



Explaining Firm Performance in African Least Developed Countries: Evidence from Burundi and Tanzania

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Abstract. For the last two decades, scholars have tried to link entrepreneurship typologies originally constructed in the West with firm performance in Africa's Least Developed Countries (LDCs). Results were often surprising in the sense that they were different from what was found in Western economies. In this paper we take a step back and investigate the importance of small business owners' universal socio-demographics: their nationality, start-up experience, age, gender and highest completed education. Unlike theoretically more sophisticated concepts used in earlier studies, these indicators have the advantage that they are universally applicable and do not suffer from context-specific meanings and interpretations. Hence, they form a good starting point to understand firm performance in LDCs. Using new and unique primary data, this study explores these socio-demographic factors using a cross-country sample of 306 small business owners from two African LDCs. Using ordered logit models, we find that also for these socio-demographic characteristics, the link with firm performance (measured in terms of employee growth and sales growth) seems to be different in LDCs. Accordingly, one of the key lessons which can be drawn from this study is that scholars should search for more relevant, context-specific, indicators of firm performance in the extreme impoverished areas of the world.

Keywords: entrepreneurship, small business owners, country comparison, East African Community.

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1. Introduction

The *Urtex*s in Western² management literature considered entrepreneurs to be economic actors that are innovative, cause creative destruction, and form the foundation for the actions that drive economic development (Schumpeter, 1934;

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Kirzner, 1974, 1997). However, many countries in Africa have not benefitted from the global economic development seen in the past few decades. The people living in these underdeveloped countries are often referred to as “the bottom billion”: the poorest one-seventh of the world’s population (Collier, 2008). Within the bottom billion, there is a group of countries that is not even classified as “developing countries” but rather as “Least Developed Countries” (LDCs) (United Nations, 2017a). There are 48 LDCs, from which 34 are on the African continent—particularly in the Sub-Saharan region (United Nations, 2017b). Because employment opportunities are often lacking, many people in these LDCs make a living as entrepreneurs. However, instead of the term “entrepreneurs” as it is known in the West, the term “small business owners” may be more applicable in the context of African LDCs because innovation³ and creative destruction take place differently from what is seen in Western countries. For example, in contrast to Western countries, copy-cat businesses occur on a large scale in Africa (Kristiansen *et al.*, 2005).

In the last two decades, an increasing number of scholars have followed the example of Western studies to link popular individual- or firm-related typologies (e.g., corporate social responsibility, entrepreneurial motivation and orientation, causation and effectuation decision-making, the identification of sustainable opportunities, and planning strategies) to performance in the context of Africa’s developing countries and LDCs: this has been an important way to predict economic prosperity (e.g., Choongo *et al.*, 2016; 2017; Eijdenberg *et al.*, 2015, 2017; Escher *et al.*, 2002; Frese *et al.*, 2000, 2002, 2007; Krauss *et al.*, 2005). However, the results of these studies were often disappointing or surprising (*viz.* contrasting with what has been found in Western countries). This might be for numerous reasons: 1) difficulties with data collection, e.g. too small samples (Kolk and Van Tulder, 2010; Kriauciunas *et al.*, 2011); 2) the absence of success stories from top performers (Bureau and Fendt, 2011; Khavul *et al.*, 2009); 3) the perception that business research in the context of African LDCs is not worth paying attention to—in fact: Africa’s gross domestic product’s (GDP) contribution to the world is negligible at 0.6 percent (Cuervo-Cazurra and Genc, 2008); or 4) different (context-specific) meanings and interpretations of entrepreneurship typologies and concepts applied in the West.

Popular lines of thought within management research coincided with the growing economies in the West. Hence, the demand for research predicting the

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2. In this paper, the term “Western” refers to the highly developed, knowledge-driven economies, such as those in Western Europe or the United States. As opposed to “Western”, “non-Western” refers to less-developed countries, mainly with factor-driven economies, such as many countries on the African continent.
 3. Frugal innovations do occur in African LDCs and concern “design innovation process in which the needs and context of citizens in the developing world are put first to develop appropriate, adaptable, affordable, and accessible services and products for emerging markets” (Basu *et al.*, 2013, p. 64), for example, self-made mosquito nets in Malaria-affected countries and simple, low-cost water purifiers for slum dwellers.

