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Empirical Evidence on Firm Growth and Jobs in Developing Countries

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EMPIRICAL EVIDENCE ON FIRM GROWTH AND JOBS IN DEVELOPING COUNTRIES

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1. INTRODUCTION

1. Economic growth contributes to jobs growth, but in most instances, not enough to reduce unemployment. Aterido, Merotto and Weber (2018) show that for most growing economies, the employment elasticity to real GDP growth is positive, the ratio between the rate of job creation to the rate of GDP growth is far from a 1:1 ratio. Between 1991 and 2015, the employment elasticity of GDP growth was somewhere between 0.3 to 0.5. In numerous countries, the number of newly created jobs do not keep up with the number of new entrants into the labor market. Merotto, Weber and Aterido (2018) estimate that in 56 percent of growth episodes, since 1992, jobs growth exceeded growth in the labor force. In other words, a bit more than half of growth episodes contributed to reducing unemployment. Given this disappointing relationship between GDP growth and job growth, there is an interest in improving that record. A significant portion of improving that relationship is centered around how firms grow and hire more labor. That said, it is important to understand that firms are not created to generate jobs. Their performance, however, is tightly linked to job creation. *Ceteris paribus*, the better a firm performs, the more likely it will grow and create jobs. For this reason, any discussion on how to get growth and employment to be more tightly linked has to respond to questions about firm performance and firm growth.

2. This review sheds light on how to generate more jobs directly or indirectly through programs that have been tested and evaluated to support firms improve their performance. Many things have been tried to improve the performance of firms. These interventions, unfortunately, have rarely been focused on job creation. We provide a review of the recent literature on the impact on firm growth (based either on randomized control trials or on quasi-experimental designs) of interventions that specifically target firms. The listing for these field experiments was done based on existing literature reviews (McKenzie and Woodruff, 2013 for training programs; Piza et al. for interventions for small and medium enterprises (SMEs); and Grimm and Pauffhausen, 2015) and has been updated with more recent evaluations.

3. The discussion is framed around a common equation used by economists, the **production function, that describes the relationship between a firm's output and its inputs**. A firm produces an output, Y , based on a production function that utilizes input factors, K (capital investment) and L (labor) in the form of: $Y = f(K, L, A)$ with a varying factor A (efficiency). The A in this equation usually encompasses aspects ranging from technological changes to managerial or entrepreneurial capabilities. Production may fall short because of barriers to access capital investment (K) or labor (L) or a low efficiency (A). The review is organized around this framework, looking at possible constraints and inefficiencies to these factors (K , L and A).

4. The production function illustrates the complexity of the job dynamics because it is tied to **how firms grow**. An increase in output is likely to require an increase in both capital and labor inputs, in proportions that depend on the form of the production function f . Secondly, if there is a constraint on any production factor, it is likely to affect how much and what kind of labor is employed. The production function implies that a firm most often is required to combine *all* factors of production to increase its output. If one is missing, the other ones are impacted. For example, with difficulties to access finance, a firm is likely to be unable to increase production as much as if finance were available to it. Unable to expand production, this translates into a limited need to employ more labor. This is how poor access to finance is likely related to a poor record of private sector job creation. Looking at jobs means looking at all input markets and their potential frictions.

2. FINANCE

5. **Access to finance is a major constraint to firm growth, especially in Sub-Saharan Africa.** According to the World Bank Enterprise Surveys (WBES),² access to finance is the most cited obstacle to growth (14.5 percent of all surveyed firms). On average, more than a quarter of all surveyed firms consider access to finance a major constraint to operations and a third of these firms have a bank loan or line of credit (2020).³ But this constraint does not affect firms equally across regions. Sub-Saharan Africa is where the lack of liquidity combined with difficult access to finance is the most salient. One fifth of firms operating in this region have a bank loan or line of credit while in Latin America and the Caribbean and in OECD, this proportion nearly reaches 50 percent.

Table 1: Indicators related to access to finance

	Percent of firms with a bank loan/line of credit	Percent of firms identifying access to finance as a major constraint	Percent of firms choosing access to finance as their biggest obstacle
All countries	33.3	26.0	14.5
East Asia & Pacific	33.7	14.1	12.1
Europe & Central Asia	37.5	16.5	9.6
High income: OECD	47.3	9.1	0.6
Latin America & Caribbean	47.7	27.0	13.4
Middle East & North Africa	26.5	25.0	8.8
South Asia	27.0	26.5	12.4
Sub-Saharan Africa	21.5	38.8	22.4

Source: Enterprise Surveys

6. **SMEs have relatively limited access to finance.** Kuntchev et al. (2013) use Enterprise Survey data from 119 developing countries and show that SMEs are 23.1 percentage points more likely than large firms to mention access to finance as their main obstacle to growth. A quarter of SMEs in regions like Sub-Saharan Africa, East Asia and the Pacific and South Asia can be classified as ‘fully credit constrained’.

7. **Given the importance of this constraint to firms, interventions that address access to finance are widely piloted and assessed.** One of the most researched areas is the impacts of micro-loans and small-sized grants on microenterprises. We turn to these access to finance experiments and evaluations next.

a. Grants

8. **On average, relaxing financing constraints leads to a substantial profit increase, suggesting that most microentrepreneurs are credit constrained.** Three field experiments (De Mel et al., 2008 in Sri Lanka; McKenzie and Woodruff, 2008 in Mexico; and Fafchamps et al., 2014 in Ghana) conducted randomized control trials to estimate the return to capital in a rigorous way,

² Permanent link: www.enterprisesurveys.org

³ The other constraints listed are access to land, business and licensing, corruption, courts, crime/theft/disorder, customs and trade regulations, electricity, inadequately educated workforce, labor regulation, political instability, practices of the informal sector, tax administration, tax rates, transportation.

guarding against selection bias. Their empirical strategies are similar; researchers administered a screening survey in selected enumeration areas with a high incidence of self-employed to constitute a representative sample of micro-enterprises. Subsequently they gave out a small, in-kind or cash grant of USD100 or USD200. These grants were distributed to randomly selected entrepreneurs. Participants are told that they are required to spend these grants for business purposes.

9. **Relaxing these financial constraints to finance on microenterprises yields large returns.** De Mel et al. (2008) find a return to capital investment of 4.6 - 5.3 percent per month in Sri Lanka (i.e. a grant of USD100 raised profits by about USD 5 per month). McKenzie and Woodruff (2008) replicated the same empirical strategy in Mexico but only for male entrepreneurs operating in the retail sector and find a return to capital of 20 - 33 percent per month. Finally, Fafchamps et al. (2014) in Ghana suggest an average return to capital of 20 - 28 percent for in-kind grants while the results are not found statistically significant for cash grants. All three papers conclude that, on average, return to capital is higher than the market interest rate. If provided a loan, these enterprises should be able to pay these off.

10. **However, not all experiments find a positive return to capital investment for microenterprises.** In Fiala (2018), microenterprises are randomly offered a USD200 cash grant. The author does not find any statistically significant effect on profits for both men and women business owners. Similarly, Haushofer and Shapiro (2016) assessed a GiveDirectly program that provided unconditional cash transfers of USD400 to poor households in Kenya. The authors randomized various possible features of this cash transfer program (transfers to the woman versus the man in the household, lump-sum transfers versus monthly installments, large versus small transfers). On average, revenues increased and so did the total expenses, resulting in a decrease in profits (not statistically significant). In Tanzania, Berge et al. (2014) collaborated with the largest microfinance institution in Tanzania to address financial and human capital constraints for their clients. The authors find no impact of the grant on business performance. They explain this result by positioning their experiment as targeting poor microenterprises, hence arguing that access to finance may not be their most fundamental constraint.

11. **How are the seemingly conflicting results explained?** The effects of relaxing the financing constraint depend on the profile of the entrepreneurs and of the firms. The results in the three successful experiments cited above suggest that the returns to capital are highly heterogeneous. Returns are higher for male-owned enterprises (De Mel et al., 2008), for entrepreneurs that are more educated (De Mel et al., 2008), entrepreneurs reporting to be severely financially constrained (McKenzie and Woodruff, 2008), and firms that are initially more profitable (Fafchamps et al., 2014).

12. **The gender of the business owner matters in these experiments.** While female-owned businesses are known to often be financially constrained, relaxing this constraint does not necessarily lead to expansion of their business. Interestingly, conventional wisdom has it that women are more credit constrained than men. If so, impacts maybe expected to be greater for women than for men when this constraint is relaxed. Contrary to this expectation, most studies show that relaxing financial constraints has no effect on profits for female-owned enterprises (De Mel et al., 2008; Fafchamps et al., 2014; Giné et Mansuri, 2014; Berge et al., 2015; Fiala, 2017; Haushofer and Shapiro, 2016). Only one experiment (Blattman et al., 2014) finds a positive impact from cash grants given to female-run enterprises, however, these enterprises are smaller than enterprises operated by men. The size of the enterprises seems to matter.

13. **What is behind this comparatively lower performance of grants for female entrepreneurs?** The delivery mechanism matters. De Mel et al. (2008) and Fafchamps et al. (2014) vary treatment arms by delivery mechanisms; some entrepreneurs receive a cash grant while others are given equipment and machinery for an equivalent amount (*in-kind* grant). De Mel et al. (2008) do not find

any statistical differences between cash and in-kind grants when it comes to real profits. Using a larger sample of female and male entrepreneurs and the same design, Fafchamps et al. (2014) find that the difference between cash and in-kind grants is statistically significant; the impacts on profits are higher for in-kind grants and the effect is stronger among female entrepreneurs. They list a few reasons that could explain the better performance of female entrepreneurs when giving an in-kind grant compared to cash-grants; heuristic mental accounting,⁴ lack of self-control coupled with small frictions in liquidating the in-kind treatment; and internal pressure in the household to use the cash for household needs, coupled with these same frictions or with different sharing norms for using in-kind treatment.

14. **Conflicting household and business demand on profits may be the most binding constraint female business owners face that male owners do not.** Riley (2019) argues that female entrepreneurs may face internal pressure in the household and males do not and tests this hypothesis. In this experiment, loans are delivered to women in the form of mobile money (accessible through their personal mobile phone) or in the form of cash. Business profits and levels of business capital are respectively +15 percent and +11 percent higher for women who received a loan onto a private mobile money account compared to women who received cash. Impacts are even more important for women who initially experienced pressure to share money with others in the household (as per the information provided at baseline). These results suggest that delivering the loan in a private account give women more control over how the money is used.

15. **When females are the only business owners in a household, their returns to capital are no different to that of male business owners.** Bernhard et al. (2017) re-examine two of the aforementioned experiments; namely, (De Mel et al., 2008); Fafchamps et al., 2014) and a field experiment in India distributing micro-loans with a grace period (as detailed in Fields et al. (2013)). The authors expand the analysis to investigate whether having other business owners in the household affects the results of the experiments. They notice that the proportion of female entrepreneurs living with another business owner are high in the three samples; more than half in India (Field et al., 2013), 48 percent in Sri Lanka (De Mel et al., 2008) and 41 percent in Ghana (Fafchamps et al., 2014) while no more than a third of the men are living with another self-employed person. Bernhard et al. (2017) provide evidence that the returns to capital are similar for female and male entrepreneurs when they are in a single-enterprise household. In addition, the authors indicate that a female-run enterprise exhibits a much lower return to capital when it is a multi-enterprise household than a male-run enterprise in a multi-enterprise household.

16. **Women may be forced to hide money to protect the performance of their business.** In the same experiment detailed in Fiala (2018) and Fiala et al (2017) invite husbands and wives to participate in a behavioral game as part of the 2-year follow up survey. The behavioral game goes like this: “I have 2,000 Ugandan Shilling (USH) to give you for your time. You can choose to invest the money in two businesses. Let’s call them business A and business B. If you invest in business A, the money will be doubled to 4,000 USH. I can pay this money to you now in cash. If you invest in business B, the money will be tripled to 6,000 USH. Another member of our research team will then give this money to your partner tomorrow at their business. Which investment would you prefer to make?” This question is intended to reveal an individual’s preference to hide money from his or her spouse. 75 percent of women prefer to hide money from their spouse compared to 58 percent for men. Fiala et al (2017)

⁴ We call heuristic mental accounting the fact that an individual may changes it perception of money and its spending pattern given the circumstances. For instance, if money is “free” (meaning that the individual did not have to earn it), he or she may end up spending it more easily.

show that women who hide money from their husbands have better economic outcomes - while those who do not hide money experience a decrease in outcomes. The results are the opposite for men.

17. **Unfortunately, many of these experiments do not address job creation directly.** These impact evaluations provide detailed results on these microenterprises' profits and revenues as well as the theory of change. But none of them prominently reported the number of direct salaried jobs created by these microenterprises. It is safe to say that jobs are certainly being measured but no impact has been found. However, the experiments presented above did measure jobs directly.

18. **Grants to larger firms can lead to higher profits and new jobs.** Launched in 2011, the Youth Enterprise With Innovation in Nigeria (YouWin!) program was a business plan competition for young entrepreneurs in Nigeria. Entrepreneurs were asked to send a concept note for their project. After a first screening of these applications, the program provided a four-day training course to 6,000 semi-finalists. At the end of this training, these semi-finalists were supposed to submit a full-fledged business plan. Out of about 6,000 business plans, 1,200 submissions were for the most part randomly selected as final winners and hence, received a grant.

19. **In this experiment, firms are unlike microenterprises.** Targeted firms employ 9 wage workers on average. The business owners are more educated than the self-employed; 65 percent of them have a university education. The grants are also substantially larger than grants mentioned in previous impact evaluations; the average grant is equal to USD50,000. McKenzie (2017) estimated a return to capital between 2.5 percent and 3.3 percent per month, which is higher than the annual interest rate of 20 percent at that time. Moreover, beneficiary firms generated jobs. The average existing businesses in the control group had 5.6 workers by the time of the third survey. The grant led to + 4.4 jobs being created representing an 80 percent increase. Interestingly the number of additional jobs in the beneficiary firms have increased over time on average; +1.5 the first year, +2.6 the second year and +4.4 the third year.

20. **Grants to aspiring entrepreneurs increase the probability they start a business.** Most experiments that focus on issues affecting new or young enterprises tackle both the limited access to capital for these aspiring entrepreneurs and the lack of entrepreneurial capacity (Adoho et al., 2014; Chakravarty et al., 2016; Premand et al., 2016). This double-pronged approach is used in programs that address issues facing the ultra-poor (Bandiera, 2013; Blattman et al., 2014; Blattman et al., 2016). There are only a handful of experiments that only address the issue of limited access to finance for aspiring entrepreneurs (Blattman et al., 2014; Fafchamps and Quinn, 2017; McKenzie, 2017⁵).

21. **These experiments' results on earnings are promising.** Three impact evaluations (Blattman et al., 2014; Fafchamps and Quinn, 2017; McKenzie, 2017), with a financing component only, show positive impacts on earnings.⁶ However, each experiment has a different target group of beneficiaries. Blattman et al. (2014) target ultra-poor in conflict zones in Uganda and provide grants (\$382 per capita) to *groups* of beneficiaries (averaging 22 people). These groups are comprised of young adults, aged 16 to 35, who are willing to start an enterprise in a skilled trade such as carpentry or tailoring. The authors find positive impacts in terms of self-employment and earnings but modest (though positive) impacts on job creation.

⁵ Given the difference between the intensity of training and the amount of the grant, access to finance is the main constraint addressed in this paper.

⁶ It should be noted that the YouWin program is comprised of a training on how to do a business plan. But screening was done on the business plan, hence the difficulty to include this activity as part of the overall support.

22. **Screening carefully who received the grants was a key part of the experiment and may be factors in their relative success.** The two other impact evaluations use rigorous screening mechanisms prior to disbursement of a larger unconditional grants; on average \$50,000 for McKenzie (2017) and the YouWin! program in Nigeria and \$1,000 for Fafchamps and Quinn (2017) and the Aspire program in Ethiopia, Tanzania and Zambia. The YouWin! business plan as described above was also open to aspiring entrepreneurs. As shown by McKenzie (2017), the grant increased the probability of operating a business by 21.3 percentage points at the time of the first survey, 35.8 percentage points by the second survey and 37.3 percentage points by the third survey. These new firms generated more jobs than the control group (and more than the group comprised of existing firms, as well); +1.4 jobs at the time of the first follow-up survey, +6.0 at the time of the second survey and +5.2 at the time of the third survey (compared with +4.4 for the existing firms as shown above).

23. **Similar programs in other countries also added jobs.** The Aspire program run in Ethiopia, Tanzania and Zambia (Fafchamps and Quinn, 2017) applied a series of screening mechanisms to select beneficiaries of grants. Applicants were asked to complete a detailed questionnaire about their business proposals and to submit a three-page written business plan. Following a preliminary screening, the remaining applicants had to pitch their business idea in front of a jury comprised of five to six managers from manufacturing firms. The authors find that winners of the competition are 33 percentage points more likely to be self-employed six months after the grant. They also find that, on average, these entrepreneurs created two additional permanent jobs. Furthermore, beneficiaries experienced a 51 percent increase in their total monthly sales and a 37 percent increase in their monthly profits.

