



Impact Evaluation (IE) Concept Note Template

[From Ideas to Markets: Regional IE of an Investment Readiness Program for Innovative Small and Medium-sized Enterprises

Western Balkans: Croatia, Kosovo, Macedonia, Montenegro and Serbia

[IE-P158222-IMPE-TF0A1557]

[November 24, 2015]

JEL codes: L26, M2, M13, O1

Keywords: Finance, Investment Readiness, Private Sector Development, Training, Entrepreneurship, Start-ups, SMEs, Randomized Control Trial

¹ Choose one of more keywords/categories that describe your IE. ² _(R)

¹ Please refer to JEL classification codes <http://papers.ssrn.com/sol3/displayjel.cfm> .

² The concept note is aligned to Ethical clearance (E) and Registry (R) indicative requirements. These indicative requirements are referenced throughout the document.

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I2I INDICATORS OF IE INFLUENCE ON PROGRAM/POLICY	ERROR! BOOKMARK NOT DEFINED.
THEORY OF CHANGE EXAMPLE.....	ERROR! BOOKMARK NOT DEFINED.

IE PROFILE INDICATORS

No.	Indicator	Description
1	IE code	IE- P158222 -IMPE-TFOA1557
2	IE Title	Investment Readiness Impact Evaluation
3	IE TTL	David McKenzie
4	IE Contact Person	David McKenzie
5	Region	ECA
6	Sector Board/Global Practice	T&C
7	WBG PID (if IE is evaluating a WBG operation)	P153865
8	WBG Project Name (if IE is evaluating a WBG operation)	TA on VC Activity /Investment Readiness
9	Project TTL (if IE is evaluating a WBG operation)	Ana Paula Cusolito
10	Intervention	Investment Readiness Program for SMEs
11	Main Outcomes	Firm investment readiness, receipt of external financing, firm growth
12	IE Unit of Intervention/Randomization	Firm
13	Number of IE Units of Intervention	346 Firms
14	IE Unit of Analysis	Firm
15	Number of IE Units of Analysis	346 Firms
16	Number of Treatment Arms	2 (Treatment and Control)
17	IE Question 1 (Treatment Arm 1)	What is the impact of the investment readiness program on investment readiness in the short-term as measured by judge scores, and on receiving external investment and firm growth in the longer-term?
18	Method IE Question 1	Random assignment at the firm level
19	Mechanism tested in IE Question 1	Package
20	IE Question 2 (Treatment Arm 2)	N/A
21	Method IE Question 2	N/A
22	Mechanism tested in IE Question 2	N/A
23	IE Question 3 (Treatment Arm 3)	N/A
24	Method IE Question 3	N/A
25	Mechanism tested in IE Question 3	N/A
25	Gender-specific treatment (Yes, No)	No
27	Gender analysis (Yes, No)	No
28	IE Team & Affiliations	Name 1 (Organization/Unit Affiliation, Role); Name 2 (Organization/Unit Affiliation, Role)... David McKenzie (World Bank, DECFP, PI and IE TTL); Ana Paula Cusolito (World Bank, T&C, Project TTL and research team); Ernest Dautovic (Lausanne, Economics Department, Field Coordinator and research team)
29	Estimated Budget (including research time)	Total in USD
30	CN Review Date	12-2015
31	Estimated Timeframe for IE	8-2015 to 12-2017
32	Main Local Counterpart Institution(s)	Differs by country, see section 12.1

1. EXECUTIVE SUMMARY

(1 page)

- Describe the proposed IE **in non-technical language in one paragraph or less**. This could be an abstract of your IE. Include broad motivation/background and policy/research contribution. ^(E,R)
- Present IE questions and main outcome(s) the intervention aims to affect.
- Briefly explain how you are proposing to test your main evaluation question(s).

Innovative start-ups and SMEs in developing and transition countries often have good ideas, but do not have these ideas fine-tuned to the stage where they can attract outside funding. This is the case in the Western Balkans, where there is a perceived lack of readiness of innovative start-ups to be in a position where they can compete for, and take on, outside equity.

Lack of investment readiness is the result of a combination of factors, including: (i) entrepreneurs' reluctance to surrender ownership and control to potential investors; (ii) entrepreneurs' lack of information about the availability of external sources of finance; (iii) low investability of business development propositions; (iv) scarce knowledge about the aspects that investors consider when making an investment; (v) firm-valuation gaps between the entrepreneur and investors; and (vi) presentational failings, such as shortcomings in business plans or deficiencies in pitches (Mason and Kwok, 2010).

Investment Readiness Programs which provide individualized training, mentoring and coaching are designed to overcome this constraint, but the programs can be expensive to provide, and to date there is no rigorous evidence as to their effectiveness. A 5-country Randomized Controlled Trial will be used to test the effectiveness of such a program. 346 firms will be divided into two groups: a treatment group that receives a high-cost and intensive program that involves help developing their financial plans, product pitch, market strategy, and willingness to take on equity, along with master classes, mentoring, and other assistance; and a control group which receives access to an online-only basic investment readiness course. After this program, both firms will compete in a pitch event, where they will be scored by independent judges on their investment readiness, with the top 50 firms then going onto a finals stage where they will pitch in front of more than 60 investors. Tracking firms over time will enable us to determine the extent to which this assistance makes firms not only more investment ready in the short-term, but more likely to receive outside investment over a medium-term.

The Primary Research Questions and Main Outcomes are:

- 1) Does this investment readiness program result in firms being more investment-ready, as measured by the scores of independent judges in a pitch competition? [Measured by Judge scores]
- 2) Are investment readiness program for innovative start-ups and SMEs an effective intervention to facilitate access to equity finance? [Measured by whether the firm received external equity finance during the follow-up period]
- 3) What is the medium-term impact of this program on firm performance? [measured by sales and employment growth]
- 4) How well do investment readiness scores predict the likelihood of firms receiving external financing and growing? [measured by relating medium-term performance to the judges scores]

Questions 1)-3) will be tested by comparing outcomes for the treatment and control groups in the randomized experiment, while question 4) will be tested via a regression of outcomes on judge scores.

2. BACKGROUND AND KEY INSTITUTIONAL FEATURES

(1 page)

- Present an overview of the local context.
- Identify and define the problem: what is the policy/research problem this IE is proposing to study? Which groups are affected by the problem?
- Describe the intervention whether existing or new, implementing organization, institutional setting and any important consideration.
- Describe the intervention geographic/demographic scale and scope: Does it represent the “mode” of delivery in the country? _(R, E)

2.1 Regional Context

Sustaining economic growth and job creation in the Western Balkans will require a substantive shift toward a more productivity-based, export-oriented growth model. While macroeconomic stability and market orientation remain important conditions for the development of such model, the development of the strategy to unleash the region’s innovative potential will be critical. Innovation is at the heart of creating and sustaining economies’ comparative advantages, raising productivity, and expanding employment opportunities.

Research and innovation are becoming a priority in the Western Balkan region. Building on national and other regional initiatives, Ministers of Science and Education from the Western Balkans recognized their importance and on October 25, 2013, in Zagreb, Croatia, they endorsed the Western Balkans Regional Research and Development Strategy for Innovation. This is the first time that countries from the region have adopted a sector-wide approach to address the challenges facing innovative enterprises. The ultimate objective is to increase innovation, productivity, economic growth, and job creation in the Western Balkan region.