effect of a typology X on firm performance Y was high. But because of the research difficulties in many African LDCs—like those previously mentioned—scholars may have come short in completely explaining firm performance. This study contributes to this shortcoming by searching for associations with firm performance and to see how different independent variables are linked to firm performance. Moreover, regarding these independent variables, and considering the fourth reason mentioned above, we take a step back and focus on universal socio-demographic characteristics of entrepreneurs. Using a large sample of small business owners, we conduct both Chi-square tests for independence in the preliminary analyses, and multiple ordered logit models in the main analyses, to explore the following research question: *Which socio-demographic characteristics are associated with high firm performance in African LDCs: the small business owners' nationality; start-up experience; age; gender; and/or education?* The reason these five factors are useful to investigate is twofold: 1) these factors are universally applicable, and as a consequence, relatively free from conceptual meanings from the West; and 2) these factors are very comprehensible by nature to the respondents (i.e. the small business owners), helping obviate as many difficulties and ambiguities as possible. The current study is based on primary data from small business owners in two typical African LDCs: Burundi and Tanzania.

In the next section, the relevant literature is reviewed, and the hypotheses are developed. Subsequently, there is a section on the applied methodologies. After the methodologies, the hypotheses are tested, based on different analyses in the results section. The paper closes with a conclusions section.

2. Literature Review

2.1. Small Businesses and Their Firm Performance in African LDCs

The small business owners in this study are Burundian and Tanzanian: two nationalities from African LDCs. In general, “Africa is a diverse continent with distinct historic, economic, and social traditions” (Khavul *et al.* 2009, p. 1221). Although Africa has a relatively low population density compared to other continents, it is known for its high number of ethnic groups that speak different languages and have different cultural backgrounds (Khavul *et al.*, 2009).

Like many African LDCs, Burundi and Tanzania are typically characterised by small, large-scale sectors and large, small-scale sectors (McDade and Spring, 2005). The large-scale sectors generally involve the manufacturers of plastics, rubber, furniture, beverages, clothing and other sorts of bare necessities found in typical factor-driven economies. Also, the construction and transportation sectors are usually large in size (Adenikinju *et al.*, 2002; Schulpen and Gibbon, 2001;

Todaro, 2000). The small-scale sectors are the backbone of most African LDCs, and these sectors are the ones where the “micro- and small-sized enterprises” (MSEs) and “small and medium-sized enterprises” (SMEs) are found. MSEs are usually “one-person operations, poorly managed, sometimes temporary, less productive, and undercapitalized” (Kiggundu, 2002, p. 248). SMEs, in contrast, tend to be better managed, longer lasting, more productive and better capitalised than MSEs. Often perceived as the last resort for the poor, starting an SME or MSE is seen as the primary way to escape from extreme poverty. The SMEs and MSEs mainly sell several (semi-finished) products from the large-scale businesses at their premises, with a few people employed who are often members of the owner’s extended family. The major problems faced by small-scale sectors are the lack of innovation, the large amount of copy-cat behaviour and the “limited ability to compete on price and quality in a liberalized economy” (Kristiansen *et al.*, 2005, p. 366). Hence, reaching high levels of firm performance that can be somewhat equitable to Western countries is very challenging for most SMEs and MSEs.

On the one hand, an increasing number of studies have shown that the performance⁴ of small businesses in resource-constrained contexts, such as African LDCs, involves individual-related and consumer-durable measures (see, for example, Booysen *et al.*, 2008; Eijdenberg, 2016; Filmer and Pritchett, 2001; Sahn and Stifel, 2000). The reason is that the MSEs in these studies equal the self-employed person who is in impoverished circumstances. Therefore, any improvement of the personal circumstances, such as the use of high-quality materials for the person’s house, can already be an indicator of performance. But on the other hand, there remain communalities with the West: owner-managers of small businesses also have a certain fluctuation in their sales and number of employees (or better defined as “people who work for the business”). These are similar to the frequently used firm-level measures for performance in Western countries (see, for example, Davidsson, 1989; 1991; Haber and Reichel, 2005; Reichel and Haber, 2005).