24. **Are grants for aspiring entrepreneurs a good way to address the lack of investment capital or compensate for the high risk associated with entrepreneurship?** The answer to this question influences the instrument to be used. In rural Mexico, Bianchi and Bobba (2013) evaluate the impact of cash transfers to poor households on their occupational choices. Initially, members of these households are unemployed (53 percent of all individuals in the program) or salaried workers (39 percent). The cash transfers significantly increase the probability of becoming entrepreneurs by 0.9 percentage points. This indicates that poor households are financially constrained when it comes to becoming an entrepreneur. Cash transfers address the financial constraint faced by people who want to become entrepreneurs. But the question is what type of finances is needed; capital investment or a regular incomes to cope with the risk of entrepreneurship? Using differences in the amount of current and future transfers, the authors test further two assumptions. In the first one, individuals may be reluctant to become entrepreneurs because they do not have enough liquidity to start their business. In that case, individuals will be more responsive to the size of the current transfers. In the second assumption, individuals perceive a high financial risk associated with entrepreneurial return and are likely to be more responsive to the size of future transfers. Bianchi and Bobba (2013) indicate that the time profile of the future transfers is a more important factor for an individual while past and cumulative transfers reveal no significant effect on the choice of becoming an entrepreneur. This result can be interpreted as evidence that for individuals to become entrepreneurs, risks associated with uncertain future revenues are more important than the lack of liquidity for start-up capital.⁷

⁷ It is interesting to note that this lesson is considered in most developed economies. In some instances, countries offer a continuation of unemployment benefits for a certain period of time to start out a new business idea. In France, Hombert et al., 2014 estimated that this measure resulted in a surge of new firms

Box 1: Graduation programs and self-employment

Some ultra-poor programs – called graduation programs – provide grants and a wide range of training programs to get very poor people to engage in income-generating activities. The graduation approach typically consists of several complementary components, each designed to address these specific constraints. These usually include skills training, cash transfers, mentoring, savings support and consumption support. For vulnerable groups in urban settings, this intervention often focuses on skills and financial training, assistance with business plan development and facilitating job search. In both instances, support is provided sequentially over a period of 18-24 months. The desired outcome is for households to move from their existing level of ‘ultra-poverty’ to a more ‘moderate level’ of poverty, above the poverty line.

However, these programs can be relatively expensive and resource intensive to implement, especially because of the human resources required to carry-out the mentorship and coaching support. Usually, graduation programs cost around \$550 per household on average for the duration of the program. Outcomes are measured using a range of indicators related to food security, stock of assets, propensity to save and the amount of savings, and income generation. Graduation programming has grown in recent years as the preferred approach to achieving productive inclusion. Evaluation of the Consultative Group to Assist the Poor (CGAP) and Ford Foundation’s Graduation Programs across 6 countries finds significant positive economic and social outcomes - including positive ROI and improved standards of living for targeted beneficiaries. In 2017, there were 55 reported implementations of the CGAP approach globally. Adapted versions of this approach are being implemented by organizations in various context. In Haiti, Fonkoze implemented a ‘Pathways to Better Life’ graduation program with a success rate of 97 percent at the end of the 18-month intervention (2017). Beneficiary household graduated with all school-aged children attending school, access to at least one hot meal a day, two viable income sources, an active savings account, increase in value of provided assets by 40 percent, and concrete plans for the future.

Banerjee et al. (2015) provides a good overview of the impacts of such programs which lead to a significant increase in earnings but do not allow all beneficiaries to get out from the poverty trap. Indeed, the poorest of the poor, who are offered the same homogenous menu of intervention remain, in a sense, unaffected - or not affected enough - by the interventions. The impact is marginal for those that are furthest from the poverty line. There is also heterogeneity in results based on the mindset or attitude towards investment decisions of individuals (e.g. more patient, risk averse) or expectations of the future that changes the outcomes for some households.

Source:

Hashemi, S.M. and Umaira, W. 2010. “New pathways for the poorest: The graduation model from BRAC”. Working Paper (draft). Manchester: BWPI.

Mariotti, C., M. Ulrichs and L. Harman. 2016. “Sustainable Escapes from Poverty through Productive Inclusion.” Policy Guide No. 9, Chronic Poverty Advisory Network.

Status of Graduation Programs 2016, CGAP, Dec 2016, <https://www.microfinancegateway.org/library/status-graduation-programs-2016>

25. For existing microentrepreneurs, evidence suggests that there is no, or marginal, effect when combining technical assistance with a grant. A couple of impact evaluations compare financial support and technical assistance or assess the supplementary impacts of adding a technical assistance to a financial support or of adding financial assistance to a technical assistance program

being created (+25 percent for monthly firm creation) and more unemployed workers going into self-employment.

(De Mel et al, 2014; Fiala, 2018; Gine et Mansuri, 2011; Karlan et al, 2015; Klinger and Schundeln, 2011; and Macours et al., 2012).

26. Fiala (2018) finds that training has a positive marginal impact for male business owners only, but it is unclear what factors led to this result. Similarly, Giné and Mansuri (2011) offer an 8-day business training to rural microentrepreneurs and the opportunity to participate in a loan lottery. Business and household outcomes are significantly improved, but only among male business owners.

27. **Programs combining a technical assistance with a grant to vulnerable jobseekers seem to yield large impacts.** In Ethiopia, Blattman et al. (2016) compare the effectiveness of an entrepreneurship program (involving 5 days of business training and a \$300 cash grant) to a job-placement program (entry level industrial positions) for unemployed youth. The research finds that the first intervention (entrepreneurial training and grant) stimulates self-employment, raises earnings by 33 percent, and provides steady work hours compared to the wage job track. Youth invest a large proportion of the grant and shift occupations from casual labor and industrial work to their own farm or business.

28. **A cash transfers program in Uganda resulted in a dramatic, positive effect on business performance.** A similar program gives cash grants to unemployed youth in Uganda, which was evaluated by Blattman, Fiala and Martinez (2014). In this intervention, young adults are invited to form a group (21 people per group on average) and submit a grant proposal for business start-up and vocational training. This program also provides non-financial support through mentoring for the development and submission of a business plan. Successful proposals receive a grant of about 380 dollars per individual on average. Groups are found to invest mostly in tools and materials, rather than skills training. After four years, results suggest an increase in business assets by 57 percent, work hours by 17 percent, earnings by 38 percent, number of paid workers by 36 percent – compared to a control group.

29. **A technical assistance program coupled with grants implemented in Argentina led to income gains from more hours of work, but only for the younger and more educated participants.** Almeida et al. (2010) evaluated a similar program in Argentina that provided technical assistance and grants, combined. The program significantly increased the total hours of work (either in the market or in the program, by 14 to 18 hours). The authors indicate a significant income gains but only for the younger and more educated beneficiaries.

b. Microfinance

30. **Despite the high return to capital, micro loans show mixed results in terms of business performance and on the probability of starting a business.** On average, most papers find that returns to capital are higher than the interest rates offered by commercial banks and microfinance institutions; it is profitable for firms to get access to finance through a loan. But interestingly, results from experiments with micro-loans are mixed (Karlan and Morduch, 2010); firms receiving a loan do not necessarily grow. In India, Banerjee et al. (2015) find that there is an increase in the average profits but an observation of the profits' distribution reveals that this is entirely due to large increases in the upper tail and for businesses that were already in existence before microcredit. Angelucci et al. (2015) conduct a randomized trial in Mexico for clients of Compartamos Banco (the largest microlender in Mexico) and find an impact on business growth (both revenues and expenses increase), but no corresponding effects on business profits, entry, or exit. There is also no evidence of statistically significant treatment effects on household income or labor supply.

31. **Some studies find positive impacts on business creation and survival** (Attanasio et al., 2011; Augsburg et al., 2012). But others are more skeptical about the impacts on business creation (Banerjee et al., 2015; Karlan et al., 2010; Crépon et al., 2015). For instance, Crépon et al. (2015) in Morocco

suggest that access to microcredit do not necessarily encourage households to create their own business but rather support business expansion in agriculture-related self-employment, mainly through the purchase of more animals (seen by farmers as a self-insurance mechanism or unrealized profits). Evidence from Tarozzi et al. (2015), an evaluation of a microcredit expansion intervention in rural districts in Ethiopia, reveals that while loan uptake and average loan size are higher post-intervention than for control groups, the loans are similarly being used to fund existing production activities (crop cultivation and livestock purchase).

32. **Microcredit may be contributing to other factors.** Microfinance increases ability to cope with risk or encourages wage work (Bruhn and Love, 2014). Evidence from Giné et al. (2014) also suggests that group liability models in microloans encourage entrepreneurs with weaker social networks to access finance as they find support from other group members; the authors report an increase in active accounts at the MFI by 18.41 percent for existing members and 33.47 percent for new members. This model encourages higher voluntary savings (above the required cash collateral) into savings accounts, which in turn can result in better outcomes for the business.

33. **How to explain the difference between grants and micro-loans?** Loans change clients' behavior and choices. When money needs to be repaid immediately, the behavior is not the same as when no repayment is required. This is even more relevant for a business where it may take a few months before investments materialize into revenue. This is illustrated in an experiment conducted by Field et al. (2013). Poor urban borrowers in India are randomly assigned to either a loan agreement – repayment begins two weeks after receiving the loan – or to a loan agreement with a grace period – repayment begins two months after receiving the loan. The research finds that investment for the treatment group is 6 percent higher than that of the control group. Moreover, beneficiaries of the grace period are also twice more likely to start a business than clients with a standard loan agreement. They also find that after three years, the return to capital is about 11 percent on a monthly basis. These results are in par with the impacts found for grants, and it can be inferred that the grace period mimics a grant in some respect. The authors also indicate that clients with a grace period invest in more risky assets compared to the control group.

34. **Group lending is found to change the nature of investment. The community bears the cost of failure while not reaping the benefits of success.** Lending groups may then block entrepreneurs from investing in activities associated with higher risks – but also higher potential gains (Giné et Karlan, 2014; Attanasio et al., 2015).

35. **Loans or grants?** Grants seem to have higher returns than loans. But loans could be designed in such a way that they lead to similar behaviors than with grants, like a grace period or a low interest rate. In Egypt, Crépon et. al (*forthcoming*, 2019) find that loans and grants can have similar effects. Beneficiaries are randomly assigned in to one of four groups: i) loans (10-12-month repayment). It is important to note that the 15 percent interest rate offered for this loan was way below the market rate at that time; ii) an unconditional cash grant; iii) in-kind grant; or iv) control group. Analysis of data collected one year after this intervention shows that loans and grants perform relatively similarly, in terms of jobs, profits and income outcomes. If the impacts are similar, a loan is reimbursed by beneficiaries and hence, is more cost effective from a policy makers' perspective as investment is partly recovered.

36. **In one experiment, male business owners display different behaviors when provided a grant or a loan.** Fiala (2018) in Uganda find no statistically significant effect when male business owners are given a grant but a substantial and statistically significant impact when they are given a loan with a preferential interest rate. Qualitative interviews indicate that cash grants are mostly used for short-term consumption needs. The requirement for repayment with the loan incentivizes business owners to use the grant for investment in the business.

c. Private investors

37. **Financial options – other than loans or grants – are available for aspiring or early-stage entrepreneurs.** The funding path of growth-oriented start-ups typically involves initial funding of business angels, following by venture capitalists (VC), and eventually private equity funds (see Figure 1). Not only do these investors provide funding but they also usually come with intense monitoring, provision of technical assistance and control rights.

38. **Firms receiving this type of investments are better off.** In the U.S., Puri and Zarutskie (2012) use a panel dataset of the universe of employer firms over 25 years to study the dynamics of VC-funded and non-VC funded firms. They first find that between 1996 and 2000 VC-funded firms account for 0.11 percent of all new firms created but for 4.2 to 6.8 percent of employment over the same period. In addition, VC-funded firms are less likely to fail; 39.7 percent of bankruptcy compared to 78.9 percent for non-funded firms. They are also better off in terms of sales and jobs.

39. **Is it about leveraging capital constraints or professionalizing these startups?** Kerr et al. (2011) use a discontinuity design approach to show the positive effects of venture operations in terms of jobs, survival rate, patenting, web traffic or financing. They also report that follow-on funding does not translate into impacts for VC firms compared to non-VC firms. This suggests that there is more at play than access to finance. This source of funding comes with intense handholding and supervision that may lead to better management. This professionalization of startups is confirmed by Hellmann and Puri (2002) using data collected on Silicon Valley start-ups. These startups show better human resources policies, adoption of stock option plans, hiring of a marketing VP and a quicker response of the Board to underperformance. Similarly, Chemmanur et al. (2011) study the behavior of VC-funded firms before, immediately after and five years after the investment; sales, production costs and material costs increase, reflecting the change in production level. In addition, wage bills increase more than employment level within the first few years after the financing, suggesting that VC-funded firms hire higher-quality workers.

40. **It is unclear if firms are better managed because they were funded by VC or are firms already better managed and that is why the VC funded them.** Chemmanur et al. (2011) show that VC-funded startups are more productive. But is it because the entrepreneurs are the best of the best or is it that VC funding brings something additional? On one side, Nanda and Rhodes-Kropf (2016) highlight the funnel structure of the screening process; 1,000 out of 500,000 startups receive VC funding each year, but only half these VC-funded firms are going for an IPO at a later stage. On the other hand, Chemmanur et al. (2011) argue that this productivity advantage arises from both screening – VC-financed firms are more productive prior to receiving financing – and monitoring – the growth in efficiency after VC financing is greater for VC-financed firms than non-VC financed firms.

41. **The type of firms funded have evolved over the years.** These investors have led to a substantial number of technological innovations in the past couple of years. But the costs of starting a business and creating new technologies have also led to changes in the way investors manage their portfolios. According to Ewens et al. (2018), “the only profitable way to finance these projects is for investors to back up a large number of startups in order to learn about their potential”, resulting in a “spray and pray” strategy. In this strategy, the portfolio contains a large number of startups receiving an initial investment. However, the funnel after this first seed capital is narrower than before; a smaller proportion of these startups receive follow-on funding. Lastly, the authors find that a decline in the cost of experimentation tends to skew investments towards startups that can show more quickly their project value, hence leading to “less risky innovations”.

Figure 1: Available External Financing Options

Source: Based on IFC (2010), *Scaling-Up SME Access to Financial Services in the Developing World*, Financial Inclusion Experts Group, SME Finance Sub-Group.

A recap for practitioners

42. Most experiments point to a strong impact of financial support on profits but these impacts vary by gender, size of the business, characteristics of the business owner and the nature of the financial support.

43. Financial support will have larger impacts when entrepreneurs are more educated or when the business is profitable already (which may indicate the seriousness and/or skills of the entrepreneurs). These entrepreneurs are more likely to invest the money in the business, and not for their own consumption. Improving the cost-efficiency of an access to finance program needs to be combined with a screening mechanism.

44. The impacts are much larger when both the amount of the financial support and the firms are larger. Larger grants given to larger firms may lead to higher profits and sustained job creation as shown by the YouWin! Business plan competition in Nigeria. Such intervention could be justified in the case of market failures that prevent firms from accessing credit from commercial banks.

45. In most cases, grants are found to have a return to capital higher than the interest rate. In other words, entrepreneurs generate enough profits to be able to repay a potential loan. But evidence tend to show otherwise. Microentrepreneurs accessing a microcredit rarely experience an increase in profits and jobs. Credits seem to be helping a handful of recipients; the most successful entrepreneurs. This result is mainly due to the population being served by microfinance institutions;

usually women with subsistence businesses that are mostly using the loan proceeds for consumption or buying stocks or inputs but rarely as capital investment in their business.

46. **When looking at a pool of microentrepreneurs with some growth prospects, should a project provide grants or loans?** Loan programs are more cost-efficient from a policy makers' perspective as they will be repaid – at least partly. On the other hand, grants promote higher-risk and hence higher-gain investments. There are ways to re-align the behavior of credit recipients with the behavior of grant recipient. This could be done by providing a grace period or preferential interest rate.

47. **For female microentrepreneurs, financial support is found to have little impacts: loans are mainly used for consumption and grants are rarely invested in the business.** Women face difficulties investing the grant in their business when the husband has a business or when the money is given in cash in comparison to in-kind. At the minimum, grants should be given as in-kind or using innovative ways to ensure a total control of the money by women. Other types of interventions related to women empowerment could complement a grant so that internal pressures within the household are lessened.

48. **Financial support is needed for aspiring entrepreneurs. Evidence suggest that grants provide better results than loans.** But the grant can take various forms based on the nature of the financial constraint. Some individuals may be financially constrained in terms of start-up capital. This justifies a lump-sum grant. In other cases, aspiring entrepreneurs may be reluctant to becoming an entrepreneur as this occupation is of high risk and brings uncertain revenue streams. This could justify giving grants as monthly stipends.

49. **For aspiring entrepreneurs without any business knowledge, training could be a good complement to financial support, especially for the most disadvantaged economic groups.** Training could also be used as a screening mechanism for both aspiring and existing entrepreneurs – to test the motivation of the entrepreneurs or evaluate its ability at the training.

50. **For aspiring startup founders and as their business develops, different types of funding could be used; business angel, venture capital funds and finally private equity.** These investments tend to provide much more than capital, resulting in better management structure and practices.

3. JOBS

51. **According to data from the WBES, a small share of firms reports workforce-related issues as their top constraint.** On average, 6.7 percent and 2.9 percent of interviewed firms put the inadequately educated workforce or labor regulations respectively as their main obstacle to growth. However, more than one fifth of interviewed firms indicate that a mismatch between job offers and education of workforce is a major constraint. The problem seems more acute in Latin and Caribbean countries. The note turns first to frictions that prevent or discourage firms from hiring; and then looks at other frictions that limit firm performance and hence its ability to grow and hire more workers.

a. Frictions to hiring

52. **Regulations such as minimum wages, working hours, severance pay etc. or administrative compliances may generate frictions and limit firm expansion.** Looking at labor laws in 85 countries, Botero et al. (2004) highlighted the negative effect of heavy labor regulations on jobs. Countries with more stringent regulations on labor exhibit a larger informal sector, a lower labor force participation and a higher unemployment rate, especially among youth. Besley and Burgess (2004) find similar results when investigating a pro-worker amendment in the Indian labor regulation. The authors show that more protection for workers (and hence more rigidity on the labor market) has not led to the

expected outcomes and on the contrary has significantly hampered investment, jobs, productivity and output of the manufacturing sector.

