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Gender Differences in the Effects of Vocational Training

Constraints on Women and Drop-Out Behavior

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Abstract

This paper provides experimental evidence on the effects of vocational and entrepreneurial training for Malawian youth, in an environment where access to schooling and formal sector employment is extremely low. It tracks a large fraction of program drop-outs—a common phenomenon in the training evaluation literature—and examines the determinants and consequences of dropping out and how it mediates the effects of such programs.

The analysis finds that women make decisions in a more constrained environment, and their participation is affected by family obligations. Participation is more expensive for them, resulting in worse training experience. The training results in skills development, continued investment in human capital, and improved well-being, with more positive effects for men, but no improvements in labor market outcomes in the short run.

GENDER DIFFERENCES IN THE EFFECTS OF VOCATIONAL TRAINING: CONSTRAINTS ON WOMEN AND DROP-OUT BEHAVIOR[¶]

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1. Introduction

Providing young people with opportunities for skills acquisition is widely perceived to be a fair and effective use of public resources. Job training programs have therefore emerged as an important – and widely studied - class of social policy experiments. Due to data availability, however, evaluations of such programs have been limited mostly to developed countries (e.g. Lynch 1992; Bartel 1995; Heckman, Lochner, and Taber 1998; Frazis and Loewenstein 2005; Kluve 2010). Most evaluations rely on non-experimental techniques, including conditioning on observables to limit selection bias (Friedlander, Greenberg, and Robins 1997; Heckman et al. 2000), parametric selection correction methods (Heckman et al. 1998), and propensity score matching and duration analysis (Bring and Carling 2000; Gerfin and Lechner 2002; Sianesi 2004; Chong and Galdo 2006; Biewen et al. 2007; Jespersen, Munch, and Skipper 2008).

This paper reports the results of a randomized controlled trial to evaluate an entrepreneurship and vocational training program for youth in Malawi. Over 80 percent of the workforce in Sub-Saharan Africa is engaged in self-employment in small businesses and household enterprises (Gindling and Newhouse 2012), which makes entrepreneurship and vocational training more relevant in this context than formal job training programs. In Banerjee and Duflo's (2007) 18-country-sample-based description of the lives of the poor, they report that a "large fraction of the poor act as entrepreneurs" and are self-employed, with many operating non-agricultural businesses. In contrast, formal employment opportunities are scarce in the developing world (The World Bank 2012b).

The program we evaluate was designed to provide apprenticeship rather than classroom-based training. It targeted young people aged 15-24, because the youth often lack the formal education or skills required to access salaried employment. A growing number of development aid agencies around the world have attempted to reduce youth unemployment through on-the-job training and vocational programs. Programs in Tanzania, South Korea, and Indonesia, for example, have attempted to shift secondary school curricula away from general education and towards vocational training (Newhouse and Suryadarma 2011). In the Malawi program we evaluate, 1900 youths from 28 districts received on-the-job training through placement as apprentices to master craftspeople in their area of interest, and the program timing was randomized. Apprenticeships of this type are common in Sub-Saharan Africa, as a way for youth

without access to formal education to gain employable skills (Biavaschi et al. 2012). Despite their popularity, virtually no evidence exists on the effects of such programs on participants.[1]

This paper makes three distinct contributions to the literature. First, experimental evaluations of training programs are scarce, particularly for developing countries.[2] To our knowledge, only three recent studies conduct randomized evaluations in a developing country context.[3] Card et al. (2011) and Attanasio et al. (2011) explore the impacts of training programs for youth in the Dominican Republic and Colombia (respectively), which had both classroom and on-the-job training components. Attanasio et al. find fairly large effects on probability of employment and wages, while Card et al. find no effect on employment, and modest effects on earnings. These studies were conducted in middle-income countries with larger formal sectors, and the programs targeted wage employment. Our study concerns on-the-job development of technical skills in an environment where self-employment, rather than wage employment, is the norm. Blattman et al. (2012) find that youth given a cash transfer in Uganda invest in vocational training and tools, which then translate into higher levels of employment and earnings.

A second important contribution of this paper lies in our treatment and analysis of program drop-outs. Several published evaluations of job training programs report that a large fraction of beneficiaries randomly assigned to receive training fail to show up, or discontinue training after a short period, and this complicates the evaluation method. Heckman et al. (2000), reviewing five different experimental evaluations of employment and training programs in the U.S., report rates of drop-out as high as 79%. The Card et al. (2011) Dominican Republic study reports that 17% of their treatment group failed to attend training, and that follow-up data was

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[1] The ILO {{1299 ILO 2012/a}} provides an extensive review of qualitative and quantitative studies of informal apprenticeship programs. Monk et al. {{1300 Monk,Courtney 2008/a}}, working in Ghana with descriptive data, find that returns to informal apprenticeships are high for those who have low levels of education, but fall as formal education increases. We are unaware of any experimental evidence on apprenticeships.

[2] Roughly 10% of evaluations in the developed world have made use of randomized controlled trial methodology {{1142 Card,David 2010}}.

[3] A related (although recent and largely unpublished) literature deals with the returns to business training and financial literacy; however these trainings are designed to deliver generic business skills, rather than trade-specific skills. See Cole et al. {{1308 Cole,Shawn 2010/a}}, Bruhn & Zia {{1306 Bruhn,Miriam 2011/a}}, de Mel et al. {{1304 de Mel,Suresh 2011/a}}, Drexler et al. {{1305 Drexler,Alejandro 2011/a}}, Karlan & Valdivia {{1309 Karlan,Dean 2011/a}}, and Calderon et al. {{1307 Calderon,Gabriela 2013/a}}.

not collected on these people. This can introduce a significant selection bias, which complicates the estimation of the treatment effect even for studies which start out with experimental data.[4]

In our Malawi study, we experience similarly high rates of drop-out among youth randomly assigned to receive training, but we anticipated the problem and tracked down a significant fraction of the drop-outs in our follow-up surveys. This allows us to report intent-to-treat and treatment-on-treated results (accounting for the drop-out decision) that are closer to the pure experimental estimates. The main effects if training we report – which are large, significant increases in the self-reported skills and knowledge that the training was meant to impart, and improvements in trainees' subjective measures of well-being - are not sensitive to the way drop-outs are handled.

More importantly, we conduct a detailed analysis of *why* trainees chose to drop out. Since dropping out is a commonly observed phenomenon across such programs in both developing and developed nations, it is useful to identify its causes and consequences, in order to better understand the direction of bias in existing evaluations of training programs stemming from this specific source of attrition. Our data allow us to characterize whether drop-outs in training are positively or negatively selected. Why potential participants drop out and do not take advantage of a program designed to build their human capital, and offered to them at deeply discounted rates (or even for free) is an important puzzle worth exploring.[5] We collect data on alternative opportunities and unanticipated shocks around the time of program inception to understand better the conditions under which people choose to not partake in training.

These opportunities and constraints happen to affect men and women differently, which leads to the third main contribution of this paper: developing a better understanding of why training and other development programs may have heterogeneous effects across gender. A growing literature documents differential treatment effects by gender (e.g. see Bergemann and van den Berg 2008; Attanasio, Kugler, and Meghir 2011; Blattman, Fiala, and Martinez 2012).

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[4] A large body of literature has devised non-experimental methods to correct for these biases {{1225 Lee,David S. 2009;1147 Heckman,James J. 2000;1302 Heckman,James J. 1999;1199 Manski,Charles F. 1989/psee: ;1213 Horowitz,Joel L. 2000;1211 Manski,Charles F. 1990;1198 Horowitz,Joel L. 1998; 1312 DiNardo,John 2006}}.

[5] This is related to a literature that identifies technologies designed to meet pressing needs are often not adopted at rates commensurate with their potential benefits {{965 Miller,Grant 2012; 162 Meredith, Jennifer 2011}}. The case of training appears related to a literature that suggests that the low take-up may signal that the product or service does not work as well as anticipated, given local conditions. {{165 Miguel, Edward 2004/pe.g. see ;1153 Mobarak,Ahmed Mushfiq 2012;1154 Ashraf,Nava 2009;502 Duflo, Esther 2012}}.

We find generally better training outcomes for men compared to women. While improvements in self-reported skills were similar across genders, male trainees exhibit greater improvement in subjective measures of well-being and confidence compared to women. Any negative outcomes of treatment we observe tend to be associated with women – reduced savings and decreased earnings-related activities following treatment.

These differences are explained by both the conditions under which women participate in training, as well as gender differences in the training *experience*. First, women drop out due to adverse shocks (severe illness or injury), and are more likely to participate when alternative opportunities disappear (e.g. they get fired). Men's participation decisions are not affected by adverse external conditions. Girls are on average less educated than boys at baseline, have more dependents, and spend more time on domestic chores as opposed to paid labor or business activities. Women (but not men) self-report constraints such as 'family obligations' and 'getting married' as the main reasons they drop out. Second, participating in training is expensive and trainees – especially girls – have to draw down their savings to do so. This is partly due to differences in the training experience: men are more likely to have received financial support from trainers or master-craftspersons (MCs) during the training. Distance to the training facility is more of a constraint for girls, boys are also more likely to attend regularly, and three times as likely to receive a paid job offer from the MC following the training period. Overall, the results suggest that women are significantly more constrained in their decision-making, which lead to a worse training experience, less support, and ultimately results in worse training outcomes. These results shed light on the more stringent constraints under which poor girls have to make decisions in developing countries, and how these inhibit skill acquisition. They can help to explain why other development programs, such as capital infusion for micro-enterprises have had much lower returns for women in Sri Lanka and Ghana (de Mel, McKenzie, and Woodruff 2008; Fafchamps et al. 2011). The results echo Field et al (2010) who show that Muslim women in India do not benefit from business training, likely due to social restrictions.