2.1.1. The First Study Context: Burundi

Burundi is a member of the East African Community (EAC); has more than 11 million people living in an area of almost 28,000 square kilometres; and is mother to the capital of Bujumbura. The median age of the population is 17. In 2016, its GDP growth rate was an estimated -0.1 percent, and its GDP per capita was an

4. An important distinction is made between the terms “performance” and “firm performance”. The term “performance” may refer to indicators not necessary related to the firm, but rather to the individual. This is often called one’s “personal wealth” (cf. Eijdenberg and Borner, 2017; Eijdenberg, 2016). On the contrary, “firm performance” is deliberately used when referring to organisation-related indicators, such as the firm’s employees and sales, used in this paper.

estimated \$800. Possibly, this decrease in GDP is because of the rise of violence in 2014 and 2015 after the country going through a relatively peaceful period. The economy is largely dependent on agriculture, and the primary exports are coffee and tea (Central Intelligence Agency, 2017a). After gaining independence, Burundi experienced at least five violent periods between the two major ethnic groups: the Hutus and the Tutsis (Collier and Sambanis, 2005). The violence and wars have had a severe, negative effect on Burundi's economy (Ngaruko and Nkurunziza, 2000). The data collection of this study took place just before the latest outbreak of violence in 2015. Until 2015, Burundi attempted to revive its economy through numerous means, but particularly by stimulating small business ownership with the help of so-called "business incubators" based on development aid (see, for example, the "Burundi Business Incubator" (Burundi Business Incubator, 2017)). Nevertheless, Burundi is ranked as one of the poorest countries in the world (Central Intelligence Agency, 2017a; International Monetary Fund, 2017; United Nations, 2017a).

2.1.2. The Second Study Context: Tanzania

Although Dodoma is Tanzania's legislative seat, Dar Es Salaam is its largest commercial city and its capital. The country has a population of approximately 53 million people, and the country is a little more than 947,000 square kilometres. The median age of the population is 17.6. In 2015, the GDP growth rate was an estimated 7 percent, and its GDP per capita (2016) was an estimated \$3,100. The country's economy largely depends on agriculture, which also accounts for most of its exports. As opposed to the two major ethnic groups in Burundi, Tanzania has more than 130 Bantu tribes (Central Intelligence Agency, 2017b). After gaining independence in the early 1960s from the British, President Julius Nyerere institutionalised the period of "Ujamaa", or "African Socialism", for a few decades. After "Ujamaa" in the mid-1980s, Tanzania has made substantial economic progress because of liberalisation policies and the promotion of free market and international trade (Kristiansen, 2002; Rutashobya and Jaensson, 2004). Since these economic reforms, the country has attracted both investors and the interest of the scientific community (Jerven, 2011). Regarding the GDP per capita, Tanzania performs better than Burundi (Central Intelligence Agency, 2017b; International Monetary Fund, 2017; United Nations, 2017b).

Overall, it can be concluded that Burundi's economic conditions are less favourable than those of Tanzania for small business ownership. As a consequence, Tanzanian small business owners may reach higher levels of firm performance than their Burundian counterparts. Based on this assumption, the following hypothesis is formulated:

Hypothesis 1 (H1): Small business owners from African LDCs with better economic conditions (i.c. Tanzania) have higher levels of firm performance than their counterparts from African LDCs with worse economic conditions (i.c. Burundi).

2.2. The Role of Start-up Experience, Age, Gender and Education in African LDCs

Start-up experience concerns having previous involvement in founding and managing a small business. Sometimes, start-up experience is considered a “pull” factor: a positive, entrepreneurial motivation or stimulus to start a business (Benzing and Chu, 2009; Birley and Westhead, 1994; Burke *et al.*, 2002). Start-up experience may occur either alone or in a team. This coincides strongly with the socio-demographic age; the older a person is, the more likely the person has had some sort of experience in founding and managing a small business.

