.

United Nations, Conference on Trade and Development – UNCTAD. 2015. *Policy guide on youth entrepreneurship*. New York, NY: United Nations.

van der Zwan, P., Verheul, I. and Thurik, A.R. 2012. "The entrepreneurial ladder, gender, and regional development". *Small Business Economics*, Vol. 39, No. 3: 627-643.

van Rooyen, C., Stewart, R. and De Wet, T. 2012. "The impact of microfinance in Sub-Saharan Africa: A systematic review of the evidence". *World Development*, Vol.40, No.11: 2249-2262.

van Stel, A., Storey, D.J. and Thurik, A.R. 2007. "The effect of business regulations on nascent and young business entrepreneurship". Small Business Economics, 28: 171-186.

vos, E., Yeh, A.J.Y., Carter, S. and Tagg, S. 2007. "The happy story of small business financing". *Journal of Banking and Finance*, Vol. 31, No. 9: 2648-2672.

Wagner, J. 2007. "Nascent entrepreneurs". In Simon, P.,Ed., *The life cycle of entrepreneurial ventures*. Springer, 15-37.

Were, M., Odongo, M. and Israel, C. 2021. Gender disparities in financial inclusion in Tanzania. WIDER Working Paper 2021/97.

Wieser, C., Bruhn, M., Kinzinger, J., Ruckteschler, C. and Heitmann, S. 2019. *The Impact of Mobile Money on Poor Rural Households: Experimental Evidence from Uganda*. Washington DC: World Bank.

World Bank. 2008. "Kenya: Accelerating and Sustaining Inclusive Growth", World Bank Report No. 42844-KE.

World Bank. 2022. Sub-Saharan Africa Unemployment Rate 1991-2022. Macrotrends.

Appendices

Table A-1: Reasons why people are not banked

Supply-side barriers	Demand-side constraints
You don't want to pay service fees	You don't have money to save
You have to keep a minimum balance in the bank	You don't have a regular income
It's expensive to have a bank account	You prefer dealing in cash
You can't afford to	You prefer to use other options rather than a bank
The bank is too far from where you live	It's cheaper to use someone else's account
It takes too long to get your money	You use someone else's bank account
You do not have a job	You can't read or write
You don't have a national id	You earn too little to make it worthwhile
You don't have a referee	You don't need a bank account
You don't qualify to open an account	You don't trust banks
You are too young to have a bank account	Someone you know has lost money they kept at a bank
You don't know how to open a bank account	
They can't speak your language	
You are not allowed to open an account by your partner / spouse	

Table A-2: Definition of variables

Variables	Description
Entrep: Captures the entrepreneurial activity of individuals	1: entrepreneur (If the individual saves or borrows for the purpose of starting a business, or their main source of income is from a personally undertaken business) 0: non-entrepreneur (if the individual saves or borrows for purposes other than business creation or the main source of income is from other means than the entrepreneurial initiative)
Bank: Measures the use of banking services by users	1: use of banking services (if the individual has/uses banking services) 0: non-use of banking services (if the individual does not have and/or does not use banking services)

Continued on page 33

Formal_non_bank: Measures the use of formal financial services other than banking	1: use of formal non-banking services (if the individual uses formal financial services other than banking). 0: non-use of formal non-banking services (If the individual does not use formal financial services other than banking. The individual may use banking services or not use any formal financial services
Informal	1: use of informal services (if the individual reports that he/she rarely or commonly uses informal financial services) 0: non-use of informal services (if the individual states that they have never used informal financial services)
Mobile money	1: use of mobile money services (if the individual states that they rarely or commonly use mobile money services) 0: non-use of mobile money services (if the individual states that they have never used mobile money services)
Education: Identifies the form of the individual's education system	1: formal education (if the individual has primary, secondary or university level) 0: non-formal education (if the individual has not followed the classical academic course)
Age	Age of the respondent in years
Place of residence	1: rural if the respondent lives in a rural area 2: urban if the respondent lives in an urban area
Marital status	1: Single/Never married 2: Divorced/ separated 3: Widowed 4: Married/living with partner 5: Other
Barrier: Specifies the type of barriers to access to banking services depending on whether they are supply or demand-related	1: supply-barriers: if the variable explaining non-use of banking services takes the ''supply-side constraints'' modality 0: demand-barriers if the variable explaining non-use of banking services takes the ''demand-side constraints'' modality

Table A-3: Spearman's correlation test

Kenya

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0742***	1			
Use formal_non-Bank	0.0805***	0.2915***	1		

Continued on page 34

Use informal financial services	0.0407***	-0.0185***	0.1148***	1	
Mobile account	0.1095***	0.3197***	0.6917***	0.0680***	1

Rwanda

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0742***	1			
Use formal non-bank	0.0805***	0.2915***	1		
Use informal financial services	0.0407***	-0.0185***	0.1148***	1	
Mobile account	0.1095***	0.3197***	0.6917***	0.0680***	1

Uganda

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0202	1			
Use formal_non-Bank	0.1079***	-0.3382***	1		
Use informal financial services	0.0675***	0.0266**	0.1243***	1	
Mobile account	0.1171***	0.2733***	0.7140***	0.1300***	1

Zambia

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0413***	1			
Use formal_non-Bank	0.0694***	0.4031***	1		
Use informal financial services	0.0708***	0.0730***	0.1058***	1	
Mobile account	0.0718***	0.3247***	0.6394***	0.0725***	1

Tanzania

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0713***	1			
Use formal_non-Bank	0.0467***	-0.3890***	1		
Use informal financial services	0.0160***	-0.1197***	-0.2771***	1	
Mobile account	0.1196***	0.3121***	0.6353***	-0.3259***	1

Namibia

	Entrep	Use bank services	Use formal_ non-Bank	Use informal financial services	Mobile account
Entrep	1				
Use bank services	0.0998***	1			
Use formal_non-Bank	0.0526***	0.5006***	1		
Use informal financial services	0.0370**	0.0601***	0.0867***	1	
Mobile account	0.0794***	0.4063***	0.3137***	0.0896***	1

Table A-4: Descriptive statistics

	Kenya		Uganda		Tanzania		Namibia		Rwanda		Zambia	
Variables	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Demand_ barriers	0.799	0.400	0.764	0.424	0.764	0.42462	0.812	0.3910	0 .547	0.498	0.721	0.4480
Supply_ barriers	0.201	0.400	0.236	0.424	0.236	0.42462	0.188	0.39102	0.453	0.497	0.279	0.4480

Mission

To strengthen local capacity for conducting independent, rigorous inquiry into the problems facing the management of economies in sub-Saharan Africa.

The mission rests on two basic premises: that development is more likely to occur where there is sustained sound management of the economy, and that such management is more likely to happen where there is an active, well-informed group of locally based professional economists to conduct policy-relevant research.

www.aercafrica.org

Learn More

www.facebook.com/aercafrica

www.instagram.com/aercafrica_official/

twitter.com/aercafrica

www.linkedin.com/school/aercafrica/

Contact Us
African Economic Research Consortium
Consortium pour la Recherche Economique en Afrique
Middle East Bank Towers,
3rd Floor, Jakaya Kikwete Road
Nairobi 00200, Kenya
Tel: +254 (0) 20 273 4150
communications@aercafrica.org