2. Context and Experimental Design

2.1. Background

Malawi is one of the world's poorest countries. Over 50% of the population falls below the national poverty line, while GNI per capita is just $360 (The World Bank 2012a).

Unemployment among youth is high (9.6% for women, 8.5% for men) (International Labour Organization 2011). Levels of formal education are low, as about 58% of students drop out after primary school (Aggarwal, Hofmann, and Phiri 2010). Most youth rely on low-productivity subsistence agriculture or self-employment to sustain themselves and their families. Youth are particularly vulnerable as they often possess fewer productive alternatives.

To address the employability issues, promote productive self-employment and reduce vulnerability to risky sexual behavior, in 2009 the Government of Malawi decided to pilot a new apprenticeship program aimed at vulnerable youth. The program was implemented by the Technical Education and Vocational Education and Training Authority (TEVETA) across all 28 districts of Malawi. The program was targeted to vulnerable youth, mainly defined as orphans or school dropouts. The geographic scope of the program made data collection more expensive, but it allowed us to evaluate the program based on a nationally representative sample of vulnerable youth.

Baseline results (see Table 1) show that the selection process was successful in choosing participants who were vulnerable and poor. More than a third are orphans of both parents, over 60 percent live in a dwelling that has a grass roof (a proxy measure for poverty), and over 80 percent report skipping a meal "often" or "sometimes" due to lack of money. Around two-thirds of the participants were male. They were 21 years old on average, and 10% were still in school. When compared to a nationally representative sample of Malawian youth aged 15-24 from the Malawi Third Integrated Household Survey (National Statistical Office 2011), youth in our sample are more likely to live in a house with a grass roof, more than three times as likely to be an orphan, and less likely to still be in school.

TEVETA then identified a pool of potential trainers in each district. The MCs (master craftspeople) were selected from this pool based on their expertise and business performance in the neighborhood. MCs were compensated for their work, and benefited from the free labor that the apprenticeship program brought. In the 23 districts where our survey took place, there were 164 MCs that offered 17 different trades. Each had an average of 14 years of practical experience in their specific field. TEVETA created a set of training modules customized for each of the principal trades, and provided a one-day training to the MCs on how to use these modules.

During the apprenticeship, each MC trained between 1 and 8 trainees at their workshops. MCs' workshops tend to be located in urban areas, while many of the many of the trainees lived

in rural areas. The trainees were responsible for finding their own accommodations near the workshop, but received a small stipend (about 4300 MWK, approximately US$28) to cover meals and accommodation.

2.2 Experimental Design

The evaluation used an experimental phase-in design. Participants were randomly assigned to two cohorts, a treatment group that started the program immediately, and a control group that started the program around 4 months later on average, right around the time of the follow-up survey. We are therefore able to report short-run effects of training. Two thirds of the 1,900 eligible youth were assigned to treatment and the remaining third to the control group.

The baseline survey was collected in March-April 2010 on a random subset of the youth selected. We surveyed 1,122 individuals of the original 1,900, of whom 363 were in the control group and 759 were in the treatment group (see Figure 1). Summary statistics from the baseline survey indicate that randomization was successful in achieving balance across treatment and control groups (Table 1).

Trainees reported to training between August 2010 and May 2011; the specific start date varied by district and by MC. Training lasted for three months on average, but varied depending on the type of skill being taught. Table 2 provides the breakdown of occupations by gender of trainees.

The follow-up survey was conducted in June-August, 2011. The follow-up survey included questions on time use, employment, psychological well-being, risky sexual behavior, and trainee assessments of training quality. In order to increase the sample size, we returned to the original pool of 1,900 youth who had been selected to participate in the study. The sample at follow-up is composed of the 755 baseline respondents who we were able to find at the time of follow-up, plus 274 new participants (181 treatment, 93 control), for a total of 1,029 respondents.

In addition, we surveyed all MCs regarding their experience as trainers and their perception of each of the trainees' skills, diligence, effort, attendance, and so on. Finally, we also conducted a brief qualitative survey with the implementing agency's desk officers regarding their experience with the intervention to inform future program design.

2.3. Attrition and Drop-out

Like many development programs, the TEVETA program suffered from several administrative setbacks which affected the implementation of the program. For example, between the time that the original 1,900 youth were selected and the time that the baseline survey was conducted and the treatment participants were invited to begin training, over a year went by. Thus at the time that the training was offered, about 9% of the people invited to training chose not to participate (we explore the possible reasons – including other potential opportunities or barriers facing these people – in greater depth below). In addition, owing to administrative errors, a large number (about 30%) of those who were supposed to be invited to participate in the training report in our follow-up that they never received the invitation. Lastly, even among those who were invited to the training and who chose to participate, not all completed the training. We treat all of these (not invited, did not participate, or did not complete) as drop-outs (as labeled in Figure 1), as they were assigned to treatment but did not participate. For analysis purposes, however, we distinguish between those who dropped out because of the administrative error (not invited) and those who chose to drop out. More than half of all people who dropped out did so due to the administrative error.

In addition to people who dropped out of the training, there was also survey attrition between the baseline and follow-up surveys. Specifically, about 1/3 of the respondents in the baseline survey could not be found for the follow-up survey (242 from the treatment group, and 125 from the control group). This poses identification issues, since attrition from the survey is correlated with participating in training, and therefore with our outcome variables. People who participated in training were very easy for us to track since we conducted our follow-up survey very soon after the completion of training. Thus it is likely that, of the attriters in the treatment group, most are drop-outs. This attrition is particularly problematic if we only successfully tracked a non-random sample of the drop-outs. In Table 3a, we examine whether the attriters are statistically different from the drop-outs who we were able to track in terms of their baseline characteristics. It is encouraging to note that the two groups are statistically similar across most dimensions, which indicates that our extra efforts in tracking drop-outs may have reduced some of the selection bias introduced by non-random attrition. This is especially true when we restrict our attention to drop-outs who chose to stop participating (and not the administrative errors). It appears that TEVETA ultimately chose to not invite a few participants who were originally

selected but turn out to be relatively rich. They may have been correcting an earlier administrative oversight in selecting an ineligible participant (since the program was designed to target the most vulnerable youth). However, even after these corrections, the attriters are older, have more dependents, and are less likely to be currently enrolled in school. In our analyses, we report evaluation results controlling for these baseline differences. We also conduct a bounding exercise, which confirms the direction of our results within a range of possible values for the missing observations.

It is crucial to investigate whether individuals assigned to treatment versus control group attrite at different rates since such voluntary exit can threaten the validity of our randomized design. In Table 3b, we estimate a linear probability model where attrition is a function of initial randomized assignment to receive training. The results indicate that there is no relationship between initial assignment to training and the likelihood of continuing in the sample. The coefficient on "Assigned to Treatment" is -0.017, with a standard error of 0.025. When we break up the sample by gender, treatment assignment is completely irrelevant for men in their likelihood of attrition (a coefficient of 0.000), but it is relevant for women (coefficient of -0.082, but not statistically significant at conventional levels). We will therefore present results separately by gender throughout the paper, and attrition bias will be a bigger concern in the female sample. This also provides the first indication that girls and boys appear to make training participation decisions under a different set of conditions.

3. Determinants of dropping out

The rates of program drop-out were clearly very high, both because of administrative errors by the implementers, and because some trainees chose not to attend or complete the program. We tracked down many of the drop-outs, and collected data on adverse shocks and new opportunities that potential trainees faced in the period prior to program inception for the entire follow-up sample, in order to identify the determinants of drop-out. Although drop-outs are a common phenomenon in training programs and a challenge to evaluation studies, this study is one of the few to have extensive data on drop-outs and the conditions they faced. Examining whether people are forced to leave the program due to external factors like unanticipated adverse shocks or choose to leave to take advantage of better opportunities will inform future program design. It also serves to shed light on the direction of bias associated with ignoring drop-outs when follow-

up data on them are missing. In our case, having follow-up data on a large fraction of drop-outs means that we can get closer to reporting pure experimental (intent-to-treat) estimates of training program effects.

Drop-out rates varied a little across occupations in which training was offered. Almost a third of all participants invited to training for auto mechanic jobs chose not to complete. Drop-out rates were lowest (16%-20%) in beauty-care, electronics, metalwork and construction (Table 4).

Table 5 examines the determinants of drop-out. Specifically, we estimate a linear probability model using the sample of individuals assigned to treatment where the dependent variable is an indicator for not completing training. We use two definitions of drop-outs. The first definition includes those who report that they were never invited to training, and the second definition excludes them, in order to focus on the trainees' decisions to not attend training sessions. The equations are estimated separately for males and females.

The location, accessibility, and convenience of the training sessions, as well as family support appear to be important determinants of attendance. Having friends or relatives close to the training center is a very strong predictor of whether trainees – both males and females - can complete training. Compared to males, females are more likely to drop out due to severe illness or injury, or if they live far away from the training center. In contrast, boys drop out in order to take advantage of migration work opportunities (ignoring drop-outs due to administrative error).

In general, female participation appears to be much more sensitive to external constraints imposed on them compared to their male counterparts. Not only do females drop out more due to distance, illness or injury, but on the flip side, females who are fired from a job are more likely to complete the program. In other words, they stick with the program in cases where alternative opportunities disappear. These same variables do not have a significant effect on the drop-out propensity of male trainees. The gender difference in drop-out patterns mirrors the findings from the analysis of attrition, in that selection concerns are more significant for women.

