Creating jobs in developing countries: Evaluating the Impact of a Business Plan Competition in Kenya
Concept Note

Application for Implementation Funding (Due Date: June 30, 2017)
Competitiveness Policy Evaluation Lab - ComPEL

Abstract (200 words)

Kenya, as most countries in Sub-Saharan Africa, are going through significant demographic changes. Estimates indicate that 11 million youths will be entering the labor market in Africa each year for the coming decade. This demographic changes are a unique opportunity to translate human capital accumulation into a more productive labor force. Yet, policymakers struggle to identify solutions to support employment creation and increase productivity of youth. Emerging evidence from Nigeria indicates that tackling capital constraints to high-growth entrepreneurship in the context of a business plan competition (BPC) can be an effective way of supporting job creation. The proposed impact evaluation will use randomized controlled trial methodology to enrich the evidence in this topic. It will study alternative mechanisms of promoting businesses with high-growth potential and creating jobs for youths in Kenya. Given the high cost of BPCs, isolating what works is an important policy question. The study will examine the importance of screening, training and size of grants in the context of a BPC. The most effective interventions in identifying high-growth entrepreneurs, as well as in providing adequate support in access to new skills and capital, can be integrated in future programs in Kenya and elsewhere in Africa.
# Table of Contents

Abstract (200 words) ............................................................................................................... 1

Table of Contents .................................................................................................................. 2

1. Background (0.5 - 1 page) ................................................................................................. 3

2. Intervention to be Evaluated (0.5 - 1 page) ....................................................................... 4

3. Theory of Change (1 figure plus 1-2 paragraphs) ............................................................. 6

4. Literature Review (1 page) ............................................................................................... 10

5. Hypotheses and Evaluation Questions (0.5 page) ........................................................... 12

6. Evaluation Design and Sampling Strategy (1-2 pages) ................................................... 14
   6.1 Treatment and Control Groups ...................................................................................... 16
   6.2 Sample Size Calculations ............................................................................................ 18

7. Data Collection (1 -2 pages) ............................................................................................. 20
   7.1 Quantitative Instruments ............................................................................................. 20
   7.2 Management of Data Quality ....................................................................................... 21
   7.3 Ethical Issues ................................................................................................................ 21
   7.4 Qualitative Instruments ............................................................................................... 21
   7.5 IE Implementation Monitoring System ....................................................................... 23

8. Data Processing and Analysis (1-2 pages) ....................................................................... 20
   8.1 Data Coding, Entry, and Editing (optional) .................................................................. 23
   8.2 Model Specification for Quantitative Data Analysis .................................................... 23

9. Study Limitations and Risks (0.5 page) ............................................................................ 26

10. Policy Relevance and Impact (1 page) ............................................................................. 28

11. Dissemination Plan (0.5 page) ......................................................................................... 29

12. Impact Evaluation and Related Teams ........................................................................... 30

13. Budget .............................................................................................................................. 32

14. Milestones, Deliverables, and Timeline ......................................................................... 32

15. References ...................................................................................................................... 33

16. Annexes ........................................................................................................................... 36
1. **Background** (0.5 - 1 page)

- Provide a brief overview of the country context and the motivation for implementing the proposed intervention within this context, drawing from relevant country statistics and existing literature. Explicitly identify and define the constraint or problem that the interventions to be evaluated intend to address.
- If the impact evaluation (IE) is linked to a WBG project, provide a brief overview of the project’s development objective and describe the work streams or components that are relevant for the IE.
- If the IE is not linked to a WBG project, provide a brief overview of the government program’s objective and describe the work streams or components that are relevant for the IE.
- Explain the effort made to consult with internal and external clients and others stakeholders on the design of the proposed IE.

Africa is in the midst of significant demographic and socio-economic changes. Estimates indicate that 11 million youths will enter the labor market in Sub-Saharan Africa each year for the coming decade (Filmer and Fox, 2014). However, there are no clear ways of creating employment and increasing productivity. In Kenya, labor productivity in key employment generating sectors has declined since 2006, in spite of impressive growth of the overall economy. High growth sectors, such as telecommunications and financial intermediation, generate only a small number of high-skilled jobs that are not likely to accommodate the influx of job-seeking youths.

According to the 2016 Country Economic Memorandum (World Bank, 2016), Kenya’s long-term growth will depend on innovation. However, low firm-level productivity of small businesses and low investment have proven to be major hurdles to growth in these sectors (World Bank, 2016). The literature shows that a small set of high-growth firms are typically key drivers of employment and sales growth in developing countries, while these same firms often face credit constraints and have limited access to business skills training. An assessment of Kenya’s micro, small and medium enterprises indicates that smaller Kenyan firms struggle to acquire finance at the early stages of development and though there are a number of business support programs, these are uncoordinated and do not necessarily target the highest potential firms. Kenya’s 2.3 million SMEs, which contribute roughly 80% of total national employment but only 20% of GDP, should be a target of policy to both increase investment and productivity (African Development Bank et al, 2015). There is hence a public policy case to identify high-growth firms and to support their access to finance and business skills.

Furthermore, emerging evidence from Nigeria (Mckenzie, 2015) indicates that tackling capital constraints to high-growth entrepreneurship in the context of a youth business plan competition (BPC) can be an effective way of addressing this employment creation problem. Nigerian firms participating in the BPC were 37% more likely to survive 3-years after the competition and employed roughly twice as many workers as a control group (Mckenzie, 2015).

The Kenyan Government, in collaboration with the World Bank, will roll out a similar large-scale BPC in Kenya starting at the end of 2017. The competition forms part of the Kenya Youth Employment and
Opportunities Project (KYEOP), a US$150 million World Bank-financed project, that seeks to promote job creation and employability among vulnerable youths. There are three main components in the project, addressing supply-side (technical and socio-emotional skills through in-classroom training and apprenticeships), demand-side (job creation through a business plan competition) and intermediation (through strengthening of labor market information systems) constraints to youths’ productive employment. The BPC itself has a budget of US$16 million and will include a large-scale awareness campaign, two rounds of screening, the provision of technical assistance in developing a business plan, and finally the award of 500 grants of either US $9,000 or US $36,000. The BPC will be implemented by an experienced management consulting firm in partnership with the Kenyan Micro and Small Enterprises Authority (MSEA) and the Ministry of Public Service, Youth and Gender Affairs (MPYG).

This concept note proposes an impact evaluation of this large-scale BPC. The World Bank impact evaluation team is working closely with MSEA, MPYG, the WBG operational team (from Social Protection & Jobs (SPL) and Trade & Competitiveness (T&C)), and the Busara Center for Behavioral Economics (all jointly the IE team) in the design of the impact evaluation. The IE team will continue working together throughout the length of the study to ensure its effective completion. The IE team participated in the DIME/T&C Impact Evaluation Workshop in Mexico to build capacity on rigorous impact evaluations and help design the program. The team has conducted a workshop in Kenya to discuss further the alternative design options for the impact evaluation, following a year of project preparation that also included discussions on designing an impact evaluation for this activity. This proposal reflects the result of these discussions.

The proposed impact evaluation (IE) will apply randomized controlled trials to assess different components of the BPC and will address important knowledge gaps in high-growth entrepreneurship. The evidence generated by this IE will be critical for informing the design of future WBG T&C and SPL programs in the realms of high-growth entrepreneurship. The most effective interventions studied under the IE will likely be scaled up in future programs of the Kenyan Government, just as the BPC is now a regular part of Nigeria’s job-related programs. Under other projects, Kenya has indeed scaled up interventions shown to be effective. Given the number of WBG projects introducing BPCs, including in Senegal, Cote D’Ivoire, Guinea-Bissau, and Benin, often with various size of grants, this evidence from Kenya will be critical for future operations.

2. **Intervention to be Evaluated** (0.5 - 1 page)

- Describe the specific intervention that you propose to implement and evaluate to address the constraints identify in section 1, including the target population, the main outcomes of interest, and the proposed implementing agency.

The BPC will target prospective and existing Kenyan entrepreneurs between the ages of 18 and 35 across all counties. Female entrepreneurs will specifically be targeted in the awareness campaigns, and
laboratory experiments with the target population are being conducted in Kenya to inform this marketing campaign, allowing the project to promote the highest possible number of female applicants.