The literature is not conclusive on whether businesses from older owner-managers perform better than businesses from their younger counterparts (Smallbone and Wyer, 2000; Storey, 1994). In Western countries, age is usually a positive predictor for firm performance (e.g., Cragg and King, 1988; Delmar and Shane, 2004; Haynes, 2003; Stuart and Abetti, 1990). For small business owners in African LDCs, it can be assumed that they are learning by doing. Therefore, older small business owners have gained more experience than the younger counterparts (Nichter and Goldmark, 2009). This is confirmed by Verheul and Van Stel (2010), who show that in relatively lower developed countries, older small business owners are more successful than their younger counterparts. More empirical evidence from African LDCs also shows that older small business owners perform better than younger ones (cf. Eijdenberg, 2016; Eijdenberg and Borner, 2017; Isaga, 2015; Liedholm, 2002; Liedholm and Mead, 1999), most likely because they have accumulated more capital, experience and skills. Therefore, the following hypotheses are formulated:

Hypothesis 2 (H2): In African LDCs, firm performance is positively related to earlier start-up experience.

Hypothesis 3 (H3): In African LDCs, firm performance is positively related to the small business owner's age.

Gender is another important socio-demographic. Most studies conclude that female small business owners underperform compared to their male counterparts (e.g. Lee and Marvel, 2014; Lyons *et al.*, 2014; Marlow and McAdam, 2013). There are several reasons discussed in the literature, and these are often related to women having less access to employment opportunities and capital (Aterido *et*

al., 2013; Carter *et al.*, 2007; Eijdenberg, 2016; Ssendi and Anderson, 2009). Another possibility is that women focus on the marginalised sectors and that they tend to prefer sectors they are familiar with, such as food vending. In contrast, men operate in industries with potentially higher profits (Lee and Marvel, 2014; Morris *et al.*, 2006; Smith, 2009). Women are said to be less focussed on economic goals and do not have as many entrepreneurial qualifications (e.g., Dobbs and Hamilton, 2007; Lee and Marvel, 2014; Marlow and McAdam, 2013). To conclude, the following hypothesis is formulated based on the literature:

Hypothesis 4 (H4): In African LDCs, male small business owners perform better than their female counterparts.

The last key socio-demographic is education, which enhances the small business owners' ability to find solutions and react to change (Rauch and Rijdsdijk, 2013). Therefore, it improves one's skills, which might have a positive effect on performance (e.g., Baker and Sinkula, 2009; Hirschsohn, 2008; Matlay, 2008; Naudé *et al.*, 2008). Particularly, in African LDCs, education is an important path that leads one out of impoverishment (Batana, 2013). But higher levels of formal education do not necessarily produce better performance (e.g., Kantis *et al.*, 2004; Nichter and Goldmark, 2009). Yet, most studies conclude that higher educated owner-managers perform better than lower educated owner-managers (e.g., Burki and Terrell, 1998; Nichter and Goldmark, 2009; Tan and Batra, 1995). Hence, the following hypothesis is formulated:

Hypothesis 5 (H5): In African LDCs, firm performance is positively related to the small business owner's education level.

3. Methodology

3.1. The Research Context

This study was part of a larger research project that covered all LDCs within the EAC from March 2011 until March 2016. Within this time span, the EAC countries with LDC classification were Burundi, Tanzania, Rwanda and Uganda (United Nations, 2017a). The larger research project involved multiple waves of cross-sectional data collection for different study purposes. The context in which the current study's data collection took place focusses on two EAC countries: Burundi and Tanzania. Headquartered in Arusha, Tanzania, the EAC covers a 1.82 million square kilometre surface in the Great Lakes area in Sub-Saharan Africa (East African Community, 2017; Edmonds *et al.*, 2009). With a total population of almost 146 million people who generate a total of approximately

US \$148 billion GDP, the EAC is an intergovernmental organisation that enables the free movement of goods, people, labour, services and capital with the aim of economic development. Within Africa, the EAC is one of the fastest growing regions, with an average growth rate of 6.3 percent in 2015. South Sudan, one of the youngest countries in the world, entered the EAC on the 15th of April 2016 as the sixth member state (East African Community, 2017; Organisation for Economic Co-operation and Development, 2016).