2.2 The problem and the Role of EDIF to Support Innovative Start-Ups and SMEs

Access to finance for innovative SMEs and start-ups in the region whereby improving managerial capabilities and investment readiness are the main problems the evaluation wants to address. The European Union Enterprise Development and Innovation Facility (EDIF), which hosts this project, aims to assist the Western Balkan region in achieving the above mentioned goals. The facility, launched in December 2012, is the first project in the area of private sector development initiated through the Western Balkans Investment Framework. EDIF is a platform targeted to provide beneficiary economies with a set of measures to enhance the conditions for the development of innovative and high-growth start-ups and small and medium-sized enterprises (SMEs). The platform includes supply-side interventions such as financial instruments to improve access to finance (e.g., (i) a venture capital fund, (ii) an expansion fund, and (iii) a guarantee facility) coupled with a policy component aimed to support improve the legislative/regulatory framework for equity finance, and demand-side interventions to build an investment readiness program to help start-ups and SMEs get access to external sources of funding.

2.3 Intervention and Implementers

As mentioned above this is the first inter-governmental agreement in the region and hence it presents the ground for the first time an evaluation of this kind is performed in the beneficiary countries. In the context of EDIF preparation, countries were encouraged to identify their reform priorities. Assisted by the Investment Compact (IC) team in the Organisation for Economic Cooperation and Development (OECD), this phase of the project reviewed the current donor activity in the Western Balkans and, through a survey of beneficiaries and client consultations, identified four main areas of support: (i) innovation; (ii) developing a venture capital ecosystem; (iii) increasing the investment readiness of entrepreneurs; and (iv) licensing procedures, permits, and inspection

procedures. The World Bank was invited by the Platform Advisory Group (PAG) to prepare a technical assistance (TA) proposal for an investment readiness programs and to implement the IE on it.

2.4 Framing the Topic: Innovation Finance and the Importance of Investment Readiness

The investment readiness component of the intervention involves five countries in the Western Balkan region (Croatia, Kosovo, Macedonia, Montenegro and Serbia) and an ecosystem of 346 start-ups and SMEs that have been screened as eligible for the program. Access to finance to support innovative activities (e.g., innovation finance) is an important topic in contemporary international development owing to the role innovation can play in promoting growth and economic convergence. The idea that innovation is difficult to finance has a long academic history dating back to the classic articles of Nelson (1959) and Arrow (1962). In particular, two characteristics of innovation make financing more difficult: (i) innovation produces an intangible asset and (ii) the returns to innovation investment are highlight uncertain, for a review see Hall and Lerner (2010), Kerr and Nanda (2014). At the same time the “valley of death” is a common term in the start-up world, referring to the difficulty of covering the negative cash flow in the early stages, before the new product or service starts to generate revenue. Further, there are also informational asymmetries causing innovation underinvestment (e.g., adverse selection).

Access to innovation finance by start-ups and SMEs is often constrained by demand-side weaknesses. These weaknesses arise because firms are often not “investment ready”. This means that their owners are unwilling to seek equity finance to support innovative activities; and those who are willing do not so, they don’t know how to sell their business development propositions in a way that is attractive to potential investors. These demand-side weaknesses, in turn, compromise the effectiveness of supply-side interventions, such as existing national and regional initiatives to stimulate the business angel community or the creation of public-private co-investment facilities and/or venture capital funds.

Investment readiness programs (IRPs) are designed to overcome those constraints. However, this type of intervention can be very expensive because it requires a considerable amount of individual mentoring and support for the new start-ups and SMEs. To date, there is no experimental randomized trials on the impact of IRPs on the development of innovative enterprises in terms of firm growth, their investment readiness in general, and final access to external sources of funding such as equity. It is, therefore, the purpose of this project to fill this gap.

3. LITERATURE REVIEW

(1 page or less)

- Describe most relevant literature/scientific background specifically linked to your problem/evaluation question(s).

As recently showed in Haltiwanger et al. (2013) young and innovative firms have a decisive role in terms of job creation, therefore understanding whether investment readiness programs can help innovative enterprises access equity finance to develop businesses becomes an important question to answer. The significance of providing structured managerial assistance to increase investment readiness of high-growth new ventures and SMEs is clearly summarized in early work of Mason and Harrison (1996, 2001, and 2002). The authors study the deals rejected by investment angel groups in U.K. and acknowledge how investors tend to reject new venture propositions that have shown pitfalls in one or more of the following dimensions: management and team, market focus, marketing strategy, financial planning and poor presentation of the business.

The empirical literature is generally divided in two, on one side an early vintage of empirical work is trying to uncover the effectiveness of *incubator* programs, while more recently a new strand of literature tries to

understand the effectiveness of the late business *accelerators*.³ While both of these programs are aimed at improving the investment readiness of young and nascent enterprises, the distinction between the accelerators and incubators is not always clear-cut. A history of accelerator programs and a first attempt in providing a concise overview of the differences in scope among accelerators, incubators and angel investors is elucidated Cohen (2013), Cohen and Hochberg (2014). A genealogy and development of the accelerator industry is illustrated in Hochberg (2015), while Bernthal (2016, forthcoming) provides a legal characterization. In short, an accelerator provides a more structured business education with the help of a pool of mentors, it guides the firm in building a team, in the marketing of the product and in financial planning while providing also networking opportunities with potential investors. An incubator is distinctively basic in terms of services offered limiting its scope to shared office space and equipment, basic management services such as HR consultations and bureaucratic procedures.

Only few papers use quasi-experimental evidence in assessing the *impact of incubators on startups outcomes*, Allen and Bezan (1990) match a sample of incubated firms with a control group to find that incubation leads only to faster business development while employment and sales are not affected. More recently, Stokan *et al.* (2015) adopt a propensity score matching methodology to compare employment outcomes of incubated and non-incubated startups drawing from the National Business Incubator Association (NBIA) database. Their results show incubators having a positive effect on firm job creation and on the provision of business services.

A stream of recent studies use ex-post quasi-experimental evidence but there is not yet evidence provided by a randomized trial on *the effectiveness of accelerators*. For instance Gonzalez-Uribe and Leatherbee (2015) exploit a regression discontinuity approach to compare startups enrolled in the Startup Chile accelerator program to those just below the qualification threshold. The authors find a positive relation between the *mentorship* and the scale of the startup as well as with the access to seed and VC financing; they do not find effects for basic incubator services like co-working space. Hochberg and Fehder (2015) construct a difference in difference setting at U.S. metropolitan regional level by comparing regions with accelerator programs with regions where the accelerators have not yet been operational. The authors find that in the accelerators treated regions, firms that participate in the program but also those that do not, have better access to equity finance than the firms in the non-treated regions. A similar finding is provided also in Gonzalez-Uribe and Leatherbee (2015) with a documented increase in local business incorporation within regions and industries where the Startup Chile seed accelerator was implemented. Winston-Smith and Hannigan (2015) match startups participating in two of the most established accelerators (Y Combinator and Tech Stars) to similar ventures receiving support from top angel investor groups. The authors find that startups in the top accelerators are more likely to receive follow-on funding from VC investors around the pitch event but not in the medium term and there is higher probability of exit by acquisition and quitting for the startups in the accelerator program. Hallen *et al.* (2014) match startups supported by top accelerators and with similar non-accelerated ventures and find that accelerated startups raise capital faster and gain customer traction sooner. Interestingly, they find that founder prior entrepreneurial experience is not a substitute for accelerator participation hinting that specific accelerator features such as education, mentorship and networking are important in facilitating access to finance. Yu (2014) develops a partial equilibrium model and tests its predictions by matching accelerated startups with a sample of non-accelerator companies to find that accelerator companies raise less money, they exit earlier and more often but they are a more efficient investment because acquired companies tend to attract more financing.