4. Estimation of Program Effects

4.1. Outcome Measures

Vocational training may improve labor market outcomes through multiple channels. First, training imparts practical, technical skills, which increase trainees' human capital, and potentially

their productivity. Second, training sessions may increase awareness of higher-paying job opportunities, and improve knowledge of how to access these jobs and how to connect to potential employers. Working directly with the MCs, the workers will be able to connect not only to one potential employer but potentially to the network of employers through recommendations.[6] Third, practical training under MCs' mentorship allows trainees to reveal their "type" (effort, skills and talents) to a potential employer. Fourth, training may also impart more general skills on how to start and operate a business, which could spur entrepreneurship. Therefore, either salaried employment or self-employment may increase due to training.

An additional consequence of participation in training may be increased human capital investment, beyond the duration of the training program. Trainees may learn about the importance of investing in skill development to further improve their labor market prospects. We will therefore estimate the effects of training on time use: hours worked in paid labor and self-employment (on family farm or self-employed), and also hours devoted to human capital investment beyond the training period. We will also measure downstream outcomes such as earnings, total expenditures (as a proxy for income), business start-up, and migration.

We also examine the effects of training on self-reported (subjective) outcomes related to the skills that the vocational training program were meant to impart to study whether (a) the training program achieved its intended objectives focusing on skills and labor market outcomes, and (b) whether psycho-social well-being of participants improved as a result.

4.2 Estimating Equations

Randomizing the offer to attend the training allows us to overcome the selection bias into training. We will report both the effect of offering the training based on random assignment (intent-to-treat estimates), and the effect of receiving training among those who actually participated in the training, with participation instrumented by the random assignment. The discrepancy between random assignment and program participation is almost entirely due to drop-outs (control group individuals did not have any opportunity to participate in training). Tracking down a large fraction of the drop-outs therefore allows us to report estimates closer to the pure experimental estimates.

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[6] See Owolabi and Pal {{1284 Owolabi,Oluwarotimi 2011/a}}.

The estimating equation for the intent-to-treat estimate is:

$$Outcome_{t+1,ij} = \beta_0 + \beta_1\ Invited\ Training_{ij} + \beta_2\ X_{ij} + d_j + \varepsilon_{ij,} \qquad (1)$$

where *Outcome $_{t+1,ij}$* are a set of outcomes of interest for an individual *i* in district *j* at the follow-up *(t+1)* and d_j captures time-invariant district-level characteristics; ε_{ij} is the error term. The estimated coefficient β_1 captures the effect of the random assignment, or being *offered to attend the training*. In some specifications we include a set of fixed individual and household characteristics X_{ij} to increase the precision of the estimates. These control variables include household size (squared), number of children under 18, acres of land owned, age, gender, and indicator variables for whether the respondent is married, if he/she is currently a student, if he/she has friends or family living close to the training site, and whether a household member who was contributing to household income died in the past 12 months.

The effect of training for those who attended the training is estimated using IV techniques, where the random assignment to treatment, *Invited Training $_{ij}$* is used as an instrument for the indicator variable *Attended Training $_{ij}$* (=1 if the individual *attended* the training)[7] in a first stage:

$$Outcome_{t+1,ij} = \alpha_0 + \alpha_1\ Attended\ Training_{ij} + \alpha_2\ X_{ij} + d_j + \upsilon_{ij} \qquad (2a)$$

$$Attended\ Training_{ij} = \gamma_0 + \gamma_1\ Invited\ Training_{ij} + \gamma_2\ X_{ij} + d_j + \omega\omega_{ij,} \qquad (2b)$$

The estimate of α_1 (2a) yields the local average treatment effect of the training – i.e, effect for those who was induced to attend the training as a result of random assignment to participate. Since the invitations were randomly assigned, the IV estimate can be interpreted as the causal effect of the treatment among compliers.

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[7] *Attended Training $_{ij}$* is defined by self report of trainees. To be considered to have attended training, trainees must (1) have received the invitation to training, (2) state that they participated, (3) state that they participated for at least one month, and (4) state that they rarely or never missed training days. We also ran an alternative specification in which the dependent variable is one if the person was (1) assigned to treatment and (2) not listed as a drop-out in administrative records. However, there is considerable discrepancy in the administrative reports of who did or did not drop out, and this variable also does not catch non-compliers in the control group (of which there were 4) who managed to attend training despite not being selected for it. The results from the two specifications are similar, and we prefer the former specification.

5. Results

5.1. Effects of Training on Skill Development and Human Capital

We first investigate whether the training achieved its primary objective— boosting skills that the training was meant to impart, according to the trainees' own assessment. Specifically, we focus on the following proxies for skill development: (i) self-assessment of skills in a particular trade (estimated on the scale from 1 to 10); (ii) knowledge of how to calculate profits; (iii) An indicator that the individual knows how to start a business (self-assessed). Both intent-to-treat and the IV estimates of the training participation presented in Table 6 indicate that the training was very successful in improving the self-assessed practical skills of the young people in our sample.

Assignment to treatment (ITT estimate) increases self-assessed skill score in a specific area of expertise by 2.6 points on a 10-point scale, or 1.1 points when district dummies and baseline control variables are added. The mean value for this variable is 2.6 in the control group, so the effect of training represents a substantial increase. We also observe positive and strongly significant effects of training on the other two self-assessed categories of skill development. Being invited to the training increases the subjective business-profit-calculation ability by 37% of control group mean (or 14% with district dummies and baseline controls). Training also increases the likelihood that a respondent knows how to start a business by 24 percentage points (or 9 percentage points with controls, representing a 20 percent increase from the mean in the control group).

There are two important further points to note from Table 6. First, IV estimates where training participation is instrumented by the random assignment to training are always larger than the intent-to-treat estimates, which is expected, since almost all non-compliers are drop-outs from the treatment group. Second, controlling for district dummies only does not affect the magnitude or statistical significance very much, but adding controls for individual/household characteristics that were related to the drop-out decision and imbalance at baseline does compress the magnitude of treatment effects. We will therefore report this conservative specification alongside the pure experimental estimates in all subsequent tables.

5.2. Time Use During and After Training, and Economic Outcomes

Table 7 examines another first-order effect: how training changed the participants' time use relative to the control group during and immediately after training. We examine outcomes at four distinct points in time: a) month before the training (as a placebo outcome); b) the period during training; c) month after the training; and d) a week before the follow-up survey (which was, on average, 4 months after completion of training). Constructing time periods this way in our follow-up survey allows us to measure time use consistently among respondents engaged in a variety of activities (training in different sectors, and then either working, studying, or self-employed). An important drawback is that the survey timing does not allow us to capture the longer run effects of training. Card et al. (2010) and Cho and Honorati (2013) argue that it probably takes longer for labor market effects to materialize.

Table 7 presents ITT and IV results on (i) hours worked in paid labor (which includes any paid employment, including paid labor in agriculture); (ii) hours worked in self-employment, which includes both work on family-owned land and in own business; and (iii) hours spent in human capital development such as school, job or trade training for each of the time periods (before, during, after training) described above. Reassuringly, there are no statistically significant effects of treatment assignment on time use in the month prior to training (the placebo outcome). Treatment assignment and training participation leads to very large increases in time spent on human capital development (i.e., training) during the training period. Being assigned to the treatment group leads to 170-343 extra hours of training, and those who actually attended invested an extra 636-773 hours in training according to IV estimates. Since training in most professions lasted over three months (the average training duration was 13-14 weeks), this is a reasonable estimate, and suggests that the training kept all trainees quite busy over the entire training period.

Investing all this time in training displaced many hours of work in both paid labor and in self-employment (e.g. decreases of 32 hours and 76 hours respectively in the ITT estimate). Both the IV and ITT estimates suggest that about 30% of the hours in training came from displacing paid labor and self employment hours. This is an important result because it shows that the opportunity cost of attending the training in terms of both time and forgone earnings may be substantial. This may explain some of the drop-out decisions, which we will explore more in our gender-disaggregated analysis. On the other hand, 70% of the training hours are for youth who

would otherwise be unemployed, under-employed, in school, or enjoying leisure during the training period.

Turning our attention to the effects of treatment assignment on time use *after* the training is completed, we see that the most important consequence of the training program is continued investment in human capital. This is promising, because this may have significant and lasting implications for labor market opportunities in the long run. In some cases, this is because the trainee forms a longer-term relationship with the master craftsmen, something we will explore below.

Training participation increases total hours spent on skill development (through school, or other job training) by 6 hours (ITT) or 14-24 hours (IV) one month after the training. This is large relative to how the control group spends their time, and relative to how all individuals spent time prior to the start of training. In the week preceding the survey, those who completed the training program continued to spend 3-6 hours per week in additional human capital development activities. We do not observe strong significant effects in hours worked in the period after training, except for some effect on self-employment that is sensitive to the inclusion of control variables, and therefore not robust.

In Table 8 we see that all this extra time spent on training and on further human capital development post-training comes at a financial cost to the trainees. Trainees have to draw down their savings by 1600-3000 Kwatcha (US$10-20)[8], which is a substantial amount in this sample. Importantly, we will see below that this effect is largely driven by female trainees, who face even more drastic decreases in savings (of about US$38) in the corresponding specification. Data we will present below on the training experience indicates that the stipend provided for the participants (of 4300 MWK, or US$28 on average) was not sufficient to cover transportation and lodging costs.

Given that we do not find any significant changes in hours worked in the short run, it is not surprising that we also do not find a discernible impact of training on the total earnings (last week) and on total monthly expenditure. The estimated effects are negative, but generally not statistically significant. Consistent with the human capital investment results both during and post training, we also see that training participants were significantly less likely to start a

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[8] The exchange rate used is MWK 1 = 0.0065 USD (from http://www.oanda.com/currency/historical-rates/).

business in the previous 12 months. Trainees are also significantly less likely to migrate away in search of employment, which is again consistent with trainees making some longer-run investments, often in collaboration with the master craftsmen trainer's at their location of origin.