53. **Wage subsidies, designed to address high labor costs faced by firms, show little impact.** Wage subsidies are designed to compensate labor costs. These labor costs could be comprised of hiring costs, training, labor-related tax, firing costs etc. Firms may be reluctant to pay these costs when workers may be less productive in their first months or when business owners find it hard to identify qualified workers. McKenzie (2017b) provides a thorough review of wage subsidies programs and concludes that these programs “are unlikely to be effective in generating additional jobs under standard labor market conditions and may also even not be effective in playing a distributional role in determining which individuals get to access jobs”.

54. **An experiment in Jordan, for women, is indicative of these modest impacts.** Groh et al. (2016) study the impact of the Jordan New Opportunities for Women (Jordan NOW) pilot program designed to assist female community college graduates find a job. Young female graduates are allocated to one of three treatment groups, one receiving a 6-month wage subsidy voucher equivalent to the minimum wage, another receiving soft-skills training, and the final one receiving both. When compared to the control group, analysis shows that while the wage subsidy leads to a 38-percentage point increase in jobs in the short run, the average effect dissipates 4 months after the voucher period ends with only 1.7 percentage points increase. Employers report that these workers are not productive enough to financially justify a long-term job. Moreover, these gains come at the expense of others in the economy; this experiment results in lower employment rates amongst the control group.

55. **Larger firms may not face high labor costs but what about smaller firms?** De Mel et al. (2016) measure the impacts of a program that gives wage subsidies to micro-enterprises. This experiment is part of a series of experiments done with microenterprises in Sri Lanka where the authors tested the impact of training programs and cash grants. The authors find that financial and technical support has an effect on firm profitability in some cases but there is never any impact on jobs. In De Mel et al. (2016), the authors assume that this result could be explained by some frictions on the labor market. Microenterprises receive a temporary wage subsidy of 4,000 LKR (about half of the minimum wage in Sri Lanka) per month for 6 months followed by a 2,000 LKR subsidy for a further two months. First, the take-up rate of the program is equal to 24 percent, which indicates that most microenterprises do not perceive frictions on the labor market. Second, De Mel et al. (2016) show that while the subsidy encourages firms to hire an additional worker temporarily, there was no lasting impact on jobs, profitability, or sales.

56. **Wage subsidies could maintain jobs in response to an economic shock but may not work in other circumstances.** In response to the 2008 economic crisis, the Mexican government introduced a large-scale wage subsidy program. Firms applied for the subsidies for one or two months. Wage subsidies were given to eligible industries who kept employees on their payroll. For workers, this meant a temporary reduction in salary but no unemployment. To be eligible, firms were not allowed to lay off more than a third of their workforce as the percentage points decrease in sales. For example, a firm that experienced a 30 percent drop in sales could not lay off more than 10 percent ($1/3 \times 30$) of its workforce. The subsidy was calculated based on a fix rate per worker per day (USD6.95) adjusted by the firm's percentage drop in sales and percentage of eligible workers retained. The maximum value of the subsidy was set at 5,100 pesos (about USD323) per eligible workers. On average, a firm received USD160,000 ranging from USD1,307 to USD3.2 million.

57. **Other research supports this finding.** Using monthly administrative data on employment, Bruhn (2020) constructed groups of eligible and ineligible firms using a propensity score matching that would constitute the control groups. The author finds no statistically significant effect on jobs during the program's duration but statistically significant and large effect after the program ended.

Employment in eligible industries is 24 percent higher than in ineligible industries, compared to the pre-program level in employment. Eligible firms recover faster than ineligible firms; they were back to their pre-crisis employment level in 2011 while it took two more years for ineligible firms.

58. **Wage subsidies were widely used to respond to the COVID-crisis.** As of June 2020, wage subsidies were the lead labor instrument on the supply-side. With 144 programs in 88 countries, those measures accounted for 56 percent of the labor portfolio with 81 measures in 69 countries. Other measures included labor market regulation adjustments (28 cases), 23 activation initiatives, and shorter-time arrangements.

59. **Wage subsidies or tax rebates?** If the point is to lower labor costs for firms, tax rebate conditional to employment is also an option. In 2014, to promote youth employment, the government of South Africa put in place a Employment Tax Incentive (ETI), a wage subsidy covering up to 50 percent of youth salary. Youth were given a voucher that qualified employers for up to two years of subsidy. Using these vouchers, employers could claim the subsidy in the form of tax rebates when filing their taxes. Ebrahim et al. (2019) show that these vouchers have no significant effect on jobs in firms with more than 200 employees. But ETI firms below 200 employees generated +2.9 youth jobs for micro firms (below 10 employees) and +7.5 youth jobs for medium-sized firms (between 51 to 200 employees). Marcelin et. al (2019) focus on measuring changes in the balance sheet and profitability of participating firms. The authors find that treated firms expanded investments by 4.8 percent and profits by 5.7 percent.

60. **Costs linked to labor regulation or compliance could be addressed with informational interventions or some forms of consulting.** Labor costs could be decomposed into various components that could be tackled by specific interventions and separately. Costs could be associated with searching, administrative cost linked to formally hiring, training but also firing. Firms may lack information about labor regulations which prevents them from hiring. Bertrand and Crépon (2019) attempt to answer the following question: Are small firms in South Africa hindered in their ability to grow because of their limited knowledge of labor regulation?”. The assumption is that managers do not fully understand the regulatory environment related to firing and hiring and based on their current knowledge, they are reluctant to hire. Bertrand and Crépon (2019) assess a program that grant firms access to a labor law website that provides direct support (HR consulting) and access to a bi-weekly newsletter about labor regulations. The results indicate that treated firms hire about 12 more workers after 6 months – a 15 percent increase compared to the control group mean. These workers are mostly employed under a permanent or fixed-term contract. This experiment exhibits a record cost per job created of about 17 dollars per job. The results also indicate that these results are not linked to firms accelerating their recruitment. Firms adjust their optimal level of jobs upward; i.e. generation of additional jobs.

61. **Costs linked to training could be addressed by supply-side interventions.** As traditional supply-side interventions, most empirical research has investigated the effect on individuals (for complete reviews, see Card et al., 2018 and McKenzie, 2017). To our knowledge, only one paper analyses impacts of a pure supply-side intervention on firms (Crépon and Premand, 2019)⁸. In this experiment conducted in Côte d'Ivoire, the program gives a monthly subsidy to apprentices for 12 or 24 months conditional on entering a dual apprenticeship. Both apprentices and firms with vacancies for apprentices are randomized. Firms commit not to ask for the traditional tuition fees from

⁸ De Mel et al. (2019) and Alfonsi et al. (2017) investigated the impacts of a wage subsidy on both youth and firms. Hardy and McCasland (2016) assessed the impacts of a screening mechanism on both apprentices and firms.

apprentices at the start of the apprenticeship. This scheme leads to a net entry of apprentices in firms; +0.77, after accounting for substitutions. This result suggests that there are unfilled vacancies for apprentices.

c. Frictions to productivity and growth

62. **The fragmentation of the labor market leads to a misallocation of labor, and hence to low firm productivity.** Fragmentation may stem from the existence of social networks. Anecdotal evidence suggests that it is common for business owners to hire workers that are either referred by their existing networks and employees or to hire employees showing up at their door for a job. Witte (2018) explores the existence of job referral networks in Ethiopia amongst youth. The experiment is comprised of rounds of “day jobs”, one day of work offered to long-term job seekers. The author randomizes who gets access to these paid jobs or gives individuals the possibility to invite someone to the next work session. This experiment shows that on average, participants refer individuals in their social network. The referred individual is more connected and often of the same gender and ethnicity as the person that referred him or her. The author does not investigate the impacts on firms but infers that the use of social networks may negatively affect firm productivity as the choice of these referred individuals is absolutely decorrelated from their productivity.

63. **Fragmentation may stem from high transaction costs that limit participation of competent candidates, especially among groups that have worse outcomes in the labor market.** A study by Abebe et. al (2017) conducted in Addis Ababa (Ethiopia) explore the notion that available talent in the labor market is often misallocated because jobseekers often do not have the time nor resources to apply for all suitable jobs - which in turn affects firm productivity and growth. The intervention compares two treatment arms. In the first one, a small monetary incentive equivalent to USD 4.5 is provided to beneficiaries to cover application costs for a clerical job. The second treatment offers to double the wage for the same type of jobs but with no financial incentive to cover application costs. The expected wage offer is USD 105. The results indicate that the application incentive increases application rates by 11.5 percentage points and the high wage by 18.7 percentage points compared to the control group. More importantly, both interventions improve the quality of the pool of applicants. Applicants that receive the application incentive score higher than the control group in terms of cognitive ability; 1.2 additional correct answers at the Raven test. The number of top applicants almost double. On the other hand, doubling the wages leads to 0.7 additional correct answers. In addition, the paper finds that the increase in quality is stronger among jobseekers who are currently unemployed, among less-experienced jobseekers and among women.

64. **Firms may face difficulties selecting high-productivity workers which in turn lowers the firm productivity.** While large firms usually have a Human resource management unit, smaller firms are left with no methodology or tool to screen and evaluate candidates. Hardy et al. (2015) study the impact of randomly placing unemployed but screened young people as apprentices in small firms. The program provides small firms in Ghana with a non-monetary screening mechanism to identify high-quality young workers. These firms operate in services - primarily, garment-making, hair/beauty/cosmetology, and construction. Hiring a screened apprentice increases the firm's total employment by +0.5 worker compared to the control group. Moreover, treated firms experience an increase in revenues and profits of approximately +7-10 percent per assigned apprentice. These effects are found greater for smaller firms and gains increase with the cognitive ability of the apprentice.

65. **In one experiment, helping firms find good workers increased profits.** In Alfonsi et al. (2017), the treatment consists of a matching test along with a monthly wage subsidy of USD 50 for 6 months. The matching was developed based on some sector-specific skills tests to assess psychomotor domain, e.g. trainees' ability to perform a set of tasks that are specific to the sector and better understanding on how the trainee will react to some situations. Treated firms experience an increase

in their monthly profits by 12.9 percent over a four-year period after treatment but no increase in investment. This result suggests that the increase in profit is mainly associated with an increase in the productivity of workers. The authors show that workers hired under this experiment are more productive than the workers the firm would have hired otherwise.

66. **Several studies indicate there are information frictions on both sides of the labor market;** both job seekers and business owners have limited information about job seekers' skills (Abebe et al. 2017, Carranza et al, 2019; Bassi and Nansamba, 2017 specifically on soft skills).

A recap for practitioners

67. **Labor costs can be an important impediment to short- and medium-term jobs.** The main instrument that has been used to address this challenge in developing countries has been wage subsidies. Evidence suggests an increase in employment for the time being of the experiment. But once wage subsidies stop, employment tends to go back to normal.

68. **Policy makers would then consider wage subsidies in case they want to generate temporary jobs or for purposes other than net job creation, such as promotion of on-the-job training for unskilled workers or new work experiences for unexperienced workers.** As shown by the aftermath of the 2008 economic crisis or in the COVID19 policy response, wage subsidies constitute an interesting tool to maintain employment and accelerate recovery.

69. **The alternative to a wage subsidy given to workers is a wage subsidy given to firms in the form of a tax rebate.** More could be done in testing various features of a wage subsidy; salary versus tax rebate, proportion given to workers versus the firm, decreasing wage subsidy over time etc.

70. **There are specific interventions when it comes to addressing a specific component of these labor costs, e.g. search costs, hiring costs associated with administrative compliance or training costs.** (1) search costs could be lowered by improving the quality of intermediation systems. Public institutions, like national employment services, could play an important role there; (2) Transaction costs linked to understanding procedures and registering a new hire could be addressed through better and simpler information to firms; and (3) Training costs could be lowered by providing high-quality training programs to job seekers, which relates to a supply-side interventions.

71. **There are other labor-related constraints that could lower labor productivity and hence, affect jobs in the long run.** First, in most developing countries, labor markets are segmented. Firms tend to hire within their networks or the network of their employees, which limits the pool of top candidates and prevents the most vulnerable socio-economic groups from applying. These same vulnerable groups may not be able to compete due to high transaction costs (transportation, opportunity cost of going to an interview, etc.). This calls for stipends or financial support to support job seekers in applying, in particular for the most vulnerable socio-economic groups that are less likely to be in "hiring" networks.

72. **Second, firms, especially smaller ones, may face difficulties assessing job seekers' skills. Various tests are available, whether firms want to test technical skills or soft skills.** A firm that is better equipped to hire will also end up hiring better managers, which appears to be key to its performance as we will see in the next section.

4. KNOW-HOW AND TECHNOLOGY

73. This section focuses on know-how and technology which determine the way the two production factors are used. Better know-how and more up-to-date technology allow for these two factors to be used in the most effective way.

a. Know-How

74. A considerable body of literature focuses on the role of management capacity on entrepreneurs and/or on the sophistication of business practices on firm performance. There is increasing evidence that firm profitability is positively correlated with more sophisticated business practices for large firms (Bloom and Van Reenen, 2007 and 2010) – mostly in high-income countries – and McKenzie and Woodruff (2016) for micro and small firms in developing countries. Hence, improving business practices through capacity building should theoretically improve business outcomes.⁹

75. Most firms in developing countries fail to implement business practices common in developed countries. As shown by the World Management Survey,¹⁰ all African countries rank in the bottom of the distribution (see Annex 2) while most OECD countries are in the top of the distribution. As an example, the Growth and Employment project in Nigeria surveyed all firms that registered to support program. Because the registration was made online, firms were probably slightly more structured than the average firm in Nigeria. Questions about management practices reflected four main areas; namely, marketing (e.g. “does your business have a website?” “Can you list your main competitors”), financial management (e.g. “do you track your sales and expenditures using an accounting software?” “are you regularly doing a provisional budget?”), operations (e.g. “do you operate in a dedicate space?”) and human resources (e.g. “do you train your employees?” “do you measure individual performance?”). With an index normalized at 10, the average firm in the program was just below 6.

76. There are many ways of improving business practices within firms; in-class, group-based training programs, more tailored approaches like consulting, etc. The rest of the section drills into the various solutions to improving know-how and into the lessons learned. Building on a review prepared by McKenzie and Woodruff (2013), we add recent papers and additional studies that go beyond training programs.

77. Business training programs are defined as classroom training provided in groups. They are the most common solutions to support firms and improve capacity building. The International Labor Organization’s Start and Improve Your Business program claims more than 4.5 million trainees in more than 100 countries since its launch in 1977. But other curricula are available, such as GTZ/CEFE program, the UNCTAD/EMPRETEC program and IFC Business Edge. These programs are designed to improve the capacity of entrepreneurs to handle finances, operations, marketing and sales and/or human resources. But when it comes to aspiring entrepreneurs or micro-entrepreneurs, the courses are mainly oriented towards maintaining business records or encouraging the separation between household and business accounts. As investigated in McKenzie and Woodruff (2013), the main topics taught are modules on financial management, followed by marketing. For larger firms, curricula include

⁹ This questionnaire assesses 18 business practices with roughly a third of the indicators measuring HR practices, another third measuring performance tracking and the last third measuring target-setting and other forward-looking practices.

¹⁰ <https://worldmanagementsurvey.org/>

quality management, lead production or optimization of production processes (such as the Kaizen methodology). Few business training programs deliver training on human resources. As per the McKenzie and Woodruff (2013) literature review, out of 14 training programs, only one experiment contains a module on *Employee management*.

78. **Training programs lead to the adoption of more sophisticated business practices.** Indeed, 24 out of 28 training interventions report a positive impact on adopting more modern business practices, of which 17 have statistically significant coefficients.

79. **Impacts are more nuanced when it comes to profits or sales, however.** Only 8 experiments report a positive and statistically significant coefficients. The remaining studies do not find any statistically significant coefficients and these coefficients are negative in some (Berge al, 2014; Bruhn and Zia, 2013; De Mel et al., 2014; Drexler et al, 2014; Gine and Mansuri, 2011; Higuchi et al., 2017; and Ubfal et al., 2015).

80. **The impacts of business training programs are often greater for female entrepreneurs.** Klinger and Schündeln (2011) evaluate an entrepreneurial business training program held in Central America. Business training is found to be successful in promoting entrepreneurial activity. It significantly increased the probability that an applicant to the workshop would start a business (4 to 9 percentage points higher probability) or expand an existing business (25 to 56 percentage points higher probability). Results also suggest that impacts are greater for women. Another business training intervention analyzed by de Mel et al. (2014), Start-and-Improve Your Business (SIYB) program in Sri Lanka, covers two groups of women; a random sample of subsistence enterprises; and a random sample out of the labor force but interested in starting a business. Results indicate that for women in business, training changes business practices but does not have an impact on business profits, sales or capital stock. However, among aspiring female entrepreneurs, business training hastens entry and increases profitability. This arm of the program appears much more effective.