3.2. The Pre-Studies

For this study, two waves of data collection were adopted: the first in Bujumbura, Burundi, in July and August 2013 and the second in Iringa, southern Tanzania, in February and March 2014. The methodological approach was similar in both countries: a so-called “qual → QUAN” mixed methods approach was followed (Molina-Azorín *et al.*, 2012, p. 442). This means that the quantitative main study was justified by a qualitative pre-study. The purpose of the methodological approach is, first, to obtain a general overview of the subject in the local context and to select the most appropriate respondents (e.g. on the basis of interviews). Subsequently, when the previous two are assessed, the main study can be carried out, for example by administering surveys. In the African LDC-context, Eijdenberg *et al.* (2015) and Eijdenberg and Masurel (2013) are examples who followed this methodological approach.

For the pre-study in Burundi, 29 respondents were interviewed; and in the pre-study in Tanzania, 27 respondents were interviewed. These numbers far exceeded the point where incremental learning would be minimal (Eisenhardt, 1989; Glaser and Strauss, 1967). In both countries, a snowball sampling technique was utilised to select the interview respondents (Saunders *et al.*, 2009). Each respondent was asked to select the next relevant respondent who should be interviewed. All interviews were voice-recorded. English was commonly spoken; however, some interviews were conducted in French, Kirundi (both for Burundi), or Kiswahili (Tanzania); these interviews were assisted by a language interpreter. The average duration of the interviews was 25 minutes. The respondents in the pre-studies were representatives from government institutions; local authorities; scientific researchers; policy makers from the Chamber of Commerce; representatives from commercial banks and business incubators; and community-wide acknowledged and experienced entrepreneurs.

In each pre-study, the respondents were part of a “scale refinement process”. First, the respondents were exposed to a number of relevant variables and asked to elaborate on the applicability of these variables in the local context of Burundi and Tanzania. Second, based on their elaboration, the respondents were asked how and which variables needed to be adjusted according to the local setting. Third, the respondents were asked which sector of local, small business owners

was the most appropriate to test the adjusted variables on. For the purpose of this paper, a dummy variable of “Nationality” was added to distinguish between the Burundian and Tanzanian respondents. Table 1 shows the final set of adjusted variables used for the main studies.

Table 1. Model variables

Number	Variable	Scale
1	Nationality	Tanzanian; Burundian
2	Have you started a business before?	Yes; no
3	Age	Young; middle; old
4	Gender	Male; female
5	Highest completed education	No education; Primary school; Junior secondary school; Senior secondary school; University bachelor’s degree; University master’s degree; Other
6	How did the number of employees of the business change over the last three years of operation? ^a	Strongly decreased; Decreased; Stayed the same; Increased; Strongly increased
7	How did the business sales change over the last three years of operation?	

^a. In the Burundian survey, this variable was originally phrased as “How did the number of employees of the business change from 01-01-2010 to 01-01-2013?”: this covered a period of time of three years. To hold consistency with the other firm performance variable in this paper, this variable is rephrased into “How did the number of employees of the business change over the last three years of operation?”.

Although the educational system differs between Burundi and Tanzania, the scale presented in the third column of Table 1 is the most suitable standardisation to handle schooling between these two countries. Furthermore, for the analysis, the third, continuous, variable (Age) was recoded into the categories “young”, “middle”, and “old”, where ≤ 28 years old is “young”; $29 - 39$ years old is “middle”; and ≥ 40 years old is “old”.

3.3. The Main Studies

After the qualitative pre-studies, the final set of adjusted variables was ready to be administered on small business owners from the typical, local context. Before the main studies commenced, the adjusted variables, which were also translated into French and Kirundi for the survey in Burundi and into Kiswahili for the survey in Tanzania, were filled in as a pilot survey by a group of 10 respondents to control for the comprehensibility and consistency of the variables. This pilot study functioned as the *quartermaster*: it gave the ultimate approval for the final survey in the quantitative main studies.