The program will include a large scale awareness campaign comprising different features including radio, internet, newspapers, and TV but also awareness events in universities, microfinance institutions, incubation centers, etc. The program will establish Memoranda of Understanding with potential partners (business associations, women’s groups, tech-development networks, etc.) to assist in the awareness campaign. Candidates will submit applications online. Based on initial demand assessments, it is estimated that over 10,000 applicants will apply to the BPC.

The applications will then be assessed by the implementing agent, which will be an experienced management consulting firm hired competitively, and which will partner with the MSEA and the Ministry of Public Service, Youth and Gender Affairs. The first assessment checks for eligibility in terms of age group of main owner, being Kenyan, and being able to fill-in the application as demanded by the competition. The process of selection incorporates important features following the Nigeria case, such as confidentiality about who is being evaluated by assigning a number before any assessment. Specific criteria and multiple scorers will allow for the selection to be as fair and efficient as possible. Applicants screened-in after the first phase of selection will be invited to participate in a short training to help prepare a detailed business plan. Applicants will submit a business plan, which will again be screened by an independent team using a protocol of selection and confidentiality. The winners will receive the grants after the professional management company does due diligence for verifying the legal status of the firm and its operating status.

The IE will use a randomized controlled trial (RCT) design to assess the importance of different features of the BPC. These features are common to most BPCs being designed in Africa. The applicants will be randomly assigned to a combination of four specific interventions at different stages in the BPC process:

i. Business plan screening;
ii. Support in preparing a business plan;
iii. Providing 500 grants to top screened candidates of either US$9,000 or US$36,000;
iv. Providing 250 grants to unscreened candidates of US$9,000.

Assignment to these interventions will allow the team to identify answers to the IE’s questions of interest (for details on these questions, respective interventions and IE design, see Sections 5 and 6). These interventions will target improvements in several outcomes related to business performance, including business creation, survival, sales, profitability, and investment, as well as outcomes related to employment and earnings, such as the number of employees, number of employees from target populations (youth and women by skill level), the proportion of workers that are employed permanently, and employee earnings.

1 In areas where internet penetration is low, the project will open-up centers in Internet Cafes to support applicants to fill-in applications.
The above interventions should overcome constraints in accessing finance and skills outlined in the previous section and help improve outcomes through several means. Firstly, screening aims at identifying high impact entrepreneurs which will transform inputs and further support into disproportionately large gains in performance and employment. Secondly, business plan training will seek to help transform basic business ideas into actionable plans. Finally, grants of either US$9 000 or US$36 000 will help high growth and other entrepreneurs overcome access to finance constraints and grow their businesses (Section 3 provides more details on the theory of change).

3. Theory of Change (1 figure plus 1-2 paragraphs)

- Present and describe a theory of change diagram with the components of the intervention that tackle identified constraints, their respective inputs and the hypothesized causal chain through which these inputs are expected to lead to specific outputs, intermediary and longer-term outcomes. Also explain any assumptions underlying the causal chain. Examples are included in the diagram below. All boxes in the diagram need to be connected by arrows.
- Adjust the table below to list and define the main outcomes of interest.

The business plan competition includes several interventions, illustrated in Figure 1 below. They are as follows: i) an invitation to submit business plans and the screening of business plans; ii) technical support in preparing a business plan; iii) grants of either US $9 000 and US $36 000 to top screened candidates; and (iv) providing grants of US$9 000 to unscreened candidates.

The first intervention includes two primary components which have distinct causal channels. Firstly, the campaign and invitation to submit provides a self-selection process that means that only interested entrepreneurs are able to benefit from the program, and the impact evaluation only focuses on the analysis within those interested in participation. Secondly, the screening process seeks to identify high growth entrepreneurs. This identification could augment the effect of further interventions and thus have an interaction effect with business plan training and grants. The literature review shows that a small group of high-growth start-up firms typically generate high employment and sales growth: concentrating resources amongst these firms should thus accelerate business growth relative to doing so with weaker firms.

The second intervention, business plan training, should increase the capacity of entrepreneurs to develop structured and more detailed business plans. Though the evidence suggests that this type of training does not translate into sufficient changes in business practices to impact performance, entrepreneurs receiving training can have more developed and utilizable business plans and, in turn, have higher chances of winning the competition.

The third intervention, the provision of grants, allows entrepreneurs to overcome capital constraints. The literature review shows that MSMEs in developing countries often face imperfect capital and credit markets and that capital injections can generate gains in productivity. The large grant in this BPC will allow entrepreneurs to invest in ‘lumpy’ inputs which may be inaccessible with smaller grants. Given the
availability of these types of inputs, the large grant should produce a larger impact in production than a smaller one. However, how big of a larger impact and the impact on returns to investment is very much open empirical question. In both cases, firms previously facing capital constraints will purchase inputs with a high-return and generate productivity increases, higher production levels and sales, and, depending on the production function, increases in employment and workers’ earnings.

In combination with the fourth intervention, the IE will allow to isolate the impact of the (small) grant from the other interventions associated with the screening process. In addition, the fourth intervention will allow for studying the impact of medium size grant on business performance, even when going through a screening process.

Figure 1 below outlines this process and how these changes generate sustained long term impacts.

Figure 1: Theory of Change

Table 1: Outcomes of Interest for the Impact Evaluation

<table>
<thead>
<tr>
<th>Category</th>
<th>Outcome</th>
<th>Definition</th>
<th>Measurement Level/score</th>
<th>Time/Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take up</td>
<td>Application</td>
<td>The number of applications for the BPC (by gender).</td>
<td>Application Data</td>
<td>Baseline</td>
</tr>
<tr>
<td>Category</td>
<td>Outcome</td>
<td>Definition</td>
<td>Measurement Level /source</td>
<td>Time/Frequency</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Training Attendance</strong></td>
<td>Share of eligible applicants that attend training.</td>
<td>Observational data</td>
<td>Baseline</td>
<td></td>
</tr>
<tr>
<td><strong>Business Plan Submissions</strong></td>
<td>Share of eligible applicants that submit business plans.</td>
<td>Submission Data</td>
<td>Baseline</td>
<td></td>
</tr>
<tr>
<td><strong>Intermediate Outcomes</strong></td>
<td>Measures from survey instruments to determine risk preferences</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Risk preference skills</strong></td>
<td>Measures from survey instruments to determine locus of control</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Locus of control</strong></td>
<td>Measures from survey instruments</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>(Other socio-emotional skills)</strong></td>
<td>Measures from survey instruments</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Business skills</strong></td>
<td>Measures from survey instruments</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Business practices</strong></td>
<td>Measures from survey instruments (McKenzie and Woodruff)</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Access to networks and markets</strong></td>
<td>Index of questions on access to networks and markets</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td><strong>Access to finance and financial services</strong></td>
<td>Set of questions on formal and informal financing. Set of questions of</td>
<td>Survey</td>
<td>Baseline and Follow-ups</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Outcome</td>
<td>Definition</td>
<td>Measurement Level /source</td>
<td>Time/Frequency</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>------------</td>
<td>---------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Competition</strong></td>
<td>Views on competition</td>
<td>formal and informal savings</td>
<td>Survey (also business performance survey of competitors)</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Business creation</strong></td>
<td>Registered business with KRA/Other body</td>
<td>Business creation</td>
<td>Survey/Audit/KRA Data</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Business survival</strong></td>
<td>Operating at time of survey</td>
<td>Business survival</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Grant used for investment</strong></td>
<td>Use of investment in business inputs to the value of the grant or a significant portion thereof.</td>
<td>Grant used for investment</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Hours worked</strong></td>
<td>Number of hours business owner works per week.</td>
<td>Hours worked</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
<td>Last Month sales</td>
<td>Sales</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Profits</strong></td>
<td>Last month profits</td>
<td>Profits</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Inventories</strong></td>
<td>Value of inventory in stock at time of survey</td>
<td>Inventories</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>Value of business equipment at time of survey</td>
<td>Equipment</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
<tr>
<td><strong>Total employment</strong></td>
<td>Number of permanent and part-time employees</td>
<td>Total employment</td>
<td>Survey/Audit</td>
<td>Baseline and Follow-ups</td>
</tr>
</tbody>
</table>
4. **Literature Review** (1 page)

- Summarize existing literature on the links identified in the causal chain.