81. **The impacts on jobs are being recently measured and are to be investigated in more detail.** More than half of the interventions do not report paid employees. Furthermore, for the few papers reporting on jobs, McKenzie and Woodruff (2013) find no experiment with a positive and significant change in employment. Recently, more studies investigate the impacts of traditional business training on jobs; 7 papers find positive impacts of jobs, 2 of which have statistically significant coefficients (Anderson et al., 2016; Bruhn and Zia, 2013). But these impacts are quite limited; none of the interventions create more than one job.

82. **Many papers highlight the heterogeneity of impacts and suggest that low-skilled entrepreneurs or businesses with modest performance (before training) tend to benefit from business training.** Bruhn and Zia (2013) examine whether the treatment effect of a business training differs by the initial financial literacy level of the entrepreneurs. They find that entrepreneurs that were below median financial literacy at baseline increased their business knowledge (by 24 percent) while the ones above median literacy have no signs of any learning. This translates into more business practices for entrepreneurs below median financial literacy (investment of savings in the business, personal account no more used for business, etc.).

83. **Businesses that started with modest performance show larger impacts** (Berge et al., 2014; Karlan and Valdivia, 2011; Calderon et al., 2013; Anderson-McDonald, 2014; Drexler et al., 2014). Different measures of pre-treatment performance were used; pre-treatment profits (Calderon et al., 2013), initial level of investment (Berge et al., 2014), pre-treatment business size as measured by sales

(Karlan and Valdivia, 2011), establishment of the firm before treatment¹¹ (Anderson-MacDonald, 2014) and business practices at baseline (Drexler et al., 2014). The results are similar for grants.

84. **This calls for a detailed assessment of the target population to provide the adequate capacity building programs.** Different ways are used to screen out subsistence entrepreneurs,¹² such as attendance to training (Giné and Mansuri, 2014; Calderon et al., 2013, McKenzie, 2017), online registration, write-up of a complete business plan, business plan competitions (very common in Africa; Côte d'Ivoire, Gabon, Guinea-Bissau, Nigeria, Rwanda, Senegal, Somalia, South Sudan, Tanzania and Uganda) or peer ranking from community members (Hussam, Rigol and Roth, 2016). But evidence suggests that these processes primarily manage to screen out the lowest tail of the distribution (McKenzie, 2017).

85. **Winning a business competition is a good indicator that a firm will be more likely to survive.** Barrows (2017) collected results from 460 competitions across 113 countries and over 20,000 firms. Using a regression discontinuity design with administrative records from the Internet platform website YouNoodle Inc., the author finds that “winning a competition increased the probability of firm survival by 64 percent, the total amount of follow-on financing by \$260,000 USD, and total employment by 47 percent, as well as other web-based metrics of firm success”. Winners are also much more connected with an increase in LinkedIn connections, Facebook likes, and Twitter followers. Impacts appear larger in countries with lower incomes per capita but the results are not statistically significant.

86. **Why are the impacts of training programs limited? Probably partially caused by the low statistical power of many of the RCTs.** The empirical strategy for most impact evaluations does not allow for statistically significant results. Many evaluations of business training programs suffer from small sample sizes, measured impacts only within a year of training and experienced problems with survey attrition and measurement that limit the conclusions one can draw. In addition, the evaluation of these programs is hampered by the considerable variation across programs, in terms of type of participants, length and content of training provided (McKenzie and Woodruff, 2013).

87. **Why are the impacts of training programs limited? Probably because improvements of business practices are not large enough.** The improvement of business practices is the first link in the causal chain from business training to business growth. Failure to find any changes in practices indicates that the business training does not reach its objective and is unlikely to lead to an improvement of the business outcomes. As shown before, most business training programs lead to the adoption of more sophisticated business practices. However, the amplitude remains quite small. For instance, Higuchi et al. (2017) in Vietnam find that treated firms adopt 1.8 to 4.2 new business practices compared to a control group – with a control group that already had 30 modern business practices. Similarly, Campos et al. (2017) find that the traditional business training led to a 6 percent increase in the number of business practices.

88. **After training, entrepreneurs acquire new knowledge but rarely seem to put it into practice.** The following experiments explain why beneficiaries are not applying the newly acquired knowledge in their business.

¹¹ This was defined by 5 factors: (i) years in operation (1=above median, 0=below), (ii) capital at start-up (1=above median, 0=below), (iii) structure of business location, measures physical size and permanency of the premises (1=above median, 0=below), (iv) firm size as per total paid employees (1=above median, 0=below), (v) registered business (1=registered, 0=if not).

¹² See background paper for the Flagship report on Entrepreneurship: Buba J., Gonzalez J. and Kokas D. Entrepreneurship programs: Screening for beneficiaries. 2017.

89. **Training may be too 'light' or too broad for entrepreneurs to change their business practices. In-depth specialized training provides better outcomes.** Anderson-MacDonald et al. (2014) provide two types of intensive training programs to 852 small business owners in urban and slum neighborhoods across Cape Town in South Africa; namely, a marketing training and a financial management training. In both cases, the authors find that business practices improve substantially (between 30 percent to 60 percent compared to the control group), especially in the targeted areas (marketing practices and financial practices). After 12 months, this large improvement in management practices translates into positive and statistically significant impacts on profits (between 41 percent and 61 percent compared to the control group) and jobs (+0.52 to +0.92 additional jobs compared to the control group).

90. **Entrepreneurs need to see that these business practices can have concrete and positive impact on revenues.** One plausible explanation to explain the mixed results of training programs is that entrepreneurs gain knowledge but do not see the point in applying this new knowledge. Beaman et al. (2014) take the example of having change. Many micro-enterprises lack change to break a large bill. This has negative consequences for the business and its profitability; it diverts the entrepreneur's attention from their customers; this could be considered poor customer service and discourages customers from coming back to the shop. Beaman et al. (2014) measure the impact of providing tailored information about the negative impacts of changeouts on business profitability. The first treatment arm consists of surveying businesses related to changeouts and sales losses exclusively, hence raising awareness on this issue. This survey is used to assess the losses incurred by the business due to changeout. The follow-up treatment consists of providing this information to the shop owner, illustrating, in concrete terms, what these changeouts mean for the entrepreneur's business. Both interventions have positive effects on the likelihood of the business having changeouts. The two treatments combined lead to an 8 percent increase in profits.

91. **Role models seem to be a better way to pass on useful knowledge.** In Lafortune et al. (2017), firms are randomized into three groups; an in-class technical assistance versus an onsite personalized technical assistance versus the presence of a "role model" who can speak of his own experience and of the value of training programs. The assumption is that trainees will relate more to an entrepreneur like them (a "role model") than to a trainer. The authors find that the role model intervention brings similar results as a personalized technical assistance at the business' premises, particularly for less experienced businesses. The role model intervention is a much more cost-effective intervention as its cost was a tenth of the cost of onsite "consulting".

92. **However, in Indonesia, Dalton et al. (2018) find a stronger impact for onsite consulting compared with role models.** The authors surveyed 1,301 small-scale retailers to pinpoint the key business practices that could lead to more profitability; implementing record-keeping practices, developing a fixed schedule for the purchase of the main products, never running out of stock of the main products, stocking up daily rather than weekly, consulting former customers, using discounts, and innovating. The authors then developed a handbook with these key business practices that they distributed to 1,040 retailers. The following two more treatment arms were added to receiving the handbook; namely, (a) a movie featuring retailers that implemented these business practices and succeeded in increasing their monthly profits; and (b) individualized business assistance by trained counselors at the business premises to support business owners on the practical operationalization of the handbook. The individualized business assistance led to a marked increase in firm monthly profits (+38.1 percent compared to the control group) while the increase is more modest and not statistically significant for the movie done by a role model.

93. **Practical, rather than theoretical, training seems most effective.** Drexler et al. (2014) compare a traditional accounting training with a rules-of-thumb training on financial management.

Beneficiaries receiving a rule-of-thumb training are more likely to keep accounting records, calculate monthly revenues, and separate their books for the business and the households. In contrast, there is no significant change for those in the standard accounting training. Drexler et al. (2014) indicate that low-skilled entrepreneurs before the intervention – defined as an individual that has not completed high school or received formal financial training in both cases – are more likely to adopt new business practices compared to high-skilled entrepreneurs.

94. **It is unclear whether follow-up ensures that entrepreneurs apply the lessons learned.** On the one hand, a couple of studies find that adding regular follow-ups to a training intervention and do not lead to any additional impact of mentoring compared with training only. Drexler et al. (2012) find that trainers visiting beneficiaries eight times over a 5 month-period have no significant effect. Similarly, Giné and Mansuri (2011) add “hand-holding” sessions for half of the training participants and find no effect on any of the aggregate business outcomes. For a year, the trainers visited the beneficiary at the place of business once or twice a month and followed-up on possible questions or practical solutions to be implemented within the business. McKenzie and Puerto (2017) also couple a business training program for women entrepreneurs with a mentoring component; a mentor was assigned a group of three to six mentees, organized meeting with the group of mentees and visited the entrepreneurs once a month to provide individualized guidance. The authors find no additional effect compared to the business training.

95. **On the other hand, follow-up can amplify the impacts of training programs.** Valdivia (2012) compares a simple business training with the same training combined with a more personalized technical assistance. This technical assistance combines individual sessions with group sessions. While the individual sessions are designed to identify key priorities for improvement of business practices, the group sessions would highlight common difficulties and allow for peer-to-peer advice. This technical assistance also includes interactions to deal with personal issues. Valdivia (2012) finds that the technical assistance has an effect on the number of business practices implemented and on profits (+20 percent compared to +9 percent for training only). Similarly, in 2010, in a randomized experiment, small Vietnamese manufacturers were provided with a management training. Higuchi et. al (2017) show that the group of firms that received both classroom training and on-site assistance had significantly higher business performance than the control group. The authors highlight that this technical assistance increased the entrepreneurial attitude and mindset of the beneficiaries.

96. **Consulting is another, more intensive and tailored, technical assistant to support entrepreneurs to identify the best strategy for their business and implement it.** Consulting targets the firm directly, not just the entrepreneur. Typically, the first part of a consulting service starts with the definition of the vision and strategy for the firm and a gap analysis by an expert. The second part consists of developing an action plan to achieve this strategy, highlighting the main business practices to be improved. The third part is about implementing this action plan. The consulting firm can implement this action plan for the firm or coach the firm. Consulting services are designed to overcome two issues; namely, i) the lack of information of the entrepreneur regarding the best way to grow his firm; and ii) the lack of sophisticated business practices.

97. **Most studies find positive impacts of consulting services on the firm profitability and jobs when jobs are measured.** Six studies in our review investigate the impacts of consulting services on business profitability, of which two find strong positive and statistically significant impacts on business outcomes (Bloom et al., 2013 in India; Bruhn et al., 2013 in Mexico); three find positive impacts but without a statistically significant coefficient (Higuchi et al. 2016 in Tanzania; Higuchi et al. 2017 in Vietnam; Lafortune et al., 2017 in Chile); and in Karlan et al. (2015) in Ghana, there is a negative effect on profits. Bloom et al. (2013) worked with an international consulting firm to provide consulting to 28 large plants across 17 firms, all of them operating in the Indian textile sector. The support entailed

about 15 days of diagnostic to formulate recommendations and an action plan, followed by 4 months of implementation of this action plan. In Bloom et al. (2013), treated firms drastically improved their business practices in quality, inventory and output. It also led to a substantial increase in productivity and profits. Similarly, Bruhn et al. (2013) set up a randomized control trial in Puebla, Mexico, where 150 micro-, small-, and medium-sized enterprises were randomly chosen to receive a subsidized consulting service. Each enterprise in the treatment group was matched with one of the nine local consulting firms based on the specialized services businesses needed. Enterprises met with their consultants for four hours per week over a one year-period between 2008-2009. The authors find important impacts on jobs, with a 44 percent increase in number of employees, and a 57 percent increase in total wage bill. Interestingly, out of 11 management practices that were covered in the survey, only two resulted in statistically significant change after the intervention; namely, (1) the likelihood to engage in marketing efforts, and (2) the likelihood to keep formal accounts. However, results reveal more “entrepreneurial spirit” for treated entrepreneurs. Conversely, Karlan et al. (2015) report on an RCT from Accra, Ghana conducted during 2008-11. The objective of the RCT was to relax constraints for urban microenterprises on capital, know-how or both and assess which one mattered the most. When looking at the consulting treatment arm, the authors find that consulting led to the adoption of more modern business practices and higher investment in the short-term. But a year after the end of the intervention, microentrepreneurs revert back to their prior business practices. Karlan et al. (2015) also find that this intervention led to a decrease in profits for the businesses. How can we explain differences in impact of Karlan et al.’s (2015) study with the others? First, the experiment led to an increase in investment and a decrease in profits in the short-term. This short-term outcome may have discouraged entrepreneurs who thereafter discarded the newly acquired business practices. Second, the target population was substantially smaller and less educated than the beneficiaries in the other studies. This difference may lead to the conclusion that consulting may not be appropriate for improving the business outcomes of low-skilled beneficiaries.

98. Given the effectiveness, but relatively high cost of consulting services, the question is how to get firms to use them. Some programs subsidize consulting services by providing a matching grant to firms, i.e. firms need to “match” the given amount in a proportion that varies depending on the program. These matching grants incentivize firms to undertake activities they would not have done otherwise or that they would have done later. In McKenzie et al. (2017), firms in Yemen are provided with a matching grant of up to \$10,000 as a 50 percent subsidy to implement new business practices, such as adopting finance and accounting systems, creating a website, training, marketing, participating in exhibitions etc. Another solution is to lower the cost of consulting services. Iacovone et al. (2019) set up two interventions with a sample of 159 auto-parts businesses. These businesses are rather large with an average size of 58 employees. Businesses are randomized into three groups: a control group, a group receiving a personalized one-to-one consulting service for a cost of about \$30,000 per firm and a group receiving a group-based consulting service for a cost of about \$10,000 per firm. These group-based consulting differ from in-class training program in that the objective of the meetings is to discuss common issues faced by firms and concrete ways of addressing those. Both interventions lead to an 8-10 percent increase in the number of managerial practices being adopted by beneficiaries (relative to a control mean of 56 percent of business practices being implemented). The authors administered a questionnaire 1.5 to 2.5 years after treatment to observe business outcomes. They find evidence of jobs growth for both treatment arms; +1.22 workers for the one-to-one consulting (though not statistically significant) and +6.80 workers for the group-based consulting when compared to the control group.

99. **Mentoring brings short-lived impacts.** Brooks et al. (2016) randomize inexperienced microentrepreneurs into two treatment groups, namely a mentoring program and a business training program. The mentoring intervention involves randomly matching young firm owners with older and

successful local firms. Mentor firms are randomly assigned conditional on matching business sector and are on average twice as profitable, twice as likely to have employees, and had been in business an average of ten years longer than mentees. Mentees are required to meet at the mentor's business, once a week. Compared to other coaching or follow-up interventions (Giné and Mansuri, 2011; Drexler et al., 2014; McKenzie and Puerto, 2017), the authors find a 23 percent increase in profits while the mentoring is on-going (to be compared to 4 percent for the business training group). But the effects fade out once the mentoring program stops.

100. **The impacts may be affected by the managerial ability of the mentors.** Chatterji et al. (2018) conduct an experiment with 100 growth-stage startup founders, who are randomly paired during a 3-day conference in Mysore, India, to transfer advice on human capital management. The purpose of the retreat is for participants to learn from other founders in the Indian entrepreneurial ecosystem. The 'advisers' are categorized based on their self-reported management style as either 'active' (consistently setting goals, providing feedback, and coordinating employees across various task) or 'passive' (rarely direct, meet or coordinate with their employees). Follow-up surveys were conducted one year and two years after the conference. Results show that founders who received advice from active managers had 28 percent more employees and are 10 percentage points more likely to have survived two years later. There is also evidence that HR practices change. By contrast, founders paired with passive managers are more likely to fail, and those who survived to grow more slowly.

101. **The entrepreneurial mindset, and not the amount of knowledge about business practices, may do most to affect the results of interventions.** Some authors report positive impacts on other key factors that are determinant in the success of business; namely, optimism, confidence and motivation (Cho et al., 2014; Premand et al., 2016; Berge et al., 2014). Bruhn et al. (2013) developed an entrepreneurial index based on the confidence and belief of owners/managers of SMEs in Mexico in their management skills, their ability to expand their firm and to handle challenges. They find that providing consulting services to SMEs has a positive and statistically significant impact on entrepreneurial spirit. The same result is highlighted in Higuchi et. al (2017). In another study conducted by Bruhn and Zia (2013) in Bosnia and Herzegovina, they find that a comprehensive business and financial literacy training can provide the necessary motivation and entrepreneurial stimulus for improving the performance of existing businesses, and more so for female entrepreneurs.

102. **This entrepreneurial mindset is particularly critical for jobs as it determines the entrepreneur's drive for expansion.** Fairlie and Miranda (2016) investigate the underlying factors that explain when and why some startups hire their first employee while others do not. The results suggest that in the U.S., motivated entrepreneurs are more likely to hire their first worker in the first seven years of operations. 'Motivated' is defined as entrepreneurs that are more growth-oriented (i.e. they were incorporated or registered with the relevant authority) or entrepreneurs that have more business assets or a patent. The authors do not find any evidence that education or experience in the industry matters. In a sense, the absence of job creation mirrors the absence of motivation to grow.