In Burundi, the final paper-based survey was completed by 154 small business owners in the city centre of Bujumbura. In southern Tanzania, the final survey was filled in by 152 small business owners in the city centre and close surroundings of Iringa. In sum, the cross-country sample was $N = 306$ respondents. The respondents in the cross-country sample involved the local *Jack of all trades*—which are generally the small food vending businesses, often operating in small shops or on the street in self-built premises. The small business owners sell and produce traditional food (for example, “ugali”) and drinks, as well as occasionally some groceries, small pharmaceutical products and a limited assortment of handcrafted goods and utensils (for example, sandals made from car tires). The motivation behind the choice of the respondents in both countries was the following: First, in the pre-studies, the respondents suggested using these small business owners because they represent a “typical” type of business in the local context. Second, this sector ensured sufficient statistical significance (following the rule of thumb according to Stevens (1996, p. 72): “for social science research, about 15 participants per predictor are needed for a reliable equation”) because these small businesses were visible in high numbers. A snowball sampling technique was used to select the respondents (Saunders *et al.*, 2009); this resulted in very high response rates of more than 98 percent. Non-response was caused by respondents being suspicious about confidentiality despite the help from assistants in both countries. The assistants were of immeasurable value concerning the introduction, explanation and interpretation of the survey because many respondents seemed unfamiliar with this type of research.

3.4. The Analyses

After data collection, the data were analysed. First, the preliminary analyses were performed: the calculation of the scores of all variables and the Chi-square (χ^2) test for independence between variables. Second, the main analyses were performed on the basis of multiple ordered logit models.

4. Results

4.1. Preliminary Analyses: Descriptive Statistics

The scores of all variables have been computed. Table 2 presents the values. In short, the following can be concluded from Table 2: the Burundians are slightly more represented in the total sample of $N = 306$; more respondents have not started a business before the current one; the average age is mid-30s; there are

slightly more male than female small business owners in the sample; the majority of the respondents is relatively low educated (i.e. primary school is most frequently reported); and most of the businesses have stayed the same (in terms of employee growth) or have grown (in terms of sales growth) over the last three years of operation.

Table 2. Descriptive statistics

	Nationality
Tanzanian, percentage	49.7
Burundian, percentage	50.3
Total, percentage	100.0
	Have you started a business before?
Yes, percentage	43.5
No, percentage	56.5
Total, percentage	100.0
	Age
Mean	34.2
In categories: Young, percentage	27.8
In categories: Middle, percentage	48.0
In categories: Old, percentage	24.2
Total of categories, percentage	100.00
	Gender
Male, percentage	52.0
Female, percentage	48.0
Total, percentage	100.00
	Highest completed education
No education, percentage	5.2
Primary school, percentage	36.3
Junior secondary school, percentage	23.9
Senior secondary school, percentage	17.6
University bachelor's degree, percentage	15.0
University master's degree, percentage	0.0
Other, percentage	2.0
Total, percentage	100.0

	How did the number of employees of the business change over the last three years of operation?	How did the business sales change over the last three years of operation?
Strongly decreased, percentage	5.2	1.6
Decreased, percentage	4.9	7.5
Stayed the same, percentage	48.1	8.5
Increased, percentage	36.9	51.0
Strongly increased, percentage	4.9	31.4
Total, percentage	100.0	100.0

To explore the relationship between the categorical variables from Table 1, χ^2 -tests were performed to compare firm performance between the various groups. The results of the χ^2 -tests paved the way for an initial judgement—or preliminary “takeaways”—on the hypotheses: *H1*, *H3*, *H4* and *H5* were partly supported in the sense that the results were in line with the hypotheses for one of the two indicators of firm performance, while *H2* was rejected. The results of these χ^2 -tests are available on request from the authors. In the next section we will investigate whether these partial confirmations of some of the hypotheses will stand when the various socio-demographics compete with each other in a multiple ordered logit regression model. The results of the multiple ordered logit regression models will give the ultimate decision on the hypotheses.

4.3. Main Analysis: Ordered Logit Models

The main analysis is meant to give the ultimate decision on the hypotheses—already explored in the preliminary analyses. The collected data on the variables reported in Table 1 call for an ordered logit analysis: the dependent firm performance variables are measured in five categories, in an ascending order. In the application of the multiple ordered logit analysis, all independent variables from Table 1 were included into the same model in order to avoid omitted variable bias. Furthermore, we clustered standard errors by country.

Table 3 presents the results of the multiple ordered logit model with employment change as the dependent variable.⁵ From Table 3 it can be concluded that, for this indicator of firm performance, small business owners from Tanzania perform better than their counterparts from Burundi, in line with *H1*. The other

5. For interpretation purposes, dummy variables were made and used—as can be seen in this Table. This model has also been run without the dummy variables for age and education, instead treating these variables as continuous variables. However, it turned out that the results did not change in a memorable way.

hypotheses remain unsupported, as reflected by a lack of empirical evidence: the regression coefficients of the corresponding independent variables in the ordered logit model are not statistically significant.

