In a second experiment, we evaluate an entrepreneurship training offered by the Digital Opportunity Trust (DOT), a social enterprise, to women entrepreneurs in Mekelle, Ethiopia.

The entrepreneurship training programs offered by DOT are called StartUp! and ReachUp! and take an innovative approach to entrepreneurship development, with a mission to “help entrepreneurs learn basic technology and business skills, and to foster the self-esteem and entrepreneurial spirit needed to build sustainable livelihoods”. The DOT training focuses on building the life skills and mindset shift required of aspiring entrepreneurs to set and reach their goals.

**Results :** The impact results reveal that only the DOT training in Mekelle achieved a positive statistically significant impact on monthly profits, measured one and two years after the training. The key channel of influence on profits in the DOT study seems to be through a mindset shift since we find evidence of higher average levels of entrepreneurial self-efficacy, personal initiative and entrepreneurial locus of control among the women who were trained one year post the training, relative to a control group. Entrepreneurial self-efficacy refers to one’s own belief in their entrepreneurial competences; and entrepreneurial locus of control refers to a sense of control over one’s business and the business environment in which they operate. We find no evidence of an impact on business practices such as improved book-keeping or marketing; or knowledge outcomes

The take-up for the DOT training in Mekelle it was 52%.

Although, this is a fairly typical take-up rate found for other entrepreneurship trainings in comparable contexts (McKenzie & Woodruff, 2014), all three training programs in Ethiopia attracted the smallest and lowest performing businesses among those to whom the training was offered. The program maybe missing out on the women entrepreneurs who have the higher growth prospects.

* **Content of the training :**

The StartUp! and ReachUp! trainings, developed by the social enterprise Digital Opportunity Trust (DOT), seek to foster entrepreneurs’ self-esteem and entrepreneurial spirit. They aim to encourage a lifelong learning process by facilitating an entrepreneurial learning cycle, starting with one’s experience in the classroom, followed by its reflection, generalization, and application. DOT Ethiopia delivered both the StartUp! and ReachUp! entrepreneurship trainings to WEDP women entrepreneurs. Using a youth-led delivery model, DOT equips young university graduates – DOT interns - to serve as facilitators and coaches of DOT’s entrepreneurship training. Upon recruitment, DOT interns are enrolled in a three-week Intern Learning Experience (ILE) training program to gain skills in ICT, entrepreneurship, facilitation, coaching, leadership and gender equality. Following the ILE, DOT interns are deployed to deliver DOT's empowerment and entrepreneurial training to youth and women in their communities. The interns guide participants through concept formulation, business planning, market assessment and testing. There is also an emphasis on the use of technology to operate and expand a business.

* **Data :**

For the DOT training experiment, the impact evaluation team drew upon the WEDP[[1]](#footnote-1) registration database of clients in Mekelle only and randomly assigned 800 women entrepreneurs to either a treatment group (399) who were offered the DOT training immediately or a control group (400) who had to wait before being offered the training.

* **Timeline :**

**- The baseline data collection was conducted in October and November 2014**

**-the Dot training was offered from January 2015 in half-day session over a period of 15-20 days, so that all entrepreneurs could complete the training while continuing to attend their business.**

**-** **From January to March 2016,** **approximately one year after the treatment group were offered the training**, the research team resurveyed the 799 entrepreneurs. Follow-up I survey was conducted with 729 female entrepreneurs who were tracked out of the entrepreneurs already interviewed at baseline

- An additional follow-up II survey for 726 entrepreneurs was administered in February-March 2017, approximately **two years after the training.**

* **Empirical strategy :**

For those outcomes in which the same question was asked in both the baseline survey and follow-up surveys, our main specification will be an ANCOVA specification (following McKenzie, 2012).

The paper estimation is an ITT analysis using the two follow up rounds, for outcome Y, they estimate the following OLS equation for firm I at time t:

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Where 𝑦 is the outcome variable measured at both follow-up survey I and follow-up survey II. 𝐷𝑂𝑇 and 𝑖𝑡 1

𝐷𝑂𝑇 are dummy variables taking the value of one if the firm was assigned to the DOT treatment group, at follow-up I and follow-up II respectively.

The coefficients 𝛽1 and 𝛽2 will measure the intent-to-treat effect of being assigned to the DOT treatment compared to the control group. 𝑦0𝑖 is the baseline value of the outcome variable. 𝑋′0𝑖 is a vector of baseline control variables. 𝑡𝑖𝑚𝑒 is a dummy variable taking the value of zero for the follow-up I period and one for the follow-up II period. In cases when a control variable is missing, its value is set to zero and a dummy variable is included for whether the variable is missing. 𝜀𝑖𝑡 is the error term.