103. **The same conclusion seems to apply for micro-enterprises in developing countries.** Various studies identified and tested the constraints that can explain why microenterprises are not hiring. De Mel et al. (2008) test capital and know-how constraints on microenterprises in Sri Lanka without any impact on jobs. The authors find that only a few firms could transition to larger scale and that capital and know-how are not enough to explain why these microenterprises are not growing and hiring workers. De Mel et al. (2016) rule out the existence of frictions on the labor market with the same population of firms and conclude that there is none for microenterprises. The authors suggest that business owners simply do not have the appetite for expansion.

104. **Is it possible to ignite entrepreneurial mindset and an appetite for expansion?** A new strand of research explains the absence of results of capacity building programs by an absence of

entrepreneurial mindset (Glaub et al., 2012; Campos et al., 2017). A psychology-based personal initiative (PI) training was designed to encourage cognitive, affective and motivational tuning to solve entrepreneurial challenges (Glaub et al., 2012; Campos et al., 2017). This personal initiative training aims at encouraging entrepreneurs to adopt behavior that is first self-starting. Put differently, the entrepreneurs need to take actions without being taught or asked to take actions. The training also emphasizes the importance of having a future-oriented vision. The last pillar of the training consists in understanding the importance of being persistent and not giving up when confronted with internal or external constraints and issues.

105. **Training programs can positively affect this entrepreneurial mindset.** An evaluation conducted in Togo compared two different training programs; namely a traditional business training using IFC Business Edge and the PI training. While the former focuses on improving the entrepreneur's knowledge on marketing, financial management tools, customer service, etc., the latter is designed to develop personal and entrepreneurial initiative, i.e. setting goals, planning to work towards those goals, being innovative and overcoming obstacles. This training program is coupled with a mentoring scheme during a period of 4 months (three hours a month at the firm site). Both training programs led to an increase in the adoption of modern business practices. The PI training, however, shows stronger results in terms of labor utilization and performance measures, such as profits and sales than the business training. Similarly, an impact evaluation of a similar intervention for small manufacturers in Vietnam (Higuchi et al., 2017) find significantly higher business performance and survival outcomes for the treatment firms compared to the control group. Further mediation analysis suggests that higher business performance is due to sustainably improved management skills and change in entrepreneurial mindset. The treated enterprises have a significantly higher entrepreneurial mindset score - which was calculated based on responses to questions such as their motivation and willingness to learn new business knowledge, confidence in introducing new products or technology, and actual measures taken to grow their business.

106. **At the same time, another experiment, for women, was less successful but implementation may have affected the results.** Alibhai et al. (2019) measure the impacts of this same training on female microentrepreneurs in Ethiopia. They find mixed results and explain these results by the implementation of the training itself. Qualitative analysis suggests that more effect on the motivation, perseverance and self-confidence could have been observed with trainers who shared common traits and values with the trainee as well as with trainers who have had a business before and understand entrepreneurial challenges.

107. **Edutainment programs could also ignite an entrepreneurial mindset in youth and aspiring entrepreneurs.** In Egypt, Barsoum and al. (2018) evaluate a 13-episode show that features 14 contestants from various backgrounds and gender. As the show puts every contestant in front of a business challenge, it also instills some entrepreneurial lessons in the meantime. The experiment starts with text messages to young viewers to encourage them to watch the show. The sample is comprised of young individuals (between 18 and 35 years old) who had some interest in entrepreneurship. Data on the impact of the intervention were collected 13 to 21 months after the end of the show. The analysis finds that there is a limited natural outreach of the edutainment program; 8 percent of respondents in the control group watch the program. Receiving text messages increases one's exposure rate to the show, although moderately (6 percentage points). The authors find that the show had no impact on entrepreneurial aspiration, knowledge or decision to start up a business. But they find some effect on viewers' attitudes toward self-employment, especially towards female entrepreneurship.

108. **Another program, via national television, was implemented in Dar es Salaam, Tanzania** by Bjorvatn et al. (2015).¹³ The treatment involves over 2,000 secondary school students from 43 schools who are incentivized to watch an edutainment show. The end line was conducted two years after the program. The impact assessment finds greater impacts on female viewers. Watching the edutainment show significantly increases the female viewers' willingness to take risk (by 0.2 standard deviation). Moreover, the probability of starting a business for female participants is 8.8 percentage points higher in the treatment group (34.1 percent versus 25.3 percent). Overall, there is strong evidence that the program had shaped the long-term behavior of the treated cohorts. On the flip side, there are negative impacts on educational enrollment and performance in school.

109. **Documentary formats have also been found to affect entrepreneurial aspirations.** A similar intervention is evaluated in Ethiopia in Bernard et al. (2014)¹⁴ where they attempt to use inspirational documentaries and peer-effects to create 'forward-looking' behavior amongst the poor. The documentary content offers concrete examples of relatable individuals who have used goal setting, perseverance and hard work to improve their socio-economic condition (without assistance from the government or NGOs). The end line study (6 months post-intervention) reveals significant impacts on 'aspiration' (a desire or ambition to achieve something) and future-oriented behavior. Treatment effects on aspiration are significantly higher by 3 percent of the standard deviation. Moreover, treated individuals are saving more (72-89 ETB higher), take out larger loans (22 ETB more in credit), and spend more on school expenses/educational enrollment.

110. **Do we see interventions that can specifically lead to more jobs?** One evaluation provides promising evidence of successful training programs and sheds light on important questions to be considered when designing a 'job-focused' operations. Anderson-MacDonald, Chandy and Zia (2014) test the existence of different pathways to profits which refer to the channels through which a business maximizes its net income. In a growth-focus channel, the business owner will aim at increasing her sales, expanding the retail channel or developing new products, etc. By contrast, a business owner in an efficiency-growth logic will track the costs of goods, manage cash flows, purchase supplies more effectively etc. - hence resulting in a cost reduction. The assumptions underlying this impact evaluation are that these two behaviors, namely a growth focus or an efficiency focus, could be ignited by a marketing-skills training or a financial-skills training respectively. According to the empirical results, both training programs are positively correlated with an increase in business practices, survival, jobs, sales and profits. After a year, the impacts in terms of sales and jobs are found to be larger for the entrepreneurs who attended the marketing training as compared to the ones who attended the financial management training. This could be explained by the fact that the marketing intervention is partially focused on encouraging the business owner to hire additional employees to increase the business market.

111. **Training entrepreneurs directly may not be the only way to go about gaining know-how.** In Nigeria, a project set up a platform for firms to apply for grants. The first requirement was to go through a capacity building program. Firms were then randomized into four treatment arms: (i) an intensive business training that consisted of online learning and 12 days of in-person training based on

¹³ Bjorvatn, Kjetil, Cappelen, Alexander W., Sekei, Linda Helgesson, Sørensen, Erik Ø. and Tungodden, Bertil, 2015. "Teaching through television: Experimental evidence on entrepreneurship education in Tanzania," Discussion Paper Series in Economics 3/2015, Norwegian School of Economics, Department of Economics.

¹⁴ Tanguy, Bernard, Dercon, Stefan, Orkin, Kate and Alemayehu Seyoum Taffesse, 2014. "The Future in Mind: Aspirations and Forward-Looking Behaviour in Rural Ethiopia," CSAE Working Paper Series 2014-16, Centre for the Study of African Economies, University of Oxford.

the IFC Business Edge curriculum. The firm was able to choose among a wide variety of modules; (ii) a traditional consulting program of 11 days spaced over six to nine months, meeting at least once a month. The consulting firms were selected on a competitive basis, trained and coached throughout the program; (iii) an insourcing intervention, a degressive wage subsidy for an accountant or marketer starting at 70,000 Naira and ending at 20,000 Naira over a 8-month period. Employees were selected via one of the HR firms that were vetted by the project itself; (iv) an outsourcing intervention, a specialized service in financial management or marketing. This specialized firm was chosen by the beneficiary firm among a pool of vetted companies. The specialized firm was required to spend at least 1-day per week at the business site to implement activities for the firm.

112. **Anderson and McKenzie (2020) find that outsourcing and consulting dominate business training and to some extent insourcing.** Interestingly this business training was more intensive and expensive than any other business training investigated so far in the literature. Yet, the authors do not find any statistically significant impacts on business practices, profits nor employment. On the other hand, consulting services and outsourcing lead to increase in profits and employment in year 2 after the intervention. Outsourcing is more cost-efficient as the consulting treatment cost twice as much.

113. **For larger firms, it may be about hiring better managers.** Bertrand and Schoar (2003) studied top executives (e.g., CEOs, CFOs, Presidents, etc.) across various firms during a large period of time (1969–99). The authors find that the manager fixed effects have had significant explanatory power over firms' returns on assets. They also link the manager's characteristics to the firm strategy. For instance, managers who hold a MBA degree have more aggressive strategies while older managers tend to be more conservative.

114. **Managers may affect productivity more than we knew.** Bender et al. (2016) investigate the role that managers play in explaining firm-level productivity. Looking at the German manufacturing, the authors indicate that only a fraction of the variation in TFP estimates is explained by the average employee at better-managed firms. Two factors stand out in the analysis: (a) the high human capital of the highest-paid workers, a group assimilated to managers of the firm; and (b) a pay premium offered by better-managed firms, which translates into the recruitment and the retention of workers with higher average human capital. Overall, the authors conclude that workforce selection and positive pay premiums explain just under 30 percent of the measured impact of management practices on productivity in German manufacturing.

115. **Abebe et al. (2019) design an intervention whereby young professionals who were aspiring entrepreneurs are paired with middle managers of medium and large firms for a one month-period.** The authors use an elaborated matching mechanism in which the firms end up "proposing" an internship to the young professional. The authors find that firms operated by 'treated' young professionals are better managed with more sophisticated accounting, marketing and financial practices than firms operated by young professionals who did not go for the one-month internship.

116. **Large firms could also incentivize managers to perform better as managers.** In the United Kingdom, Bandiera et al. (2009) explore the impact of changing the salary scheme for managers in a producer of soft fruit. Some managers are offered a fixed wage while others are paid with a fixed wage associated with a performance bonus proportional to their team's productivity. This experiment highlights the importance of social connections in a firm. Social connections are measured using the "closeness" of the manager and the worker; whether they are of the same nationality, whether they live close by on the farm and whether they arrive at a similar time on the farm. Managers with fixed pay favor workers they are socially connected to regardless of their ability while managers with a performance bonus favor high ability workers.

117. The literature on know-how for firms has been widely studied but it is somehow difficult to make sense of all these results as every experiment has its specificities. Type of interventions, intensity of the intervention, size of the firms being targeted, gender of the business owner, socio-economic groups being targeted; all of these variations in the empirical design make it difficult to conclude for certain what works and what does not work. So, what have we learned so far?

118. Projects have widely used business training as a way to increase entrepreneurs' know-how. But the evidence here is unambiguous; the impacts found in the literature does not justify the widespread use of this type of interventions.

119. Traditional business training programs increase the entrepreneurs' knowledge, especially for entrepreneurs that start with less knowledge. They could also be an eye-opener for many entrepreneurs or aspiring ones and increase their optimism, confidence and motivation. Business training programs could thus be beneficial for women entrepreneurs or women who want to choose the path of entrepreneurship as the literature on gender often highlights their lack of self-confidence and drive. They could also help low-skilled entrepreneurs or aspiring entrepreneurs without any background knowledge in business.

120. These training programs rarely translate into profound and large changes within the business. Broad general business training, even when intensive, does not appear to lead to any increase in profits or employment. What about a specialized training? Training could help bridge the knowledge gap in a specific topic as shown in Anderson-McDonald et al. (2014). The question to what extent we can draw some conclusions from this unique experiment.

121. Various complementary activities could turn a business training program into a more effective intervention; the use of role models, concrete illustration of the impacts of new business practices on the entrepreneur's revenues, a delivery that is more practical than theoretical, mentors and trainers that are highly capable and that trainees could related to. On the other hand, follow-ups and mentoring rarely work. In a sense, this indicates that the entrepreneur needs to truly and deeply believe that applying this newly acquired knowledge will raise his revenues if we want business training to bring long-lasting results.

122. Training could also focus much more on igniting some business-oriented mindset than on passing business knowledge. This business-oriented mindset drives the entrepreneur's motivation to expand his activities and transition to a different scale. There are other options than personal initiative training, like edutainment, that are less expensive and that could target a wider audience.

123. Training is not the only instrument available to policy makers to improve the overall capacity of a business. Firms providing with consulting services see their profits – and in most cases, their number of employees – increase over time. However, consulting is way more expensive than any training program. The corresponding increase in profits needs to be strong enough to justify the cost. Group-based consulting is a way to lower the cost and to favor some exchanges among entrepreneurs that share common issues but also possible solutions. The strong results probably echo the idea that hearing from other entrepreneurs makes it “real” and concrete.

124. What could be done for micro or small businesses? Business training remains an option but probably needs to be coupled with additional activities, such as modules on personal initiative or interventions from other entrepreneurs. Policy makers will pay particular attention to the trainers and the practical content of the training. Group-based consulting could be an interesting alternative to training.

125. It is important to consider that the business owner do not need to be a jack-of-all-trades. The mistake of many programs may be to think that an entrepreneur needs to know everything there

is to know about a business from financial management to marketing on top of some technical skills needed to develop a product or a service. In addition, moving from training the business owner to other options may free some time for the entrepreneur who could then focus on other aspects of business development. The literature on this topic is nascent; Anderson-McDonald and McKenzie (2020) showed that hiring a specialized firm (and to some extent a specialized worker) could lead to an increase in profits and jobs that is equivalent to consulting in magnitude but way cheaper.

126. **One could think of other activities that have not been tested yet but could address the common and probably wrong belief that entrepreneurs should know and do everything themselves:** in-depth and specialized training for key staff for small and medium firms or pairing aspiring entrepreneurs that have complementary skills so that every partner could focus on some specific aspects of business development in which they have a comparative advantage.

127. **For larger firms, consulting is certainly a cost-effective option. But firms are rarely paying for this service.** Matching grants could incentivize firms to invest in consulting services. Large firms would also consider the recruitment of “good” managers and a salary structure that incentivizes managers to increase their team’s productivity.

b. Technology

128. **The topic of innovation and firm performance has been widely studied but is still an empirical concern to most economic researchers.** The positive impact of innovation on growth and productivity has been the center of a large number of theoretical and seminal contributions, such as the ‘New growth Theories’ of Paul Romer (1986) and Robert Lucas (1988). But in reality, firms are reluctant in investing in R&D. This has led to many theoretical and empirical work to understand the market failures at play.

129. **The empirical evidence on technology and innovation is too vast to be covered entirely in this note.** The reader will refer to Becker (2015) for a review of the effects of major public R&D policies (R&D tax credits and subsidies, support of the university research system and support of formal R&D cooperation) and to Cirera et al. (2020) for a review of 18 instruments that are direct support for innovation activities by firms, or by organizations or intermediaries (such as cluster organizations and incubators) that directly support firms. These 18 instruments exclude support to publicly funded research sector and government institutions.

130. **The section provides a summary of the main results from these two reviews and for the main instruments,** namely (i) grants and matching grants and (ii) tax incentives. Subsidies – tax incentives or matching grants – could compensate the wedge between social and private returns to innovation and encourage firm-level investment in innovation.

131. **Grants and matching grants have been the most common type of direct support instrument to firms.** They could be paid to firms to access services such as advice on investment readiness, to subsidize partly the R&D investment itself or to support collaboration between academia and industry. Evidence suggest that grants and matching grants tend to lead to increasing resources devoted to innovation and to more firms starting to invest in R&D. However, results are mixed when looking at outcomes like new products or patents and at the impacts on firm performance (Cirera et al, 2020).

132. **R&D tax credits have been the main instrument to spur innovation.** Previous studies on the impacts of R&D tax credits on innovation have focused mainly on policies in developed countries (Hall and Van Reenen, 2000). Not all papers find a positive impact of tax credits on R&D investments. But Hall and Van Reenen (2000) indicate that in OECD countries, “a dollar in tax credit for R&D stimulates a dollar of additional R&D”. Smaller firms tend to be more responsive than larger firms, but their

participation tend to be limited. A couple of studies find that there was an increased probability of developing new products or patents (Cirera et al., 2020).

133. **Few papers have looked into the impact of R&D tax incentives on firms operating in developing countries.** Crespi et al. (2016) in Argentina and Chen and Yang (2019) in China are the only evaluations of a R&D tax credit in a developing country. Both papers find that the effect on R&D spending is heterogeneous across industries, across size of firms and the type of R&D investment. But these studies only focus on R&D investment levels and not on R&D outcomes or firm performance. The reasons why evidence is limited in developing countries is that few countries are actually implementing such an innovation policy.

134. **Grants or R&D tax credits?** Most papers comparing these two instruments are found in developed economies. Evidence from these countries that the effectiveness of the two instruments depends on firm characteristics or the nature of the projects being supported. For instance, grants seem to be better suited than tax incentives for young, knowledge-based firms (Cirera et al., 2020). A similar result is found in Latin America by Crespi and Maffioli (2014). Grants appear to be more effective in encouraging new innovators and stimulating collaboration, although the risks of crowding-out effects are higher with grants than with loans or tax incentives". In addition, as pointed out in Cirera et al. (2020), for a R&D tax incentive to be effective, the government needs to make a long-term commitment of resources to sustain a scheme for R&D tax incentives for innovation, which has been challenging in developing economies.