5.3. Effects of Training on Well-being and Health Behaviors

In Table 9 we investigate the impacts of training on non-market outcomes including psychosocial well-being, self-esteem, and sexual behavior. Subjective measures of well-being are a useful complement to the time use and labor market data we collect to paint a more comprehensive picture of the overall effects of the training intervention. Such measures are increasingly used in the economics and evaluation literatures (Ashraf, Field, and Lee 2010; Devoto et al. 2012).

Participating in training had strong positive effects on subjective measures of well-being. Specifically, random assignment to training increases the share of respondents happy and satisfied with life and agreeing that life has improved during the last year by 5 and 7 percentage points respectively (22 and 29 percentage point effect in the IV – TOT specification). These are sizeable increases relative to the control group means. Additionally, related to the prior discussion on skills acquisition, trainees report being more confident in their ability to switch away from agriculture and earn money in other sectors. We don't observe any statistically significant effects on health behaviors. However, there is important heterogeneity by gender across all these outcome variables, which we will explore below.

5.4. Gender differences in outcomes

Both the drop-out and the attrition analysis indicated that women are significantly more constrained in their decision-making than men (unlike men, women participate in training when other opportunities disappear, drop out due to illness or injury, and attrite when they are not assigned to treatment). Table 10 reports results disaggregated by gender to explore whether these apparent constraints lead to differential gender incidence of benefits and costs of training. The sub-sample analysis also helps to establish the robustness of our results in the male sample, where attrition bias is less of a concern.

Trained men and women report very similar gains in self-reported skills, but that is where their similarity ends. Men spend more time in training (probably due to the occupations they select into), and this extra time comes from men's hours in self-employment. In the full sample,

the only significant treatment effect on time use post-training was that trainees continue to invest in human capital development. The gender-disaggregated results show that this comes entirely from the sample of men. Men spend 11 extra hours (21 hours in TOT) in further skills development in the month after training, continue to do so in the week prior to the survey, and these hours reflect over 100% increases relative to the control group. Among women, there is no treatment effect on any category of time use in the period after training ends.

Attending training was evidently much more costly for women. They experience a much larger decline in personal savings (of MWK 5600, or US$36) by participating in training. This extra depletion of personal savings among female participants may indicate that women are more credit constrained and do not have other sources of financing. We will explore this further by examining data on the trainees' experience during the training program. Only women (and not men) experience other statistically significant negative effects of training on employment and business activities. Trained women's earnings are lower and they are less likely to have started a business.

Next, we see that the positive gains to subjective measures of well-being and confidence (that we reported on earlier) accrue to men to a larger extent. This is consistent with the heterogeneity in the all the real effects of training across gender, and the extra constraints under which women appear to make participation decisions. Treatment is associated with smaller positive effects in the female sample also, but men are twice as likely to report that "life has improved in the past year". However, the gender difference is not statistically significant.

One positive effect of the vocational training program on women is that they are significant less likely (7 percentage points in ITT, 14 percentage points in TOT) to have given birth in the past year. 19 percent of young women in the control group had a child in the past year, so this signifies a very significant decline. Baird et al. (2011) also found that a schooling intervention resulted in delays in childbirth and marriage. Early sexual experience, marriage, and childbirth are often associated with lower investment in education and lower future earnings potential (Baird et al. 2010; Baird, McIntosh, and Özler 2011), so the reduced incidence of childbirth is an encouraging result. The rate of condom use also increases with treatment in the female sample, but this effect is not statistically significant.

Why are the effects of vocational training much more positive for men than they are for women? Is it that the nature of the training, and the way men and women experienced the program was very different? To investigate this further, we analyze:

    (a) The details of the training program and the experience as reported by male and female trainees in the treatment group, and

    (b) Summary statistics on the baseline conditions faced, to identify whether females were differentially constrained based on their domestic situation.

Overall, males and females report similar experiences during training. Male and female trainees are of similar age, the training programs were of similar length on average, they received similar-sized stipends from the implementing organization, and the MC attendance and mentorship/encouragement were all comparable. However, boys are significantly less likely to have missed any days of training, and they are slightly (10%) less likely to drop out, although the latter difference is not statistically significant. These suggest - as the drop-out and attrition analysis did before – that women are participating in training in a more constrained environment. These slight gender differences then translate into better "real" experiences for boys: (a) MCs are significantly more likely (by 9 percentage points, or 20%) to help boys with food and money during the training period, (b) boys are accordingly 4 percentage points (8%) less likely to report that the (same sized) stipend is insufficient to meet their needs, and (c) boys are significantly more likely to receive paid work from the MCs after the completion of training. Paid employment is a rare outcome, and the 2.8 percentage points greater likelihood of boys receiving that offer from an MC represents a large (233%) increase over girls.

In terms of the differential conditions faced by women at baseline before the training is implemented, comparison of summary statistics indicate that women live in households with fewer adults and more dependent children. Women report spending almost twice as much time as men on household and agricultural chores. Men, on the other hand, are older, more likely to be the head of household, and less likely to still be living with at least one parent. They are more likely to have completed secondary school, and they spend more time in paid labor. While both male and female youth of Malawi are burdened with a great deal of family responsibility at a young age, the fact that men's responsibilities appear to be more financial in nature, and more likely to carry market returns, may imply that they have the chance to develop skills outside the home that allow them to make better use of the training.

In contrast, when we ask dropouts why they had chosen to not participate, it becomes clear that women's responsibilities may prevent them from taking advantage of the training. 21% of women cited family obligations as the reason, while no men did. This matches reports we received at baseline, where women were twice as likely (p-value of gender difference = 0.03) to report 'family obligations' as the reason they had never before taken advantage of any training. Women are also seven times as likely to mention getting married as the reason for drop-out (p-value = 0.02), and four times as likely to mention transportation problem (p-value=0.17). Men on the other hand are more likely to report administrative errors – that they did not receive the message from TEVETA to show up, possibly because migration rates are greater for men.[9]

In summary, baseline characteristics and the attrition and drop-out analyses indicate that women participate in training in a more constrained environment. They get less financial support which puts greater pressure on their personal funds. Their attendance is slightly worse, drop-out risk is higher, and in turn MCs treat male trainees a little better during and after training (which, admittedly, may be due to gender segregation in the occupational mix rather than any particular MC's behavior). All of this accumulates to worse treatment effects for girls compared to boys, and lower levels of (subjective) satisfaction with life after training.

6. Examining Drop-out and Attrition Bias using Follow-up Data on Drop-outs

The follow-up data we collected on drop-outs yields another strategy to examine whether drop-outs are selected in either a positive or negative direction. If those assigned to training dropped out because better alternative opportunities cropped up (i.e. positive selection), then we would expect the drop-out decision to be associated with better post-training outcomes. We estimate a simple OLS model, separately by gender, in which we compare outcomes for those who chose to drop out with outcomes for those who chose to continue participating in training. The right-hand-side variable is an endogenous choice (to drop out) that is not randomly assigned, and therefore these results cannot strictly be interpreted as causal effects. Nevertheless, the conditional

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[9] An important caveat to this discussion is that there is segregation in the types of industries/occupations that men and women select into (see Table 2). Around 85% of training in auto mechanics, metalwork, and construction goes to men, while women are more likely to be trained in clothing fabrication or beauty. Some of these gender differences may reflect underlying differences in employment conditions within these professions. Even so, that would imply that women are selecting into professions that are more constrained or lead to worse outcomes.

correlations reported in Table 12 are still helpful in identifying the likely direction of bias, if any, associated with drop-outs. This is a potentially useful exercise given the high drop-out rates experienced in many training evaluations around the world.

In general, we find that drop-outs – when compared to training participants – seem to have simply missed out on the benefits of training that we estimated by comparing trainees to the control group. In other words, the drop-outs look very much like the control group in terms of their follow-up outcomes. Individuals who dropped out have a statistically significantly lower level of skills development, and are significantly less likely to think that their life has improved during last year, perceive themselves as entrepreneurs, or have confidence that they can secure a job outside of farming. These are mirror images of the training effects we have observed in all the main regressions, and even the magnitudes are similar to the main treatment effects. This implies that the outcomes for drop-outs are similar to those for the (randomly assigned) control group.[10] This suggests that drop-outs do not appear to be systematically selected in either a positive or negative direction. To reiterate, the drop-out decision is not randomly assigned, and these results are therefore only suggestive.

Even though we track down many of our dropouts, our sample is still plagued by some survey attrition, and the attriters are almost all either drop-outs or were originally assigned to the control group. Although the results above suggest that the attriters' profiles are unlikely to introduce systematic bias in either direction, we employ a matching and imputation method here to estimate lower bounds for our treatment effects, in order to verify this formally. Specifically, following Calderon et al. (2013), we use one-to-many matching to match both treatment and control attriters (who were surveyed at baseline, but not at follow-up) to 5 members of the control group for whom we have follow up data.[11] We then replace the missing values of our outcome variables with the average of the matched control respondents. This constitutes a lower bound for our results because it assumes that attriters from the treatment group would have

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[10] Indeed, when we compare summary statistics for the control group with those of the group of drop-outs, controls are slightly older and also marginally more likely to be numerate than drop-outs, but otherwise there are no statistically significant differences between the two groups (see Appendix Table 1).

[11] Attriters were matched to control group non-attriters based on the following baseline characteristics: household size, number of dependents, owns home, acres of land owned, age, gender, currently a student, lives with at least one parent, completed primary school, married, previously received vocational training, previously started a business, and hours per year spent on agriculture, paid labor, and own business.

experienced the same outcomes as our controls, thereby minimizing the difference between treatment and control.

