Final report

Constraints to entrepreneurship

Findings from pilot studies in Kenya and Uganda

Tavneet Suri
Louis Dorval

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Constraints to Entrepreneurship: Findings from Pilot Studies in Kenya and Uganda

Introduction

A crucial component of understanding the growth prospects of an economy is understanding the constraints to business growth and entrepreneurship. While some data on these constraints already exist in the form of the World Bank's Doing Business Indicators and the World Bank Enterprise Surveys (WBES), they do not completely represent data from the heterogeneous landscape of entrepreneurs, particularly in East Africa. The Doing Business Indicators are macro level indicators for each country and also suffer from well-known issues, see Besley (2015). The WBES surveys are focused entirely on formal firms and only those with more than 5 employees and those in the manufacturing or services sectors. These surveys are also not very frequent or recent for East Africa (the last WBES surveys for Kenya and Uganda were conducted in 2013) and have rather small sample sizes (between 700 and 800 for Kenya and between 600 and 800 for Uganda).

In this report, we suggest a research agenda around understanding the growth of entrepreneurs and small firms in East African countries. The study is to be designed as a series of surveys conducted twice a year with the aim of being able to track firm and entrepreneurial dynamics in the short and medium term. This report is based on a pilot that we conducted with a small sample of firms (not just formal firms and not just large firms) in Kenya and Uganda. The aim was to understand whether we can get extremely cheap data using new technologies for firms that can shed light on the constraints faced by firms and entrepreneurs in these economies.

The Doing Business indicators play this role, as do the World Bank Enterprise Surveys. However, the latter are extremely expensive and therefore only conducted every few years at best. The Doing Business indicators are collected every year but are not based on the actual experiences of firms and entrepreneurs in these economies, but instead on the administrative processes needs for firms to register and get access to infrastructure. As is probably true, the actual experiences of firms and entrepreneurs differ quite a lot from the formal documented administrative processes in these economies. The aim of these surveys is therefore to shed light on what the actual experiences and constraints of firms and entrepreneurs are. In addition, this pilot is meant to highlight that this data can, in fact, be collected very cheaply using the new technologies we use here and therefore could be a useful complement to the annual Doing Business indicators.

Methodology

We worked with a technology firm to use Interactive Voice Response (IVR) technology to conduct cell phone surveys of small firms, both formal and informal. Our surveys focused on understanding the constraints these firms face, including topics covered by Doing Business reports of the World Bank and WBES, as well as topics that are specific to entrepreneurs in the economies of interest – Kenya and Uganda.

The data was collected by automated mobile phone surveys using IVR. The surveys were recorded before-hand in local languages and were conducted in an automated way allowing individuals to respond using numbers on their phone (e.g. Press 1 for Yes, 2 for No if it is a Yes/No question), and, if the questions required it, using a voice response that gets recorded and then coded automatically once the survey is over.

The questions in our surveys covered the following basic areas:

i. Firm formality and registration
ii. Firm access to finance (credit as well as savings),
iii. The costs incurred to start the business (including utilities and corruption, though the latter may be a sensitive question in some countries and so may only be included in a subset of the countries),
iv. Measures of institutional quality (contracts, taxes and trading),
v. The quality of business infrastructure (roads, power, internet and water), and

vi. Other constraints to growth.

These IVR surveys were kept short in order to minimize attrition rates; the survey was programmed to last for about 10 minutes. As a result, we were also to gather a much larger sample size of about 7,600 small business owners in Kenya and about 6,000 small business owners in Uganda (see table 1 below). Nearly half of this sample in both countries agreed to participate in the survey, however, only 1/5th and 1/3rd of the sample from Kenya and Uganda respectively completed at least 20 out of 25 questions in the phone survey. Nevertheless, the average duration of a completed survey was 13 and 7 ½ minutes in Kenya and Uganda respectively.

Table 1: Survey participation and completion

	Eligible Participants	Survey Participation	Survey Completion	Survey Duration*
Kenya	7640	3438	1294	13.27
Uganda	6029	3637	2093	7.569
Observations	13669	7075	3387	3387

Note: Survey duration is the average minutes each completed survey call lasted.

Some of these topics overlap with the topics covered in DBI and WBES data. The WBES survey covers topics such as corruption, infrastructure, regulation and taxes, finance and informality. Several measures included in these topics are comparable to our statistics. The Doing Business indicators, as mentioned earlier, are country level indicators. Some relevant indicators include: quality of judicial processes index, and the number of tax payments. Wherever applicable, we refer to statistics from both these sources to compare summary results. Note that for the doing business indicators, some of these are not exactly comparable as we are asking actual businesses about their experiences rather than documenting what the administrative processes are, which can be quite different from experiences, especially for smaller firms.

Table 2: Survey representation

	Kenya	Uganda
Small shop	1330	1200
Sell products	851	637
Farm work*	596	994
Other business	661	806
Observations	3438	3637

Note: This table reports the number of respondents who agreed to participate in the survey from each occupation group.
* Farm work occupation includes respondents who own a farm or those who rent/borrow land for farming.

Our sample is representative of small firms where the owner has a mobile phone. While it is possible that this may not be truly nationally representative of all small firms in each country, high cell phone penetration in both countries (70% in Uganda, and 83% in Kenya in 2014 with over 95% of non-Nairobi households in Kenya having a cell phone in 2014) alleviates this problem to a certain extent.