Survey and interview evidence in Gonzalez-Uribe and Leatherbee (2015) indicates how non-participants in the accelerator program value most *the importance of business relationships* and lack professional contact with investors. It emerges that startups consider a network of investors and good connections as key driving forces for entrepreneurial success and the most difficult to find and maintain. Robust evidence on the effect of accelerators

³ The first accelerator program for startups was Y Combinator, founded in 2005 in Cambridge, Massachusetts (Cohen and Hochberg, 2014), whereas the first incubator can be traced back to 1959 with the Batavia Industrial Center, an incubator for SMEs (Wiggins and Gibson, 2003).

and incubators on the widening of the business network and related outcome measures is to our knowledge absent. Kerr et al (2014) provide some evidence of the positive effect of angel investment deals on Web traffic performance while Gonzalez-Uribe and Leatherbee (2015) use Facebook likes as a proxy for the customer base to assess the impact of the seed accelerator startup Chile. On the other side, the importance of good connections for new ventures is well documented. For instance, Hsu (2004) shows how respected and established venture capital funds are more likely to see their offers accepted and can acquire startup equity at a 10-14% discount. Hochberg et al. (2007) find that portfolio companies of better networked (i.e. with a bigger pool of partners and a greater size of the partners) venture capital funds have a greater chance to survive and obtain rounds of financing. Similarly, Ewens and Rhodes-Kropf (2015) show that business partners' human capital is estimated to have two to five times more relevance than the VC firm organizational capital in explaining VC performance.

We know from Bloom and Van Reenen (2010) that firms with **better management practices** are more productive, grow faster and have a lower death rate. Experimental evidence in developing countries support this result too, Bloom et al. (2013) find that better management practices raised productivity of randomly chosen plants by 17% in the first year and contributed to more plants in the following three years. Similarly, Bruhn et al. (2013) show in a randomized experiment in Mexico that management consulting for SMEs improved return-on-assets and total factor productivity in the first year after the intervention while employment increased several years after the program for the firms that used management consulting services. More connected to the Western Balkan region Bruhn and Zia (2013) deliver experimental evidence from Bosnia-Herzegovina where randomly chosen credit constrained young entrepreneurs were supplied with seminars on business and financial education; the beneficiaries of the program did not have a higher survival rate but benefited from better refinancing terms and implemented more new production processes. In a survey on business training programs in developing countries, McKenzie and Woodruff (2013) stress that business training programs help entrepreneurs to launch their businesses sooner, improve sales and profits but their effect on survival is modest.

In terms of managerial training for innovative firms business accelerator programs can be viewed as intensive management training with respect to the basic incubator programs, Gonzalez-Uribe and Leatherbee (2015) provide evidence that accelerator program with the mentors arm improves the likelihood of raising funds by 9.1% after the program. In line with the literature on business training for entrepreneurs in developing countries the effect of mentor assistance on survival is absent.

The existing literature therefore provides some evidence that investment readiness programs can be helpful in allowing firms to access finance, but very little of this literature is from developing or transition countries, and much of it faces severe identification challenges that are only partly overcome.

4. POLICY RELEVANCE

(1/2 page or less)

- Assess the extent to which the study may influence policy and institutional capacity at the national, regional, and international level. Explain how you plan to track the policy influence of your study (see Appendix on i2i sample indicators of IE influence on program/policy. These indicators, which are currently under revision, will be collected through Grant Monitoring and Reporting on annual basis from all i2i supported IEs).

The main policy issue is a perceived lack of investment readiness of innovative start-ups and SMEs in the Western Balkan region that prevent them to have access to external and private sources of funding to support growth-enhancing activities. Investment Readiness Programs (IRPs), which provide individualized training, mentoring and

coaching are designed to overcome this constraint. Learning whether such programs are effective or not has been identified as one of the key priorities for research and policy action in the World Bank's SME agenda by the recent World Bank SMEs Working Group.

Further, lack of access to equity finance for innovative start-ups and SMEs has been recognized as a major problem in the region during the Inter-Regional Ministerial Agreement, conducted in October 2013, which was the first step for the creation of the existing Western Balkans Enterprise Development and Innovation Facility, which supports this IE. This intervention has also policy-operational relevance in because it will foster the demand for existing supply-side interventions such as the creation of seed and VC public-private funds.

5. THEORY OF CHANGE (E)

(1 Figure and 2-3 paragraphs)

- Describe the main elements of the intervention, and the hypothesized causal chain from inputs, through activities and outputs, to outcomes.
- Describe the main assumptions and other factors underlying the causal chain (internal and external).

The intervention is an investment readiness program, followed by the chance to pitch to judges, and then on a competitive basis, be able to pitch in front of potential investors. To implement this intervention, we ran a competitive procurement process where companies specializing in these programs provided bids. We shortlisted 5 companies, and together with advice from Josh Lerner and his team (recognized experts in venture capital ecosystems), choose as the winning firm the company *Pioneers JFDI GmbH*. Founded in 2009 and based out of Vienna, they are one of Europe's leading platforms for entrepreneurship, organizing an annual "Pioneers Festival" (with 3000 attendees), as well as providing mentoring, pitch training, and opportunities for presentation and networking with European and international founders and investors. They launched a program called *Pioneers of the Balkans* for this project.

The investment readiness program provided to the treatment group is an intensive two-month program that aims to prepare innovative companies to be in a position where they are ready to talk with potential investors. It involves the following elements:

- A first phase structured around an online training platform called *WhataVenture* accompanied by individual online and on-site mentoring through centrally assigned Lead Mentors. Using this tool, individuals are asked to design and present their business according to the logic of the lean business development and business model canvas methodologies. This involves clearly setting out the problem or need addressed by their product or service, the business model and commercialization concept, and market sizing and competitive positioning.
- A second acceleration phase which involves more mentoring, including access to a broad pool of mentors specializing in different aspects of the business; and weekend masterclasses focused on specific areas of business improvement. This is marketed to firms as *Startup Live Mini-Accelerator*. These masterclasses included how to develop a business model, sales and marketing, team building and HR, investment and finance and group pitch practice. During the masterclasses firms have the chance to network with VC and business angel investors that have been invited for seminars and lectures.

- During both the first and the second phase the treated firms have the opportunity to draw from a pool of 100+ mentors with vast experience in their sectors. The firms can set up calls or face-to-face meetings with them in order to fine tune their business proposals.
- A final pitch preparation phase which involves working with mentors, and practicing giving a business pitch to refine this aspect of being able to get ideas to investors.

We are still finalizing the costing of this component, but a preliminary estimate is approximately \$5000 per participating firm.

The control group gets offered access to an online course provided by the University of Texas. This is an inexpensive (\$100 per firm) light intervention which is designed to help the entrepreneur to write a business development proposition in a way that is attractive to investors without individual mentoring. However, since many online courses have very high drop-out rates, it is expected that this program will not be completed by many control group firms.

Both groups then are invited to present in a pitch event that is held at the same time as the Belgrade Venture Forum. This event follows the standard format of such events, with firms giving a 5-minute pitch of their business case, followed by questions from a jury of judges. Each firm pitches to a panel of 5 judges, who comprise a mix of regional and international experts, with backgrounds as investors, founders of successful companies, and people who run regional accelerators. They score each proposal on six factors: the team, the technology, the traction (the extent to which they are demonstrating market take-up), the size of the potential market, the progress made in the last three months, and their presentation ability. The top 50 firms then are selected to proceed to the finals, where they will give these pitches in front of more than 60 investors.

Figure 1 then sets out a simplified theory of change.

In terms of initial inputs, the underlying assumption behind this program is that there are firms in the region with good ideas and promising companies, but who need help to get these ideas in a form where they may attract external funding. This requires companies who are at a stage where they are not already so advanced that they do not need assistance, but also are innovative enough that their firms may be of interest to outsiders.