Results are presented in Table 13. Overall, the results confirm our original estimates in terms of magnitude and direction. A few differences are worth noting, however. When using the imputed values, ITT estimates show a statistically significant drop in personal savings for men as well as women, and the values remain larger for women. Women assigned to treatment also are less likely to migrate, a change that could result from assuming that attriters did not migrate, when in fact it is likely that a main cause of attrition is migration. In terms of social outcomes, women trainees are now significantly more likely to report that they are happy and satisfied with life, and that they are able to earn money outside of farming (this variable loses significance for men).

7. Conclusions

This study makes three important contributions. First, we are among the first to provide experimental evidence on the effects of vocational and entrepreneurship training in a country where the majority lack access to formal education and skills development. Apprenticeship training is particularly relevant in the Sub Saharan Africa setting, as programs that foster entrepreneurship provide alternatives to highly rationed wage employment. Second, we shed light on gender differentials in the effects of such programs, by documenting the additional constraints under which women have to make human capital investment decisions, and the resulting differences in the nature of their experiences during the training program. Third, by tracking a large fraction of program drop-outs at follow-up, we are able to both examine the determinants and consequences of drop-outs, and partially address a challenge faced by most published evaluations of training programs: many potential participants drop out, and the lack of follow-up data on drop-outs introduces selection biases.

We find that the vocational training program led to enhanced (self-reported) skills of the type that the training was intended to impart. Male trainees reacted by continuing to invest in their human capital development during the post-training period, but there were no significant effects on labor market outcomes in the short run. Participating in training was expensive, particularly for girls who had to draw down their savings and did not receive as much help from the trainers as the boys did. External constraints (such as illness and getting fired) more strongly

affected girls' participation decisions. Girls could not attend as regularly as boys and were less likely to end up with job offers from their trainers. Overall, the experience led to more positive effects on self-reported well-being among male participants. These results support the conclusions of Duflo (2012)'s review of gender and development that women's empowerment will require active and continuous policy commitment to equality in order to level the playing field.

Given the continued investments in skills development that we observe among trainees, it would be valuable to follow this sample up over a longer period to identify whether the additional human capital leads to improved labor market outcomes in the long run. In this context, an important shortcoming of our analysis is that the follow-up survey was conducted only 4 months after the completion of the training program (on average). However, conducting the follow-up quickly allowed us to track down many of the drop-outs, which was valuable.
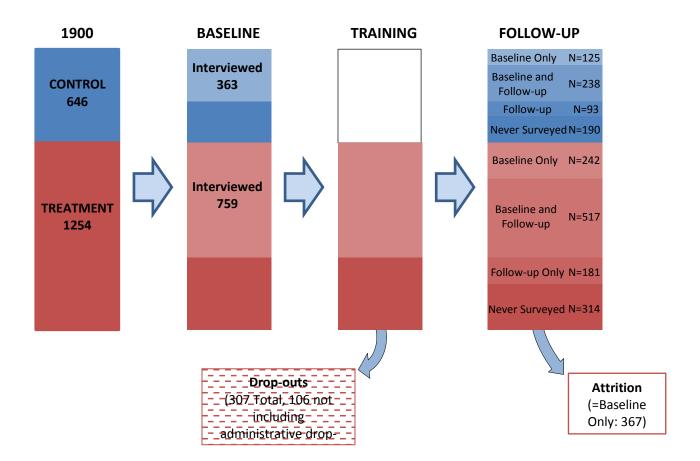
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Figure 1: Study Design

1900	BASELINE	TRAINING	FOLLOW-UP
CONTROL 646	Interviewed 363		Baseline Only N=125
			Baseline and Follow-up N=238
			Follow-up N=93
			Never Surveyed N=190
TREATMENT 1254	Interviewed 759		Baseline Only N=242
			Baseline and Follow-up N=517
			Follow-up Only N=181
			Never Surveyed N=314

Drop-outs
(307 Total, 106 not including administrative drop-

Attrition
(=Baseline Only: 367)

Table 1: Summary Statistics at Baseline - Balance of Treatment and Control

	Control	Treatment	P-value of difference
N	363	759	
Household Characteristics			
Household size	5.35	5.48	0.41
Number of adults	2.74	2.67	0.46
Number of children <18	2.21	2.39	0.12
Number of respondent's dependents (in or out of hh)	0.88	0.81	0.40
Owns home=1	0.89	0.87	0.52
Number of acres of land owned	1.91	1.84	0.65
Value of assets (in MWK)	29,465.43	31,260.54	0.68
Construction of walls			
Unburnt bricks	0.37	0.40	0.29
Burnt bricks	0.49	0.46	0.30
Construction of roof			
Grass	0.62	0.62	0.98
Iron sheets	0.37	0.36	0.69
Source of water			
Unprotected well	0.12	0.09	0.11
Communal tap	0.19	0.18	0.94
Borehole	0.51	0.53	0.48
Individual Characteristics			
Gender:Male=1	0.69	0.66	0.39
Age	21.55	21.44	0.58
Head of household=1	0.17	0.18	0.57
Married or living with partner=1	0.18	0.16	0.22
Neither parents are alive (orphan)=1	0.38	0.35	0.40
Educational Attainment			
Completed primary	0.05	0.05	0.83
Some secondary	0.48	0.48	0.94
Completed Secondary	0.26	0.22	0.13
Currently a student=1	0.11	0.10	0.61
Previously received vocational training=1	0.13	0.13	0.69
Previously started a business=1	0.39	0.32	0.04
Economic Variables			
Annual personal income	19,431.62	26,155.18	0.48
Number of loans in past 12 months	0.38	0.37	0.73
Amount of loans in past 12 months (in MWK)	2,636.84	2,486.41	0.74
Number of cash and in-kind grants from social programs in past 6 months	0.68	0.68	0.93
Amount of cash grants from social programs in past 6 months (in MWK)	5,613.88	6,870.36	0.60
How often do you/other adults skip meals?			
Often	0.27	0.30	0.33
Sometimes	0.54	0.55	0.81
Not at all	0.19	0.15	0.13

Table 2: Occupations in which participants received training

	Total Trained	% Men	% Women	Average Months of Training
Auto	119	81%	19%	3.19
Beauty	44	19%	81%	2.91
Clothing	167	38%	62%	2.99
Construction	158	94%	6%	3.00
Electronics	56	69%	31%	3.00
Food	20	36%	64%	3.09
Metalwork	73	83%	17%	2.99
Other	36	67%	33%	3.33

Table 3a: Summary Statistics at Baseline - Difference between dropout and attrition

	Dropped out (inc. administrative dropouts)	Attrited	P-value of difference	Dropped out (not inc. administrative dropouts)	Attrited	P-value of difference
N	230	367		70	367	
Household Characteristics						
Household size	5.70	5.15	0.01	5.53	5.15	0.21
Number of adults	2.83	2.58	0.04	2.70	2.58	0.48
Number of children <18	2.43	2.14	0.05	2.47	2.14	0.15
Number of respondent's dependents (in or out of hh)	0.62	1.06	0.00	0.64	1.06	0.03
Owns home=1	0.88	0.85	0.25	0.87	0.85	0.63
Number of acres of land owned	1.90	1.87	0.90	2.17	1.87	0.43
Value of assets (in MWK)	35,298.70	22,808.99	0.00	24,975.00	22,808.99	0.66
Construction of walls						
Unburnt bricks	0.38	0.40	0.59	0.34	0.40	0.37
Burnt bricks	0.48	0.49	0.85	0.53	0.49	0.56
Construction of roof						
Grass	0.63	0.57	0.16	0.54	0.57	0.65
Iron sheets	0.35	0.41	0.15	0.41	0.41	0.96
Source of water						
Unprotected well	0.08	0.10	0.30	0.06	0.10	0.23
Communal tap	0.16	0.21	0.12	0.19	0.21	0.61
Borehole	0.54	0.50	0.35	0.63	0.50	0.05
Individual Characteristics						
Gender:Male=1	0.66	0.66	1.00	0.63	0.66	0.65
Age	20.36	23.26	0.00	20.29	23.26	0.00
Head of household=1	0.15	0.24	0.01	0.20	0.24	0.47
Married or living with partner=1	0.17	0.20	0.24	0.13	0.20	0.14
Neither parents are alive (orphan)=1	0.35	0.35	0.88	0.35	0.35	0.94

Educational Attainment						
Completed primary	0.04	0.05	0.75	0.01	0.05	0.19
Some secondary	0.46	0.52	0.16	0.46	0.52	0.33
Completed Secondary	0.23	0.24	0.76	0.16	0.24	0.14
Currently a student=1	0.16	0.05	0.00	0.14	0.05	0.00
Previously received vocational training=1	0.15	0.12	0.38	0.11	0.12	0.85
Previously started a business=1	0.30	0.39	0.03	0.27	0.39	0.06
Economic Variables						
Annual personal income	15,974.95	30,202.99	0.09	8,795.68	30,202.99	0.14
Number of loans in past 12 months	0.37	0.38	0.87	0.36	0.38	0.78
Amount of loans in past 12 months (in MWK)	2,223.99	2,834.19	0.26	2,413.91	2,834.19	0.65
Number of cash and in-kind grants from social programs in past 6 months	0.66	0.73	0.28	0.61	0.73	0.27
Amount of cash grants from social programs in past 6 months (in MWK)	16,019.21	5,133.32	0.02	13,016.67	5,133.32	0.11
How often do you/other adults skip meals?						
Often	0.31	0.29	0.48	0.37	0.29	0.15
Sometimes	0.55	0.54	0.81	0.53	0.54	0.83
Not at all	0.13	0.17	0.23	0.10	0.17	0.13

31

Table 3b: Effect of treatment assignment on likelihood of attrition (surveyed at baseline but not at follow-up)