In Sub-Saharan Africa, there is a significant number young people entering the job market annually, yet existing businesses appear unable to absorb this expanded labor pool. Additionally, small firms make up the dominant share of all firms in these economies (Mckenzie, 2015). Evidence from the US shows that small firms, and particularly start-ups, are significant contributors to job creation (Haltiwanger, Jarmin & Miranda, 2013)), and that a small number of these firms contribute a disproportionately large share of total employment (Davis et al, 2007).

Ayyagari et al. (2014) find that small firms generate the highest rate of job creation and have the highest sales and employment growth across a sample of developing countries. In their study, firms with less than 20 employees account for only 20% of full-time employment but generate 45% of new jobs. However, this growth is concentrated in a small number of high-growth firms, commonly termed “gazelles” (Fafchamps & Woodruff, 2016). The question then arises as to whether there are small firms in developing countries with high-growth potential that currently underperform due to environmental constraints. A further question is whether these firms can be identified and whether constraints to their growth can be overcome to generate higher productivity and employment.
Grimm and Paffhausen, (2015) conduct a review of studies measuring the impact of programs to support micro, small and medium enterprises (MSMEs) in developing countries and find that overall impacts are often significant and positive, but that there is a need for more robust and preferably experimental evidence to this effect. A large proportion of interventions to help entrepreneurs grow in developing countries focus on two primary constraints: a lack of business skills and entrepreneurial training, and credit constraints (Mckenzie & Woodruff, 2014; Grimm & Paffhausen, 2015, Blatman et al., 2014).

Mckenzie and Woodruff (2016) show that business practices are important for business performance but an overview of traditional business trainings indicates that these are often not sufficient to change business performance outcomes (Mckenzie & Woodruff, 2014). There is a growing body of literature to show that small injections of finance to (new) firms can partly relieve credit constraints and improve firm performance indicators (Blattman et al., 2014; Fafchamps et al., 2014), but that does not seem to the case for existing women-owned firms for instance (Bernhardt et al., 2017), and the effects are typically limited on employment (Fafchamps et al., 2014).

The above evidence suggests that providing business training and capital grants can assist the development of small firms in developing countries. The findings also suggest this is concentrated in a sub-set of firms. This forms the rationale behind business plan competitions (BPCs), which are growing in popularity in developing countries, and more recently in Sub-Saharan Africa (SSA) (Mckenzie, 2015). The BPC model gaining traction in SSA provides business skills training and grants to help firms overcome capital constraints, but provides an additional layer of screening so that these resources are targeted at the sub-set of firms with high growth-potential. These BPCs also tend to provide more substantial grant sums than traditional financing programs for small firms with the objective of being able to create employment, which the smaller grants have shown to have limited effects on.

Large scale BPCs have been conducted in a number of Sub-Saharan African countries to date, including Nigeria, Gabon, Guinea-Bissau, Rwanda, Senegal, Côte d’Ivoire, Somalia, South Sudan, Tanzania and Uganda (Mckenzie, 2015). These BPCs tend to focus on young entrepreneurs, given the high proportion of young labor-market entrants amongst the unemployed and the opportunity of entrepreneurship to target this demographic. In an analysis of the Technoserve youth-focused BPCs in Ethiopia, Zambia and Tanzania, Fafchamps and Quinn (2014) use a quasi-experimental design to analyze the impact of a US $1,000 grant to top BPC candidates, and find that winners were 30% more likely to be self-employed 6 months after receiving the grant. While this provides some support for the impact of BPCs, the result could suffer from self-selection bias and the 6-month follow-up period is too short to identify sustained impacts. The grant size of US$1,000 was also relatively small compared with those of other BPCs in Sub-Saharan Africa. In Guinea-Bissau and Côte d’Ivoire, for example, grants of up to US $10,000 and US $15,000 respectively are awarded and coupled with intensive business plan training.

Mckenzie (2015) provides a more rigorous evaluation of a large-scale BPC in Nigeria. This study used an experimental design to determine the effect of winning a grant through a BPC (up to US $64 000, with a mean award of US$49 000). Both control and experimental groups fulfilled the same selection criteria and both received business plan training prior to winning grants or not. Three years after the start of the
program, treatment group firms were significantly more likely to have survived, more likely to have hired at least 10 workers, and had significantly higher sales and profits.

This study provides rigorous evidence that BPCs can have a large impact on employment and profitability of MSMEs in Sub-Saharan Africa. However, the study primarily identifies the impact of the grant on winners. Treatment and control group candidates underwent business plan training and two rounds of screening, both of which are costly and time-consuming processes and could generate independent impacts on business performance. Finally, the amount of the grant in this BPC was very large and varied endogenously, so the impact of different grant amounts is also not known yet. Given the resource-intensive nature of each phase of the BPC, it is worthwhile disentangling the mechanisms driving their success.

Furthermore, though there is evidence that certain new and small firms drive employment creation, the evidence is mixed as to whether these firms can be identified ex ante (Nanda, 2016; Fafchamps and Woodruff, 2016), yet the screening process in BPCs is considered seemingly essential. There is thus limited existing evidence as to whether BPCs successfully identify these high-growth potential firms, or if instead the interventions associated with winning a BPC could be applied to any firm without a lengthy screening process.

This impact evaluation proposes to add to this literature by applying a randomized controlled trial design to isolate the separate impacts of different components of a BPC on business performance and employment outcomes. The proposed study will also determine whether business plan training helps candidates to win the BPC, whether smaller grants are as effective as larger grants, and whether grants to unscreened businesses are as effective. Additionally, this impact evaluation expands on Mckenzie (2015) by including the highest scoring business plan submissions in the experimental design. Finally, the Nigeria paper, though rigorous, provides evidence from only one BPC and in a West African context. This impact evaluation would contribute further to the literature by adding a second rigorous experimental study testing the overall success of the BPC and in an East African context.

5. Hypotheses and Evaluation Questions

- List the hypotheses derived from your theory of change.
- List the main evaluation question(s) to be addressed by the proposed study. Evaluation questions connect the specific intervention/treatment variation to the outcomes of interest, and end with a question mark. They should be in the following format: What is the impact of...

---

2 McKenzie (2015) also shows that the business training had limited effects on business performance through a quasi-experimental methodology.

3 Mckenzie (2015) randomly allocates the 1841 ‘next best’ submissions into treatment and control, after allocating grants to the top 475 ‘National’ and ‘Zonal’ winners.

4 Sections 5, 6, 7, 8, and 9, related to the IE design, follow the standards for impact evaluation concept notes defined by the World Bank Development Impact Evaluation unit (DIME).
<intervention/intervention variation> on <outcomes>? E.g., What is the impact of participating in productive alliance on contracts with buyers, sales, and number of employees?

- You may have a broad evaluation question based on the knowledge gap and the strategy proposed. However, the number of specific questions in this section should be perfectly aligned to the number of your treatment arms (i.e., if you have 3 treatment arms you should have three specific evaluation questions). Each question can be evaluated on a vector of outcomes (i.e., you may organize them as sub-questions). Methods to answer sub-questions on heterogeneous treatment effects and spillovers should be described in the methods section.
- Describe how the evaluation questions were derived.

The theory of change describes the multiple channels through which a BPC can influence business outcomes. Given the literature review, it is evident that disentangling the distinct effects of these channels is an invaluable addition to the body of knowledge on BPCs and high growth entrepreneurship. This IE therefore proposes to investigate the following questions (the treatment groups to identify these questions are described in Section 6.1):

A). What is the impact of a grant to high growth entrepreneurs on business performance and job creation for youths in the context of a business plan competition in Kenya?

Hypothesis: The provision of a grant in the context of a BPC will allow high-growth potential youth-owned firms to overcome credit constraints and acquire productive inputs that would be otherwise inaccessible. This will allow the firm to expand operations and improve productivity, ultimately increasing the set of business performance outcomes described in the previous section.

