Skills for Market (SFM 2013-14) - Market Linkage (ML 2015-16): Final Impact Evaluation Report

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Acronyms

ANCOVA	Analysis of Covariance
ATT	Average Treatment Effect on the Treated
BPRE	Big Push for the Rural Economy
CERP	Center for Economic Research in Pakistan
DfID	Department for International Development
GoPb	Government of Punjab
ITT	Intent-to-Treat
IV	Instrumental Variable
LATE	Local Average Treatment Effect
ML	Market Linkage
PEOP	Punjab Economic Opportunities Program
PKR	Pakistani Rupee
PSDF	Punjab Skills Development Fund
RCT	Randomized Control Trial
SDP	Skills Development Program
SFE	Skills for Employability
\mathbf{SFJ}	Skills for Job
\mathbf{SFM}	Skills for Market
TSP	Training Service Provider
VBT	Village Based Training

Executive Summary

Skills for Market (SFM) is a needs-based skills training scheme that was implemented by the Punjab Skills Development Fund (PSDF) as part of the Government of Punjab (GoPb) and the UK's Department for International Development (DfID) funded Punjab Economic Opportunities Program (PEOP). In 2010 GoPb and DfID piloted PEOP in four of Punjab's poorest districts¹. PEOP was designed to enhance income and earnings of poor and vulnerable households and women by augmenting human capital through vocational training.

The SFM scheme launched by PSDF in 2013 provided a four-month vocational training course in tailoring for rural women given the extremely high demand expressed for these skills in the PEOP districts². Given women's mobility constraints coupled with the limited livelihood opportunities for skilled women in their home districts, a pilot market linkage (ML) scheme was then implemented in 2015 as part of PEOP with a sub-sample of SFM 2013-14 graduates. ML 2015-16 was a complementary scheme implemented by one of the SFM training providers, which hired sales agents to enhance the earning opportunities of these graduates by providing them access to marketable designs, raw materials, quality control and by attempting to sell their suits in urban markets. The ML scheme incentivised sales agents to provide these services for a time-bound period of 10 months. At a minimum, the goal of the ML scheme was to expose a random subset of SFM 2013-14 graduates to a temporary external demand shock that allowed them to augment the skills they had acquired by producing for non-local markets.

DfID and PSDF entered into a collaborative agreement with the Center for Economic Research in Pakistan (CERP) to conduct rigorous impact evaluations of key schemes being implemented by PSDF. The objective of the collaboration is to improve the returns of PSDF's program by enabling them to evaluate (and re-calibrate, if necessary) their portfolio of schemes on the basis of rigorous evidence. This report presents the findings from the final impact evaluation of the SFM 2013-14 scheme as well as the impact evaluation of the complementary ML scheme. These evaluations have been conducted by CERP using the randomized-control-trial (RCT) methodology.

The evaluation sample for the SFM 2013-14 scheme comprises a representative sample of randomly selected villages drawn from three out of four pilot PEOP districts - Bahawalnagar, Bahawalpur and Muzaffargarh. For the purpose of the SFM impact evaluation, we compare women in SFM treatment villages randomized to receive the (temporary) training facility under the scheme (n=108) versus pure SFM control villages (n=81) where neither a training facility was opened nor were people informed about the upcoming training opportunity. The ML evaluation sample consists of a randomly drawn sub-sample of villages (n = 75) that received a training facility under the SFM 2013-14 scheme. For the purpose of the ML evaluation, we compare SFM graduates in villages randomized to receive the complementary ML scheme, which we call ML treatment villages (n = 51), versus SFM graduates in ML control villages (n = 24) that did not receive the ML scheme.

This report presents findings of the impact of the SFM 2013-14 vocational training on economic outcomes such as the graduates' earnings from tailoring and their household income and consumption.

¹PEOP was initially introduced in four high poverty districts in south Punjab, viz., Bahawalpur, Bahawalnagar, Lodhran and Muzzafargarh.

 $^{^{2}}$ Around 70% of rural women expressed a demand for training in tailoring skills in a baseline survey of households conducted in PEOP districts in 2011 (Cheema et al., 2012).

We also look at the impact on graduates' engagement in tailoring related tasks and the spill-over effects of the scheme on others in the community. In addition, we also evaluate the impact of this scheme on several non-economic outcomes such as empowerment, happiness and engagement with the state. We measure the impact of SFM 2013-14 at different points in time (from 6-months to 2.5 years post-training) to assess whether any short-term effects are sustained. Finally, we also provide the impact of the ML scheme on economic and non-economic outcomes at the individual and the household level.

The SFM impact evaluation (excluding the ML 2015-16 treatment villages) finds that the following impacts result from the scheme³

- Skills training graduates are 7.7% points more likely to engage in tailoring related tasks and 5.3% points more likely to stitch for non-relatives.
- Skills training only results in a PKR 174.2 increase in 3-month tailoring earnings for its graduates. This increase in tailoring related earnings translates into a modest increase of PKR 697 per annum (PKR 174.2 x 4) for graduates⁴. Moreover, on average, they have a PKR 125.9 increase in their 3-month earnings from tailoring for non-relatives and a PKR 41.9 increase in 3-month tailoring earnings from relatives.
- Trained women report better tailoring skills (cutting, designing, and sewing).
- The households of these graduates have a 11.6% higher income and less expenditure on male and female clothing.
- Skills training graduates teach the skills they learn to other community members, thus creating
 positive spillover effects beyond the originally treated group.
- However, we do not find a significant impact on non-economic outcomes such as female empowerment, happiness and civic engagement for skills training only graduates.