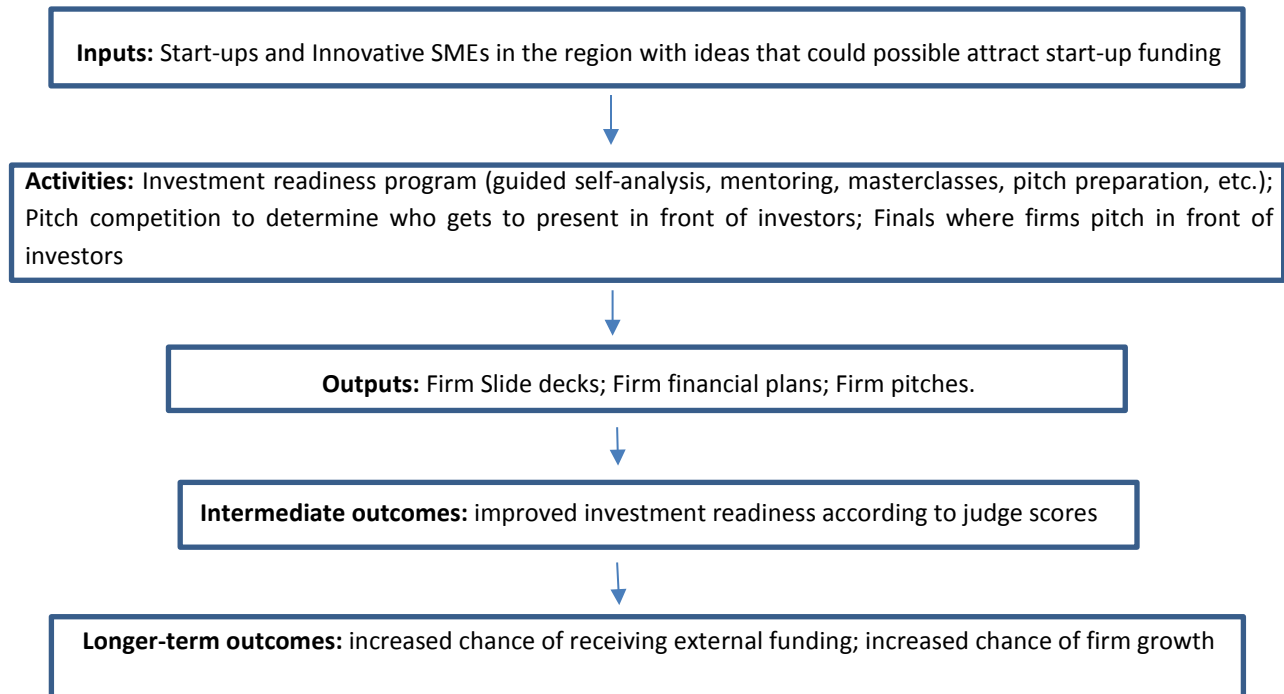
The theory is then that the investment readiness program will help such firms to improve their level of investment readiness. This requires the program to be of high enough quality, and firms to be willing to exert the effort required to try to improve. It also assumes that the intensive program offered to the treatment group results in more of a change than possible through the inexpensive program offered to the control group. These activities will then produce outputs in terms of slide decks, firm financial projections, and other materials needed for firms to discuss the possibility of funding with external investors.

The immediate outcome should then be improved investment readiness, as assessed by independent judges. The assumption here is that investment readiness can reliably be assessed by experts, and that the changes made by the firms in response to the program will include changes along the dimensions that judges can assess.

Ultimately the hope is that better investment readiness will translate into more external investment and faster firm growth for some firms. This assumes that there are investors looking to invest in the region, who would be willing to invest if they can identify firms with sufficient promise who are ready to take on investments. It also assumes that there can be benefits to firms of the program even if they do not attract external funding – for

example, a better understanding of what is needed to go to market, how to position themselves, and of the commercialization process should benefit firms even if they do not get external funding.

Figure 1: Theory of Change



A theory of change describes how the intervention is expected to affect the outcomes of interest (based on theory) but it does not demonstrate whether the intervention causes the observed outcomes. It usually includes the most important outcomes (intermediate and final) that are critical to the causal chain, even if not all will be measured (see Appendix for example).

A theory of change sets the structure for the hypotheses, evaluation questions, and outcomes of interest. It also lists key indicators for developing the implementation protocol and IE monitoring system aimed at understanding what is being evaluated, and whether the critical intervention activities/components were implemented/taken up as planned.

6. HYPOTHESES/EVALUATION QUESTIONS (E,R)

(1/2 page)

- 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 <intervention/intervention variation> on <outcomes>? E.g., What is the impact of a parental workshop on financial literacy on student knowledge, attitudes and behavior?

- **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.

Evaluation Question 1: What is the impact of the investment readiness program on investment readiness in the short-term as measured by judge scores?

Hypothesis 1: The investment readiness program will improve the scores provided by judges, with the largest improvements to be seen in the areas of business most likely to be able to be improved in the short-term.

Hypothesis 1a: The investment readiness program will lead to higher overall scores from judges for those who are treated.

Hypothesis 1b: The investment readiness program will have more of an effect on the recent business development progress and presentation performance components of the overall score than on the components less likely to be fundamentally changed in the short-term (strength of the team, market potential).

Hypothesis 1c: The program, by improving how individuals present their ideas, may also reduce the variability among the 5 judges in their assessment of how investment-ready a firm is.

Hypothesis 2: The program should have more impact on improving investment readiness for firms who were initially less investment-ready to begin with.

Evaluation Question 2: What is the impact of the investment readiness program on medium and longer-term outcomes?

Hypothesis 3: The program will improve the chance of a firm receiving an outside investment, and its growth prospects,

Evaluation Question 3: How accurately can judges assess the investment-readiness of firms?

Hypothesis 4: The scores of judges will have be significant predictors of the likelihood a firm goes on to receive external funding, and of its growth over the next three years.

7. MAIN OUTCOMES OF INTEREST (E,R)

(1 table)

- Briefly list and define main outcomes of interest (primary and secondary/intermediate) as in Table 1.
- Further details on how the outcomes will be measured/collected will go in the data collection section.

Table 1. Main Outcomes of Interest

Outcome Type	Outcome Name	Definition	Measurement Level
Primary/Secondary			
Primary	Investment Readiness Score	Average of Judge scores (see data)	Firm level from Judges
Secondary	Recent progress score	Average of Judge scores (see data)	Firm level from Judges
Secondary	Presentation score	Average of Judge scores (see data)	Firm level from Judges
Primary	External investment	Receives external investment	Firm level from surveys and admin data
Primary	Sales growth	Sales growth over 3 years	Firm level from surveys
Secondary	Market Buzz	Index of measures of independently verifiable markets of firm performance (twitter and Facebook followers, web traffic, newspaper mentions)	Firm level from online sources

8. EVALUATION DESIGN AND SAMPLING STRATEGY (E,R)

(2 pages or less)

- 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).

This evaluation is designed as a randomized controlled trial. The two key steps here are obtained a sample of eligible innovative firms, and random assignment to treatment and control. We discuss each in turn:

Obtaining a Sample of Innovative Firms

The eligibility criteria for the program were developed by the World Bank and Pioneers team, taking into consideration the rules of the European Commission. The key details were that:

- Firms had to be legally registered in at least one of the five countries: Croatia, Kosovo, Macedonia, Montenegro or Serbia

- Firms had to be an SME enterprise, where the category of micro, small and medium-sized enterprises (referred hereafter “SMEs”) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover in 2014 not exceeding EUR 50 m, and/or an annual balance sheet total not exceeding EUR 43 m.
- Firms had to be innovative, which was defined as “it can demonstrate, by means of an evaluation carried out by an external expert, that it will in the foreseeable future develop products, services, or processes which are new or substantially improved compared to the state of the art in its industry, and which carry a risk of technological or industrial failure” or that research and development spending accounts for at least 10% of costs
- The Firm could not be on a sanctions list, or operating in a set of negative activities (e.g. gambling, liquor production, etc.).