A. 1. What is the differential impact of providing a large grant ($36,000) versus a small grant ($9,000)?

Hypothesis: Larger grants allow these firms to purchase productive ‘lumpier’ inputs and should generate a larger increase in business performance outcomes relative to small grants. However, the cost-effectiveness of the large grant and its impact on the firm’s return on investment relative to the small grant is undetermined.

B). Does support for business plan preparation increase the likelihood of winning the business plan competition?

Hypothesis: Business plan training will increase the likelihood that applicants to a business plan competition produce higher quality business plans and consequently improve their chances of winning the BPC.

B. 1. And the ultimate success of the businesses?

Hypothesis: Business plan training ultimately improves the capacity of entrepreneurs to translate business ideas into a structured plan. Businesses with this structured plan in place can use this resource to acquire and use inputs more productively than in the absence of this training. This should, in turn, lead to improvements in business performance outcomes.
C). How effective is the business plan competition screening process at selecting firms that will provide job creation for target youth?

**Hypothesis:** Youth-owned businesses identified through a BPC screening process as having high growth potential are more likely to create jobs and increase revenues than a randomly selected group of firms applying for a BPC.\(^5\)

D). What is the effect of the business plan competition screening process on firms’ outcomes?

**Hypothesis:** Participating in a BPC provides an incentive to develop and refine business ideas and transform them into a comprehensive business plan. Furthermore, receiving a grant and business plan support should improve business performance given the above hypotheses. In turn, BPC participants should realize improved business performance outcomes relative to other firms.

D. 1. For those who do not participate in the business plan competition screening process, what is the effect of a small grant ($9,000) on job creation for targeted youth?

**Hypothesis:** The provision of a grant will allow youth-owned business to overcome access to finance constraints and acquire productive inputs, ultimately leading to improved business performance outcomes. However, this improvement in outcomes should be lower than for the impact of a grant on high-growth potential firms as identified through a screening process in a BPC.

6. **Evaluation Design and Sampling Strategy** (1-2 pages)

- Present the main features of the proposed evaluation design to address the evaluation question(s).
- Describe precisely the identification strategy (e.g., trial design including clustering, factorial, stratification details) for each evaluation question.
- Report all inclusion/exclusion criteria to define the target population/population studied, providers, settings, and clusters (as relevant).
- Report any ethical issues that may arise concerning the evaluation design and the sampling strategy (not related to data collection).

The BPC will target applications from all Kenyans between the ages of 18 and 35 years with a viable business idea. The program aims to collect a total of 10,000 applications nationwide. Based on previous BPC programs, it is estimated that 9,000 applications will meet the basic eligibility criteria, which includes applicants that meet age group and nationality conditions, but also being able to respond to all questions in the application form.

---

\(^5\) This compares different groups to understand how different they are (it is not a RCT).
The IE will use a RCT to identify the main questions of interest. The RCT comprises four specific interventions that will be assigned in a cross-cutting format, so that sub-treatment arms receive different combinations of each:

i. Business plan screening;

ii. Support in preparing a business plan;

iii. Providing 500 grants to top candidates of either $9,000 or $36,000;

iv. Providing 250 grants to unscreened candidates of $9,000.

This design allows the project to identify the main questions of interest. The project will randomly assign candidates from the group of 9,000 eligible applications to the different sub-treatment arms at various stages of the BPC. This process is described below and illustrated in Figure 2. This diagram shows the various sub-treatment arms numbered 1-11, the specific interventions they receive, and the stage at which they are randomly assigned (red arrows in Figure 2 refer to random assignment and numbers in red refer to the randomized sub-treatment arms).

As shown in Figure 2, among the group of 9,000 eligible candidates, 250 will be randomly assigned to receive a grant of US $9,000 and are removed from the BPC process, while another 250 are randomly assigned to be a pure control among applicants. Randomization will occur after stratifying the sample by gender and being a start-up vs existing business. This first randomization allows to answer the question D.1. listed above by comparing winners of US$9,000 with a control group, both that applied but didn’t participate in the screening process of the BPC.

From the remaining 8,500 candidates, a further 500 are randomly assigned as the ‘screening sample’. This group remains in the BPC, and candidates are measured for outcomes throughout the program irrespective of their progress in the BPC from this point on. This group shares the same baseline characteristics as all applicants to the BPC and could be assigned to any other treatment as the BPC proceeds. This serves to isolate the overall effect of participating in a BPC. This assignment allows us to assess question D listed above on the impacts of BPC screening, as well as C in terms of the success of BPC in identifying high-growth entrepreneurs.

The 8,500 applicants are then screened to determine the top 4,000 candidates according to objective criteria and where information on applicants is kept confidential. The bottom 4,500 candidates are removed from the BPC process. Among the 4,000 applications screened-in, the team randomly assigns 1,500 applications to receive technical assistance in preparing business plans. The other 2,500 candidates do not receive support this technical assistance but are equally informed about the process of submitting the business plan. This random assignment allows us to assess questions of interest B and B1.

---

6 These are reference numbers for illustration purposes and based on current estimates. The actual number will depend on demand.
All 4,000 remaining candidates are invited to submit complete business plans. Of those that submit business plans, evaluators will rank the top 750 in terms of economic viability and potential to create jobs for vulnerable youth, among a set of other well defined criteria. Submissions will be anonymized and randomly distributed between assessment panels. Among the top 750 plans, candidates will be randomly assigned to either receive a grant of $36,000, a grant of $9,000, or no grant. This last randomization allow us to answer questions of interest A and A1.

6.1 Treatment and Control Groups

- Provide specific description of features of each control and treatment arm (one paragraph per arm).

The main treatment groups, which are a combination of different sub-treatment arms, are described in Table 2 below.
<table>
<thead>
<tr>
<th>Evaluation Question/ Treatment Group Number</th>
<th>Treatment and Comparison.</th>
<th>Treatment Group Composition (Sub-groups)</th>
<th>Treat: N</th>
<th>Comparison Group Composition (Sub-groups)</th>
<th>Comparis on: N</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Treatment group:</td>
<td>BPC screening</td>
<td>1+2+3+4</td>
<td>500</td>
<td>5+6</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possibility of Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of either $9000 or $36000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possibility of Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of $9000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.1. Treatment group:</td>
<td>BPC screening</td>
<td>1+2</td>
<td>250</td>
<td>3+4</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possibility of Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of $36000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possibility of Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of $9000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Treatment group:</td>
<td>BPC screening</td>
<td>10</td>
<td>1500</td>
<td>11</td>
<td>2500</td>
</tr>
<tr>
<td></td>
<td>Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.1. Treatment group:</td>
<td>BPC screening</td>
<td>1+3+5</td>
<td>[225,525]</td>
<td>2+4+6</td>
<td>[225,525]</td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of either 0$, $9000, or $36000</td>
<td>[225,525]</td>
<td>2+4+6</td>
<td>[225,525]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business Plan Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of either 0$, $9000, or $36000</td>
<td>[225,525]</td>
<td>2+4+6</td>
<td>[225,525]</td>
<td></td>
</tr>
<tr>
<td>C. This is not a RCT (aims at comparing differences)</td>
<td>Group screening that won:</td>
<td>4+6</td>
<td>[150,350]</td>
<td>7+8</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>BPC screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BPC winner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grant of either 0$ or $9000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group No screening:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>between groups)</td>
<td>• Grant of either 0$, $9000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D.</th>
<th>Treatment group:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• BPC screening</td>
</tr>
<tr>
<td></td>
<td>• Possible BPC winner</td>
</tr>
<tr>
<td></td>
<td>• Possible grant of either 0$, $9000, or $36000</td>
</tr>
<tr>
<td></td>
<td>• Possible Business Plan Support</td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
</tr>
<tr>
<td></td>
<td>• No intervention (pure control)</td>
</tr>
<tr>
<td></td>
<td>Treatment group:</td>
</tr>
<tr>
<td></td>
<td>• Grant of $9000</td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
</tr>
<tr>
<td></td>
<td>• No intervention (pure control)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D.1.</th>
<th>Treatment group:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Grant of $9000</td>
</tr>
<tr>
<td></td>
<td>Comparison group:</td>
</tr>
<tr>
<td></td>
<td>• No intervention (pure control)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>9</th>
<th>500</th>
<th>8</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2 Sample Size Calculations
• Present the sample size estimates in a table like the one below and explain how the proposed sample size was determined, including the sampling frame, and main assumptions including Minimum Detectable Effect (MDE) and variance estimates. If applicable, also include intra-cluster correlation, and units per cluster.