Table 3. Ordered logit model; employment change

Dependent variable		How did the number of employees of the business change over the last three years of operation?		
		Estimate	Std. error	p-value
Independent variables	Tanzanian nationality ^a	1.00	.30	.00
	Has started a business before ^b	.33	.23	.15
	Age, young ^c	.04	.28	.88
	Age, old ^c	-.03	.28	.91
	Males ^d	-.06	.24	.79
	No education / Primary school ^e	-.64	.37	.08
	Junior secondary school ^e	-.34	.40	.40
	Senior secondary school ^e	.15	.39	.70

Note: Reference groups: ^a Burundian nationality; ^b Has not started a business before; ^c Age, middle; ^d Females; ^e University/other education.

Subsequently, Table 4 presents the results of the ordered logit model with sales change as the dependent variable. From Table 4 can be concluded that small business owners from Tanzania perform worse than their counterparts from Burundi, *ceteris paribus*. In contrast to the results in Table 3, that means that *H1* is rejected regarding this particular indicator of firm performance. Furthermore, similar to the conclusions drawn from Table 3 previously, the other hypotheses remain unsupported.

Table 4. Ordered logit model; sales change

Dependent variable		How did the business sales change over the last three years of operation?		
		Estimate	Std. error	p-value
Independent variables	Tanzanian nationality ^a	-2.33	.36	.00
	Has started a business before ^b	-.35	.24	.14
	Age, young ^c	-.07	.29	.80
	Age, old ^c	.32	.30	.28
	Males ^d	.36	.26	.16
	No education / Primary school ^e	-.51	.38	.19
	Junior secondary school ^e	.04	.43	.93
	Senior secondary school ^e	-.28	.41	.49

Note: Reference groups: ^a Burundian nationality; ^b Has not started a business before; ^c Age, middle; ^d Females; ^e University/other education.

While certain hypotheses are somewhat supported in the preliminary analyses, none of the hypotheses are fully supported in the main, multiple ordered logit regression, analysis. A possible explanation why *H1* is only partially supported is because in better economic areas like Tanzania, sales' increase coincides with an increase of the number of employees; while an increase of sales in worse economic areas like Burundi goes along with an unchanged number of employees. Possibly, due to the more adverse economic circumstances, small business owners in Burundi are more cautious to hire employees, even if they realise some positive sales growth. Also, the lower employment growth in Burundi may reflect a lack of labour supply after its violent history.

A possible reason for the rejected *H2* can be that earlier start-up experience does not matter when achieving high firm performance in the current business: success is learned elsewhere. Furthermore, a possible reason why *H3* is not supported is that the advantages and disadvantages of younger and older small business owners (more energy and ambition versus more experience) cancel each other out (Verheul and Van Stel, 2010). Moreover, the rejected *H4* can be explained by the difference in skills and capabilities between men and women. It is remarkable though that the usual finding of men performing better than women is not supported in our study. Furthermore, a possible reason for the lack of support for *H5* can be that in LDCs, the skills and capabilities to achieve high firm performance levels are not learned by formal education, such as schools and universities, but elsewhere, for example, on the street or by family traditions. Nevertheless, we did find some weak evidence (at 10% level) in Table 3, that small business owners with no or only primary education have lower firm performance than others, suggesting that having enjoyed at least some secondary education is helpful for firm performance in African LDCs. Finally, a generic possible statistical reason for the lack of support of our hypotheses is that a relatively large percentage (48.1 percent) of the small business owners reported that the change in the number of employees over the last three years of operation has stayed the same—causing too little variance to affect higher order firm performance levels.

5. Conclusions

The aim of this paper was to answer the research question: *Which socio-demographic characteristics are associated with high firm performance in African LDCs: the small business owners' nationality; start-up experience; age; gender; and/or education?* In general, in our analyses we found the links between these variables and our measures of firm performance to be very weak in African LDCs.