In the next section, we report some basic summary results from our surveys and compare them to summary statistics from the WBES 2013 survey and 2017 Doing Business indicators for Kenya and Uganda.

Results

Formal registration and firm size

Our survey suggests a low rate of registration in both Kenya (11.2%) and Uganda (9%). In contrast, the WBES 2013 data suggests that 91% and 62% firms in Kenya and Uganda respectively were formally registered when they started their businesses (of course the WBES is a survey of firms that are only 5 employees and more). At the same time, 27% and 38% respondents in Kenya and Uganda identify practices of informal firms as a major constraint, while Table 3 from our surveys suggests the opposite: more than half of the respondents from in Kenya and Uganda said that unregistered businesses are "good" instead of "not good".

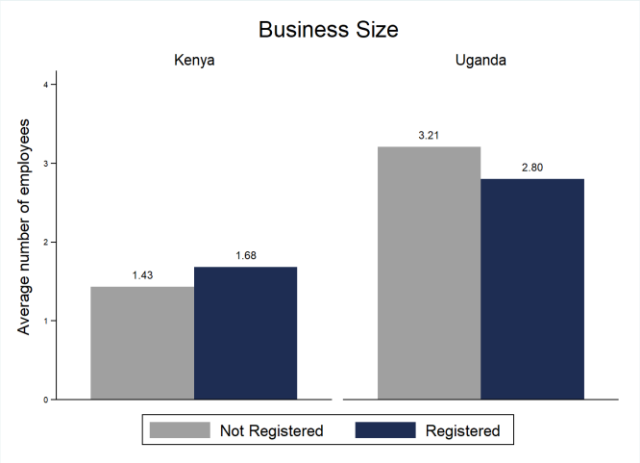
Table 3: Formal registration: ease of registration and opinions

	Kenya	Uganda
Formally Registered	0.189	0.159
	[0.391]	[0.366]
Registration Easy*	0.119	0.0887
	[0.324]	[0.284]
Unregistered businesses are good	0.661	0.597
	[0.473]	[0.491]
Unregistered businesses are not good	0.164	0.234
	[0.370]	[0.424]
Observations	7640	6029

Note: * Registration easy was asked to respondents whose businesses were formally registered
Standard deviations reported in parenthesis

In our survey, the average number of employees, excluding the respondent, is 1.5 persons in Kenya and 3 persons in Uganda. The average number of workers in Kenya and Uganda was 49 and 18 respectively in the WBES 2013 sample. Statistics from both these sources may be indicative of differences in the typical workforce of small, unregistered businesses (majority of our sample) as compared to larger, registered businesses (WBES sample). The 2017 Doing Business indicators suggest that businesses in Kenya and Uganda are required to go through 6 and 13 procedures respectively, to start a business and this process takes 25 and 24 days (respectively). The number of procedures to register a property in these countries (respectively) is 9 and 10. As a percentage of income per capita, the cost of starting a business in Kenya and Uganda is 26% and 34% respectively.

Figure 1: Business size for registered and unregistered firms



Our survey also reveals a fairly large difference in the take up of credit as compared to the WBES 2013 data. In the latter, 48.6% respondents in Kenya and 42% respondents in Uganda reported not needing a loan. The corresponding statistics from our data is 93% and 90% in Kenya and Uganda respectively (table 4 reports the proportion of respondents who said they tried to get a loan). Table 4 also reports firm size and firm revenues by 5 revenues categories.

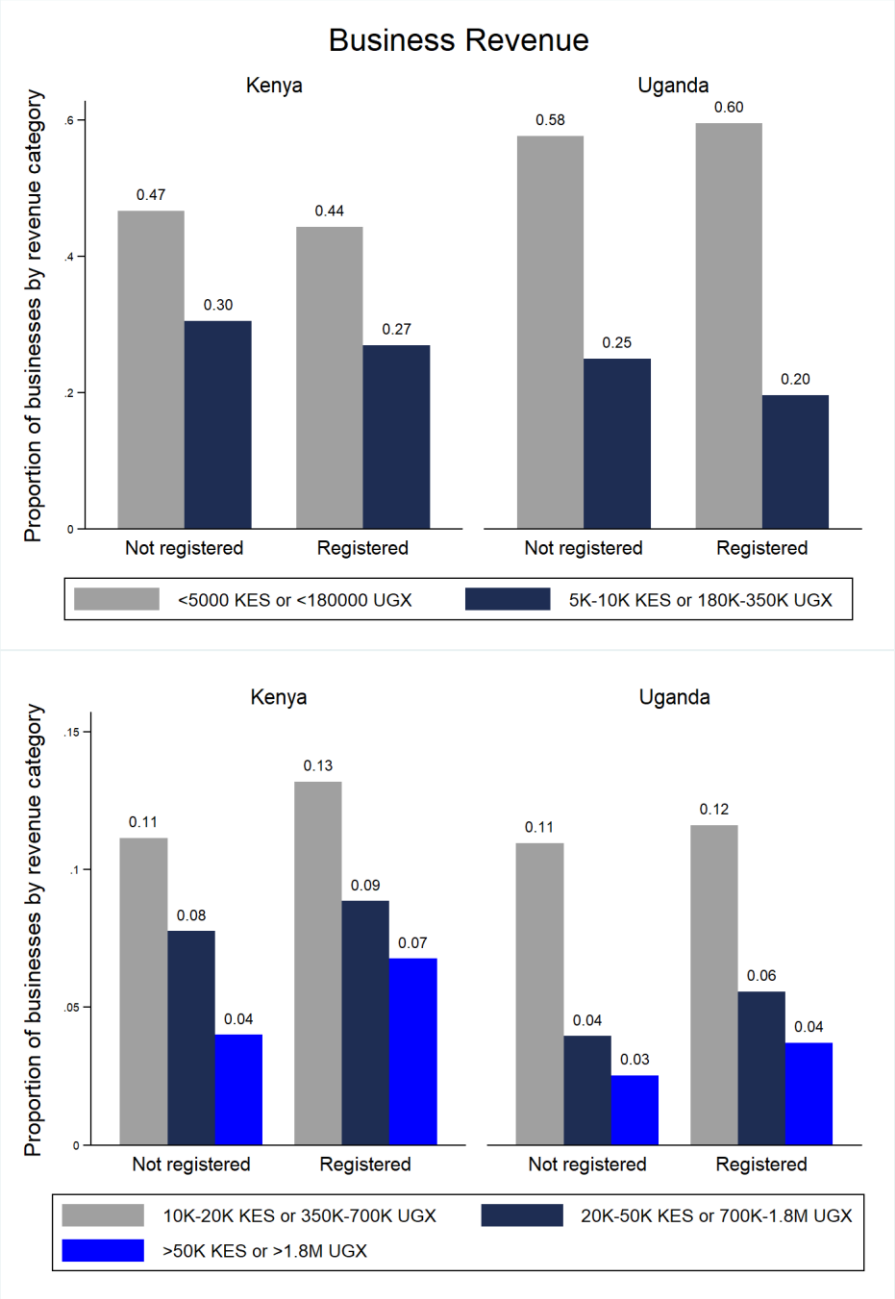
Table 4: Business loan, number of employees and business revenues