To launch the program Pioneers aimed to create broad awareness of the program among entrepreneurial firms in the region. It used five major instruments to achieve this goal: Public sources of information for applicants, direct electronic and physical mailings, social media marketing, a roadshow spanning all five target countries, incentives for early applications, and media relations. A list of more than 1,200 potential contacts was directly emailed using firm names provided by the local Innovation funds and government counterparts, and other contacts in the region. LinkedIn and Facebook advertising was used, and “multipliers” were asked to spread the word to their contacts in the region.

This process resulted in more than 1,200 applications being started online, and a total of 584 full applications being received. These were screened for eligibility, resulting in 346 firms being selected as eligible for the program.

Randomization Process

Eligible applications were then scored on four criteria to measure their initial level of investment readiness: market attractiveness, product technology, traction, and team. These components were aggregated to an overall initial readiness score. The top 10 proposals overall in terms of score were then randomly assigned to 5 in treatment and 5 in control, in order to ensure that some of the very top proposals were in both groups. Then the remainder of firms were divided into groups (strata) based on country (Serbia, Croatia, or the rest) and whether or not they already have a private investor. Within these six groups firms were ranked into groups of four on the basis of their investment readiness score. Within these quartets two firms were randomly chosen for treatment and two for control. This was done for an initial batch of 335 firms, allocating 167 to treatment and 168 to control. A small batch of additional firms whose details had taken longer to check were then received and randomly assigned to treatment and control. This resulted in 348 firms, with 174 treatment and 172 control.

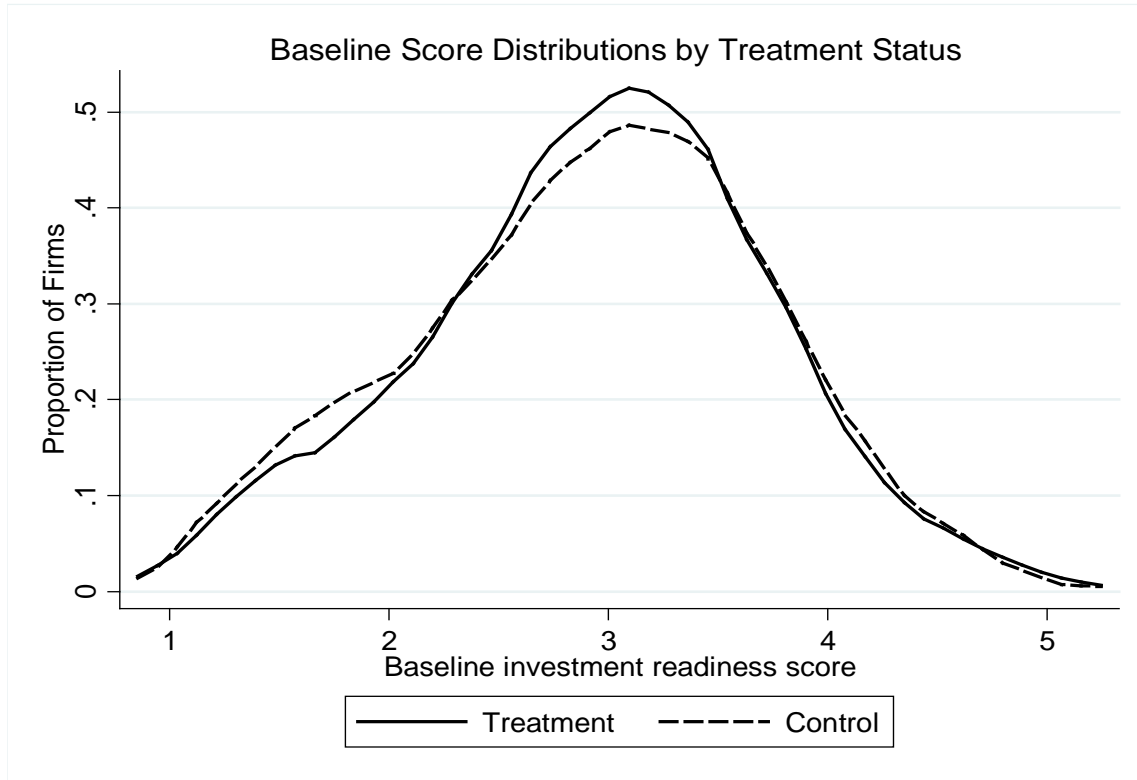
This results in treatment and control groups that are evenly balanced and comparable in terms of their initial characteristics. This is seen in Table 1.

Table 1: Balance Test

	Treatment	Control	P-value
<i>Variables stratified on</i>			
Incorporated/Registered in Croatia	0.25	0.24	0.612
Incorporated/Registered in Serbia	0.46	0.46	0.626
Baseline Readiness Score	2.95	2.92	0.150
Has an outside private investor	0.10	0.09	0.178
<i>Other variables</i>			
Market attractiveness score	3.08	3.05	0.851
Product technology score	2.47	2.43	0.835
Traction score	3.34	3.27	0.507
Team score	3.04	3.05	0.878
Sector is business and productivity	0.48	0.39	0.107
Sector is lifestyle and entertainment	0.18	0.23	0.295
Uses Cloud Technology	0.20	0.26	0.231
Uses Big Data	0.18	0.21	0.642
Place in value chain is developer	0.61	0.55	0.171
Place in value chain is service provider	0.59	0.54	0.372
Age of firm (years)	2.61	2.66	0.887
Early stage firm	0.30	0.33	0.475
Firm has revenue	0.48	0.51	0.621
Revenues in 2014	178073	184760	0.959
Number of employees	6.47	5.88	0.539
Age of main founder	38.22	36.81	0.204
Main founder has post-graduate education	0.49	0.48	0.816
At least one founder is female	0.16	0.22	0.128
Company has a global focus	0.60	0.58	0.576
Have accepted outside financing	0.34	0.37	0.656
Have participated in mentoring/accelerator program before	0.15	0.16	0.704
Sample Size	174	172	
Joint test of orthogonality of treatment p-value			0.573

Figure 1 shows that the two groups are also similar across the entire distribution in terms of initial investment readiness. As a result, any difference in investment readiness at the conclusion of the program can be reliability assessed as the impact of the program and not due to any pre-existing differences across groups.

Figure 1: Initial Distributions of Investment Readiness for Treatment and Control Groups



8.1 TREATMENT AND CONTROL GROUPS

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

The section above describes the randomization process, and the Table provides some key characteristics of the firms. There are 174 treatment and 172 control firms. The firms have an average of 6 employees, have been in business for 2.5 years on average, and are involved in high-tech innovative industries such as cloud computing and big data, app development for a wide range of business and personal services, pharmaceutical products, etc. Half of the founders have post-graduate education, and 60 percent have a global rather than regional focus as their key market.