The study's results involve a number of contributions to the literature, practical implications, research limitations and recommendations for future

research. Concerning the contributions to the literature: first, bottom line, the results show that the conventional socio-demographics—as determinants of firm performance in the West—do not apply in African LDCs. Nevertheless, concerning the nuances: the specific results from Table 2 to 4 confirm and contradict the findings of previous studies. This study affirms that different nationalities *q.* economic contexts—obviously—imply different types and degrees of firm performance (cf. Eijdenberg *et al.*, 2017; Eijdenberg, 2016; Frese *et al.*, 2007; Krauss *et al.*, 2005). Yet, in contrast to many of the previously-mentioned single-country studies, the current study is among the first that compares *two* extreme impoverished regions—the African LDCs Burundi and Tanzania—in order to achieve higher generalisability on how firm performance is determined by socio-demographics. Furthermore, start-up experience and the small business owner's age are not related to higher levels of performance, as opposed to what is found in certain previous studies (e.g., Eijdenberg and Borner, 2017; Isaga, 2015; Liedholm, 2002). Regarding gender, this study remains indifferent as opposed to many previously-mentioned studies which have clearly indicated that male entrepreneurs reached higher levels of performance. And the findings concerning highest completed education counter one stream of researchers (e.g., Burki and Terrell, 1998; Tan and Batra, 1995), but follow others (e.g., Kantis *et al.*, 2004; Nichter and Goldmark, 2009).

Second, while an increasing number of studies have started using indicators of *personal wealth* as a proxy of performance in African LDCs (e.g. Eijdenberg and Borner, 2017; Pouw and Elbers, 2012); socio-demographics have hardly played a central role in the assessment of *firm performance*. Truth be told, firm-related indicators may occasionally be less relevant when studying business activity at the subsistence level, for example when it concerns measures like the value of the assets, return on investment or the change in market share. However, these subsistence entrepreneurs may have firm-related indicators which are also commonly used in the West, such as the number of employees (i.e. like mentioned before: the “people who work for the business”) and the sales (i.e. food, groceries, pharmaceutical products and handicrafts). So, in that regard, researchers should not necessarily shy away from firm performance indicators in extreme impoverished contexts, but instead: contextualise, and think of improved ways to capture firm performance under the local conditions. Employees and sales—in general—are universal indicators; but concerning their specific characteristics, they may be different from one context to another.

Regarding the practical implications, it should be emphasised that the hypotheses in this study are generally not supported: still much can be gained by researching these areas, and thus, no indisputable directions for practice can be given hitherto. Notwithstanding, small business owners and other practitioners (e.g. policy makers, trainers or consultants) should understand that one size does not fit all: firm performance differs across African LDCs, and, therefore, requires tailor-made approaches. Moreover, children should be learning-by-playing how

to start up a small business, for example at their homes or on the street with friends. By doing so, people may gain already some start-up experience at a very young age. Thereupon, age is important: elders should teach the youngsters as role models in starting and running a business. Meanwhile, practitioners should focus on developing business curricula to teach the basic and essential skills at the primary and secondary schools which can be of use. Also, developing business curricula that teach advanced skills and adding these courses in higher education institutions can make these institutions more accessible for a larger population.

Finally, this study does have its limitations and recommendations for future research. Although the hypotheses' test indicates that a consensus on these aspects has not yet been reached, this could function as the starting point for future researchers. Not limited to only this hypothesis, but for example the test of *H1* calls for more country-comparisons within the extreme improvised context of African LDCs: clearly, Tanzanian small business owners are not the same as their Burundian counterparts. But more importantly, future researchers in African LDCs are encouraged to conduct more, different types of methodologies and analyses to explain their variables under study. For example, regarding the methodologies: collaboratively developing firm performance indicators with the local small business owners—ideally on a longitudinal basis. Regarding the analyses, an example could be a comprehensive usage of *both* non-parametric (e.g. χ^2 -tests for independence) and parametric tests (e.g. multiple ordered logit models). Whereas studies in the LDC context are often confined to using just χ^2 -tests, the current study showed that this provides only partial understanding of firm performance as research results may change considerably when using multiple regression analysis methods. Finally, as mentioned before, it may be important to use conventional firm performance measures such as sales and employment growth, alongside more context-specific measures such as indicators of personal wealth. In this way, researchers will achieve a much completer picture of their variables—which will likely lead to richer results and better conclusions.

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