	Kenya	Uganda
Business Loan	0.068	0.094
	[0.251]	[0.292]
Number of employees, excluding self	1.551	3.207
	[1.504]	[2.475]
Less than 5000 KES or 180000 UGX	0.451	0.596
	[0.498]	[0.491]
5K-10K KES or 180K-350K UGX	0.284	0.218
	[0.451]	[0.413]
10K-20K KES or 350K-700K UGX	0.126	0.114
	[0.332]	[0.318]
20K-50K KES or 700K-1.8M UGX	0.083	0.043
	[0.276]	[0.203]
More than 50K KES or 1.8M UGX	0.055	0.030
	[0.229]	[0.169]
Observations	7640	6029

Note: Standard deviations reported in parenthesis

Figure 2 graphs the proportion of formal and informal businesses by each revenue category. The graph indicates that in both Kenya and Uganda, formal businesses are more likely to be earning higher revenues. Among formal firms in the WBES sample, aggregate monthly sales are 80 million KES and 500 million UGX in Kenya and Uganda respectively; firms with 5-10 employees in the WBES sample reported average monthly sales of 15 million KES and 45 million UGX in the respective countries. These statistics highlight the importance of understanding why informal registration is high among small businesses in these countries, and thus, how firms may face different challenges depending on their sizes.

Figure 2: Business revenue by firm formality



Challenges to registration and business environment:

Table 5 reports on the challenges firms face in the formal registration process. In this table, we report the proportion of firms who faced each of the four challenges to the formal registration process in Kenya and Uganda. Most respondents in these countries report the slow and bureaucratic process as the main challenge to registration, followed by bribery and struggle to understand legal requirements.

According to the WBES 2013 data, the proportion of respondents who reported the incidence of bribery was 15% and 17% in Kenya and Uganda respectively. 93% and 95% of respondents from our survey reported that

the registration process was not easy in in Kenya and Uganda respectively, but only 19% and 15% (respectively) of the respondents from the WBES reported licensing and permits as a major constraint to their business.

Table 5: Challenges to registration

	Kenya	Uganda
Asked to pay bribe	0.178	0.183
	[0.383]	[0.387]
Slow and bureaucratic process	0.431	0.436
	[0.496]	[0.497]
Struggled to understand legal requirements	0.141	0.147
	[0.349]	[0.354]
Wasn't able to access to reach registration office	0.092	0.132
	[0.290]	[0.339]
Other	0.158	0.103
	[0.365]	[0.304]
Observations	6729	5494

Note: This question was only asked to respondents whose businesses were formally registered, but said that the registration process was not easy (see table 3). Standard deviations in parenthesis.

Crime and security

Our data suggests a low incidence of crime and security issues in both countries (see Figure 3). Figure 4 also indicates that a higher proportion of respondents in Kenya spend in the top 4 expenditure categories for security measures than in Uganda, even though the reported incidence of crime is lower in Kenya (see figure 3). In a sample of larger firms from the WBES 2013 survey, 82% and 55% respondents pay for security, but only 21 and 22 identify security as a major constraint in Kenya and Uganda respectively.