To make clear the types of firms involved, it is worth giving some more specific examples to make clear the types of innovation these firms are doing. Some examples are as follows:

- A firm that is developing virtual reality software that can be used in outdoor interactive missions, with the aim of deploying this in military training exercises and theme park adventures (e.g. a team-based maze/obstacle course where dragons and other objects are flying around)

- A firm developing an app that geo-locates users on ski fields in Europe, and provides a way for them to see where all their family members are at any point in time, and to direct them to common meeting places.
- A bio-tech firm that has developed a new coating for common medicines that allows the body to better regulate the dose-intensity, to reduce under- and over-dosages of medicines
- An architecture firm that has developed an innovative luxury “boatel” that runs on an electric motor and can be used on lakes
- Firms developing apps for the Balkan market that aim to do make it easier to use public transport; that try to act as a local Uber; that aim to connect consumers with producers of organic products; and that manage freight logistics.

8.2 SAMPLE SIZE CALCULATIONS

- Present the sample size estimates. Describe how the sample size was determined, including the sampling frame, and main assumptions including Minimum Detectable Effect (MDE), variance estimates, intra-cluster correlation, and units per cluster (if applicable).

This program is the first randomized experiment of its kind, but like a number of other experiments involving larger firms, the sample size is set by external constraints in terms of the number of firms that the program attracts and caters to, rather than being a choice parameter of the researchers. The sample size of 174 treatment and 172 control is therefore fixed, and our challenge is to maximize power given this sample, and to check that this sample is large enough to make the impact evaluation of interest.

The key initial step taken to improve power was the stratified randomization on the basis of initial investment readiness score, country of origin, and whether or not the firm already had any external funding. The baseline investment readiness score has a mean of 2.94 (out of 5) and standard deviation of 0.78. The strata fixed effects have an R^2 of 0.976, so explain much of the variation in this initial score, with the standard deviation of the regression residuals 0.12.

Consider then the power to detect a change in the investment readiness score. If we ignore the strata fixed effects, we have 80% power to detect an increase of 0.23 in the score (equivalent to 0.3 s.d.). Including the strata fixed effects reduces the minimum detectable effect size to 0.04 (equivalent to 0.05 s.d.). In either case these minimum sizes are relatively modest, and demonstrate that we will have sufficient power to measure impacts of the program on “investment readiness” as scored by judges.

Consider then whether they obtain new external funding over the next one or two years. This is likely to be a relatively rare event, especially in the control group. If we assume that at most 3 percent of the control group achieve this funding, then we have 83% power to detect an increase to 11 percent in the treatment group (a 8 percentage point increase). This calculation does not account for stratification, since we do not know the correlation between the strata fixed effects and the subsequent likelihood of funding. Consider also employment. The 95th percentile of current employment is 17 workers, but a few outliers have more (max 103). If we focus on the subset of firms with 20 or fewer workers, the mean is 4.5 and standard deviation is 3.6. Then we have 81% power to detect a treatment effect of 1.1 workers (0.3 standard deviations).

These power calculations therefore demonstrate that we have more than sufficient power to detect changes in the intermediate outcomes, and sufficient power to detect effects sizes for longer-term outcomes that are large enough to be of policy interest, but not so large as to be unrealistic.

9. DATA COLLECTION (E,R)

(1 page if basic, 1-2 pages if include all sections for registration and ethical clearance)

- Describe main instruments for data collection

9.1 QUANTITATIVE INSTRUMENTS

- Describe how primary and secondary outcomes (from section 7) will be measured, their timing and frequency.

Measurement of Investment Readiness Through Judge Scores

The short-run impact of the program will be evaluated through measuring the investment readiness of the firm according to scores of judges at the Belgrade Venture Forum event. Judges will judge the business on the following attributes, each scored on a scale from 1 (lowest) to 6 (highest):

- a) Team strength
- b) Technology and innovativeness
- c) Demonstrated market success
- d) Market attractiveness
- e) Recent business development progress (3 month-period approximately)
- f) Presentation performance

Finally, the jury members will be asked to also assign an overall rank-score to each beneficiary.

Aggregate score: An aggregate investment readiness score will be comprised used the following weights (a) 28%, (b) 21%, (c) 14%, (d) 7%, and (e) 30%. This strong focus on team and demonstrated ability to execute is in line with what investors would typically focus on at the early stage. The presentation performance (f) will then be used as a “hygiene factor” in which any company who ranks significantly below average in this dimension will not be selected to present on stage in the finals in Zagreb. It will also be used separately as an outcome measure.

A group of 66 judges will be used to do the scoring. Panels of 5 judges will be assigned to judge a session of 6 firms at a time, with judges then being rotated so that they are with different judges for their next sessions. Each batch of 6 firms will consist of three treatment and three control, selected to have a range of initial investment readiness scores, and grouped according to industry and country of operation. Judges will be assigned to batches based on the industry and technology used, with the jury containing a mix of investors, successful business owners, and experts in mentoring and coaching start-ups.

We will use the simple average of the scores from each judge in constructing the aggregate investment readiness score. This will be measured as a one-time score, based on the pitch presentation firms give in Belgrade. As noted

above, we will also look separately at the progress and presentation components of the score, which we believe are likely to show the largest improvements, and calculate the standard deviation amongst the five judges in the score to see how much disagreement there is among judges on investment readiness and whether this changes with the intervention.

Measurement of Longer-Term Outcomes

We will use a mix of surveys, administrative data, and online independent information to track the longer-term outcomes of the firms.

Surveys:

- We plan a first follow-up survey in approximately May 2016. This has the aim of measuring whether firms received any initial offers of investment after the Belgrade pitch in November 2015 and finals pitch in December 2016. It will also track short-term changes in employment, sales, and business development.
- A second follow-up survey will be planned for August-November 2017. This will be approximately two years after the intervention, and will enable us to measure longer-term business progress, including firm survival, whether firms enter new markets, and external investment over the longer-term.
- We leave open the possibility of longer-term follow-ups depending on what the short-term results show and on funding availability

Administrative data:

- The program will collect information from the investors invited to the Zagreb finals and follow them up to obtain information on their investment activities in the region from them.

Online independent information:

Two potential concerns with tracking such firms longer term are i) concerns about the reliability of data collected from surveys; and ii) concerns about potential attrition. We aim to alleviate these two concerns by collecting a range of objective and independently available data available from online sources.

Here we are interested in testing the impact of the intervention in terms of business and customer network expansion. In this respect LinkedIn connections, the leading provider of business-oriented social network services, are used as a proxy for the business network expansion after the intervention. We collected baseline data for both the firm's number of connections on LinkedIn but also the number of LinkedIn connections of the founder of the firm since most of the beneficiary firms are one-person run businesses. More related to the Venture Capital industry we collect also the number of followers from Angellist, a fund-raising site where innovative enterprises advertise their activity and look for angel investment. Similarly, Twitter and Facebook is used to collect data on social connections for the owner/founder of the firm. In addition as a proxy for the customer base the pages of the firm itself, this includes the number of followers the firm has on Twitter, how many Facebook likes their firm has.

Another set of objective and independent data collected at the baseline regard the ranking of the webpages of the firms, the ranking of web traffic to their website is measured by Alexa Global ranking, and the SimilarWeb total ranking. Moreover we will complement this information with mentions of the firm in local and global online media sources (available from a private firm called Meltwater). We will construct an aggregate index of standardized z-

scores of these measures which we term “market buzz” and test the treatment has an increased popularity effect on the firms.

9.2 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.

The judge scores will be collected using tablets with paper copies as back-up, and will be checked for accuracy. The PI has extensive experience in conducting firm surveys, and will employ a range of standard protocols for ensuring data quality. These include electronic data collection with built in quality checks on parameters exceeding certain ranges, randomized callbacks of a sample of firms, surveyor training, etc. It is important to note that - because these firms are more advanced, they are legally registered, and their owners are better educated than has been the case with most firm experiments in developing countries - the quality of data already kept by the firm is likely to be much higher than is usually the case, resulting in better measurement. Finally, as discussed above we will also use a range of independent data sources to provide additional information on firm progress that is not subject to concerns about survey attrition or misreporting.