135. **Certain developing countries may not be ready for large R&D investments and typical R&D instruments.** Using two main datasets (World Bank Enterprise Surveys and the World Management Surveys), Cirera and Maloney (2017) were able to look at the link between management practices and innovation in developing economies. The authors conclude that managerial practices are correlated with R&D intensity (measured as dollars per worker) and with innovation outputs. As shown by the World Management Survey team, management practice scores vary by countries and are strongly linked to the level of development (Bloom et al, 2012). Most of the African countries score low in management practices (see Annex X). As noted by Cirera and Maloney (2017), firms in developing countries need first to get the basics right, namely their managerial and organizational structure to be able to develop innovations.

136. **Many matching grants so far have been subsidizing business development services with the objective of having firms adopting new business practices** (CIIP, 2019). For instance, McKenzie et al. (2015) in Yemen show that firms that received a matching grant were more likely to upgrade their accounting systems, making more capital investments, etc.

137. **Innovation can be about imitating, adapting and absorbing an existing technology.** However, what we call *innovation* may be different between developing countries and developed economies. In advanced countries, an innovation corresponds to a "world-first" activity. In developing countries, it usually consists of marginal improvements in process and products or an imitation and adoption of existing technologies (Cirera and Maloney, 2017).

138. **It may be easier said than done to innovate by 'just' adopting existing technologies.** In an experiment in Pakistan, Atkin and al. (2015) investigate the adoption of a new technology associated to the production of soccer balls. The authors communicated on this new technology and the potential for cost savings. According to a conservative calculation, this new technology was able to reduce the total production cost by approximately 1 percent – significant when considering the mean profit margin of 8 percent for this cluster of small soccer ball producers. While the initial objective of the study was to look at the diffusion of this technology, the authors realized over the course of the evaluation that out of 35 firms provided with this technology, only five adopted it. Similarly, in Ghana,

Hardy and McCasland (2016) developed a new weaving technique involving a commonly available toy car to produce a specific pattern. This technology required training to produce the correct pattern. The authors noted that there was little take-up for this new technology. The authors had to adjust their experimental design to investigate diffusion dynamics by generating an artificial demand for this pattern produced with this technology. Why are firms not adopting these new technologies while the technology was easily available?

139. **Competition among businesses limits the diffusion of technologies.** Hardy and McCasland (2016) show that peer-to-peer technology diffusion may be challenging in the manufacturing and services sectors because firms compete for contracts. The authors randomly assign small-scale Ghanaian garment firms into four groups: one group received a training on the new technology, one group received an order for this specific design obtained from this specific technology without any training, one group received both and one group received neither. The intervention is designed in such a way that to produce this specific design, it is required to receive a training. Since firms in the second group are only able to respond to the order with a training from peers, the authors are able to investigate the impacts of experimental competition on technology diffusion. Hardy and McCasland (2016) find that an order increases the probability that firms would attend the training. This 'informal' training is mainly done by firms that were invited to the training and offered an order contract. Firms that received a training and did not get an order never teach the skill to other garment businesses.

140. **The diffusion of technologies can also be linked to principal-agent issues and organizational barriers to technology adoption.** In the experiment in Pakistan, Atkin et al. (2015) point out to principal-agents issue whereby incentives are not aligned. The reason behind the low adoption rate is that the new technology represents higher margins for owners, but not for the cutters. In this cluster, cutters were mostly paid a pure piece rate - and learning how to use this new technology would have slowed down the cutters, and hence reduced their pay in the short term.

141. **Access to existing technologies could be encouraged by stronger linkages between FDIs and domestic suppliers.** Abebe et. al (2018) consider the impact of FDIs on technology diffusion by investigating how the opening of a foreign plant in a district in Ethiopia affects the business performance of all other firms nearby. The RCT is designed to capture spillovers by comparing changes in total factor productivity (TFP) among domestic plants in "treated" districts (as defined by an operating large greenfield FDI plant) and "untreated" districts (as defined by licensed but not operational greenfield FDI). After four years of observations, the TFP of domestic plants is 8 percent higher in treated districts than in untreated districts. Moreover, the analysis show that following the entry of the FDI plant in a district, there is an increase in the number of domestic plant. The authors note that besides spillovers associated with the presence of FDIs, domestic plants may have benefited from government investments in infrastructure and worker training funds set up around the time of the entry of a FDI plant. Abebe et al. (2018) investigate the mechanisms that could explain these spillovers. They highlight a learning by observation phenomenon (horizontal linkages that occur as a result of more casual interactions) and customer and supplier relationships (backward and forward linkages in the supply chain) but not only.

142. **Even with low linkages to domestic suppliers, the presence of FDIs in a country can also generate diffusion of knowledge and technology through labor but only if labor regulations allow it.** The research on FDI and spillovers also points out to the paramount importance of labor market regulations. In the same paper as previously mentioned, Abebe et al. (2018) highlight the importance of labor flows from FDI to domestic plants in ensuring technology diffusion. Labor regulations that allow mobility for workers will favor more spillovers from FDI to local suppliers. Poole (2013) uses a matched establishment-worker database from Brazil to investigate multinational spillovers. These spillovers are measured as increases in the wages of existing domestic workers and then explained as

a function of the proportion of workers employed at the firm with some past experience in a FDI plant. Poole (2013) concludes that mobility of workers with multinational experience lead to wage spillovers in domestic firms. In addition, he finds that multinational workers with higher skills are better able to transfer information.

Box 2: Incubators and accelerators for startups

Incubators and accelerators have spread all over the world and are known for nurturing startups and hence innovation. Incubators and accelerators provide a package of support, ranging from technical assistance, co-working space, conferences, networking events, and in some cases seed capital. The objective of these structures is to nurture highly innovative entrepreneurs. The difference between incubators and accelerators lies in the maturity of the firm and the intensity and length of the program. An accelerator program are shorter than incubation program and usually includes training programs, mentoring and other a-la-carte services in a short period of time (2-5 months) that ends by a demo day with potential investors.

Gonzalez-Uribe and Leatherbee (2016) evaluated Start-Up Chile which offers participants an equity-free cash infusion, shared co-working office space, and the possibility of being selected into an entrepreneurship school. This accelerator consists of an access to international guests, peer networking, increased exposure to the community, greater supervision, seed funding and entrepreneurship know-how based on meeting with industry experts. Having access to the "full package" led to significantly higher venture fundraising (21.0 to 45.5 percent increase in the probability of securing additional financing), valuation (fivefold increase) and scale (twice the number of employees) within the first four and a half years. By contrast, the "basic package" (seed funding and co-working space) did not appear to have an impact on fundraising, scale or survival. The authors considered four mechanisms at play; the importance of greater social clout, the provision of an accountability structure that induces entrepreneurs to articulate and reflect about specific strategic tasks, an increase in self-efficacy, and knowhow about building a start-up.

Similarly, Yu (2016) matched 900 accelerator companies with 900 non-accelerator companies and investigated the role of accelerators in terms of impact funding, acquisitions and closures. The author concluded that self-selection and accelerator feedback enable entrepreneurs to make decisions in a swiftly manner. As a result, accelerator companies raised less money, closed down earlier and more often, but when they did survive, investments were more efficient.

A recap for practitioners

143. **The main instruments to spur innovation have been grants (or matching grants) and R&D tax credits.** Evaluations of these instruments have been found mostly in developed economies as few innovation policies have been set up in developing countries. It is then challenging to infer that what works in developed economies could also work in developing ones, where and when the basics still need to be seen. In a context of a narrow tax systems, matching grants appear to be easier to implement than R&D tax credits.

144. **There are pre-requisites to any innovation policies. Firms need to adopt more modern management practices.** Many matching grants so far have been subsidizing business development services with the objective of having firms adopting new management practices.

145. **But innovation is not just about creating new products or patents, it may also be about adapting an existing technology and adopting it.** One may need to think about the potential constraints that could hinder the adoption of these technologies. These constraints may sometimes appear far from the topic: labor regulation, pay scheme, competition issues.

146. **The promotion of FDI is also key to innovation.** Local firms could mimic new processes or try to develop technologies seen in FDI. The main channel for diffusion of technologies from FDI to local remains labor though.

5. MARKET-LED SHOCKS

147. This review has so far focused on the supply side of the market but the demand side is equally important, especially for firms at a later stage of development. The impacts of demand shocks on firm performance have been studied in Colombia by Eslava and Haltiwanger (2017). The authors find that demand shocks become increasingly important for firms as they get older. At early stages of development, demand shocks do not explain much of the variance of firm performance: distortions explain half of the variance. But at years 10 and 40, demand shocks explain respectively 20 and 40 percent of the variance.

148. Theoretical framework and models to explain the link between demand shocks and firm growth are well studied. But empirical evidence is still lagging behind and experiments that generate exogenous variations in demand and measure their impacts are almost inexistent. And yet, access to market is consistently one of the main constraints cited by firms, especially smaller ones.

149. The first and obvious constraint to markets is trade costs. For instance, the development or renovation of road networks significantly lowers trade costs and hence spur the development of firms. In India, Ghani et al. (2016) investigated the impact of upgrading of the Golden Quadrilateral (GQ) highway system using repeated cross-sectional surveys of formal manufacturing establishments from 1994-5 to 2009-10. The analysis consists of comparing the number of establishments and growth of these establishments in districts located 0-10 kilometers from the GQ network to districts 10-50 kilometers away. The results suggest that output levels in the districts along the road network have grown by 49 percent over the observed time period. This upgrading lead to more entrants and heightened output levels for both incumbents and the young cohorts of firms. Similarly, the upgrading of roads in Ethiopia lead to higher outputs levels, mainly associated with the size of new entrants (Shiferaw et al, 2015). In these two examples, the lack or the poor quality of road infrastructure limit the degree of market integration. Other forms of trade costs can tie firms to local markets, namely high export tariffs, no access to a port, market structure of shipping companies, etc. Any measures that reduce these trade costs can generate important demand shocks that could spur firm growth.

150. The lack of information is also a reason that firms may find it difficult to capture customers outside their local market. Informational frictions can lead to highly localized markets. Jensen and Miller (2018) consider a natural experiment in India whereby the spread of mobile phones lead fishermen to start selling outside their initial local market and hence, start getting information about boat builders. The authors identified all landing boats in two districts in Kerala and conducted brief surveys with owners of boats to better understand the lifespan of their boats and their knowledge of boat builders. They also interviewed all boat building firms at regular intervals to get information about their firm performance. These surveys were conducted at regular intervals for 6 years. Jensen and Miller (2018) find that as fishermen start using mobile phones, they are selling fish further away. This phenomenon has led to a better integration of fish markets but also of the boat industry. While fishermen used to buy boats from the nearest village, they then started buying better boats from other villages, hence resulting in low-quality builders losing market share and high-quality builders gaining market share and growing in size.

151. Besides the usage of mobile phones, other ways can help customers identify potential suppliers. In China, Cai and Szeidl (2017) conduct a randomized evaluation to study the impact of business relationships on firm performance of small and medium enterprises (SMEs). The intervention organized 2,820 firms into business associations. The study finds that monthly meetings among SMEs substantially and persistently increase firm performance; these meetings increase firm revenue by 8.1 percent, and significantly increase profits, the number of partners, borrowing, and overall management score. The results suggest that these meetings improve partnering for both customers and suppliers,

leading to an increase in sales and employment. The authors highlight the importance of meetings in creating trust between managers; managers attending regular meetings exhibit 3 times more trusting behavior towards their peers than the ones in the regular group. Similarly, As shown in Brooks et al. (2016), the mentoring interventions lead to substantial and positive increase in profits but without any significant changes in management practices. The reason is the changes of suppliers generated by better information flow about the best suppliers provided by the mentors.

152. **Producers may not be able to go beyond the local market because their products do not match the requirements and/or demand of other markets.** Atkin, Khandelwal and Osman (2017) present an interesting example of integration of small businesses into export markets. Alongside Aid-to-Artisans (ATA, a US-based NGO), a lead intermediary based in Egypt matched small rug producers to foreign buyers. While they tried to sell domestic-style rugs at first, foreign buyers appeared more interested in “modern” designs. They then secured an order with a German buyer and presented the design to rug producers. All rug producers in the experiment were provided with input threads and two loom components. The lead firm discussed the technical aspects of the new design with all rug producers. The protocol experiment started after the provision of inputs and training. The lead firm placed order with one group of rug producers (treatment group) and was not allowed to work with the other one (control group). The results are remarkable with treated beneficiaries (i.e. the ones supported by the lead intermediary and linked to foreign buyers) reporting 16-26 percent higher profits and a significant increase in productivity. Access to export markets was highly beneficial for these small rug producers.

153. **Firms in developing countries may be too small to bear the cost of accessing new markets.** In developing countries, most firms are micro and small, hence the cost of accessing new markets may be too costly. As shown by Atkin, Khandelwal and Osman (2017), it took ADA and the lead intermediary more than two years to generate sustained export orders from foreign buyers. Exporting requires many different time-consuming and expensive steps, such as accessing information about potential buyers, information about requirements, meeting the requirements, norms and standards, generating orders in foreign countries by participating to trade fairs and shows etc. Accessing new markets can generate fixed costs (not proportional to the size of the firm), that can be difficult to bear as a small or young firm. A lead intermediary enables the aggregation of products from micro and small firms; they found the buyers abroad and they ensure quality control on all products being shipped.

154. **For instance, micro, small and medium firms face challenges when it comes to participating to public procurement.** This problem is widely acknowledged. For instance, after broad consultations with SMEs in the European Union, the conclusions were that SMEs could not access public contracts due to lots' size that were not in line with SME's capacity and due to complicated rules that were requiring a huge amount of time spent on purely bureaucratic matters. It was asked to European governments to divide contracts into smaller lots when possible and to reduce and streamline documentation requirements.

155. **Government policies can facilitate access to SME to public contracts which creates a demand shock with long-lasting effects on firm performance.** Ferraz et al. (2016) exploited an interesting feature of the Brazilian auction system for public contracts, namely a random deadline for submission set within a 30-minute window. The authors find that “winning at least one contract in a given quarter increases firm growth by 2.2 percentage points over that quarter, with 93 percent of the new hires coming from either unemployment or the informal sector.”

156. **Most interventions to spur demand are outside the scope of this note, i.e. they are not directly design and made for firms.** Transportation and information infrastructure are public goods but should not be underestimated when looking at private sector growth and jobs.

157. **Other interventions relate to ways of linking demand with supply.** Business associations – when well organized – could play a role in creating trusts among firms that will then start buying from each other. Export agency or any private actors could play the role of aggregating smaller players and linking them to international buyers. Lastly, public contracts could generate a steady and secure demand for young or small firms. For SMEs to access these contracts, the government needs to adjust their bids with smaller lots and less requirements (or more handholding for SMEs).

6. MORE RESEARCH NEEDED

158. **Screening.** As shown in many evaluations, the effectiveness of an instrument depends on firm and entrepreneur characteristics. For instance, among the myriad of household enterprises, a majority are entrepreneurs by necessity and would probably be better off as wage workers. But some can be microenterprises or entrepreneurs by choice, though they probably represent a minority. An even smaller proportion could potentially develop into startups when given the right support. The main issue is to know *ex ante* who could turn into a successful entrepreneur. There is a need to go beyond the common characteristics of size and age of the firms. Good screening methods, especially those using personality traits of the entrepreneurs, can certainly help distinguish between the three categories of entrepreneurs (entrepreneur by necessity, microenterprises and startups) to provide the most adequate support.

159. **Capital.** The research on access to finance for micro-enterprises is well developed. More could be done though on understanding how policy makers could tweak requirements and rules tied to credit to better support microenterprises while being cost-effective; more flexible debt contracts, or grace periods that appear to have more substantial effects.

160. **When it comes to larger firms, questions are still pending.** They are likely to be the segment of firms with the most important potential for job creation. Yet, the question is how to incentive these firms to include jobs in their strategic decision. A new generation of support tries to include jobs into the selection of beneficiaries for grants or credits with the issue of eliciting the right information on jobs.

161. **Labor.** There has been way less empirical evidence on labor than the other factors. The existing literature focuses mainly on skilling the unskilled or subsidizing wages. But only a handful of these impact evaluations measure the impacts on firm performance. For unskilled workers, wage subsidies have been widely used but with little evidence that they are effective instrument from a firm perspective.

162. **The literature is scarce when it comes to hiring frictions.** More importantly, this constraint is often underestimated while it could bring low-hanging fruits. More work is needed to identify more systematically the possible hiring frictions.

163. **More research is also needed when it comes to skilled workers and managers.** We know quite a lot about frictions in matching unskilled workers with firms (search costs for unskilled workers, inexperience, etc.) but much less when it comes to skilled workers or managers. Few interventions try to reduce these matching frictions for skilled workers or managers.

164. **Know-how and technology.** Research shows heterogeneous results and indicate that the intervention needs to be adapted to the size, age, initial capability of firms and the personality and ability of the business owner. But other areas could be further investigated.

165. Interviews with self-employed or owners of microenterprises suggest that the choice of the sector in which they operate is usually based on the perceived gains of relatives, neighbors or friends operating in this same sector. This choice is not made following considerations of market size, demand from customers and/or comparative advantages. This can explain why many household enterprises go bankrupt relatively fast. The choice of the business line and this ideation phase have not been investigated yet.

166. Most evaluations focus on financial management training and to a lesser extent, on marketing. But few (if any) offer substantial HRM courses (see review by McKenzie and Woodruff, 2013). Training programs that deal with hiring procedures, selection of key staff or reward mechanisms can substantially increase worker productivity. Indeed, evidence suggests a substantial impact on qualified managers and performance-based human resources (like pay premium) on firm growth (Bender et al., 2016) through an increase in labor productivity. HR-focused training programs can have both a direct and an indirect effect on costs; direct, because with the same number of workers, the company is able to produce more; and indirect, because better HRM policies can have a positive impact on worker retention, thus reducing training costs and search costs for new workers.