Figure 3: Any crime or security issues

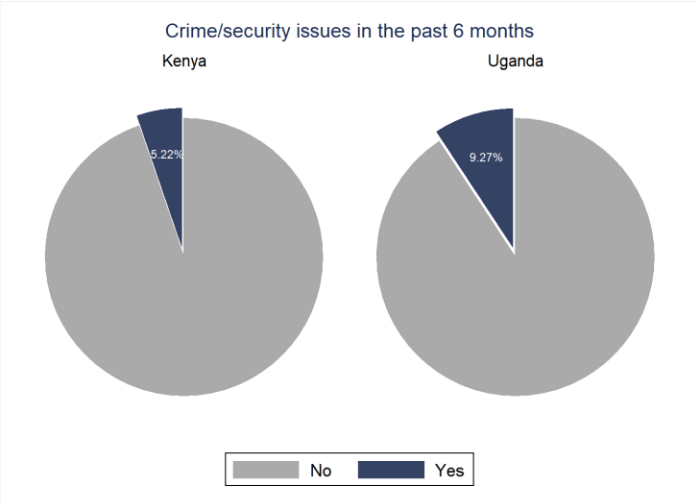
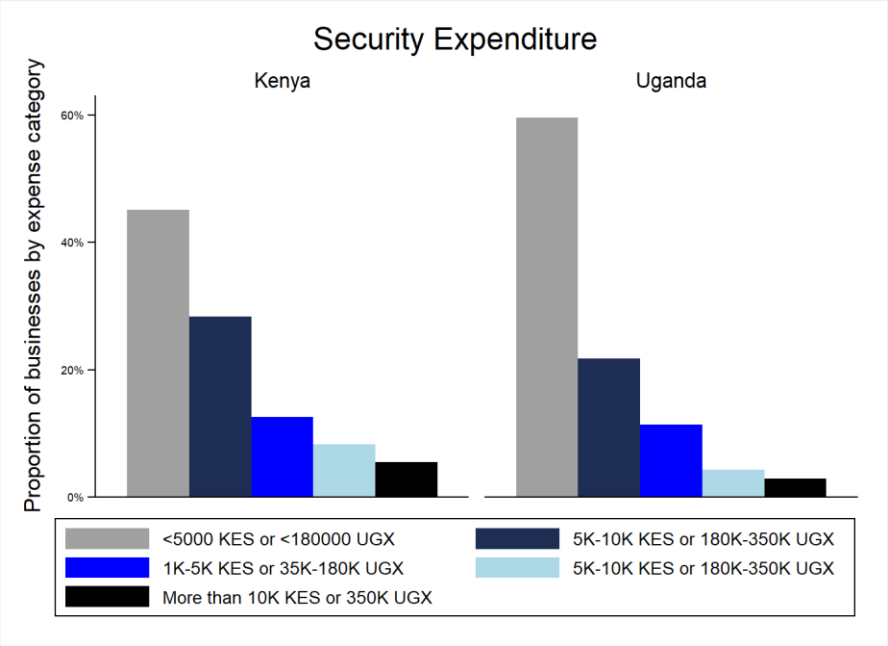


Figure 4: Security expenditures



Tax reporting and payments:

Figure 5 below indicates that most businesses in both countries do not report or pay taxes. Of those who do, 5% and 13% of the respondents in Kenya and Uganda report that the tax process is difficult. However, about 56% and 70% of respondents from the respective countries said that tax rates were too high in their opinion. In the WBES 2013 sample, 18% of the respondents in both countries identified tax rates as major constraints, much lower than the proportions from our sample. According to the 2017 Doing Business indicators, the number of tax payments made by a medium-size business over a year is 26 in Kenya and 31 in Uganda, while the total tax contribution rate is 37% and 33% of firm profits in Kenya and Uganda respectively.

Figure 5: Proportions of firms reporting and paying taxes

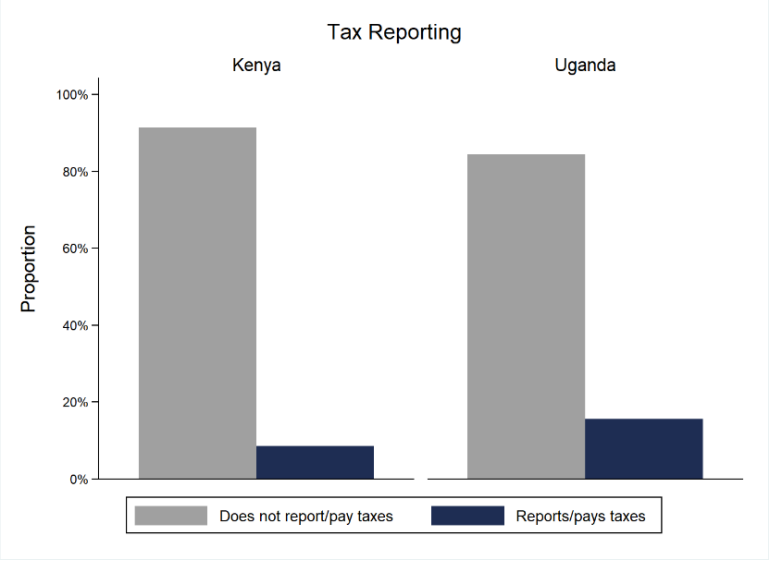


Table 6: Tax reporting statistics

	Kenya	Uganda
Tax process difficult	0.0527	0.129
	[0.223]	[0.335]
Tax process neither difficult nor easy	0.0139	0.0104
	[0.117]	[0.102]
Tax process easy	0.0143	0.00976
	[0.119]	[0.0983]
High tax level	0.561	0.701
	[0.496]	[0.458]
Fair tax level	0.345	0.227
	[0.476]	[0.419]
Low tax level	0.0940	0.0715
	[0.292]	[0.258]
Observations	7640	6029

Note: Questions on the difficulty of tax processes were asked only to respondents who report taxes. Standard deviations in parenthesis

Our surveys also indicate a low presence of cheap and fair dispute settlement mechanisms in both countries – 7% in Kenya and 12% in Uganda. However, the 2017 Doing Business quality of judicial processes index[1] is 9 for Kenya and 8.5 for Uganda, on a scale of 0-18, indicating that the quality of these processes may be uniform across firm sizes.