The primary outcomes for this impact evaluation are monthly profits and employment. We do not have data on the current situation of applicants but surveys for impact evaluations in Kenya and in the region inform the assumptions. We assume the following for the starting question of the impacts of grants among those selected in the competition:

• Take-up rate: 90%
• St Dev/Mean = 1x
• 3 follow-ups and one baseline
• Correlation between baseline and follow-ups: 0.3
• Desired power of 80%
• Significance level of 5%
• ANCOVA
• Randomization at individual level

Based on the above assumptions, the IE is powered to detect ITT effects on profits of 19 percent. In Nigeria the impacts on sales were of 32 percent and on profits were of 23 percent over the control group (McKenzie, 2015). To improve our statistical power, we will use stratification in randomization.
Furthermore, due to the complex nature of the business plan competition and the multiple treatment groups necessary to make comparisons, we conducted additional simulations. This follows from our sample sizes being relatively fixed given the budget constraint of the intervention. In these simulations, we simplified to a scenario of only follow-up survey.

Based on the outcomes of these simulations, we should be adequately powered to detect 0.25 standard deviations for our primary hypothesis (effect of a grant). Please see Figure 3 for a graphical overview, or refer to the appendix for simulation results from additional comparisons. The simulation code is available upon request.

While this places some limitations on the capacity to observe a small effect, Mckenzie (2015) finds effect sizes of 0.517 SD for increases in wage employment, 0.591 SD for increases in an employment index, and 0.301 SD for whether firms increased their sales. The proposed design offers more than sufficient power to detect similar effect sizes in this study. Furthermore, MDEs estimated in the below simulations do not account for stratification and the use of additional controls, which should further increase this study’s ability to isolate an effect.

Question A)
7. Data Collection (1 -2 pages)

- Describe main instruments for data collection

Demographic and basic data will be captured from candidates’ online applications in the first stage of the BPC.

The impact evaluation will primarily base its results in quantitative surveys of the applicants to the program. As per the IE design, a total of 1,750 applicants will be surveyed at baseline. Three quantitative follow-up surveys collecting data on the main outcomes of interest will allow for assessing changes for these applicants. This may be complemented with more frequent short surveys on the main outcomes (this can be in person, SMS, internet, or phone).

The baseline survey will be conducted in person. Given the initial randomization of 1,000 applicants (250 pure control, 250 to receive $9,000 without screening, and 500 for the screening) will be done before selection process, the baseline survey will first be conducted on this group. The baseline survey will be done on the remaining 750 top candidates when they are selected in the competition but before the randomization of winning prizes. Given they are not part of the same impact evaluations, there is no risk of interviewing in baseline at different times.

The three follow-up surveys will measure changes in the main variables of interest and will follow similar protocols to the baseline survey.

As a secondary data source, the IE team will acquire basic observational data from survey visits. These will include but are not limited to a yes/no dummy for if business operations were apparent, a yes/no dummy for the presence of investment capital and investment goods, information on accounting and financial management practices, and a count of the number of employees present in the business premises. This will largely be used to cross-check survey data as per self-report. This can be important given possible incentives for misreporting (McKenzie, 2015).

After the first stage and at the end of the competition, focus groups and in-depth interviews will be conducted to seek feedback on the overall process and potential mechanisms and impacts of the business plan competition.

7.1 Quantitative Instruments

- Describe how primary and secondary outcomes (from section 3) will be measured, their timing and frequency.

Quantitative instruments will be used to measure primary and secondary outcomes, as outlined in Table 1 in Section 3.

The baseline survey will elicit information on characteristics of the firm and entrepreneur, including demographics, cognitive and non-cognitive skills (locus of control, future orientation, among others), past-experience, and current employment, as well as household characteristics. The baseline survey will also
collect information on all the metrics described in Section 3. We will also use the baseline to collect contact information about (potential) competitors to the applicants, so that we assess a comparison for changes in these versus the (potential) competitors of the control group (as a means of measuring negative spillovers on competition).

Follow-up data will then be collected 12, 18, and 24 months after baseline, and will include the same instruments and collection method as at baseline. In between, short follow-up surveys through SMS or internet can also be used to capture higher-frequency data.

7.2 Management of Data Quality

- Describe methods used to enhance the quality of measurements (e.g., multiple observations, training of surveyors), electronic data collection, protocols for quality assurance.

To ensure the integrity and quality of data, the following measures will be observed:

- Electronic data collection with limited responses where possible and with pre-programmed checks on data consistency. This will minimize coding errors, as well as data-entry or response errors.
- Rigorous enumerator training: Enumerators will be rigorously trained in survey administration and in effective probing to ensure high quality data. We will draft a terms of reference for a skilled survey company, and carefully select the contract based on experience, skill, budget and timeliness. The team will also supervise their work.
- Separation of data collection from project monitoring: enumerators announce that they are conducting surveys for a program interested in young entrepreneurs and will not mention any relationship to the BPC. Similarly, candidates will be told that other parties will not have access to individualized data and that all their responses will be confidential and anonymized. These measures should mitigate misreporting.
- Data profiling: This will be done to determine completeness and accurateness of data obtained, and will involve looking at data to spot-check inconsistencies and errors.
- Data quality assurance: This will involve regular back checks (of 10% of the sample on a subset of questions that are fixed over the time frame) and high frequency checks to identify missing values and outliers in the data that may be caused by enumerators. Enumerators with large discrepancies in data from back checks or high frequency checks will be retrained or dismissed. Resurveying will be conducted if necessary.

7.3 Ethical Issues

- Describe if this IE will require ethical approval, informed consent procedures, and important ethical considerations related to data collection.

Ethical approvals for this study will be obtained through a local NACOSTI approved IRB granting institution (such as KEMRI or Maseno). The contracted survey firm will also need to show proof of a research permit with the Government of Kenya.
• Respondents will be presented with two forms of consent: a pre-survey consent form and a pre-grant consent form to ensure understanding and willingness to participate in the program given the program aims, procedures, potential risks and benefits. Ethical considerations related to data collection include:
  • Informed consent: The research participants will be provided with the details of the study and required to sign the consent form in order to participate.
  • Privacy of possible and actual participants: Participant identification will be completely anonymized by the use of Survey ID in all forms of data.
  • Voluntary participation: Participation in the study will be voluntary.
  • Data Confidentiality: The data obtained in this IE will be safely stored in an online encrypted database where only project leaders within the IE team will have access for analysis purposes only.
  • Anonymization and randomization during selection: The IE team will partner with the implementing agent and the government to ensure that all applications and business plans submissions are randomly distributed amongst assessors and that all identifiable information is removed. This reduces the possibilities of bias and possible misconduct on the part of assessors.
  • Complaints and redressal mechanism: As in the overall Kenya Youth Employment and Opportunities project, the BPC will have mechanisms and established processes for the management of complaints.

7.4 Qualitative Instruments

• Provide a description of all qualitative instruments (if applicable).

Qualitative data collection will complement the quantitative surveys by providing in-depth information on the motivations driving important behaviors of the business owners in the study sample. In particular, we will use qualitative data to understand further household behavior and investment decisions.

We may also use qualitative data collection to examine reasons for selective uptake of the project’s interventions, such as the factors that explain why entrepreneurs receiving the business plan training are eventually more likely to submit applications. We can use baseline data and administrative monitoring data to strategically sample a set of cases that have the potential to shed light on these questions.

A second opportunity for the collection of qualitative data will occur after the follow-up surveys. Data from the follow-up surveys will be used determine which business owners had positive returns to the grant received from the project. Focus group discussions and in-depth interviews with both those who had positive returns and those who had zero or negative returns will seek to understand business owners’ decisions regarding the investment of the project grant, and how those decisions relate to their level of success. Finally, these qualitative tools will also be used to seek feedback on the overall process and implementation of the BPC.
The team will also use qualitative assessments to get more clarity on eventual effects of the program in the business community around the winners, by conducting in-depth interviews with other business owners in the same communities. This will also allow for understanding further about the community sees the winners of the BPC and get some qualitative answers on risks of extraction and others.