	All			Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment Assignment	-0.026	-0.017	-0.009	0.000	0.015	0.010	-0.082	-0.089*	-0.062
	[0.030]	[0.025]	[0.024]	[0.036]	[0.031]	[0.029]	[0.055]	[0.049]	[0.045]
Household size			-0.009*			-0.004			-0.019**
			[0.005]			[0.007]			[0.009]
Number of dependents (in or out of hh)			0.009			0.013			0.001
			[0.009]			[0.011]			[0.015]
Owns home=1			-0.083**			-0.120**			-0.016
			[0.039]			[0.051]			[0.068]
Value of assets (in MK)			-0.000**			-0.000***			0.000
			[0.000]			[0.000]			[0.000]
Age			0.052***			0.054***			0.051***
			[0.004]			[0.005]			[0.007]
Head of household=1			0.005			0.027			-0.029
			[0.036]			[0.046]			[0.077]
Married or living with partner=1			-0.061*			-0.072*			-0.074
			[0.035]			[0.044]			[0.069]
Currently a student=1			0.035			0.027			0.053
			[0.037]			[0.045]			[0.070]
Previously started a business=1			0.004			0.006			0.004
			[0.025]			[0.030]			[0.049]
District Dummies?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Constant	0.344***	0.261**	-0.687***	0.320***	0.072	-0.928***	0.398***	0.189	-0.768**
	[0.025]	[0.106]	[0.129]	[0.030]	[0.060]	[0.147]	[0.046]	[0.223]	[0.313]
Observations	1,122	1,122	1,117	753	753	748	369	369	369
R-squared	0.001	0.291	0.419	0.000	0.287	0.425	0.006	0.320	0.437
F-test			23.70			18.17			6.565
F-test pvalue			0			0			1.25e-08

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1
The F-test is a test of joint significance of all the control variables.

Table 4: Dropouts by Training Industry

	% Dropped out (inc. admin. dropouts)	% Dropped out of those who were invited	% Not invited (of those who dropped out)
Auto	60.2%	30.9%	82.1%
Beauty	38.6%	18.2%	75.0%
Clothing	38.9%	24.4%	69.8%
Construction	39.9%	15.9%	81.7%
Electronics	56.9%	19.4%	88.1%
Food	45.0%	26.7%	69.2%
Metalwork	30.3%	19.7%	61.0%
Other	67.6%	29.4%	91.4%
Total	45.1%	22.2%	78.4%

Table 5: Effects of shocks on likelihood of dropping out (OLS)

	Dropped out (inc. administrative dropouts)		Dropped out (not inc. administrative dropouts)	
	Men	Women	Men	Women
Fired in past 12 months	0.019	-0.243*	0.127	-0.290***
	[0.106]	[0.136]	[0.127]	[0.088]
Incapacitated in past 12 months (severe illness or injury)	-0.109	0.104	-0.095	0.163
	[0.074]	[0.075]	[0.078]	[0.113]
Someone in hh was incapacitated in past 12 months	-0.011	-0.034	0.023	-0.057
	[0.038]	[0.054]	[0.046]	[0.068]
Household member died in past 12 months	0.009	-0.016	0.016	-0.024
	[0.064]	[0.067]	[0.082]	[0.100]
Had child in past year	0.023	0.063	0.109	0.095
	[0.085]	[0.095]	[0.100]	[0.122]
Married within the last year	0.020	0.074	-0.029	0.049
	[0.061]	[0.071]	[0.071]	[0.107]
Migrated permanently or temporarily, for work, school or other	0.057	0.040	0.119**	0.032
	[0.042]	[0.054]	[0.053]	[0.073]
Lives more than 4 km from training center	-0.082	0.077	-0.006	0.096
	[0.070]	[0.103]	[0.077]	[0.124]
Has close friends or relatives at training site	-0.676***	-0.614***	-0.325***	-0.326***
	[0.036]	[0.053]	[0.067]	[0.084]
Hours worked in paid labor in month before training	-0.000	0.000	-0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.001]
Hours worked in self employment in month before training	-0.000	0.000	-0.000	0.001
	[0.000]	[0.000]	[0.000]	[0.001]
Hours spent in human capital development (school, job or trade training) in month before training	0.000	0.000	0.000	0.000
	[0.000]	[0.001]	[0.001]	[0.001]
_cons	0.832***	0.739***	0.431***	0.445***
	[0.041]	[0.066]	[0.079]	[0.096]
Number of observations	436	236	304	168
Adjusted R2	0.438	0.380	0.101	0.085

note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in brackets.

Table 6: Effects of training on skills development [1]

	ITT - Invited to Training			IV - Attended Training			Mean of Dependent variable in Control group
	No controls	+District Dummies	+Controls and District Dummies[2]	No controls	+District Controls	+Controls and District Dummies	
Skill in area/tradetoday (1:Poor/None 10:master craftsmen)	2.636***	2.718***	1.108***	4.890***	5.086***	4.969***	2.578
	[0.181]	[0.169]	[0.198]	[0.316]	[0.284]	[0.790]	
Knows calculate profits of a business (today, 1-10)	1.632***	1.659***	0.578**	2.970***	3.046***	2.450**	4.272
	[0.207]	[0.200]	[0.233]	[0.377]	[0.355]	[0.996]	
Knows how to start a business(today)=1	0.241***	0.235***	0.093**	0.446***	0.439***	0.422**	0.438
	[0.033]	[0.033]	[0.040]	[0.061]	[0.061]	[0.173]	

note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in brackets. Sample size = 975.

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

[2] Controls include: household size squared, number of children under 18 in hh, acres of land owned, age, gender, and dummy variables for married, currently a student, has friends/relatives near training site, and whether a hh member who was contributing to hh income died in the past 12 months.

	ITT - Invited to Training		IV - Attended Training		Mean of Dependent variable in Control group
	No controls	+Controls and District Dummies[2]	No controls	+Controls and District Dummies	
Hours worked in paid labor in month before training	-4.867	-0.237	-7.833	1.471	30.491
	[3.966]	[4.173]	[7.347]	[18.653]	
Hours worked in self employment in month before training	-3.670	0.760	-6.249	5.379	53.256
	[4.012]	[4.556]	[7.476]	[20.427]	
Hours spent in human capital development (school, job or trade training) in month before training	1.116	3.161	2.084	14.171	14.384
	[2.897]	[2.954]	[5.442]	[13.320]	
Hours worked in paid labor during training	-32.320***	-10.995	-56.857***	-43.441	57.959
	[8.555]	[11.152]	[15.696]	[49.431]	
Hours worked in self employment during training	-75.983***	-22.500**	-140.998***	-101.437**	131.803
	[10.384]	[10.786]	[19.035]	[46.261]	
Hours spent in human capital development (school, job or trade training) during training	342.679***	170.471***	636.212***	772.875***	41.097
	[16.110]	[19.562]	[26.046]	[69.638]	
Hours worked in paid labor in month after training	-3.271	1.041	-6.350	4.194	19.606
	[3.504]	[4.532]	[6.570]	[20.322]	
Hours worked in self employment in month after training	-0.366	7.477*	-0.028	36.092**	41.747
	[3.551]	[3.878]	[6.630]	[17.948]	
Hours spent in human capital development (school, job or trade training) in month after training	6.513**	5.391	12.232**	24.369	10.456
	[2.967]	[3.536]	[5.579]	[15.744]	
Hours worked in paid labor in past week	0.493	1.551	1.158	7.516	6.150
	[1.015]	[1.228]	[1.888]	[5.564]	
Hours worked in self employment in past week	-0.464	-0.553	-0.530	-1.596	9.325
	[0.927]	[1.071]	[1.728]	[4.777]	
Hours spent in human capital development (school, job or trade training) in past week	1.562**	1.488**	2.838**	6.177*	1.978
	[0.635]	[0.724]	[1.196]	[3.212]	

note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in brackets. Sample size = 975.

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

[2] Controls include: household size squared, number of children under 18 in hh, acres of land owned, age, gender, and dummy variables for married, currently a student, has friends/relatives near training site, and whether a hh member who was contributing to hh income died in the past 12 months.

Table 8: Effects of training on Economic Outcomes [1]

	ITT - Invited to Training		IV - Attended Training		Mean of Dependent variable in Control group
	No controls	+Controls and District Dummies[2]	No controls	+Controls and District Dummies	
Personal savings	-1,571.551*	-1,332.252*	-2,956.059*	-6,168.389*	2,272.813
	[852.771]	[757.558]	[1,605.566]	[3,477.858]	
Total earnings from work (last week)	-305.274	-195.244	-579.030	-898.751	995.469
	[266.610]	[224.848]	[504.245]	[1,023.489]	
Started business during last 12 months	-0.047*	-0.071**	-0.082*	-0.307**	0.188
	[0.026]	[0.029]	[0.048]	[0.133]	
Total monthly expenditure	-251.925	-616.123	-497.868	-2,852.917	3,936.331
	[366.602]	[382.149]	[688.935]	[1,750.311]	
Migrated permanently or temporarily, for work, school or other	-0.061*	-0.069*	-0.120**	-0.340**	0.319
	[0.031]	[0.036]	[0.058]	[0.167]	

note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in brackets. Sample size = 975.

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

[2] Controls include: household size squared, number of children under 18 in hh, acres of land owned, age, gender, and dummy variables for married, currently a student, has friends/relatives near training site, and whether a hh member who was contributing to hh income died in the past 12 months.