Table 7: Business Policies and Dispute Settlement

	Kenya	Uganda
Preferential treatment policies	0.0641	0.0823
	[0.245]	[0.275]
Cheap, fair dispute settlement	0.0683	0.124
	[0.252]	[0.330]
Observations	7640	6029

Note: Standard deviations in parenthesis

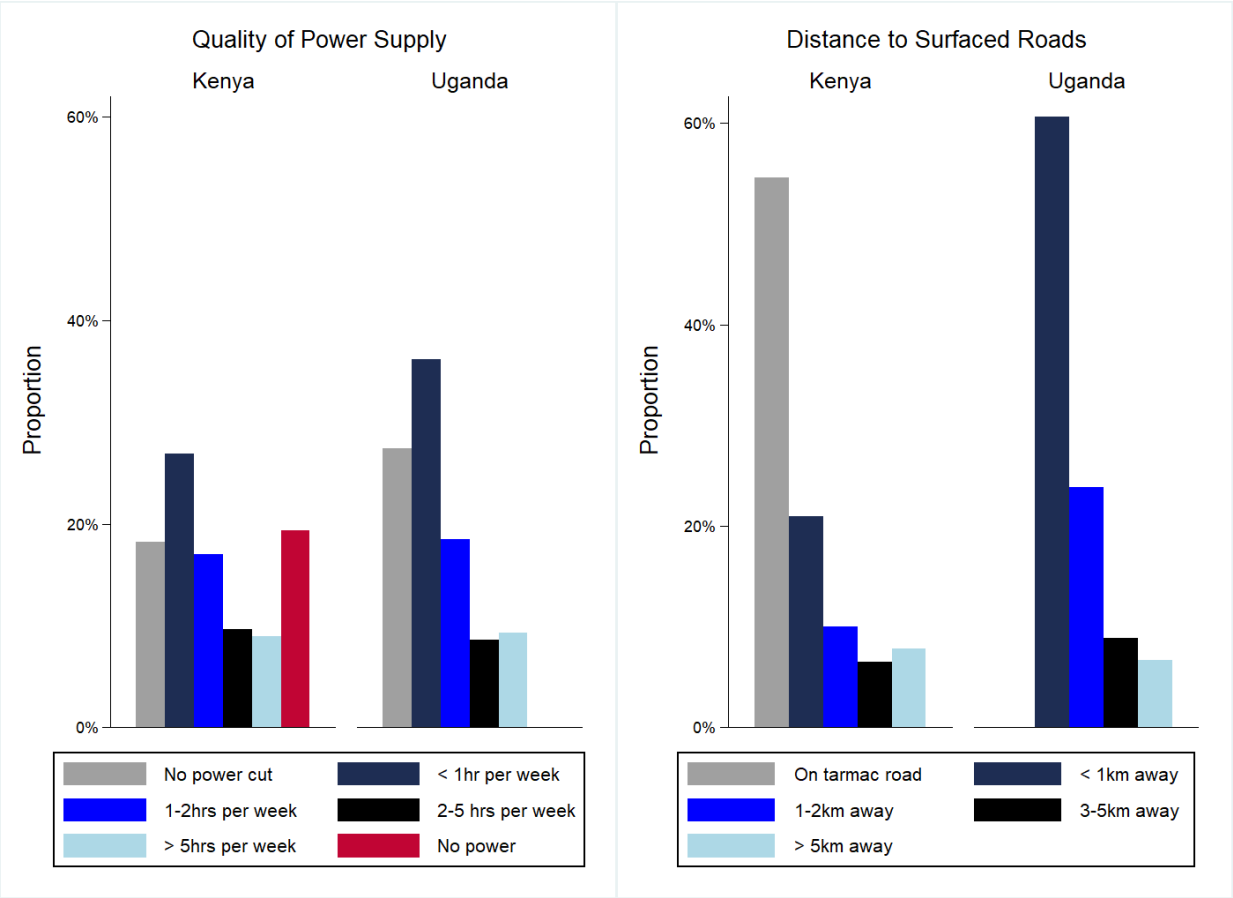
Business infrastructure

Looking at electricity, our results in Figure 6 below suggest that about 20% and 30% (in Kenya and Uganda respectively) firms in our sample do not experience any power cuts. The corresponding figures from the WBES 2013 sample are around 10% and 20% for the respective countries. The WBES data also suggest that the average duration of a power outage is 5.6 and 10 hours for Kenya and Uganda respectively. While we do not know the intensity of a power outage, our data suggests that almost 40% and 20% of the sample experiences

[1] This index captures automation of judicial processes, court structure, assignment of cases, gender equality, time standards, performance measurement mechanisms, and dispute resolution.

power outages of more than 2 hours per week in Kenya and Uganda respectively. About 20% of the respondents in Kenya reported having no power at all, while none in Uganda did.