9.3 ETHICAL ISSUES

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

In terms of ethical clearance, the PI has done the *NIH* and *CITI* human subjects training programs. However, since the objects of the analysis are firms, human subjects clearance will not be required for comparing firm outcomes. We have not yet designed the long-term follow-up surveys, but will investigate at that stage whether ethical clearance is required should we decide at that point to collect additional personal information about the founders of the firms. The surveys will use standard informed consent procedures for collecting information about firms.

9.4 QUALITATIVE INSTRUMENTS

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

Three key forms of qualitative information are being collected. The first consists of information being used to better understand and document the intervention. The team attended some of the masterclasses and observed what took place, and did informal discussions with the participants to gauge their views on the intervention. In addition they randomly chose firms to call and each week spoke to a few of the firms to discuss what they were doing in the intervention. Notes from these discussions allow us to have a deeper understanding of the intervention itself.

The second set of qualitative information comes from the judging session. The research team sat in the different pitch sessions and observed the jury discussions. They also talked with the juries after the sessions. This information provides insights into what factors enter into the calculation of the judge scores.

Finally, in-depth qualitative interviews are planned with some of the participants prior to the fielding of the surveys. These will be conducted by the Serbo-Croatian speaking member of the research team (Ernest Dautovic) with the goal of generating insights and hypotheses that can be used to refine the quantitative survey instruments. Likewise if unexpected findings arise from the quantitative surveys, qualitative surveys will be used to try to unpack these.

9.5 IE IMPLEMENTATION MONITORING SYSTEM _(R)

- 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).

Detailed records are being kept of the IE process. This includes:

Inputs: records of when firms applied, their application data, and their initial investment readiness

Activities: a monitoring system in place is recording the number of hours of mentoring each firm received, its attendance at each master class, what online activities it did, etc. For the control group we are also able to use the online tool to monitor how much time the group spent online, what activities they completed etc. This enables a clear statement of the treatment actually delivered. We are also attempting to keep careful records on the costs of delivering the treatments. We have good information on the direct costs (cost of mentor hours, cost of master classes, costs of online content delivery, etc.) but still need to work on allocation of a share of the indirect costs (salaries of Pioneers team members the key one here).

Outputs: careful records are being kept of the materials produced by each firm as a result of the intervention, and the slide decks, attendance at the pitch session, and pitch are all recorded.

10. DATA PROCESSING AND ANALYSIS

(~ 1-2 pages)

10.1 DATA CODING, ENTRY, AND EDITING⁴ _(E)

- Describe planned methods for data entry, and for handling missing data, imputations.

Electronic data collection with pre-specified consistency checks will be used when possible. When paper surveys are used, double-entry procedures will be followed. No imputation for missing data will be done, except as a robustness check. Instead we will test for selective attrition and item-non-response, and if this differs by treatment group status, employ bounding approaches to examine the robustness of our findings to these issues.

10.2 MODEL SPECIFICATION FOR QUANTITATIVE DATA ANALYSIS

⁴ This subsection is optional

- 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/>)

Since this is analysis of a randomized experiment with randomization occurring at the individual firm level, analysis is reasonably straightforward. We plan on running the following econometric specification (per Bruhn and McKenzie, 2009) as our base specification:

$$\text{Outcome} = a + b \cdot \text{Treat} + c \cdot \text{Randomization Strata} + e$$

Note this stratification implicitly controls for baseline investment readiness, baseline investor interest, and country. As a robustness check, we will also control for judge fixed effects when looking at investment readiness scores using the specification:

$$\text{Outcome} = a + b \cdot \text{Treat} + c \cdot \text{Randomization Strata} + d \cdot \text{Judge Fixed Effects} + e$$

When baseline data are available for our outcome of interest, we will improve power further by using an ANCOVA specification as per McKenzie (2012):

$$\text{Outcome} = a + b \cdot \text{Treat} + c \cdot \text{Randomization Strata} + f \cdot \text{Baseline of Outcome} + e$$

Our main focus will be on the intention-to-treat (ITT) effect of being offered the intensive investment readiness program. Our expectation is at that most firms in the treatment group will undertake at least some part of the treatment, just differing in the intensities. If this turns out not to be the case and a non-trivial fraction do not take part in any part of the program, we will also estimate the LATE by instrumenting taking part in the program with treatment assignment. Since none of the controls will receive the treatment, the LATE will also be the TOT.

A pre-analysis plan has already been registered in the AEA trial registry on October 2, 2015 (<https://www.socialscienceregistry.org/trials/895>). At present this pre-analysis plan just covers the first phase of looking at the intermediate outcomes. The approach to multiple hypothesis testing specified there is two-fold: i) limit the number of hypotheses to be tested; ii) specify clearly in advance a primary outcome which is an index (the aggregate score). We can then also adjust for family-wise errors when examining impacts on the components of the overall score.

We then plan to amend this pre-analysis plan when designing the follow-up survey, to make clear the key outcomes we will measure there, and how we will deal with multiple testing. We plan to use an index of standardized z-scores, as well as to specify a couple of primary outcomes.

There are two sources of baseline data available. The first come from the application forms and the initial investment readiness score based on them. They were used to check for randomization balance as shown in Table 1 above, and can be used to test for selective response in follow-up surveys. The second source of baseline data will be baseline news media mentions and other metrics of “market buzz”. We are in the process of contracting the firm Meltwater to provide this information.

Our pre-analysis plan lays out the following strategies to test for attrition and examine robustness to it: The investment readiness scores will only be available for firms which participate in the Semi-finals. We will therefore examine first whether treatment is related to participation in the semi-finals via the following take-up regression:

$$\text{Participate in the Semi-Finals} = a + b \cdot \text{Treat} + c \cdot \text{Randomization Strata} + e$$

And examine how the baseline characteristics of those who participate versus those who don’t differ by comparing the same characteristics as used in Table 1 (our balance check table) for those who participate in the semi-finals versus those who don’t. We will do this for the full sample, and also separately by treatment group. In addition, we will look at the initial distribution of baseline investment readiness scores (as in Figure 1) for the full sample participating in the semi-finals versus those who don’t.

Then our approach will be the following:

- 1) First estimate treatment effects assuming missing-at-random attrition
- 2) Second, use the baseline investment readiness score data to impute the missing outcome data for firms who attrit. We will use the control group data to fit the following equation:

$$\text{Outcome} = a + b \cdot \text{baseline team strength} + c \cdot \text{baseline market attractiveness} + d \cdot \text{baseline product technology} + e \cdot \text{baseline traction} + f \cdot \text{Croatia} + g \cdot \text{Serbia} + h \cdot \text{has an outside investor}$$

We will then use the imputed outcome for the missing values in this set of robustness checks.

- 3) Third, if there is statistically significant differential attrition by treatment status, we will use Lee (2009) bounds to see how sensitive our results are to this differential.

11. STUDY LIMITATIONS AND RISKS (E)

(1/2 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.

This study uses a randomized experiment to evaluate the impact of the investment readiness program. Internal validity is a strength of such designs, although the following risks are possible: i) non-random attrition (the above details our approach to dealing with this); ii) spillovers between treatment and control. There are two potential spillovers of concern. The first is whether individuals in the treatment group share the information and tips they have learned with firms in the control group, thereby improving outcomes for the control group. We believe that the rapid intervention period, individualized mentoring aspects of the intervention, and the competition nature of the pitch event make such spillovers likely to be small in practice. Nevertheless, in our first follow-up survey we will ask questions about links with other firms in the study. The second is whether the control group are directly competing with the treatment group and thus find their prospects hurt by the treatment groups' improvements. Since the firms are developing innovative ideas that are new to market, they are not directly competing with one another for customers (see the examples given above of types of firms). The question is then whether they are competing with one another for investors. We plan to survey investors at the finals to see what their process of deciding which firms to invest in is. However, since the impetus for the program is based on there not being enough investment-ready firms in the region, the implicit assumption is that the constraint is on the supply of fundable projects, so that this spillover is not likely to be a concern in practice.