Table 9: Effects of training on Well-being [1]

	ITT - Invited to Training		IV - Attended Training		Mean of Dependent variable in Control group	N
	No controls	+Controls and District Dummies[2]	No controls	+Controls and District Dummies		
Household rarely or never skips meals	-0.029	-0.007	-0.048	-0.026	0.815	848
	[0.029]	[0.032]	[0.054]	[0.138]		
Happy and satisfied with life (Str Agree/Agree)=1	0.075***	0.053*	0.132***	0.225	0.775	975
	[0.027]	[0.031]	[0.050]	[0.138]		
Life has improved during last year(Str Agree/Agree)=1	0.119***	0.067*	0.218***	0.292*	0.613	975
	[0.032]	[0.038]	[0.060]	[0.168]		
Sees self as entrepreneur	0.019	-0.015	0.036	-0.067	0.856	975
	[0.023]	[0.029]	[0.044]	[0.131]		
Able to earn money outside farming(Str Agree/Agree)=1	0.095***	0.057	0.172***	0.239	0.625	975
	[0.032]	[0.038]	[0.060]	[0.168]		
Used condom almost every time or every time with most recent sexual partner	-0.016	-0.062	-0.041	-0.278	0.267	525
	[0.040]	[0.041]	[0.076]	[0.178]		
Married within the last year	-0.014	-0.003	-0.029	-0.027	0.125	975
	[0.022]	[0.021]	[0.041]	[0.096]		
Had child in past year	-0.030	-0.027	-0.050	-0.108	0.116	975
	[0.021]	[0.023]	[0.039]	[0.104]		

note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in brackets. Sample size = 975, except for "Household rarely skips meals", for which there was a high number of missing responses, and "Used condom", for which many responses were "Not applicable" due to the fact that not all respondents were sexually active

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

[2] Controls include: household size squared, number of children under 18 in hh, acres of land owned, age, gender, and dummy variables for married, currently a student, has friends/relatives near training site, and whether a hh member who was contributing to hh income died in the past 12 months.

Table 10: Effects of training, by gender [1]

	Men			Women			P-value of dif. btwn. men and women	
	ITT	TOT	Mean of dep. var. in control	ITT	TOT	Mean of dep. var. in control	ITT	TOT
Skill in area/tradetoday (1:Poor/None 10:master craftsmen)	2.768***	5.061***	2.580	2.386***	4.553***	2.575	0.313	0.446
	[0.225]	[0.390]		[0.304]	[0.540]			
Knows calculate profits of a business (today, 1-10)	1.654***	2.963***	4.430	1.582***	2.970***	3.982	0.867	0.993
	[0.259]	[0.466]		[0.346]	[0.634]			
Knows how to start a business(today)=1	0.244***	0.448***	0.444	0.233***	0.443***	0.425	0.876	0.972
	[0.041]	[0.075]		[0.056]	[0.105]			
Hours worked in paid labor during training	-35.811***	-60.698***	68.652	-26.273***	-50.207***	38.372	0.531	0.709
	[12.161]	[21.870]		[9.131]	[17.648]			
Hours worked in self employment during training	-96.271***	-174.867***	153.633	-38.891***	-76.347***	91.814	0.003	0.006
	[14.004]	[25.378]		[13.632]	[25.562]			
Hours spent in human capital development (school, job or trade training) during training	364.503***	666.042***	33.952	301.989***	578.051***	54.186	0.059	0.098
	[20.360]	[33.035]		[26.127]	[41.610]			
Hours worked in paid labor in month after training	-2.768	-5.426	23.502	-4.405	-8.536	12.469	0.800	0.799
	[4.843]	[8.936]		[4.294]	[8.292]			
Hours worked in self employment in month after training	-4.032	-7.262	46.536	6.296	13.730	32.973	0.128	0.099
	[4.798]	[8.827]		[4.789]	[9.176]			
Hours spent in human capital development (school, job or trade training) in month after training	11.446***	21.175***	7.266	-2.609	-5.060	16.301	0.037	0.042
	[3.245]	[6.031]		[5.906]	[11.403]			
Hours worked in paid labor in past week	1.480	3.107	6.903	-1.368	-2.652	4.770	0.152	0.125
	[1.340]	[2.454]		[1.467]	[2.836]			
Hours worked in self employment in past week	0.157	0.447	9.879	-1.639	-2.458	8.310	0.342	0.413
	[1.179]	[2.177]		[1.478]	[2.801]			

Hours spent in human capital development (school, job or trade training) in past week	2.342***	4.401***	1.865	0.113	-0.179	2.186	0.091	0.066
	[0.793]	[1.490]		[1.055]	[2.002]			
Personal savings	-851.092	-1,576.879	1,643.478	-2,895.749*	-5,608.688*	3,425.664	0.290	0.278
	[940.754]	[1,740.238]		[1,690.151]	[3,286.013]			
Total earnings from work (last week)	-192.645	-375.498	1,043.116	-515.942*	-973.780*	908.186	0.496	0.506
	[382.170]	[713.202]		[282.734]	[549.506]			
Started business during last 12 months	-0.007	-0.013	0.155	-0.120***	-0.215**	0.248	0.041	0.058
	[0.030]	[0.056]		[0.046]	[0.091]			
Total monthly expenditure	-21.396	-58.433	3,957.976	-686.446	-1,364.300	3,896.681	0.416	0.405
	[417.465]	[770.657]		[703.468]	[1,366.970]			
Migrated permanently or temporarily, for work, school or other	-0.078**	-0.144**	0.314	-0.028	-0.072	0.327	0.452	0.561
	[0.038]	[0.071]		[0.053]	[0.103]			
Household rarely or never skips meals	-0.043	-0.067	0.823	-0.002	-0.004	0.800	0.514	0.598
	[0.035]	[0.063]		[0.051]	[0.103]			
Happy and satisfied with life (Str Agree/Agree)=1	0.082**	0.142**	0.773	0.063	0.113	0.779	0.745	0.787
	[0.034]	[0.062]		[0.046]	[0.087]			
Life has improved during last year(Str Agree/Agree)=1	0.146***	0.262***	0.604	0.068	0.132	0.628	0.249	0.310
	[0.040]	[0.073]		[0.055]	[0.105]			
Sees self as entrepreneur	0.021	0.039	0.874	0.015	0.028	0.823	0.900	0.912
	[0.027]	[0.050]		[0.043]	[0.083]			
Able to earn money outside farming(Str Agree/Agree)=1	0.103***	0.191***	0.638	0.078	0.134	0.602	0.707	0.654
	[0.039]	[0.072]		[0.055]	[0.106]			
Used condom almost every time or every time with most recent sexual partner	-0.035	-0.081	0.316	0.018	0.032	0.182	0.506	0.451
	[0.053]	[0.100]		[0.059]	[0.112]			
Had child in past year	-0.007	-0.004	0.077	-0.070*	-0.137*	0.186	0.183	0.145
	[0.022]	[0.040]		[0.042]	[0.082]			

note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in brackets. N=647 for men, and N=347 for women, except for 'condom use' (338 men and 201 women) and 'skips meals (582 men and 283 women).

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

Table 11: Differential Constraints by Gender

	Women	Men	P-value of Difference
Trainees' Experiences			
N	460	791	
Months of training	2.864	2.956	0.094
Missed no days of training	0.452	0.533	0.042
Amount of stipend received for training per month (MWK)	4,049.402	4,028.777	0.880
Stipend was sometimes insufficient to cover needs	0.508	0.469	0.338
Received food or money from MC	0.464	0.555	0.023
MC always attended training	0.812	0.818	0.842
Tools were always available for practice	0.680	0.737	0.115
Felt encouraged by MC	0.916	0.933	0.420
Received paid work from MC following training	0.012	0.039	0.048
Baseline Characteristics by Gender			
N	369	753	
Household Characteristics			
Household size	5.46	5.42	0.80
Number of adults	2.50	2.79	0.00
Number of respondent's dependents (in or out of hh)	1.01	0.75	0.00
Owns home=1	0.85	0.89	0.02
Number of acres of land owned	1.76	1.91	0.33
Individual Characteristics			
Age	21.10	21.66	0.01
Head of household=1	0.12	0.20	0.00
Married or living with partner=1	0.13	0.18	0.02
Neither parents are alive (orphan)=1	0.31	0.38	0.03
Lives with at least one parent	0.45	0.38	0.02
Educational Attainment			
Completed primary	0.06	0.05	0.58
Some secondary	0.51	0.47	0.22
Completed Secondary	0.19	0.25	0.03
Currently a student=1	0.09	0.11	0.38
Received vocational training=1	0.11	0.14	0.15
Previously started a business=1	0.36	0.34	0.56
Economic Variables			
Annual personal income	17,227.47	26,820.08	0.33
Number of loans in past 12 months	0.37	0.37	0.97
Amount of loans in past 12 months (in MK)	2,869.76	2,370.47	0.26
Number of cash and in-kind grants from social programs in past 6 months	0.64	0.70	0.21
Amount of cash grants from social programs in past 6 months (in MK)	3,340.90	7,717.29	0.08
Time Use			
Hours per year spent on agriculture or domestic chores	764.58	425.26	0.00
Hours per year spent on paid labor	105.74	203.79	0.00
Hours per year spent in own business	48.22	51.59	0.80
Hours per year spent on other activities	26.15	15.71	0.05

Table 12: Effects of Dropping Out on Outcome Variables [1]