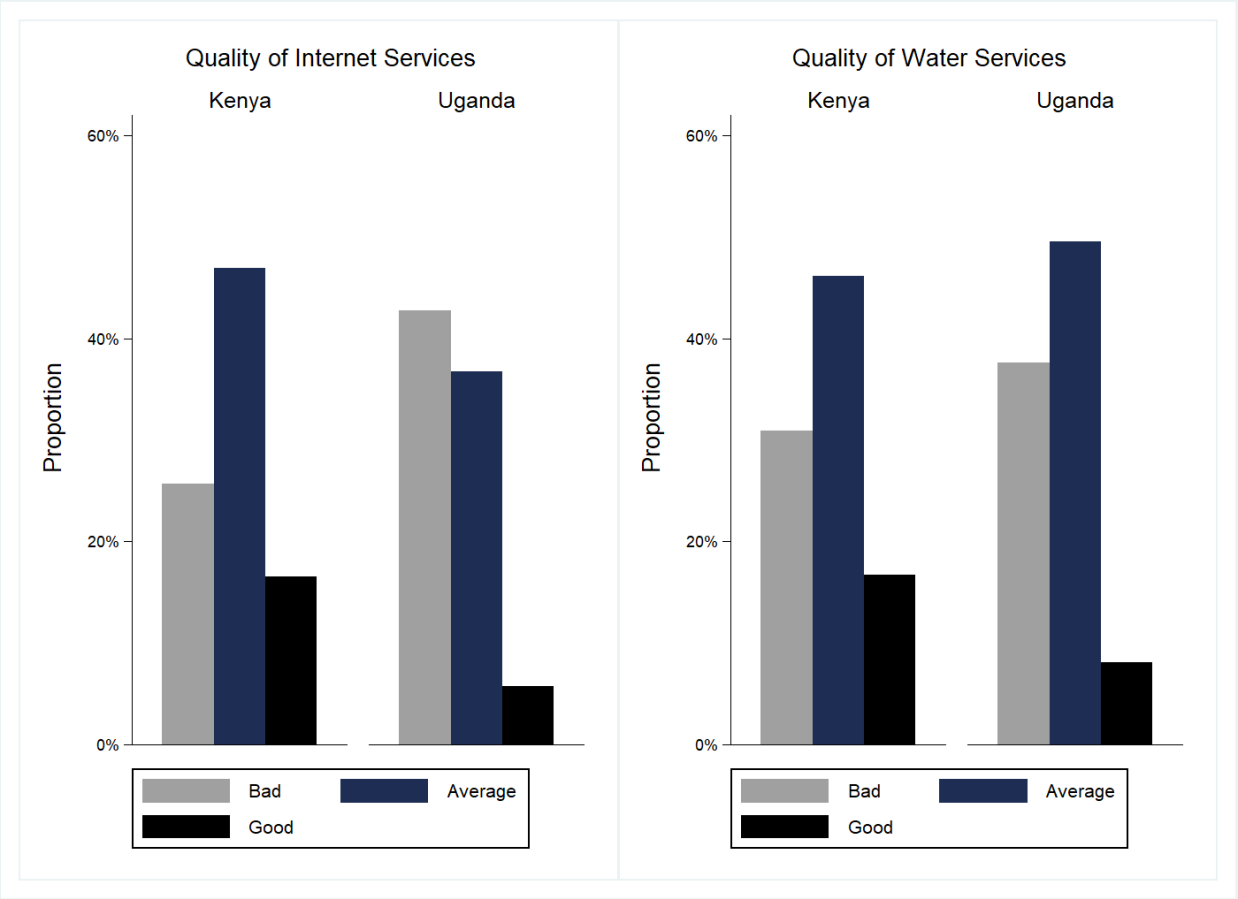
Figure 6: Quality of power supply and distance to roads



Moving on to transportation, we find that almost 55% respondents' businesses are on a tarmac road in Kenya, while in Uganda about 60% businesses are within 1 km from a tarmac road. The WBES surveys suggest a similar statistic: only 22% and 16% firms in the respective countries reported transportation as a major constraint.

In terms of internet and water, most respondents in both countries report bad to average internet and water services. However, the proportion of respondents reporting these services as good are higher in Kenya (almost 20%) than in Uganda (almost 10%). In the WBES sample, 34% and 12% businesses in Kenya and Uganda report experiencing water insufficiencies, which are only slightly higher than proportions from our surveys.

Figure 7: Quality of internet and power



Sales and market composition:

Our data suggests that most businesses procure their raw materials from within the country, but that a higher proportion of businesses in Uganda find that costly as compared to businesses in Kenya (see Figure 8). On the other hand, 53% and 39% firms from the WBES sample import raw materials in Kenya and Uganda respectively.

Our survey also asked respondents about the number of other businesses similar to theirs (Figure 9). In Kenya, we see a fairly uniform distribution of other similar businesses, while in Uganda, about 60% of the respondents reported the presence of 1-2 other similar businesses. This data point can be useful to understand the market competition faced by firms of different sizes, and thus, opportunities to collude or compete to increase profits.

Exports are fewer in our sample (see Figure 10): only 10% and 6% businesses in our sample export their products in Kenya and Uganda respectively, as compared to 32% and 12% of the firms in the WBES sample. Exports to neighboring towns and villages are also few among firms in our sample: of the firms who sell within their own countries, 65-70% of them sell within their own village. We do not have any comparable statistic from the WBES data, but these statistics collectively suggest a highly local presence for these small firms. The 2017 Doing Business indicators suggest that time to export (adding both border and documentary compliance) is 40 hours and 115 hours in Kenya and Uganda respectively, while the total cost to export is USD 334 and USD 311 in the respective countries. The aggregate for sub-Saharan African countries is 188 hours and USD 807 to export.