The details regarding the timing and design of the qualitative research methodology will be determined by the IE team in response to needs identified during the roll out of the intervention. Qualitative experts will be brought-in for specific studies.

7.5 IE Implementation Monitoring System

- Describe the IE implementation monitoring system, particularly, what specific indicators and system will be used to follow up the studied population, their treatment participation, treatment actually delivered and received based on activities, and outputs (see the theory of change section).

The IE team will be active throughout the program life cycle and work closely with the implementation team. The IE team will provide support in randomization processes and input into data requirements for the applications process. To monitor treatment, the IE team will need establish a data sharing agreement with the implementation team and establish streams of communication to this effect. The contract with the management firm will include explicit provisions on administrative data collection and reporting mechanisms to MSEA and MPYG. All data on business plan support administration and grant disbursal will need to be shared. This contract will outline, among other things, a regular reporting schedule by the implementing firm to the IE team and other partners. The management firm will establish, contractually, a Monitoring Information System (MIS) that will also interact with the overall MIS for the Kenya youth employment project.

8. Data Processing and Analysis (1-2 pages)

8.1 Data Coding, Entry, and Editing (optional)
- Describe planned methods for data entry, and for handling missing data, imputations.

8.2 Model Specification for Quantitative Data Analysis
- Describe the statistical method(s) that will be used to compare groups for primary and secondary outcomes (the specific equation should be included), any transformations to quantitative data. Specify whether the standard errors will be clustered or corrected.
- Specify what IE parameter of interest will be estimated (e.g., ITT, TT, MTE, LATE).
- Describe how you plan to address multiple hypothesis testing.
- Describe methods for additional analyses, including spillovers and subgroup analyses.
- Provide a list of any variables to be collected to check balance and correct for potential selection due to attrition, non-response, take-up rate issues (all theoretically important variables to be
measured at baseline, including, those thought to be related to participation/dropout/non-response and the outcomes of interest).

- Lay out a strategy to follow up, test and correct for (if required) sources of bias (e.g., non-random attrition, non-response, endogenous take-up).
- State if you plan to register this IE (see selected links below)
  - AEA RCT Registry (https://www.socialscienceregistry.org/)
  - 3ie Registry (http://www.3ieimpact.org/evaluation/ridie/)

**Overview of Quantitative Approach:**

For each of the comparisons, we will estimate the treatment effects using the following standard regression specification:

$$y_{i,t} = \alpha + \sum_{j=1}^{J} \beta_j \text{treatment}_i + X_{i,t=0} + y_{0,t=0} + \epsilon_i$$

Where $y_i$ is the outcome of firm $i$, $\text{treatment}_i$ is an indicator for whether firm $i$ is in the treatment groups for the comparison, $X_i$ are a set of controls which include strata dummies, and $\epsilon_i$ is an error term estimated using the standard Eicker-Huber-White formula. We forego clustering as randomization is conducted on the individual level. We use the ANCOVA specification (McKenzie, 2012) to improve power.

For the main outcomes such as monthly profits with values in amounts, we will winsorize at the 99th percentile.

In each of these regressions $\beta$ is the parameter of interest and will identify an “intent to treat” effect (ITT). Given that we expect compliance to be high, this will closely approximate the average treatment effect.

In addition to calculating the intent to treat effect, we will also estimate the treatment on the treated effect by instrumenting the anticipated treatment with the random assignment to the associated treatment group. This estimate will enable us to control for non-compliance with treatment assignment.

Because recovering our estimates of treatment effects relies on comparisons constructed from multiple treatment groups, we lay out the specific comparisons below:

**Specific Comparisons:**

**A) Effect of receiving any grant:** The outcomes will be a vector related to business performance, as indicated in Section 3. This comparison will be estimated on treatment and comparison group as per Table 2 in Section 6.1 (sub-groups 1-6). Regressions will include standard controls (strata, baseline measure) and a dummy for whether a firm received support to account for stratification in the randomization of grants among winners with support and without.
**A1) Grant Size (Large vs. Small):** The outcomes will be a vector related to business performance, as indicated in Section 3. This comparison will be estimated on treatment and comparison group as per Table 2 in Section 6.1 (sub-groups 1-4). Regressions will include standard controls and a dummy for whether a firm received support to account for stratification in the randomization of grants among winners with support and without.

**B) Support on Winning:** The outcome will be whether the firm was selected as a winner in the BPC. This comparison will be estimated on treatment and comparison group as per Table 2 in Section 6.1 (sub-groups 10 and 11) with standard strata dummies.

**B1) Support on Winner’s Outcomes:** The outcomes will be a vector related to business performance, as indicated in Section 3. In order to avoid conflating the impact of support on the probability of winning with the impact of support on business outcomes directly, this comparison will be estimated on the subset of groups 1-6 that won through the 225 spots reserved for each supported and not supported firms. Standard controls will be included.

**C) Selection on Winner’s Outcomes:** This is a comparison of differences between two groups. It is not a RCT. It will compare for the business performance, as indicated in Section 3, and will be estimated on comparing the winning group that went through screening and a group without screening as per Table 2 in Section 6.1 (sub-groups 4-8). A dummy for being randomly assigned to receive a $9000 grant will be included as a control.

**D) Selection on Firm Impact:** The outcomes will be a vector related to business performance, as indicated in Section 3. This comparison will be estimated on treatment and comparison group as per Table 2 in Section 6.1 (sub-groups 8 and 9). The “treatment” in this comparison is the entire contest process including the possibilities for support and grants. Standard controls will be included.

**D1) Effect of Grants Outside of the Process:** The outcomes will be a vector related to business performance, as indicated in Section 3. This comparison will be estimated on treatment and comparison group as per Table 2 in Section 6.1 (sub-groups 7 and 8). No additional controls will be included.

**Heterogeneous treatment effects**

In order to estimate heterogeneous treatment effects, we augment our primary specification as follows:

\[
y_{i,t=1} = \alpha + \sum_{j=1}^{J} \beta_j \text{treatment}_i * \text{X}_i_{t=0} + \text{X}_i + y_{i,t=0} + \epsilon_i
\]

We interact the treatment indicators with the baseline variable of interest. This variable will be pre-specified in our pre-analysis plan. This will include gender, existing vs new business, and location in Nairobi vs elsewhere.

**Attrition and balance**
In order to test for differential attrition in our treatment and control groups, we use the following estimation:

\[ \text{attrit}_i = \alpha + \int_{j=1}^{J} \beta_j \text{treatment}_i + \epsilon_i \]

Where \( \text{attrit}_i = 1 \) when an individual is surveyed at baseline but not at end line. If treatment status significantly affects attrition at the 5% level, we’ll test the robustness of the results using bounding techniques (such as Manski, 1990 or Lee, 2008), matching (such as propensity score matching) or modeling the attrition process (Heckman, 1977).

In order to ensure balance among the comparison groups, we will collect a number of baseline demographics and outcome variables and test to verify that the randomization results in balanced groups.

**Spillovers**

We estimate the spillovers to be relatively small given there are 750 entrepreneurs winning grants in the context of a large country with 46 million people and 2.3 million SMEs.

As businesses operate in a competitive environment, we will seek to carefully monitor spillover effects. In particular, we will focus on negative spillovers on other firms not receiving the grants. This will be difficult to quantify given our research design is not cluster-randomized. However, we aim to identify at baseline at least one potential competitor per firm in the sample, and we will conduct baseline and one follow-up interviews to these. Business owners not operating at the moment may have a hard time identifying exactly who is the competitor but we will use an objective protocol to reach at the best possible answer (we will also look at the results interacted with having an existing businesses to check for consistency). By comparing “competing” firms in treatment group with the “competing” firms in the control group, we will able to measure the size of these spillover effects on competition.

**Multiple hypothesis testing and pre-analysis plan.**

In order to ensure that these comparisons do not suffer from multiple hypothesis testing problems, we plan to pre-register a limited number of outcomes and our specific specifications that we plan to use before any analysis takes place. This will be registered with the AEA Social Science Registry to the Open Science Framework.

