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International Growth Centre

Tracking constraints to micro-entrepreneurship using IVR technology

Results from a pilot study in Kenya and Uganda

In brief

- Current data collection exercises fail to capture the heterogeneity of entrepreneurs in developing countries in terms of scale.

- This project proposes a research agenda around understanding the constraints faced by micro-entrepreneurs, both formal and informal, through a series of mobile-based surveys (using IVR technology) delivered to small firms and micro-entrepreneurs in developing countries.

- In this study, pilot surveys were conducted with a small sample of firms in Kenya and Uganda to assess both the performance and cost effectiveness of mobile based surveys.

- Several discrepancies emerge when these findings are compared to findings from existing data sets, motivating greater attention to constraints faced by smaller firms in developing economies.

- The use of mobile technology enabled shorter surveys, larger sample sizes and better survey completion rates, thus contributing to overall high cost-effectiveness for the project.

Ideas for growth

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Overview of the research

A crucial component of understanding the growth prospects of an economy is understanding the constraints to business growth and entrepreneurship. While data on constraints certainly exist, they often do not include micro-enterprises. For instance, the World Bank collects these data through multiple survey exercises: the Doing Business Indicators, Enterprise Surveys, and the Business Environment and Enterprise Performance Surveys (in partnership with the European Bank for Reconstruction and Development). However, the latter two only include firms with at least 5 employees, the WBES only surveys formally registered firms, and the Doing Business Indicators are macro-level indicators based on the experience of administrative processes. This points to a gap in data and evidence on constraints faced by smaller and informal firms in particular.

With most government programmes and donors turning towards evidence-based policy making, an evidence gap of this form can potentially misrepresent the constraints faced by micro-enterprises and also undermine their importance for a country's development prospects. This project proposes a data collection exercise that can help policy makers and researchers address this evidence gap in understanding constraints to business growth and entrepreneurship.

Pilot surveys in Kenya and Uganda were conducted in early 2018 to assess the usefulness and cost-effectiveness of such surveys. These surveys used Interactive Voice Response (IVR) technologies and were administered to small firms, both formal and informal. Questions in the survey spanned various topics, including formal registration status and challenges, access to finance, tax levels and rates of reporting, quality of infrastructure and sales and market composition. These surveys were programmed as multiple choice questions which could be answered by pressing the appropriate answer choice button on respondents' mobile phones. They were programmed to be 10 minutes long so as to minimise attrition rates.

Summary statistics from these pilot surveys were then compared to summary results from the World Bank's Doing Business Indicators (2017) and the Enterprise Surveys (2013)[1]. These comparisons could only be made for topics covered in both the pilot surveys and either of the World Bank's data. For instance, the WBES survey covers topics such as corruption, infrastructure, regulation and taxes, finance and informality, and most of their measures are comparable to statistics from the pilot. The DBI, as mentioned earlier, are country level indicators which reflect administrative processes and the extent to which they hinder business activities. While some of their topics do overlap with this pilot, such as number of tax payments and time and cost of exports, these indicators are not directly comparable.

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1. The EBRD data does not cover east African countries

Key findings

Findings suggest several discrepancies between the type of data from this pilot, and data from the WBES and DBI. Figures 1 and 2 describe the sample of this pilot study. Firstly, this project elicits data from a sample of small shop owners, farmers[2] and other small businesses. Most of these small businesses had fewer than 3 employees, excluding the owners. About 80% of the sample of businesses were unregistered. These sample characteristics are strikingly different from the sample of firms surveyed by the WBES: these firms have at least 5 employees, and are all formally registered. The DBI are based on data on administrative processes undergone by limited liability companies in the largest (in some cases also the second largest) business city in each country. These sampling differences are key to interpreting comparisons of data from each of these data sets, and also emphasie the project's objective of narrowing the evidence gap on constraints to business growth.

Figure 1: Sample composition

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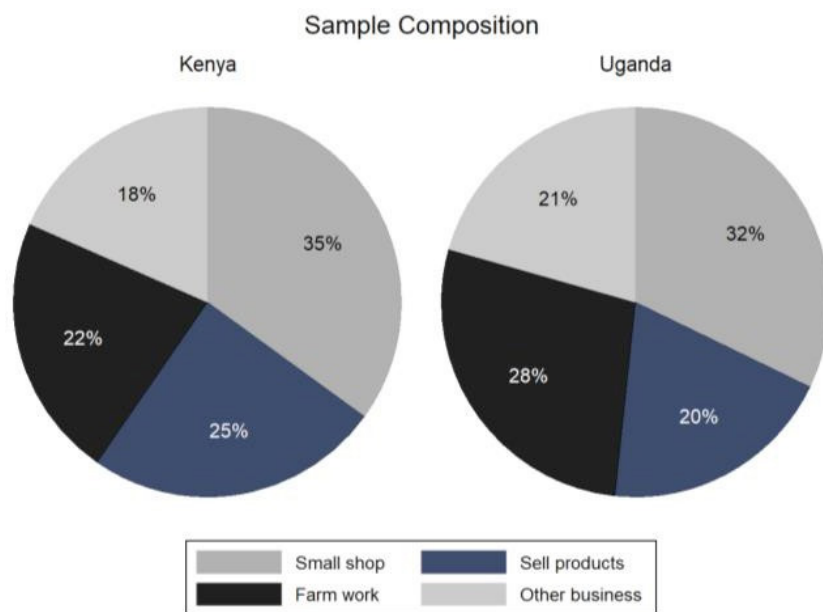
2. Farmers who were eligible to participate in the survey were either landowners or renters/borrowers of land. Farm laborers were excluded from these surveys.