167. On the innovation side, empirical research has focused mainly on developed countries. Lessons from these countries are difficult to apply in a context whereby basics are missing. More pilots and evaluations are needed to test rigorously the same instruments used in developed economies in developing countries.

168. **Market shocks.** While limited demand is probably the main constraint for micro, small and medium enterprises, study of this is generally lacking. We observe that SMEs firms face difficulties linking with buyers in general. While the fixed costs of link formation may be one reason for this, other constraints seem to be unidentified remain unclear. For example, the products or services by household enterprises may not meet the minimum requirements and quality; they may meet these requirements, but entrepreneurs do not know how to signal the compliance (or quality) of their products; for buyers. It may go beyond compliance and quality and be about the trustworthiness of the potential suppliers. Lastly, there is a need to better understand how to encourage aggregation of small players.

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Annex 1 : Firm-level interventions with RCT

ACCESS TO FINANCE

*Table 2: Experiments addressing the constraint **Access to Finance** and characteristics of firms*

Reference	Country	Summary of Intervention	Existing or New?	Years of education	Size of Firm
Alfonsi 2017	Uganda	Wage subsidies to train workers on-the-job	New	7-11 years	NA
Almeida 2008	Argentina	6-month grants to purchase inputs and equipment	Existing	8 years or more	2
Angelucci 2015	Mexico	Microcredit group loans (125-2250 USD)	Both	29% primary or less 40% middle school 23.5% high school	0.133 (family members)
Bandiera 2013	Bangladesh	Asset-based transfers	New	None	0
Berge 2015	Tanzania	Business grant	Existing	0-18 years	1.08
Bianchi and Bobba (2013)	Mexico	120 Pesos monthly cash transfer	Both: 53 % unemployed, 39 % salaried and 8 % self-employed	2.7 years of education	NA
Blattman 2013	Uganda	Cash grant (\$150)	New	Little to None (average 2.8 years)	0
Blattman 2016	Uganda	Cash grant (\$150) + Basic business skills training	New	Little to None (average 2.81 years)	0
de Mel 2008	Sri Lanka	Small sized in-kind grant \$100-200	Existing	9 years	0
		Small sized cash grant \$100-200			
de Mel 2014	Sri Lanka	Cash grant	Both	Average 10 years	NA
Fafchamps 2011	Ethiopia, Tanzania, Zambia	Cash grant (US \$1000) to winners of Business plan competition	New	average 5.54 (on scale of 1=none to 7=university)	0
Fafchamps 2011	Ghana	USD 120 grant in-kind	Existing	8.87 on average	0
		USD 120 grant cash			
Fiala 2018	Uganda	USD 180-200 loan (20 % interest rate and 50 % collateral)	Existing	80 % literate	0.369

		USD 200 grant cash	Existing		
Field 2013	India	Extended grace period in repaying loans	Both	NA	NA
Gine and Mansuri 2011	Pakistan	Microfinance loan	Both	Average 3.92	2.43
Gine 2014	Philippines	Microcredit without group liability (for existing clients)	Both	NA	NA
		Microcredit with group lending versus group liability (new clients)			
Haushofer 2016	Kenya	Cash grants – monthly	Both (households)	8.5 years of education	-
		Cash grants – lump sum	Both (households)		
Karlan 2015	Ghana	Capital Grant	Existing	Literacy level (1: low; 5: high): 1.30	0.35
Macours 2012	Nicaragua	Productive investment grant (\$200)	Both	2.5 years	NA
McKenzie 2008	Mexico	Small sized grants (\$140)	Existing	6.6 years	0
McKenzie 2016_1	Republic of Yemen	Matching grant up to \$10,000 to subsidize consulting	Existing	NA	14.8
McKenzie 2017_1	Nigeria	Grants averaging \$50000	Both	65% have university education	7.5
Riley 2019	Uganda	Cash disbursement	Existing	80% completed primary	0
		Mobile money disbursement			
Tarozzi 2014	Ethiopia	Microcredit loans	Existing	Low (73% with no education)	5 (HH members)

Note: Size of firm reports on the average number of employees at the beneficiary firms.

*Table 3: Experiments addressing the constraint **Access to Finance** and Impacts*

				Impacts on...			
Reference	Country	Summary of Intervention	Size of Firm	Investments (I), or Assets (A)	Business survival/Creation	Profits (P), Sales (S) or Income (I)	Employment
Alfonsi 2017	Uganda	Wage subsidies to train workers on-the-job	NA	NA	NA	Monthly Earnings: +20% (I)	Has done any paid work: +6.3 % ^{***} (pp)
Almeida 2008	Argentina	6-month grants to purchase inputs and equipment	2	NA	NA	NA	Hours of employment: +14-18 (hours)
Angelucci 2015	Mexico	Microcredit group loans (125-2250 USD)	0.133 (family members)	Any loan from MFI: +50%	Has a business that was started in last 12 months: (-0.007) (pp) No longer has a business: 0.001 (pp)	0 (P)	NA
Bandiera 2013	Bangladesh	Asset-based transfers	0	NA	Shift from wage work to self-employment: +50%	Earnings: +38%	Y2: Self-employment: +13.9 % ^{***} (pp) or Engaged in both occupations: +12.7 ^{***} Y4: self-employmentL +15.4 % ^{***} (pp) or Engaged in both occupations: +8.4 % ^{***}
Berge 2015	Tanzania	Business grant	1.08	Male: +4.86% (I) Female: +21.37% (I)	NA	Male: 2.5-5.7% (P) Female: -0.6.7 - 1.2% (P)	Male: 0.015 (num of workers) Female: 0.174 (num of workers)
Bianchi and Bobba (2013)	Mexico	120 Pesos monthly cash transfer	NA	NA	Proba of becoming entrepreneurs: +0.9 pp (compared to 4 % for the control group)	NA	NA

Blattman 2013	Uganda	Cash grant (\$150)	0	Durable Assets: +30-50%	NA	Monthly Earnings: +89% (l)	Total hours of employment in the past 4 weeks: +61%
Blattman 2016	Uganda	Cash grant (\$150) + Basic business skills training	0	Business Assets: +57%	NA	Earnings: +38%	Self-employment: +40.1*** (pp)
de Mel 2008	Sri Lanka	Small sized in-kind grant \$100 -200	0	HH Asset Index: +5.29	NA	10000 LKR: +385 (3.8 % return on capital) 20000 LKR: +809 (4.0 % return on capital)	Hours worked: +4-+6 (\$100 grant)
		Small sized cash grant \$100-200	0	HH Asset Index: - 2.43	NA	10000 LKR: +577 (5.7 % return on capital) 20000 LKR: +809 (4.0 % return on capital)	Hours worked: - 0.57 - +2.37 (\$200 grant)
de Mel 2014	Sri Lanka	Cash grant (after a training)	NA	NA	Capital stock: 12.39%	Existing: +16.8% New: +15.4 %	Hours worked: +1.932
Fafchamps 2011	Ethiopia, Tanzania, Zambia	Cash grant (US \$1000) to winners of Business plan competition	0	NA	Self-employed: +33%	Total monthly sales: +51.2% Total monthly profits: +36.9%	Self-employment: +33.3% Self-employment hours per day: +2.509 (hours) No. of permanent employees: +2.035 (num)
Fafchamps 2011	Ghana	USD 120 cash grant	0	NA	NA	Real monthly profit: +0.48 - +14.50 (cedi)	NA
		USD 120 in-kind cash	0	NA	NA	Real monthly profit: +30.87 - +43.23 (cedi)	NA
Fiala 2018	Uganda	USD 180-200 loan (20 % interest rate)	0.369	Men: +2130 Women:-441.2		Profits: +38.26 Men: +337.8 (67.4 %)	Men: -0.0208

		and 50 % collateral)				Female: - 151.4	Women: -0.178
		USD 200 grant cash		Men: +1517 Women: -190.5		Profits: -1.113 Men: +267.9 (53 %) Female: - 155.0	Men: -0.109 Women: -0.113
Field 2013	India	Extended grace period in repaying loans	NA	NA	New Business: +2.68% Business closures: - 6.69%	Average weekly profits: +57.13%	<i>Self-employment:</i> <i>+5.4-13.9% (hours)</i>
Gine 2011	Pakistan	Microfinance loan	2.43	HH Expenditures and Assets: 0.061 (s.d.)	Main business failed: - 1.40%	Aggregate sales and profits: 0.064 (pp)	NA
Gine 2014	Phillipines	Microcredit without group liability (for existing clients)	NA	Active accounts (at MFI): +18.41%	NA	NA	NA
		Microcredit with group lending versus group liability (new clients)	NA	New Accounts (at MFI): +33.47%	NA	NA	NA
Haushofer 2016	Kenya	USD400 Cash grants – monthly	NA	Value of nonland assets: -91.85 (control: 494.8)	NA	Monthly revenues: 16.33	NA
		USD400 Cash grants – lump sum		Value of nonland assets: +301.51 (control: 494.8) Female recipient: - 79.46	NA	Monthly revenues: +16.15 (+4.1% return on capital monthly) Female recipient: 5.41	NA
Karlan 2015	Ghana	Capital Grant	0.35	Total investment, savings and avoided loans: -245.6 (net)	NA	Stated Income: - 41%	Total hours worked: +1.76% Total staff: -12%

Macours 2012	Nicaragua	Productive investment grant (\$200)	NA	NA	HH wellbeing (total food consumption per capita): +9.67% HH wellbeing (total non-food consumption per capita): +8.99%	Per capita income: +4.56%	NA
McKenzie and Woodruff 2008	Mexico	Small sized grants (\$140)	0	NA	NA	Returns to capital: +20% - +30%	NA
McKenzie 2016_1	Republic of Yemen	Matching grant up to \$10,000 to subsidize consulting	14.8	New capital investment: +181%	No. of innovative activities: +110%	Sales growth: +151%	Owners labor hours: +10.7% Business survival: 0.052***
McKenzie 2017_1	Nigeria	Grants averaging \$50000	7.5	Took a formal loan (new firm): +68.18% Took a formal loan (existing firm): +1.60%	New firm creation: +69% Existing firm survival: +25.7%	NA	3 rd follow-up: +5.227*** (new firms) 3 rd follow-up: +4.425*** (existing firms)
Riley 2019	Uganda	Cash disbursement	0	Value of business assets: +7.73%	Savings: +0.6%	Profit: +2.63% Monthly sales: +4.91%	NA
		Mobile money disbursement	0	Value of business assets: +20.62%	Savings: +5.44%	Profit: +16.12% Monthly sales: +15.57%	NA
Tarozzi 2014	Ethiopia	Microcredit loans	5 (HH members)	Credit access: +450%	NA	NA	Self-employment (non-farm business): -2.36%

LABOR

Table 4: Experiments addressing the constraint **Labor** and characteristics of firms

Reference	Country	Summary of Intervention	Existing or New?	Years of education	Size of Firm
Alfonsi et al. (2017)	Uganda	a USD50 wage subsidies to hire and train apprentices	Existing	NA	2.95 (micro excluded)
Bertrand and Crépon	South Africa	Provision of information on labor laws and regulation	Existing	NA	80
Bruhn (2020)	Mexico	Wage subsidies to maintain employment	Existing	NA	9.7
De Mel et al. 2016	Sri Lanka	wage subsidies to microenterprises	Existing	10.35	0.19
Groh et al. (2012)	Jordan	Wage subsidies as vouchers to workers	Existing	NA	NA
Hardy and Casland 2015	Ghana	Worker screening technology	Existing	8.95	0.53
McKenzie 2015	Republic of Yemen	50 percent subsidy to firms towards the cost of employing an intern for 6 months	Existing	NA	NA

*Table 5: Experiments addressing the constraint **Labor and Impacts***

Reference	Country	Summary of Intervention	Probability of being employed	Number of jobs
Alfonsi et al. (2017)	Uganda	a USD50 wage subsidies to hire and train apprentices		-0.26
Bertrand and Crépon	South Africa	Provision of information on labor laws and regulation	NA	+11.8 (num)
Bruhn (2020)	Mexico	Wage subsidies to maintain employment	NA	+24.3 %
De Mel et al. 2016	Sri Lanka	Wage subsidies to microenterprises	NA	During subsidy: +0.204 Y1: +0.124 Y2: 0.047 Y3: -0.024
Groh et al. (2012)	Jordan	Wage subsidies as vouchers to workers	Retention in the firm: +38 % after voucher +1.7 4 months after the voucher ends	
Hardy et al. 2015	Ghana	Worker screening technology	NA	+0.52*

McKenzie 2015	Republic of Yemen	50 percent subsidy to firms towards the cost of employing an intern for 6 months	+17.2 % (pp)	NA
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* Total number of workers, not only paid workers

KNOW-HOW

*Table 6: Experiments addressing the constraint **Lack of Know-How** and characteristics of firms*

Reference	Country	Summary of Intervention	Existing or New?	Years of education	No of employee (baseline)
Adoho et al. 2014	Liberia	Entrepreneurship training	New	Started or completed high school	0
Anderson et al. 2016	South Africa	Financial Training	Existing	NA	1.3 - 1.6
		Marketing Training			
Anderson and McKenzie 2020	Nigeria	Intensive business training	Existing	Owner has undergraduate education: 0.39 percent Owner has a master or more education: 48 percent	4.3
		Consulting service			
		Insourcing (wage subsidy to incentivize firms to hire an accountant of marketer)			
		Outsourcing (specialized firm in accounting or marketing to perform the tasks in the business)			
Barsoum et al. 2018	Egypt	Edutainment program designed to promote entrepreneurship	Both	33.5% higher education degree	NA
Bastian et al. 2017	Ethiopia	Business training	Existing	NA	NA
		Mentoring			
Berge et al. 2015	Tanzania	Business training	Existing	7.933 years	1.08
Bjorvatn and Tungodden, 2010	Tanzania	Business Training	Existing	0-18 years (Average 8.14)	NA
Bloom et al. (2013)	India	Consulting	Existing	NA	270
Brooks et al. 2016	Kenya	Mentorship program	Existing	58% w/ secondary education	0.38
		Business training		58% w/ secondary education	0.38

Bruhn and Zia, 2013	Bosnia and Herzegovina	Business and financial literacy program	Both	85% completed Secondary school	2.08
Bruhn et al. 2013	Mexico	Consulting services	Existing	15.6 years	14.4
Calderon et al. 2013	Mexico	Business training	Both	6 years	1.6
Campos et al. 2017	Togo	Entrepreneurship training	Existing	9 years	3
		Personal Initiative training			
Chatterji et al. 2018	India	Managerial advice from peers	Existing	N/A	12.6
Cusolito et al. 2018	Croatia Kosovo Macedonia Montenegro Serbia	Investment readiness program/Coaching	Existing	50% have post-graduate degrees	6.47
Dalton et al. (2018)	Indonesia	Handbook of more efficient local business practices	Existing	9.4 years	2.0
		Handbook + videos from successful peers			
		Handbook + consultant			
De Mel et al. 2014	Sri Lanka	Business training	Both	Average 10 years	NA
Drexler et al. 2014	Dominican Republic	Standard accounting training	Existing	35% have high school or higher	0.8
		Rule-of-thumb financial literacy training			
Field et al. 2016	India	Financial Literacy Training	Both	6.4 years	0
Giné and Mansuri, 2011	Pakistan	Business training	Both	Average 3.92	2.43
Higuchi et al. 2016	Tanzania	Business training	Existing	10 years	5
		Onsite training ("consulting")			
		Business training + onsite training ("consulting")			
Higuchi et al. 2017	Vietnam	Management Training + Onsite training ("consulting")	Existing	Average 7 years	16
Iacovone, 2017	Mexico	Business training	Existing	11 years	0.8
Iacovone et al. 2019	Colombia	One-to-one consulting	Existing	N/A	59

		Group-based consulting	Existing	N/A	59
Karlan et al. 2015	Ghana	Consulting	Existing	Literate	0.35
Karlan and Valdivia 2011	Peru	Entrepreneurship training	Existing	0	0.28
Klinger and Schündeln, 2011	El Salvador, Guatemala, Nicaragua	Business training	Both	0	8
Lafortune et al. 2017	Chile	Entrepreneurship training with role models	Both	50% of high school diploma	0.43
		Tailored technical assistance			
Mano et al. 2012	Ghana	Management Training	Existing	10 years	5
McKenzie and Puerto, 2017	Kenya	Business training	Existing	8.9 years	0.27
Premand		Business training	New		
Ubfal et al. 2019	Jamaica	Soft-skills training	Both	61% have more than secondary education	0.4
		Business training			
Valdivia, 2013	Peru	Business Training	Existing	10 years	0.23
		Business Training with Technical Assistance			

*Table 7: Experiments addressing the constraint **Lack of Know-How** and Impacts*

Reference	Country	Summary of Intervention	Business practices (a)	Profits or Sales (b)	No of workers
Adoho et al. 2014	Liberia	Entrepreneurship training	NA	112 % (S)	NA
Anderson et al. 2016	South Africa	Financial Training	Finance index: 0.648 (s.d.) Marketing index: 0.303 (s.d.)	+ 34 %	+ 0.5354 (num)
		Marketing Training	Finance index: 0.368 (s.d.) Marketing index: 0.537 (s.d.)	+ 46 %	+ 0.9491 (num)