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Who takes up the traking?

The initial self-reported interest in business training was high (over 90% said they were interested in attending entrepreneurship training during the baseline surveys) but actual take-up was lower: 52% for DOT training in Mekelle. The take-up rates correspond to rates found for other entrepreneurship trainings in comparable contexts (cf. McKenzie & Woodruff, 2014). The most common reason given for why a business owner did not take-up training was because they were “not able to find the time”.

Women who took up the training differ from those who were selected but did not participate:

We find that women who take-up training are systematically and significantly different from those who were offered training but did not participate. Table 3 presents the t-test statistics for the differences in means among these groups for both studies (see columns (4) and (8)). The take-up rate for the DOT training among the treatment group was 52%. Table 3 Column (4) shows that those who select into entrepreneurship training in Mekelle seem to be the women entrepreneurs who have smaller and less profitable businesses (we find statistically significant lower monthly profits and capital stock at business start). **The women who attended the DOT training also differed on a number of characteristics: they are slightly older with lower educational attainment and digit-span scores (proxy for memory recall) than those who do not attend. These women also had lower household asset wealth and were less likely to save in a bank at baseline.**

The selection into the training suggests that women entrepreneurs who choose to take-up business training in Ethiopia are either those who believe they need more help with their business operations and/or those who have a lower opportunity cost of attending a 10/20-day classroom training program, since their businesses are smaller and less profitable.

**Impacts on firm closures :**

No impact of the dot on the survival rates of the firms. We find a positive impact of the DOT training on profits with average monthly profits 30% higher for the treatment group versus the control group.

As can be seen in the table, we cannot reject the hypothesis that the impact of the DOT training on monthly profits is equal in the two follow-up rounds, one year and two years post the training, but the profit impacts do seem to attenuate over time. The treatment effect on profits two years after the training is still positive but no longer statistically significant. Regressions include a time dummy (not shown) to indicate the survey wave and standard errors are in parentheses, clustered at the firm level.

**Impact on psychological constructs :**

Although the magnitude of changes in the measures of psychology are small, we find that entrepreneurs in the DOT treatment group, one year after the training, have statistically significant higher index levels of personal initiative and self- efficacy, relative to those in the control group. Entrepreneurs who are in the treatment group are more confident in their abilities with the trained entrepreneurs more likely to report that they can overcome problems they encounter and are more likely to feel that they are competent in managing their business well. In addition, the trained entrepreneurs appear to take more initiative, as a result of the training. They report that they do more than they are asked to, and that they are good at realizing ideas. Overall, the picture that emerges is that entrepreneurs who participate in the training benefit from an improved sense of confidence in their abilities and are more motivated to improve their businesses

**Impact on business practices**

Overall in Ethiopia, we do not observe changes to business practices or business knowledge among the trainees, which could also be a channel of influence to achieve higher profits. We find no evidence, for example, that the trained entrepreneurs keep better financial records, improve their marketing, or exhibit higher financial literacy.

* **Fertility analysis : Call du 21 novembre 2020**

**Data :**

**Outcomes :**

To build the outcome with have the question asked to the entrepreneur “How many children do you have?” asked at baseline, FU-1 and FU-2. NB : entre baseline et FU 1: un an, entre baseline et FU2 : 2 ans.

-The dummy outcome ==1 if at midline (endline) if women declared having more children at midline (endline) compared to baseline

**(i) Hypothesis : Daycare available for women is a good proxy of “the marginal child” cost. When this cost increases, women fertility is less likely to respond to income shock.**

To test heterogeneity depending on daycare we have the question “ who take care of your children while you are working and they are not in school ?” asked at baseline.

-Sheet 5,6,7 The fact of answering “They stay with me in the business” cancel the effect. The fact of controlling for this heterogeneity increases the effect of the other subgroup confirm that women in better conditions for having a new baby are the ones making the decision to have a new baby.

- Sheet 8,9,10, The subgroup of women who do not have a babysitter drive the effect. The fact of having a babysitter cancel the effect. One can suppose that having a babysitter is costly and therefore having a baby represent an extra cost. Or maybe having a babysitter means having very young children and therefore those women want to space their birth. In both cases, compatible with our hypothesis that women have a positive reaction to income shock

-Sheet 11-12-13: => subgroup of women who have siblings who can take care of other children drive the effect (surtout sheet 11)

Question : for the variable “who take care of your children” I assign missing values as zero (women who do not have children) in order not to restrict the sample to women who have children thereby creating a selection bias and endogeneity, because the sample is not random anymore.