	Dropped out (inc. administrative dropouts)		Dropped out (not inc. administrative dropouts)	
	Men	Women	Men	Women
Skill in area/tradetoday (1:Poor/None 10:master craftsmen)	-3.481***	-3.775***	-2.432***	-3.006***
	[0.248]	[0.310]	[0.394]	[0.478]
Knows calculate profits of a business (today, 1-10)	-2.541***	-2.800***	-1.832***	-2.597***
	[0.266]	[0.351]	[0.390]	[0.476]
Knows how to start a business(today)=1	-0.269***	-0.437***	-0.155**	-0.357***
	[0.044]	[0.057]	[0.066]	[0.085]
Hours worked in paid labor in past week	4.211**	-0.489	4.396	0.416
	[1.734]	[1.411]	[3.027]	[1.988]
Hours worked in self employment in past week	-1.985	-1.310	-1.588	-0.438
	[1.273]	[1.502]	[2.002]	[1.918]
Hours spent in human capital development (school, job or trade training) in past week	-0.189	-0.862	1.892	-1.712*
	[1.175]	[1.073]	[2.162]	[1.014]
Personal savings	75.041	-46.098	183.850	-246.312
	[308.938]	[250.366]	[392.220]	[252.337]
Total earnings from work (last week)	113.933	-104.544	19.920	74.925
	[175.531]	[152.583]	[247.188]	[293.423]
Started business during last 12 months	0.010	-0.066	0.054	-0.037
	[0.035]	[0.043]	[0.056]	[0.061]
Total monthly expenditure	-493.182	-1,091.667*	-841.640	-929.478
	[458.018]	[659.644]	[596.657]	[840.741]
Migrated permanently or temporarily, for work, school or other	0.011	0.045	0.135**	0.023
	[0.041]	[0.060]	[0.067]	[0.082]
Household rarely or never skips meals	0.018	0.056	-0.002	0.018
	[0.042]	[0.058]	[0.063]	[0.083]
Happy and satisfied with life (Str Agree/Agree)=1	-0.085**	-0.067	-0.109*	-0.019
	[0.035]	[0.048]	[0.056]	[0.063]
Life has improved during last year(Str Agree/Agree)=1	-0.204***	-0.151**	-0.218***	-0.103
	[0.042]	[0.061]	[0.067]	[0.084]
Sees self as entrepreneur	-0.099***	-0.179***	-0.122**	-0.213***
	[0.031]	[0.049]	[0.052]	[0.076]
Able to earn money outside farming(Str Agree/Agree)=1	-0.121***	-0.153**	-0.139**	-0.209**
	[0.043]	[0.061]	[0.066]	[0.088]
Used condom almost every time or every time with most recent sexual partner	-0.005	-0.021	0.035	-0.051
	[0.061]	[0.070]	[0.089]	[0.089]
Married within the last year	0.008	0.056	0.006	0.035
	[0.029]	[0.046]	[0.043]	[0.062]
Had child in past year	0.016	0.053	0.052	0.075
	[0.025]	[0.043]	[0.044]	[0.065]

note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in brackets. When including administrative dropouts, N=421 for men, 230 for women, except for 'skips meals' (381/189) and 'condom' (214/132). Not including administrative dropouts, N=298 for men, 164 for women, except for 'skips meals' (276/131) and 'condom' (152/94).
[1] Dependent variables in first column. Coefficient is on the dummy variable *Droppped Out*

Table 13: Effects of training: Lower bounds Assuming Treatment group Attriters would be like (matched) Controls [1]

	Men			Women			P-value of dif. btwn. men and women	
	ITT	TOT	Mean of dep. var. in control	ITT	TOT	Mean of dep. var. in control	ITT	TOT
Skill in area/tradetoday (1:Poor/None 10:master craftsmen)	1.849*** [0.184]	5.564*** [0.420]	2.400	1.625*** [0.254]	4.721*** [0.616]	2.282	0.475	0.258
Knows calculate profits of a business (today, 1-10)	1.101*** [0.212]	3.490*** [0.542]	4.258	1.063*** [0.282]	3.631*** [0.757]	3.981	0.913	0.880
Knows how to start a business(today)=1	0.165*** [0.033]	0.572*** [0.087]	0.456	0.095** [0.046]	0.416*** [0.127]	0.480	0.219	0.308
Hours worked in paid labor during training	-18.605** [8.852]	-65.969*** [23.171]	66.415	-12.539 [8.693]	-41.093* [22.763]	48.788	0.625	0.444
Hours worked in self employment during training	-61.396*** [11.594]	-184.644*** [30.925]	142.471	-18.963* [11.245]	-52.561* [29.555]	93.854	0.009	0.002
Hours spent in human capital development (school, job or trade training) during training	222.473*** [18.623]	675.637*** [36.331]	54.490	202.170*** [24.516]	585.265*** [51.195]	57.642	0.509	0.150
Hours worked in paid labor in month after training	-1.500 [3.599]	-6.355 [9.799]	23.756	-0.965 [3.123]	0.384 [7.903]	15.144	0.911	0.592
Hours worked in self employment in month after training	-0.774 [3.865]	-6.081 [10.435]	43.482	0.231 [4.097]	7.821 [10.838]	36.263	0.858	0.355
Hours spent in human capital development (school, job or trade training) in month after training	7.246*** [2.415]	22.281*** [6.605]	6.331	-0.935 [4.300]	-7.831 [12.898]	11.288	0.097	0.038

Hours worked in paid labor in past week	0.845 [1.083]	3.358 [2.818]	7.526	-2.003 [1.277]	-3.673 [3.647]	6.861	0.089	0.127
Hours worked in self employment in past week	-0.597 [0.930]	-1.352 [2.501]	9.502	-1.349 [1.206]	-2.595 [3.542]	8.519	0.621	0.774
Hours spent in human capital development (school, job or trade training) in past week	1.279** [0.570]	4.967*** [1.564]	1.924	-0.108 [0.914]	-0.391 [2.754]	2.031	0.198	0.091
Personal savings	1,222.038*** [463.474]	-269.996 [440.375]	1,986.008	-3,601.396** [1,759.411]	-8,926.101* [5,137.113]	6,591.695	0.008	0.093
Total earnings from work (last week)	84.803 [104.204]	153.350 [272.517]	807.142	-216.937 [138.817]	-310.460 [383.253]	832.331	0.082	0.324
Started business during last 12 months	0.001 [0.026]	-0.055 [0.064]	0.198	-0.133*** [0.042]	-0.269** [0.115]	0.318	0.007	0.104
Total monthly expenditure	170.844 [291.677]	368.791 [750.093]	3,940.671	-84.954 [515.752]	400.696 [1,448.556]	4,069.229	0.666	0.984
Migrated permanently or temporarily, for work, school or other	-0.066** [0.031]	-0.142* [0.081]	0.354	-0.090** [0.045]	-0.156 [0.127]	0.395	0.664	0.926
Happy and satisfied with life (Str Agree/Agree)=1	0.022 [0.026]	0.068 [0.069]	0.801	0.051 [0.037]	0.184* [0.107]	0.786	0.520	0.363
Life has improved during last year(Str Agree/Agree)=1	0.048 [0.031]	0.208** [0.084]	0.626	0.037 [0.045]	0.158 [0.130]	0.610	0.841	0.750
Sees self as entrepreneur	0.003 [0.023]	0.076 [0.060]	0.852	0.015 [0.038]	0.082 [0.109]	0.785	0.773	0.958
Able to earn money outside farming(Str Agree/Agree)=1	0.035 [0.032]	0.202** [0.084]	0.635	0.132*** [0.047]	0.296** [0.131]	0.536	0.088	0.543
Had child in past year	-0.010 [0.018]	-0.022 [0.048]	0.077	0.010 [0.032]	-0.011 [0.094]	0.107	0.591	0.916

note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in brackets. N=746 for men, and N=368 for women.

[1] Dependent variables in first column. Coefficient is on the dummy variable *Invited Training* for ITT estimates and on *Attended Training* for IV estimates.

Appendix Table 1: Summary Statistics at Follow-up - Differences between control group and dropouts

	Control	Dropped out (inc. administrative dropouts)	P-value of difference	Control	Dropped out (not inc. administrative dropouts)	P-value of difference
N	328	307		328	106	
Household Characteristics						
Household size	4.93	4.84	0.62	4.93	4.84	0.71
Number of adults	2.84	2.72	0.25	2.84	2.73	0.44
Number of respondent's dependents (in or out of hh)	1.35	1.65	0.06	1.35	1.66	0.15
Owns home=1	0.84	0.83	0.70	0.84	0.81	0.45
Individual Characteristics						
Gender:Male=1	0.64	0.64	0.83	0.64	0.59	0.36
Age	22.00	21.29	0.01	22.00	21.35	0.08
Head of household=1	0.23	0.24	0.84	0.23	0.26	0.50
Married or living with partner=1	0.29	0.27	0.65	0.29	0.27	0.75
Neither parents are alive (orphan)=1	0.45	0.42	0.50	0.45	0.38	0.21
Educational Attainment						
All primary	0.05	0.04	0.35	0.05	0.02	0.12
Some secondary	0.55	0.53	0.74	0.55	0.55	0.98
All secondary	0.15	0.16	0.63	0.15	0.11	0.39
Currently a student=1	0.11	0.15	0.13	0.11	0.14	0.43
Received vocational training=1	0.11	0.07	0.13	0.11	0.08	0.47
Economic Variables						
Previously started a business=1	0.37	0.31	0.14	0.37	0.31	0.31
Worked for wage in past 12 months=1	0.22	0.18	0.28	0.22	0.21	0.85
Personal savings	2,266.16	731.11	0.08	2,266.16	720.75	0.29

Number of loans in past 12 months	0.35	0.36	0.79	0.35	0.41	0.39
Amount of loans in past 12 months (in MK)	3,548.50	2,710.38	0.35	3,548.50	2,978.21	0.66
Expenditure on food as percent of total	0.47	0.47	0.82	0.47	0.47	0.97
In the past 12 months, has anyone in your hh had to skip meals?						
No	0.47	0.50	0.53	0.47	0.50	0.68
Yes, but infrequently	0.34	0.31	0.44	0.34	0.28	0.33
Yes, about once a month	0.10	0.08	0.45	0.10	0.10	0.98
Yes, more than once month	0.09	0.11	0.39	0.09	0.12	0.41
Migration						
Migration episodes in past 12 months	0.28	0.20	0.04	0.28	0.26	0.78
Average duration of migration episode	8.61	12.93	0.17	8.61	12.67	0.31
Number of migration episodes for work in past 12 months	0.08	0.05	0.12	0.08	0.07	0.63