Anderson and McKenzie 2020	Nigeria	Intensive business training	Overall index One year after intervention: -0.007 Two year after intervention: +0.002	One year after intervention (yearly P): 0.202 Two year after intervention (yearly P): 0.656	One year after intervention: +0.018 Two years after intervention: +0.112
		Consulting service	One year after intervention: +0.042 Two year after intervention: +0.065	One year after intervention (yearly P): -0.635 Two year after intervention (yearly P): 1.194	One year after intervention: +0.068 Two years after intervention: +0.245
		Insourcing (wage subsidy to incentivize firms to hire an accountant of marketer)	One year after intervention: +0.058 Two year after intervention: +0.059	One year after intervention (yearly P): 0.620 Two year after intervention (yearly P): 0.471	One year after intervention: +0.047 Two year after intervention: +0.123
		Outsourcing (specialized firm in accounting or marketing to perform the tasks in the business)	One year after intervention: +0.066 Two year after intervention: +0.073	One year after intervention (yearly P): 0.501 Two year after intervention (yearly P): +1.393	One year after intervention: +0.091 Two years after intervention: +0.210
Barsoum et al. 2018	Egypt	Edutainment program	NA	NA	NA
Bastian et al. 2017	Ethiopia	Business training	(-0.010; +0.178)	+ 65 %	NA
Beaman et al. 2014	Kenya	Information about losses related to changeouts	Likelihood of having changeouts: -8% (pp)	+ 8 %	NA
Berge et al. 2014	Tanzania	Business training	(-0.087; 0.255) (pp) for male (0.017 – 0.173) (pp) for female	30.5 % for male -3 % for female	-0.053 (perc) 0.174 (perc)
Bjorvatn and Tungodden, 2010	Tanzania	Business Training	NA	NA	NA
Bloom et al. (2013)	India	Consulting	+0.258 (scale of 0-1)	+9 % (output)	NA

Brooks et al. 2016	Kenya	Mentorship program	0.140 (s.d.)	+ 23 %	NA
		Business training	0.118 (s.d.)	+ 4 %	NA
Bruhn and Zia, 2013	Bosnia and Herzegovina	Business and financial literacy program	Mixed: 0.223 (s.d.) Male: 0.228 (s.d.) Female: -0.021 (s.d.)	Mixed: -15 % Male: - 39% Female: + 70 %	Mixed: - 0.02 (num) Male: 0.17 (num) Female: -0.82 (num)
Bruhn et al. 2013	Mexico	Consulting services	(0.035 – 0.072) (s.d.)	NA	+2.66 (num)
Calderon et al. 2013	Mexico	Business training	Uses formal accounting methods: +4.7 % (pp)	21.5 %	+0.085 (num)
Campos et al. 2017	Togo	Entrepreneurship training	+ 6.0 % (pp)	11.1 %	-0.088 (num)
		Personal Initiative training	+ 5.4 % (pp)	30.0 %	+ 2.77 (num)
Chatterji et al. 2018	India	Managerial advice from peers	NA	NA	+ 2 (num)
Cusolito et al. 2018	Croatia Kosovo Macedonia Montenegro Serbia	Investment readiness program	NA	NA	NA
Dalton et al. (2018)	Indonesia	Handbook of more efficient local business practices	Record keeping practices: (0.015-0.032) (num)	-12.5 %	+0.052 (num)
		Handbook + videos from successful peers	(0.029 – 0.077)	+10.5 %	+0.139 (num)
		Handbook + consultant	(0.026 – 0.081)	+38.1 %	+0.032
De Mel et al. 2014	Sri Lanka	Business training	+1.5 (num) (ITT)	Existing: +4 % New: 43 % (R4 and R5)	NA
Drexler et al. 2014	Dominican Republic	Standard accounting training	0.08 (s.d.)	-6.7 % (S)	+ 0.07 (num)
		Rule-of-thumb financial literacy training	0.14 (s.d.)	+ 6.3 % (S)	- 0.05 (num)

Fafchamps and Quinn 2015	Zambia, Tanzania, Ethiopia	Being part of a jury	0.033-0.103 (pp)	NA	NA
Field et al. 2016	India	Financial Literacy Training	NA	- 5 % (household income)	NA
Giné and Mansuri, 2011	Pakistan	Business training	0.114 (s.d.)	-11.4 %	NA
Higuchi et al. 2017	Vietnam	Business training (in-class)	1.8 (num)	168 %	NA
		Onsite training ("consulting")	3.6 (num)	56 %	NA
		Business training + onsite training ("consulting")	4.2 (num)	360 %	NA
Higuchi et al. 2016	Tanzania	Business training (in-class)	3.0 (num)	-0.6 %	NA
		Onsite training ("consulting")	3.3 (num)	5.9 %	NA
		Business training + onsite training ("consulting")	2.8 (num)	50.1 %	NA
Iacovone, 2017	Mexico	Business training + Personal Initiative Training	0.067 (s.d)	11.5 %	+0.12 (num)
Iacovone et al. 2019	Colombia	One-to-one consulting	+ 9.6 (num)	-9.3 %	+1.22 (num)
		Group-based consulting	+8.5 (num)	15.5 %	+6.8 (num)
Karlan et al. 2015	Ghana	Consulting	0.0284 (s.d.)	-0.7 %	+0.047
Karlan and Valdivia 2011	Peru	Entrepreneurship training	Keeping records: 0.03-0.079	1.9 % (S)	+0.019
Klinger and Schündeln, 2011	El Salvador, Guatemala, Nicaragua	Business training	NA	NA	NA
Lafortune et al. 2017	Chile	Entrepreneurship training with role models	Marketing actions: 0.05 Business analysis: - 0.00	+12.6 %	-0.00
		Tailored technical assistance in class	Marketing actions: 0.02	+6.2 %	0.05

			Business analysis: -0.19		
		Tailored technical assistance in business	Marketing actions: 0.14 Business analysis: - 0.28	+ 12.7 %	0.12
Mano et al. 2012	Ghana	Management Training	0.24-0.42 (p.p)	+54 %	NA
McKenzie and Puerto, 2017	Kenya	Business training	0.033	+8.9 %	NA
		Business training + Mentoring	0.096	+8.3 %	NA
Premand	Tunisia	Business training	NA	NA	NA
Ubfal et al. 2019	Jamaica	Personal initiative training + Soft-skills modules	0.04	-0.08	NA
		Personal initiative training + Business training modules	0.03	-0.08	NA
Valdivia, 2013	Peru	Business Training	0.01 (s.d)	9 %	-0.02
		Business Training with Technical Assistance	0.05 (s.d)	20.4 %	-0.049

Note: NA for Not applicable; Coefficients that are statistically significant are highlighted in yellow. Coefficients are reported either in standard deviation of a normalized aggregate (s.d.), percentage points (p.p.) or number of distinct practices improved.

(a) Z score if not otherwise specified; (b) profits are reported when available.

ANNEX 2: KEY RESSOURCES TO KNOW MORE ON FIRMS

World Bank Enterprise Survey

An Enterprise Survey is a firm-level survey of a representative sample of an economy's private sector. The surveys cover a broad range of business environment topics including access to finance, corruption, infrastructure, crime, competition, and performance measures. Since 2005-06, nearly all data collection efforts have been centralized within the Enterprise Analysis Unit, where a Global Methodology was developed and applied ever since. To date, over 164,000 interviews in 144 countries have taken place under the Global Methodology. More detailed information about the Enterprise Surveys can be found on the [Methodology page](#).

The Enterprise Surveys Unit uses two instruments: the Manufacturing Questionnaire and the Services Questionnaire. Although many questions overlap, some are only applicable to one type of business. For example, retail firms are not asked about production and nonproduction workers.

The standard Enterprise Survey topics include firm characteristics, gender participation, access to finance, annual sales, costs of inputs/labor, workforce composition, bribery, licensing, infrastructure, trade, crime, competition, capacity utilization, land and permits, taxation, informality, business-government relations, innovation and technology, and performance measures.

Over 90 percent of the questions objectively ascertain characteristics of a country's business environment. The remaining questions assess the survey respondents' opinions on what are the obstacles to firm growth and performance. The mode of data collection is face-to-face interviews.

World Management Survey

The WMS methodology is described in detail in Bloom and Van Reenen's 2007 management paper, *Measuring and Explaining Management Practices Across Firms and Countries*. In summary, the methodology allows interviewers to:

- Obtain and conduct interviews with senior managers by 1) monitoring interviewer's performance in contacting firms and scheduling interviews, 2) presenting the study as a "piece of work" and the interview as a confidential conversation about management experiences without any mentioning of the organization's financial performance, 3) sending informational letters as well as copies of country endorsements letters if necessary, and 4) starting with non-controversial questions of management practices within the organization.
- Ensure the collection of accurate responses through a blind technique by 1) conducting a telephone survey without informing the managers that their answers will be evaluated against a scoring grid and thus, gathering information about actual management practices (as opposed to manager's aspirations, perceptions and interviewer's impressions), 2) asking open-ended questions until an accurate assessment of the actual management practices can be made, 3) assuring that each interviewer conducts a minimum amount of

interviews in order to correct any inconsistent interpretation of responses, 4) double-scoring, i.e, having another interviewer silently listening and scoring the responses provided during the interview to be discussed with the primary interviewer, and 5) conducting a second interview with another manager in the same organization for a set number of organizations.

- Evaluate and score management practices by defining the concept of “good” and “bad” management practices and codifying them from 1 (worst practice) to 5 (best practice) across key management practices used by organizations across different sectors. These practices are grouped into five areas: 1) Operations Management, 2) Performance Monitoring, 3) Target Setting, 4) Leadership Management and 5) Talent Management.

Management score for several countries in 2014

	Country	Management score
35	Mozambique	2.02
34	Ethiopia	2.22
33	Ghana	2.23
32	Tanzania	2.25
31	Zambia	2.32
30	Myanmar	2.37
29	Nicaragua	2.43
28	Nigeria	2.49
27	India	2.53
26	Kenya	2.54
25	Colombia	2.58
24	Vietnam	2.61
23	China	2.65
22	Brazil	2.66
21	Argentina	2.68
20	Greece	2.69
19	Chile	2.70
18	Turkey	2.71
17	Spain	2.75
16	Republic of Ireland	2.77
15	Portugal	2.77
14	Northern Ireland	2.81
13	New Zealand	2.85
12	Poland	2.88
11	Mexico	2.89
10	Italy	2.95

9	Singapore	2.95
8	Great Britain	2.99
7	Australia	3.00
6	France	3.00
5	Canada	3.14
4	Japan	3.16
3	Sweden	3.17
2	Germany	3.18
1	United States	3.28

World Bank Doing Business

The indicators presented and analyzed in *Doing Business* measure business regulation, the quality and strength of legal frameworks, the protection of property rights—and the effect of all these factors on businesses, especially small and medium domestic firms. First, the indicators document the complexity of regulation, such as the number of procedures to start a business or to register a transfer of commercial property. Second, they gauge the time and cost to achieve a regulatory goal or comply

with regulation, such as the time and cost to enforce a contract, go through bankruptcy, or trade across borders. Third, they measure the extent of legal protections of property, for example, the protections of minority investors against looting by company directors or the range of assets that can be used as collateral according to secured transactions laws. Fourth, a set of indicators documents the tax burden on businesses. Finally, a dataset covers different aspects of employment regulation. The 12 sets of indicators measured in *Doing Business* were added over time, and the sample of economies and cities expanded.

Questionnaires are administered to more than 15,000 local experts, including lawyers, business consultants, accountants, freight forwarders, government officials and other professionals routinely administering or advising on legal and regulatory requirements. These experts have several rounds of interaction with the *Doing Business* team, involving conference calls, written correspondence, and visits by the team. For *Doing Business 2020*, team members visited 36 economies to verify data and recruit respondents. The data from questionnaires are subjected to numerous rounds of verification, leading to revisions or expansions of the information collected.

ANNEX 3: COST PER INTERVENTIONS AND JOBS

Papers	Intervention	Type of interventions	Country	Type of firms	Specific target group	Job outcome	Cost per individual	Costs per job	Exact indicator and time
Adoho et al. (2014)	Technical and soft skills training. Follow-up in enterprise development	Training	Liberia	Own-account workers	Young women	Business creation	1,200	5,882	Participation in income generating activities (Self-employment))
Anderson - McDonald (2016)	Training in marketing	Training	South Africa	Own-account workers/ microenterprises	N	Job creation	900	900	Total paid staff
Anderson - McDonald (2016)	Training in finance	Training	South Africa	Own-account workers/ microenterprises	Mixed	Job creation	900	1700	Total paid staff
Bandiera et al. (2013)	Graduation program: technical, business, soft skills, saving training and small-sized grants	Training + Access to finance	Bangladesh		Women	Business creation	300	2158	Specialized in self-employment
Berge et al. (2014)	Business training	Training	Tanzania	Own-account workers/ microenterprises	Mixed	Job creation	80	No job creation	Number of workers

Berge et al. (2014)	Medium sized grants	Access to finance	Tanzania	Own-account workers/ microenterprises	Mixed	Job creation	80	5,333	Number of workers
	Training + grants	Training + Access to finance	Tanzania	Own-account workers/ microenterprises	Mixed	Job creation	80	No job creation	Number of workers
Bertrand and Crepon (2019)	Information	Consulting	South Africa	SMEs	Mixed	Job creation	170	19	Number of full time employees
	/Consulting on labor market								
Blattman et al. (2014)	Training/consulting and Small-sized grants	Training + Access to finance	Uganda	Own-account workers	Young adults	Job creation	383	1,450	No of paid laborers hired in past month (family and nonfamily)
Blattman et al. (2013)	Basic business skill training, small-sized grants (150\$), supervision and group formation	Training + Access to finance	Uganda	Own-account workers	Young women	Business creation	860	1,911	Started an enterprise since baseline
	Supervision only/mentoring (on top of previous package)	Mentoring	Uganda	Own-account workers	Young women	Business creation	348	5,704	Started an enterprise since baseline

Blattman and Dercon (2016)	Business training and small-sized grants	Training + Access to finance	Ethiopia	Own-account workers	Young people	Business creation	450	5,487	Unemployed in the past 2 weeks
Brooks et al. (2016)	Impact of Mentoring	Mentoring	Kenya	Own-account workers/ microenterprises	Young (under 40 yrs old) Women	Job creation	120	6000	Number of employees
	Business training	Training	Kenya	Own-account workers/ microenterprises	Young (under 40 yrs old) Women	Job creation	NA	NA	NA
Bruhn and Zia (2012)	Business training	Training	Bosnia	Own-account workers/	Mixed	Probability of survival	245	18846	Probability of survival of business survived
				Microenterprises		Job creation	245	No job creation	No of employees
Bruhn et al. (2013)	Consulting	Consulting	Mexico	Microenterprises/ SMEs	Mixed	Job creation	11,856	2,464	No of employees
Campos et al. (2017)	Business training	Training	Togo	Own-account workers/ microenterprises	Mixed	Job creation	718	35900	Paid workers
	Personal initiative training	Training	Togo	Own-account workers/ microenterprises	Mixed	Job creation	756	5287	Paid workers
De Mel et al. (2014)	Business training	Training	Sri Lanka	Own-account workers	Women	Business creation	126-131	No job creation	Currently own a business (round 5)

	Training plus grants	Training + Access to finance	Sri Lanka	Own-account workers - out of the labor force	Women	Business creation	126-140 + 150	11885	Currently own a business (round 5)
Drexler et al. (2012)	Standard finance training	Training	Dominican Republic	Own-account workers/ microenterprises	None, but mostly women	Job creation	21	300	Total number of employees
	Rule of thumb finance training	Training	Dominican Republic	Own-account workers/ microenterprises	None, but mostly women	Job creation	21	No job creation	Total number of employees
Farlie and Miranda (2016)	Training plus grants	Training + Access to finance	USA	Microenterprises/ startups	Mixed	Job creation	1321	No job creation	Number of employees
Giné and Mansuri (2011)	Business training	Training	Pakistan	Own-account workers/ microenterprises	Mixed	Business survival	126	No job creation	Main business failed
Karlan et al. (2015)	Consulting	Consulting	Ghana	Mixed	Mixed	Job creation	604	12,743	Paid employees
	Grants	Access to finance	Ghana	Mixed	Mixed	Job creation	133	No job creation	Paid employees
	Consulting + Grants	Consulting + Access to finance	Ghana	Mixed	Mixed	Job creation	737	7087	Paid employees
	Technical assistance and small-size grants (effect of grants)	Training + Access to finance	Nicaragua	Own-account workers/ microenterprises	Mixed	Business creation	200	1887	Participation in non-ag self-employment

Mano et al. (2012)	Business training	Training	Ghana	Microenterprises, SME	Mixed	Business survival	740	7781	Proba of survival
McKenzie (2015)	Business training and medium-size grants	Training + Access to finance	Nigeria	Start-ups	Mixed	Job creation	50,000	9566	Total employment
McKenzie et al. (2016)	Matching grants for consulting	Consulting	Republic of Yemen	Micro, SMEs	Mixed	Job creation	10000	No job creation	Full time workers
McKenzie and Puerto (2017)	Business training	Training	Kenya	Own-account workers/ microenterprises	Women	Business survival	222-333	5769	Firm survival
	Mentoring	Mentoring	Kenya	Own-account workers/ microenterprises	Women	Business survival	553	50273	Firm survival
Valdivia (2012)	Business training	Training	Peru	Own-account workers	Women	Job creation	341	No job creation	Total employment
	Business training, Consulting	Consulting	Peru	Own-account workers	Women	Job creation	674	No job creation	Total employment

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