In order to limit the number of outcomes tested we plan to aggregate outcomes into families using Kling et al. 2007, or Anderson, 2008. Families of outcomes will be corrected for multiple hypothesis testing using a family-wise error rate correction (Anderson, 2008).

9) **Study Limitations and Risks** (0.5 page)

- Provide an assessment of risk and threat to internal validity (related to previous section)
• Discuss issues related to external validity, particularly (i) representativeness of the sample; (ii) representativeness of the institution(s) delivering the intervention, and (iii) feasibility that the intervention can be scaled up.

Sample size and integrity and take-up:

Achieving the target sample may be compromised by the following: targeted applicants having limited access to internet, operational difficulties with the online application platform, or duplicate or artificial applications. There is also a potential risk of capture, if the selection of winners is not done in a transparent and systematic manner. These factors, amongst others, could both limit the sample size and compromise its composition, limiting the validity of findings. In the design, the team is planning to minimize these risks, including through ensuring that applicants can submit web-based applications even if they do not private internet access, by doing a pre-test of key processes, and by putting in place quality assurance and double checks along the selection process. Working with professional management teams will also minimize risks in implementation.

There are several risks that treatment interventions will not be administered as planned and therefore limit the validity of findings. For example, if the eligibility criteria for both applications and submitted business plans are poorly defined or not understood by candidates, this could limit the possibility of the screening treatment to identify high growth entrepreneurs. Similarly, if turnout at the Business Plan Support Sessions is low, it will impact statistical power calculations. Furthermore, if grant distribution is poorly managed, this could compromise the impact of a grant. There are multiple other examples of how the administration of the project could compromise the treatments. This may in the end be a fair reflection of the effects of these interventions within the Kenyan context. However, given the size of the overall project budget and the competitive and rigorous bidding process for the implementing firm, these risks should be largely/somewhat mitigated. Furthermore, the intervention can be scaled up as this is already a large scale nationwide intervention.

Attrition:

There is a strong possibility of some degree of attrition in the sample given the long follow-up time-line and the geographical dispersion of candidates. Candidates could change contact details and/or move cities and therefore not be accessible for follow-up data collection. This could limit the final sample size and underpower the study. There is also the possibility of differential attrition across groups. Different treatment interventions or selection criteria for different treatment groups could affect the likelihood of remaining in the study. For example, if the provision of a grant makes businesses more likely to survive and remain contactable. The surveys will be done separately from the interventions, compensating firms for their time. The use of high-frequency short surveys in between the larger surveys can also help in keeping regular contact with firms and collecting at least intermediate outcomes. In case of differential attrition, we will conduct the necessary adjustments in the analysis as described in Section 8.

Spillovers:
There is also the possibility of spillover effects between our treatment and comparison groups. Providing grants to treated firms could impact the availability of finance for comparison firms if they are geographically proximate or have existing ties to treated firms. Further to this, treatment and comparison candidates could collude and share financial and other resources influenced by treatment interventions. These spillovers could contaminate the comparison groups and lead to understated treatment effects. In order to measure these potential spillover effects, baseline and follow-up surveys will aim to identify relationships across firms in terms of location and industry. We will also identify at baseline at least one potential competitor per firm in the sample, and we will conduct baseline and one follow-up interviews to these, as described in Section 8.

Limitations on External validity

The targeted sample is not intended to be representative of all Kenyan, or East African, firms. Rather, the application process should represent youth-owned firms across all regions of Kenya with the interest and capacity to apply for a BPC of the type being evaluated. The design and implementation strategy should ensure that this group is represented and that findings could be generalized to similar BPCs within the Kenyan context. Findings of this IE could therefore be informative of other BPCs in countries with similar economic environment as Kenya and focused on a similar segment of firms. However, translating findings to other country contexts, which could have very different business ecosystems, is likely not possible beyond broad principles related to considerations of grant size, the potential importance of screening, and whether business plan preparation training enhances impacts or not. Furthermore, the findings for specific evaluation questions may not be valid outside of the context of a BPC. These aspects will taken into account when taking conclusions about the results.

10) Policy Relevance and Impact (1 page)

- Why is the IE appropriate, necessary, feasible, and likely to provide useful information at this point in time?
  - Describe alignment of the IE questions with national and international policy challenges.
  - Describe relevance of IE for the WBG project, country, T&C practice, and the World Bank Group in general, by identifying the most important learning elements related to project design and implementation that will be most useful for each level.

The questions of the proposed IE are fully aligned with one of the most critical challenges in Kenya and internationally, namely the issue of quality job creation, especially for youths. The high number of new entrants to the workforce in Kenya is outpacing the capacity of the economy to absorb them in productive employment. Between 2009 and 2013, three million youths came of working age, but the economy was able to add only 2.6 million jobs (Cirera and Perinet 2015). Just as critically, labor productivity—linked to wages—has stagnated since 2006. This reflects the fact that most employment growth took place in the informal trade sector, a low-productivity sector, and in services more generally, where productivity has actually fallen since 2006 (World Bank forthcoming). As a result of all of these forces, youths in Kenya—especially the least educated—have poor employment prospects. In urban Kenya, one quarter of those
aged 15 to 19 years are not employed, in education, or in training; this share is one-third among those aged 20 to 24 years (Sanchez Puerta and Perinet 2015).

Despite the global challenge of (youth) employment, the evidence base for what can be done to foster entrepreneurship and job creation remains small, albeit growing. This is where the proposed IE can make a very important contribution by not only informing the Kenya Youth Employment and Opportunities Project and overall private sector and labor market policies in Kenya, but also such programs and job creation strategies globally.

The proposed IE will address important knowledge gaps in high-growth entrepreneurship. Building on the findings from the YouWin! IE in Nigeria (McKenzie, 2015), the BPC IE in Kenya will provide new evidence on the effectiveness of these programs in developing non-micro enterprises and creating jobs. Adding to the Nigeria study and others (Fafchamps et al, 2014), the IE will compare the impacts of grants of US$9,000 (small grant) and US$36,000 (large grant) to test the cost-effectiveness of a smaller grant amount. The IE will also test the additional value of receiving technical assistance in preparing business plans in identifying winning proposals and in creating jobs. In addition, the IE will benchmark the participation in the screening process of the BPC against a pure control group of eligible firms interested in the program. Finally, through complementary activities, the proposed IE will also provide new insights into approaches to increase women’s participation in high-stakes business plan competitions (through the accompanying lab experiments) as well as on correlates of high-growth entrepreneurship.

In short, the evidence generated by this IE will be critical for informing the design of future T&C programs in the realm of high-growth entrepreneurship. The most effective interventions studied under the IE will likely be scaled up in future programs of the Kenyan government, just as the BPC is now a regular part of Nigeria’s jobs-related programs. Under other projects, Kenya has indeed scaled up interventions shown to be effective. Given the number of T&C projects introducing BPCs, including in Senegal, Cote D’Ivoire, Guinea-Bissau, and Benin, often with various size of grants, this evidence from Kenya will be critical for future operations and technical assistance.

11) Dissemination Plan (0.5 page)

- Describe the plan for realizing the full potential policy influence of the IE (at all stages – from design to final results). Please describe:
  - Your policy influence objective(s) and means of communication/dissemination/outreach.
  - Target audiences, including key stakeholders.
  - Main strategies for engaging with key stakeholders and other audiences during the course of the evaluation.

The primary policy objectives of the IE, in the case of significant positive results, will be to motivate the future use of BPCs in Kenya to target employment and high-growth entrepreneurship. Furthermore, the IE outputs will inform how to structure future BPCs to both increase impact and improve cost-
effectiveness. Third, the IE will motivate the importance of future testing. Finally, the IE help increase awareness the BPC concept amongst Kenyan entrepreneurs. The primary targets of this will be relevant Kenyan National Government institutions, including but not limited to MSEA, the Ministry of Industrialization and Enterprise Development, and MPYG. Other target audiences will be international donors and Kenyan entrepreneurs, in order to increase the pool of funding to facilitate future BPCs, and to both create awareness amongst entrepreneurs and encourage maximum participation respectively.