Figure 8: Where do firms procure raw materials

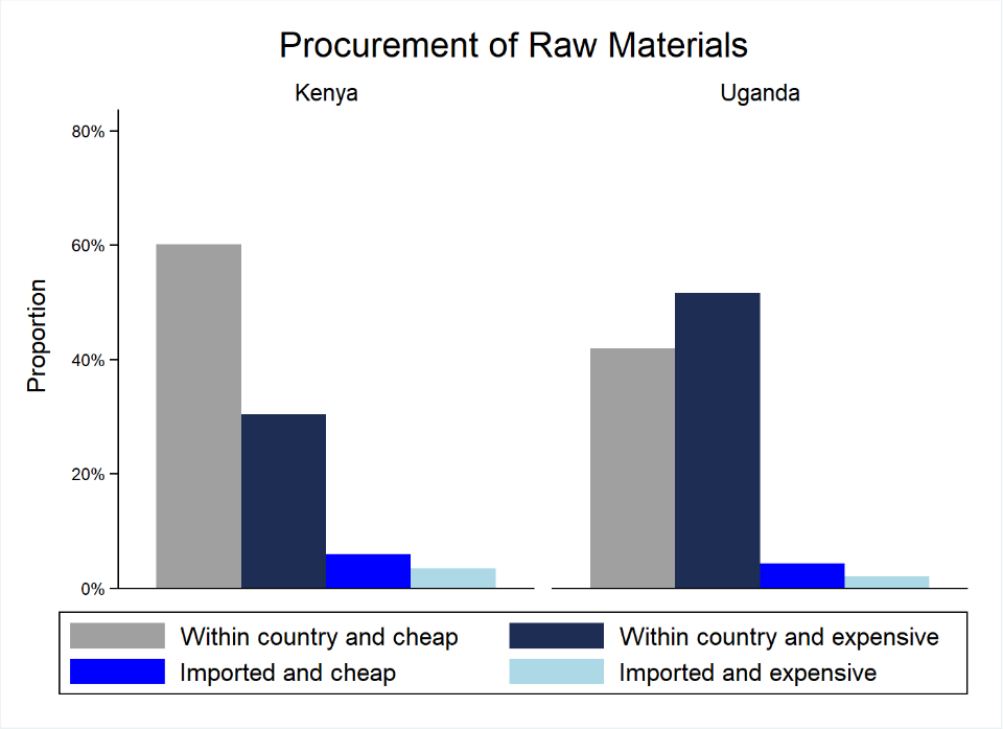


Figure 9: Number of other similar businesses

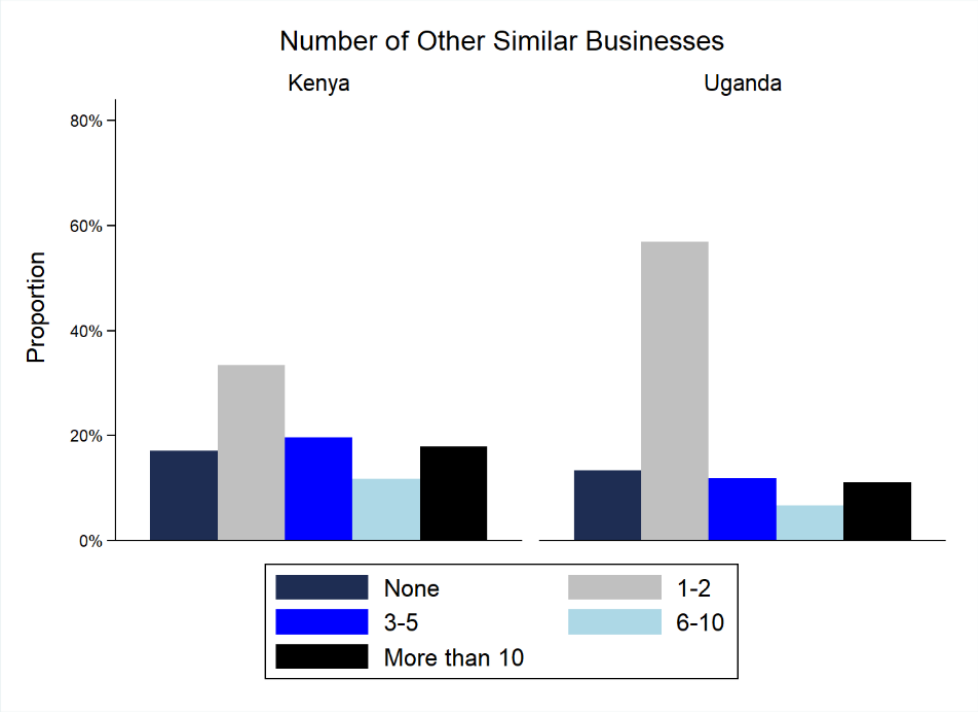
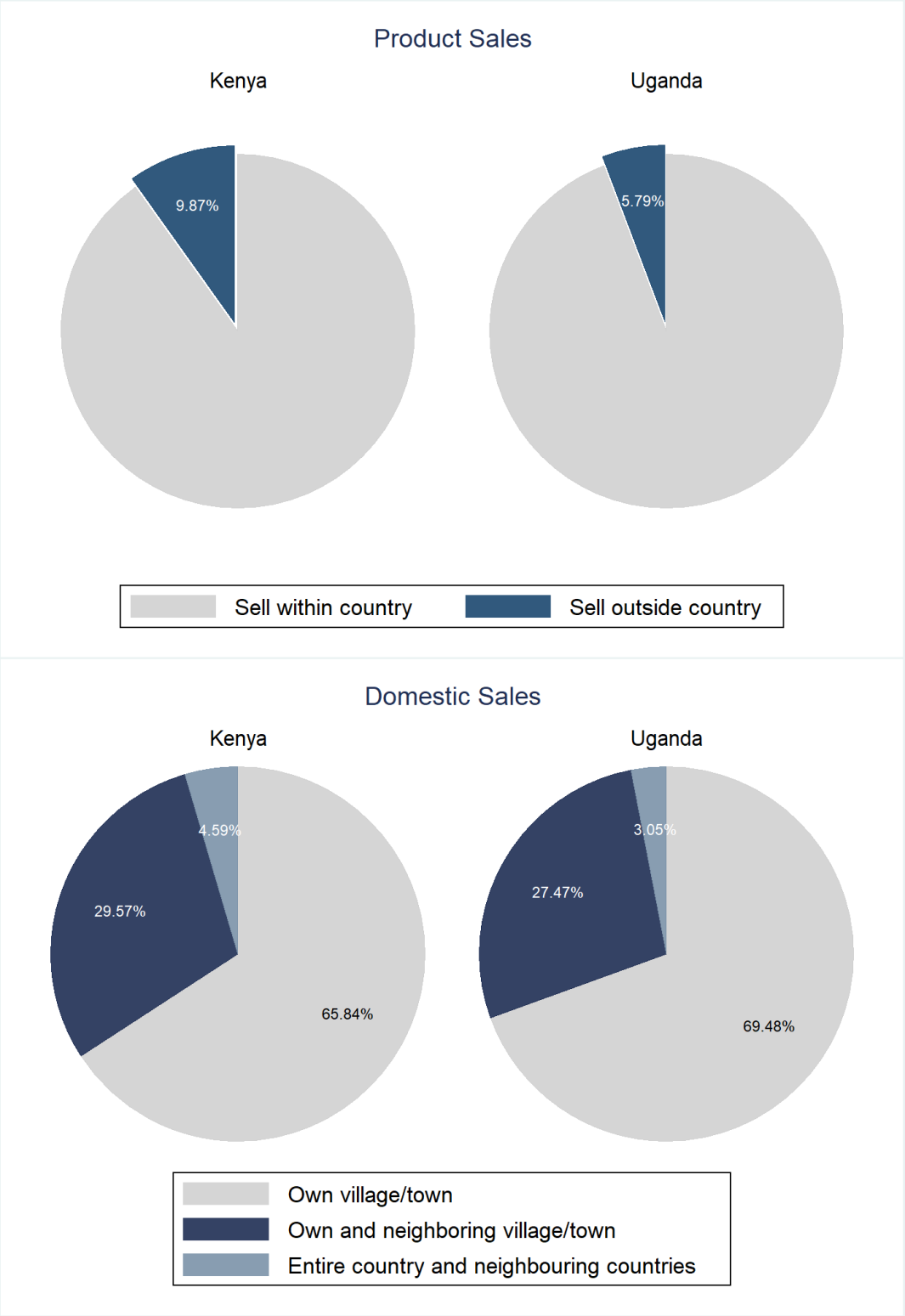


Figure 10: Where do firms sell their products



Conclusion

Our findings from the pilot suggest that certain outcomes may vary significantly from results based on surveys of larger firms. Surveys such as this may elicit valuable information about both formal and informal businesses that firm level datasets such as the WBES do not contain. Consider for instance, the difference in take up of credit from our sample as compared to the WBES: around 90% (or more) respondents in both Kenya and Uganda reported not trying to take a loan, whereas between 40-50% respondents from the WBES sample reported not needing a loan.

Similarly, while the Doing Businesses indicators collect data on credit information and credit bureau coverage[2], these indicators don't reflect informal lending mechanisms or access to credit organizations available to small firms and entrepreneurs. Some of our results also elicit information that is often not reflected in administrative records, such as struggles to understand tax and legal processes or dispute resolution mechanisms. If we consider entrepreneurship as an income diversification mechanism for low income households, such set up costs (both monetary and in terms of time) coupled with the lack of easy access to credit may hinder entrepreneurship, transitions from agriculture to self-employment and business growth for low-income households in these countries.

As shown in table 1, the use of mobile technology allowed us to capture a larger sample of firms, and the short duration of these calls further ensured a suitable sample size despite refusal to participate and call hang-ups. The high rates of mobile penetration in these countries and increasing use of mobile technology in governance and finance in recent years provides a solid foundation to implement such surveys. These features of the survey make it more cost-effective to implement for large samples and multiple rounds, thus generating a wealth of data on constraints to business growth specific to small businesses and micro-entrepreneurs in developing countries. This report thus emphasizes the usefulness of investing in surveys that target small scale businesses in developing countries.

[2] The credit information index measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. Credit bureau coverage measures number of individuals and firms listed by a private credit bureau with information on their borrowing history from the past 5 years. Such registries and borrower histories are often not available to micro entrepreneurs and small businesses.

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