This project has several advantages in terms of external validity. It is run at scale over five countries, with the process for running the intervention chosen by competitive bidding. Scaling up in this case would likely mean either a) extending the model to other countries in the region (Bosnia and Albania have indicated interest) and/or to other regions, b) running the program in subsequent years. The scale of the program is such that either seems feasible, and that the intervention here is likely to be informative for attempts to deliver the program elsewhere.

12. IE MANAGEMENT (E,R)

(All tables)

12.1 EVALUATION TEAM AND MAIN COUNTERPARTS

- Provide list of all IE team members with their position, affiliation, and responsibilities (including lead researcher, other research team members, and all project staff involved in the IE work, and main implementing agency counterparts).

Table 2. IE Team and Main Counterparts

Name	Role	Organization/Unit
David McKenzie, Lead Economist	Principal investigators (specify Lead Researcher)	World Bank, DEC
Ernest Dautovic	Other IE team members (specify IE TTL and Field Coordinator)	World Bank, STC – University of Lausanne
Ana Cusolito	WBG Project staff involved in the IE (if the IE is related to a WBG project, specify Project TTL)	World Bank, T&C

Pioneers JFDI GmbH	Main implementing and policy counterparts	Pioneers.IO
Main Government Counterparts		
<p>I. Serbia</p> <p>CA1: Serbia Innovation Fund Natalija.Sandic@inovacionifond.rs, Programme Manager</p> <p>CA2: Ministry of Economy katarina.jovanovic@privreda.gov.rs Acting Assistant Minister dubravka.bucalovic@privreda.gov.rs, aleksandra.vucetic@privreda.gov.rs</p> <p>II. Croatia</p> <p>CA1: Ministry of Entrepreneurship & Crafts Dijana Bezjak, Assistant Minister dijana.bezjak@minpo.hr</p> <p>CA2 Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO) Mr. Nikola Dulčić, Head of Unit nikola.dulcic@hamagbicro.hr;</p> <p>III. Macedonia</p> <p>CA: Cabinet of Deputy Prime Minister, Economic Affairs -Ms. Romela Popovikj Trajkova, Head of Department for Economic Policy, Structural Reforms and Investments. -Mr. Aleksandar Andovski, Advisor for Analysis of Economic Affairs.</p> <p>IV. Montenegro</p> <p>CA: Ministry of Economy-Directorate for Industry and Entrepreneurship Ms. Ivana Vusjosevic, Director of the Directorate for Programming and Monitoring of the EU Pre-accession Assistance</p> <p>Other staff: natasa.batricevic@mek.gov.me aleksandar.pejovic@mfa.gov.me bojan.vujovic@mfa.gov.me dragica.sekulic@mek.gov</p> <p>V. Kosovo</p> <p>CA: Investment and Enterprise Support Agency Mr Valdrin Lluka, General Director Valdrin.Lluka@rks-gov.net</p>		

Notes on the key team members:

David McKenzie is a Lead Economist in the Development Research Group. He is an expert on evaluations of private sector impact evaluations and on impact evaluation methodology. He has published over 100 research papers, and conducted randomized experiments on firms in Benin, Cape Verde, Brazil, Colombia, Ghana, India, Kenya, Malawi, Mexico, Nigeria, Jordan, Sri Lanka, and Yemen.

Ernest Dautovic is a PhD student at the University of Lausanne, working on firms. He has studied impact evaluation methods as part of his PhD, and is a native Bosnian, providing fluency in Serbo-Croatian.

Ana Paula Cusolito is an Economist in the Trade and Competitiveness Global Practice of the World Bank, and the TTL of the project being evaluated. She has previously collaborated with David McKenzie on two randomized experiments in Yemen evaluating internships and matching grants for firms.

12.2 WORK PLAN AND DELIVERABLES

Table 3. Milestones, Deliverables, and Estimated Timeline

Milestones	Deliverables	Completion Date
Peer-reviewed Concept Note	Methodology note	December 18, 2015
Data collection plan and pilot	TORs Questionnaires	April 2016, July 2017
Data collection (Baseline)	Cleaned data Dictionaries	Baseline data come from application form: cleaned data available Jan 2016
First data analysis	Presentation Data file Do files Baseline report	July 2016 July 2016 July 2016 Not planned
Implementation of intervention aligned to evaluation	Rollout plan Monitoring reports verifying treatment and control status	November 2015 November 2015
Follow-up data collection plan	TORs Questionnaire	April 2016, July 2017
Data collection (Follow-up)	Cleaned data Dictionaries	December 2017
Final report and policy notes	Technical note Policy note Data file Do files	December 2017
Dissemination of findings	Presentations	December 2017 onwards

Key points to note on the timeline (containing key project dates not listed on the DIME timeline).

The team participated in the DIME workshop in Istanbul in June 2015. They then worked very quickly to develop and launch the impact evaluation as the project funding required the project to launch quickly. Moreover, start-ups like these want to move quickly, and want a fast process from applying to being able to work on their project and then pitch. As a result the following steps in the project have already occurred:

Aug 14, 2015: applications launched (application data forms the baseline)

August 2015: roadshows, advertising

Sept 6, 2015: Applications closed

Sept 10, 2015: Randomization done by computer

Oct 2, 2015: Registration in AEA RCT registry

Sept 10-Nov 10, 2015: Investment Readiness program implemented, master classes, mentoring, etc.

November 10-12, 2015: Pitch event took place in Belgrade (data still being collated)

12.3 BUDGET

(1 paragraph)

- Present total budget and disaggregated by staff time, data collection, and travel. Include all sources of funding, both Bank-executed and client-executed (BB resources, trust fund and grants, FBS, EFO, project financing for the IE, such as data collection, and other client financing). Estimate and include all research/staff time (not only the time charged).

Table 4. Total Budget per Category

Category	USD	%
Staff	87,000	38%
STC	21,000	9%
Data Collection	80,000	35%
Travel	32,000	14%
Dissemination Mission/Workshop	10,000	4%
Total	230000	

Note: the intervention costs \$1.4 million in total, and includes running the pitch competition and finals. The baseline data is collected through the application forms, and judge scores through the pitch competition. These

costs of the data and the evaluation are not included in the budget provided here, which includes the key costs going forward.

- Attach detailed budget (see excel file template).

13. PLAN FOR USING DATA AND EVIDENCE FROM THE STUDY

(1 paragraph)

- Describe communication, participation, and dissemination strategy (potential users of findings, media channels) at all stages of the IE (design, baseline analysis, mid-corrections, follow-up analysis, and final results).

We plan to develop an initial draft paper based on the results of the judging process and first short-term follow-up survey. This will be presented in appropriate research events for feedback, as well as to the donor (European Commission) and shared with the Innovation agencies in the respective countries. This paper will be refined and developed further as longer-term data are collected. We envision one or two research papers (a second paper may focus on the issue of how well judges can predict firm success), which will be released as working papers, presented in various seminar events, and submitted to journals for publication. In addition dissemination will take place through a blog post on the Development Impact blog, and through a 2-page Finance & PSD Impact note. Anonymized data will be made available through the World Bank's Open data library, and will be accessible also from the Lead Researcher's webpage.

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