Throughout the course of the project, the IE team will work closely with the above-mentioned bodies of government, particularly MSEA and MPYG. This will involve regular meetings. Primarily, however, results and key lessons will be disseminated through a series of workshops to be held on five occasions at regular intervals throughout the period of the evaluation. Secondary means of dissemination include using Kenyan print media to increase both interest in and dialogue around the BPC. In order to share with donor and research community, results at various stages will be presented at multiple BBLs and conferences. Results will also be disseminated through both online and international media.

12) Impact Evaluation and Related Teams

- Please adapt the three tables below to list:
  - All members of the IE team, including lead researcher, impact evaluation TTL, and research assistant. Examples of typical roles are included in the table below.
  - ‘Key members’ of the WBG project team that is linked to the proposed impact evaluation, who will be working together with the impact evaluation team.
  - Main government counterparts who will be making decisions (approving) impact evaluation design and those who will be working on developing and implementing the impact evaluation.

Table 1: Impact Evaluation Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Role in IE team</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilal Zia</td>
<td>DECFP</td>
<td>Principal Investigator</td>
<td><a href="mailto:bzia@worldbank.org">bzia@worldbank.org</a></td>
</tr>
<tr>
<td>Francisco Campos</td>
<td>GTC13</td>
<td>IE TTL – IE Coordinator and Principal Investigator</td>
<td><a href="mailto:fcampos@worldbank.org">fcampos@worldbank.org</a></td>
</tr>
<tr>
<td>Indhira Vanessa Santos</td>
<td>GSP01</td>
<td>IE Co-TTL – IE Coordinator</td>
<td><a href="mailto:isantos@worldbank.org">isantos@worldbank.org</a></td>
</tr>
<tr>
<td>Chaning Jang</td>
<td>Busara Center for Behavioral Economics</td>
<td>Co-Principal Investigator</td>
<td><a href="mailto:Chaning.jang@busaracenter.org">Chaning.jang@busaracenter.org</a></td>
</tr>
</tbody>
</table>
### Table 2: Related World Bank Project Team (Project ID: P151831)

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornelia Tesliuc</td>
<td>Senior Social Protection Specialist</td>
<td>TTL</td>
<td><a href="mailto:ctesliuc@worldbank.org">ctesliuc@worldbank.org</a></td>
</tr>
<tr>
<td>Michael Mutemi Munavu</td>
<td>Social Protection Specialist</td>
<td>Co-TTL</td>
<td><a href="mailto:mmunavu@worldbank.org">mmunavu@worldbank.org</a></td>
</tr>
<tr>
<td>Kie Riedel</td>
<td>Consultant</td>
<td>Supports project implementation</td>
<td><a href="mailto:kieriedel@gmail.com">kieriedel@gmail.com</a></td>
</tr>
<tr>
<td>Francisco Campos</td>
<td>Senior Economist</td>
<td>Co-lead BPC implementation</td>
<td><a href="mailto:fcampos@worldbank.org">fcampos@worldbank.org</a></td>
</tr>
<tr>
<td>Indhira Vanessa Santos</td>
<td>Senior Economist</td>
<td>Co-lead BPC implementation</td>
<td><a href="mailto:isantos@worldbank.org">isantos@worldbank.org</a></td>
</tr>
</tbody>
</table>

### Table 3: Country Counterparts

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Agency</th>
<th>Role</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Kanyi</td>
<td></td>
<td>MSEA</td>
<td>Project Coordinator MSEA</td>
<td><a href="mailto:jmkanjy2014@gmail.com">jmkanjy2014@gmail.com</a></td>
</tr>
<tr>
<td>Olivia Ouko</td>
<td></td>
<td>MPYG</td>
<td>Overall project coordinator</td>
<td><a href="mailto:oukoolivia@gmail.com">oukoolivia@gmail.com</a></td>
</tr>
</tbody>
</table>

13) **Budget**

- Complete the excel template and paste its summary table here.

**Table 4: Impact Evaluation Budget Summary**

<table>
<thead>
<tr>
<th>Budget Composition</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>Amount (USD)</th>
<th>% of total budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of investigators</td>
<td>44000</td>
<td>32000</td>
<td>56000</td>
<td>132000</td>
<td>10.75%</td>
</tr>
<tr>
<td>Time of field coordinator and local consultants</td>
<td>33750</td>
<td>22500</td>
<td>27500</td>
<td>83750</td>
<td>6.82%</td>
</tr>
<tr>
<td>Time of other IE team members</td>
<td>21000</td>
<td>4000</td>
<td>26000</td>
<td>51000</td>
<td>4.15%</td>
</tr>
<tr>
<td>Data collection</td>
<td>227500</td>
<td>332500</td>
<td>227500</td>
<td>787500</td>
<td>64.11%</td>
</tr>
<tr>
<td>Travel</td>
<td>62700</td>
<td>41200</td>
<td>31200</td>
<td>135100</td>
<td>11.00%</td>
</tr>
<tr>
<td>Conference arrangements</td>
<td>14000</td>
<td>10000</td>
<td>15000</td>
<td>39000</td>
<td>3.17%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>402,950</td>
<td>442,200</td>
<td>383,200</td>
<td>1,228,350</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

**Sources of Funds**

<table>
<thead>
<tr>
<th>Sources of Funds</th>
<th>ComPEL</th>
<th>Project Budget</th>
<th>Africa GIL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount (USD)</td>
<td>75350</td>
<td>275250</td>
<td>52350</td>
<td>402,950</td>
</tr>
<tr>
<td>% of total</td>
<td>16%</td>
<td>74%</td>
<td>10%</td>
<td>100%</td>
</tr>
</tbody>
</table>

14) **Milestones, Deliverables, and Timeline**

- All deliverables in the table below are required in order to receive financial and technical support from ComPEL. Funding trenches will be linked to the completion of certain deliverables.

<table>
<thead>
<tr>
<th>Milestones</th>
<th>Deliverables</th>
<th>Completion Date MMM, YYYY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept Note</td>
<td>Concept note (including budget and timeline) IE design workshop</td>
<td>Jun, 2017</td>
</tr>
<tr>
<td>Management firm</td>
<td>Contract of implementing firm</td>
<td>Nov, 2017</td>
</tr>
<tr>
<td>Application process</td>
<td>BPC application</td>
<td>Apr, 2018</td>
</tr>
<tr>
<td>Baseline data collection</td>
<td>Ethics protocol and approval Survey firm terms of reference Questionnaire, surveyor’s manual, and Field and Data Protocols</td>
<td>Jun, 2018</td>
</tr>
<tr>
<td>PAP &amp; Randomization</td>
<td>Pre-Analysis Plan Completion of Randomization</td>
<td>Aug, 2018</td>
</tr>
</tbody>
</table>
Baseline analysis | Cleaned dataset and .do files  
Baseline report  
Baseline workshop and dissemination conference and ppt | Dec, 2018

Intervention monitoring | Monitoring reports verifying treatment administration.  
Implementation workshop and dissemination conference and ppt | May, 2019

Midline data collection | Survey firm terms of reference  
Questionnaire, surveyor’s manual, and Field and Data Protocols | Jun & Dec, 2019

Midline analysis | Cleaned dataset and .do files  
Midline report  
Midline workshop and dissemination conference and ppt. | Mar, 2020

Final data collection | Survey firm terms of reference  
Questionnaire, surveyor’s manual, and Field and Data Protocols | Jun, 2020

Final analysis | Cleaned dataset and .do files  
Endline report  
Policy note, including cost-effectiveness of interventions  
Final workshop and dissemination conference and ppt | Dec, 2020

15) References


prepared for the Kenya Country Economic Memorandum (2016).


16) **Annexes**

Annex 1. Graphic Depictions of Power Calculations

**Question A1)**

![Graph: Large vs. Small Grant](image1)

**Question B)**

![Graph: Support vs No Support on Winning](image2)
Question B1)

Support vs No Support on Winner Business Health

Question C)

Outcomes of Winners vs Outside of Process
Question D)

Total Process Effect

Question D1)

Grant vs. No Grant If Outside of the Process