Firm Registration

Kenya   Uganda
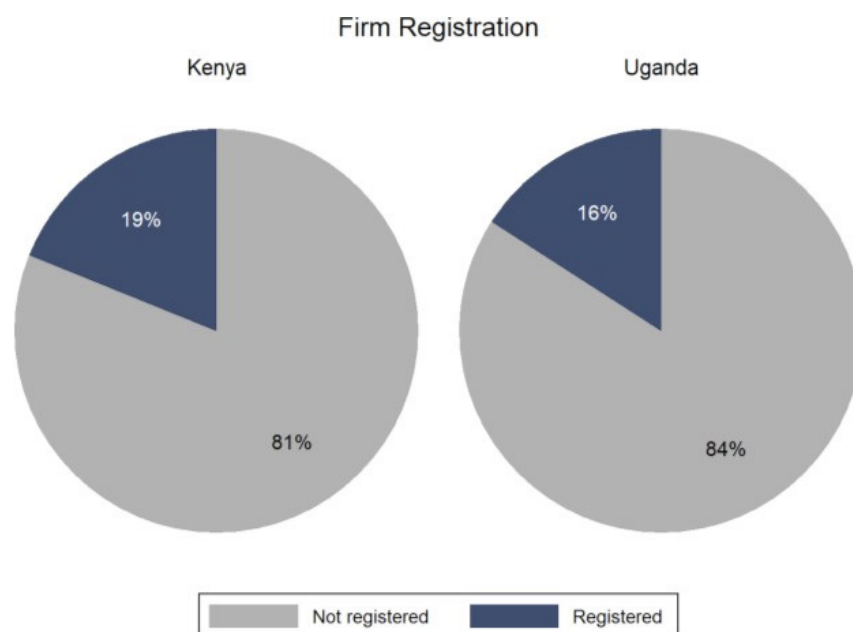

| Not registered | Registered |

Table 1 reports some of the key statistics, along with the corresponding statistics from the WBES and DBI data. Comparisons between this survey and the WBES 2013 highlight the different experiences faced by firms from the two different samples. In particular, access to credit and high tax levels seem to emerge as notable challenges faced by smaller, informal firms, but this is not necessarily the case for larger, formal firms, as represented by the WBES data. Table 1 also makes it evident that the DBI data on administrative processes do not highlight the experiences of firms, and are not directly comparable to data from this pilot or the WBES.

Secondly, this pilot was able to gather a much larger sample than the WBES 2013 – 3400 participants from Kenya and 3600 participants from Uganda in the former, as compared to 760 participants from each of the two countries in the latter. The pilot saw fairly moderate survey completion rates[3] – 35% in Kenya and 55% in Uganda.

This project also highlights the cost effectiveness of data collection in developing countries using mobile technology. The short duration of survey calls ensured a suitable sample size despite refusal to participate and call hang-ups. Furthermore, the high rates of mobile penetration in Kenya and Uganda, and the increasing use of mobile technology in governance and finance in recent years provides a solid foundation to implement such surveys. This holds true for many developing economies today, thus making mobile-based surveys such as this a highly cost-effective tool to track constraints faced by micro-enterprises.

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3. Survey completion is defined as answering at least 20 out of 25 questions

Table 1: Comparison of summary statistics across this project, WBES and DBI data

Constraint	This survey	WBES 2013	DBI 2017
Registering a business	93% in Kenya and 95% in Uganda report registration as a challenge	19% in Kenya and 15% in Uganda report registration as a challenge	Number of processes to register a firm: 6 in Kenya and 13 in Uganda Cost to register (as a % of per capita income) is 26% in Kenya and 34% in Uganda
Access to credit	93% in Kenya and 90% in Uganda reported not trying to access credit	48.6% in Kenya and 42% in Uganda reported not needing a loan	Depth of credit information index, on a scale of 0-8 is 8 in Kenya and 7 in Uganda
Tax rates	56% in Kenya and 70% in Uganda felt that tax levels were too high	18% in both Kenya and Uganda identified tax rates as major constraints to the company's operations	Total tax contribution as a percentage of firm profits is 37% in Kenya and 33% in Uganda
Exports	Firms which export: 10% in Kenya and 6% in Uganda	Firms which export: 32% in Kenya and 12% in Uganda	Cost to export (USD) is 334 in Kenya and 311 in Uganda
Electricity	20% in Kenya and 30% in Uganda experience no power cuts	10 % in Kenya and 20% in Uganda experience no power cuts	Common index of reliability of supply and transparency of tariff, on a scale of 0-8 is 4 in Kenya and 0 in Uganda

Policy recommendations

- **Collecting data from smaller firms can close the evidence-gap on constraints to entrepreneurship and business growth.**

  The reported discrepancies in data from this pilot and existing data collection exercises on firms are fairly large and raise concerns about the representativeness of these sources. It is essential to broaden the sample frame in order to address constraints specific to smaller firms.

- **Using mobile technology is a cost-effective method of data collection.**

  The use of mobile technology is highly cost effective, thus making it feasible to capture larger sample sizes and conduct more rounds of data collection with smaller firms.