Pb : household roster has been collected at endline, therefore I cannot use variables such as “number of women in the hh” etc. because the number of women can be the result of the treatment (if women called their wife for extra help..)

**\*\*New data ? I would need the databases : “cross over english roster”, asked about family history only to women of the DOT experiment. We have : hh roster at baseline + questions such as “had the balance between home and business work been an issue when you started your business” etc. => interesting sources of heterogeneity.**

**Additionnal data : I would need the question “Were you pregnant or did you gave birth in the last 12/ 24 months”.**

**(ii) Hypothesis : women increase their demand for children in order to have a son**

-Sheet 14-15-16When we test heterogeneity depending on whether women have at least one son, women without son seems to drive the effect, and having a son clearly cancel the positive effect of the treatment on fertility. Robust to various specification. Statistically significant.  
  
-Sheet 17-18-19We -We wanted to run a placebo test, testing the same specification at least one daughter. What we find is => it seems that the subgroup of women without a daughter drive the effect. The interaction term is not statistically significant. The main term magnitude is way less important. But still. We may therefore think that testing whether women who do have “at least one daughter” “at least one son” is also a proxy for small family size, and therefore women with few children is likely to be willing to have another children in a country where fertility is high.

\*\*Sheet can test : (23 24 25) only daughters , (20 21 22)only son

-When we test for heterogeneity depending on whether women have only son, as expected, it seems that women NOT in this situation drive the effect and women with only son do not react to treatment

-Regarding women who have only daughters and no son. We expected that those women with only daughters drive the effect. However it is unclear, women with NOT daughters son react to the effect in OLS. In other, nothing statistically significant.  
  
**SO it seems clear that the fact of having a son, at least one, or only son, cancel the positive effect of the treatment**. However the placebo test testing heterogeneity with women having at least one daughter of only daughters is unclear. BUT : the pb is that women with “at least daughter” or “only daughters” have way more children than women without those characteristics. (ex women with at least daughter have on average 3,15 children, while, women with no daughter, 0,94). So comparing those two subgroup is not only comparing women with different gender composition, but also women with few children with women with many children, therefore it makes sense that the subgroup with less children (at least==0) is likely to react to the treatment.

\*We have the exact same issue with “at least son”

Sheet 26: \*\*We test a specification with the two interaction terms included, in order to see the effect of the treatment on women who don’t have at least one son, or at least one daughters, therefore women with febw children, react a lot to the treatment. The additional effect of having at least a son is statistically significant and negative. The additionnal effect of having at least one daughter is not. Women react positively to the treatment whether they have at least one daughter or not. But don’t react if they have at least one son.

\*\*\*After the call, we thought that it would be interesting to deal with outliers.   
-Par exemple on a 4,6% de femmes qui déclarent moins d’enfants au endline ou midline que au baseline. Que faire des ces femmes ?

**NB : Women Entrepreneurship Development Project (WEDP) – Overall IE**

* **Women Entrepreneurship Development Project (WEDP) - DOT Business Training (Questionnaires are the same as the overall IE)**

**Baseline (in 2014/2015):**Core English questionnaire – collected business performance information for 2,369 women entrepreneurs who registered with WEDP. Plus Cross over English module - administered on a subset of 792 of the women entrepreneurs we collected family history information – grandparents and parents occupations and education.

**Midline (in 2017)** - WEDP\_Midline\_Survey\_Questionnaire \_after piloting\_16112016 final. WEDP2017 – core business information collected on 2,139 women entrepreneurs followed up with from baseline sample. Business performance information collected on currently open WEDP registered business. Includes a household demographics roster.

* **Women Entrepreneurship Development Project (WEDP) - Personal Initiative Training**

**Baseline:** WEDP\_PI\_Training\_BaselineSurvey\_08212015.pdf

**Midline:** Final 2017 06 06 WEDP Midline Survey Questionnaire.docx

* **Women Entrepreneurship Development Project – psychometrics**

**Baseline:** Psychometrics baseline is currently being collected.

1. WEDP is the World Bank's International Development Association (IDA) funded program that provides loans and entrepreneurship training to growth-oriented female entrepreneurs in Ethiopia. The WEDP clients register their business at their nearest One Stop Shop, a local government branch created to support small businesses [↑](#footnote-ref-1)