We measure the impact of the ML scheme nine months after its completion to assess whether the time-bound external demand shock induced by it had a positive impact on the economic outcomes of interest. For the market linkage scheme, we find that:

- Women who participated in both schemes, SFM 2013-14 and ML 2015-16, are 6.6% points more likely to engage in tailoring related tasks compared to women who only completed the SFM training. Hence, the market linkage treatment had a positive effect on tailoring engagement over and above the impact of skills training.
- Moreover, the ML 2015-16 scheme resulted in a PKR 586.6 increase in 3-month earnings from tailoring. This increase in tailoring related earnings translates to an annual income gain of PKR 2,346.4 (PKR 586.6 x 4) due to the complementary ML scheme.
- Graduates linked to the market have further improved tailoring skills and knowledge of potential markets where their stitched suits could be sold.
- Graduates linked to the market are more empowered and have a higher civic engagement. They are more likely to travel for field work and males in their households are less likely to believe that women should only work on household tasks.

 $^{^{3}}$ Here, we report the skills training only impact using the SFM 2013-14 only sample, that is, by excluding the ML treatment villages. Please see section 8 for detailed results.

 $^{^{4}}$ At baseline, these women were earning PKR 168.4 annually from tailoring. Thus, the PKR 697 increase translates to more than a 300% increase in annual tailoring earnings.

- The households of women linked to the market have a 6.2% higher consumption.
- There is decrease in the proportion of underweight and wasted children and a $0.995 \text{ kg}/m^2$ increase in the average child BMI in graduates' households.

The report also assesses the cost effectiveness of the SFM 2013-14 and ML 2015-16 schemes. The per trainee cost of SFM 2013-14 is PKR 30,000 (£188), which includes the total training expenditure or payments given to the training service providers contracted through competitive bidding, administrative costs, and monitoring costs. The per trainee cost of ML 2015-16 is PKR 71,000 (£444) per trainee, which includes the above SFM training costs as well as the delivery of the ML scheme. We review the international literature and find that the cost per trainee of SFM 2013-14 is in line with international standards and this is true even if we add the cost of the ML scheme.

In terms of benefits, our findings show that the SFM 2013-14 without ML results in graduates earning PKR 697 (\pounds 4.4) per annum in tailoring related earnings⁵. We use a conservative calculation for cost-effectiveness that uses the tailoring related earnings of graduates who did not participate in ML to measure the benefit of the scheme and find that assuming no appreciation or depreciation in tailoring earnings and a zero-discount rate⁶, it would take 43 years to recover the cost of the scheme. This analysis suggests that at current costs the SFM 2013-14 scheme does not score well on cost-effectiveness, the challenge for PSDF is to bring its cost in line with the lower range of cost estimates reported in the international literature.

We find that skills training followed by the ML scheme results in annual earnings of PKR 3,043 $(\pounds 19)$ from tailoring. This is approximately a 4-fold increase in annual earnings compared to only being provided vocational training and this gain is achieved through a roughly 2-fold increase in per trainee costs. However, we find that at this higher level of earnings it would still take 23.3 years for trainees to earn back the amount spent on the two schemes. Nonetheless, the results obtained do meet expectations given the skills training scheme was introduced in a context of poverty and unemployment where women's annual earnings from tailoring were just PKR 168.4. It should also be noted that this calculation does not account for the full range of benefits to training and market linkage, such as the spillover benefits from training other women in the community (the multiplier effect) or additional monetary savings from the reduction in household's clothing expenses or the value of increased market knowledge for the future. While market linkage is a promising complementary scheme to vocational training for women in Punjab's high poverty districts, a significant design challenge for PSDF will be to consider ways of reducing the overall cost of scheme delivery without compromising on its skill acquisition and market exposure benefits.

⁵For skills training, we have a large effect size of 0.34 standardized mean differences - this is more than the average effect size (SMD = 0.11) obtained from combining eight different skills training programs introduced elsewhere (Chinen et al., 2017).

⁶This is consistent with other studies cited in the literature review, such as Adoho et al. (2014) and Alzua et al., (2016), which also assume a zero-discount rate for their payback period calculations.

1 Introduction

The Skills for Market (SFM) 2013-14 scheme was designed to increase skills set of marginalized women with limited or no education in three high poverty districts of Southern Punjab in Pakistan⁷. The aim of the scheme was to provide skills training to help improve livelihood, income-generating potential, and labour force participation of marginalized women.

Women across randomly selected villages from the three districts - Bahawalpur, Muzzafargarh, and Bahawalnagar - were offered a basic course in tailoring. Training centers were set up within the villages to encourage uptake given rural women face significant barriers to out-of-village travel. Given a lack of opportunities for skills employability and income generation, a post-training market linkage (ML) scheme was introduced in 2015 for a subset of the SFM 2013-14 treatment population in Bahawalpur and Bahawalnagar whereby the participants were provided with raw materials and orders to generate a sustained monthly income.

This report is the final impact evaluation of the SFM 2013-14 and ML 2015-16 schemes; the key questions of interest are:

- Does skills training have a positive impact on individual level economic and non-economic outcomes?
- Does skills training create positive spillover effects on inter- and intra-household outcomes?
- Does linking trained women with the market improve their individual and household level outcomes over and above the skills training impact?
- Is the impact on individual and inter- and intra-household level outcomes, if any, sustainable? Is the short-term effect different from the medium- and long-term impact?
- Does the skills training impact vary with village demand for stitched-to-order clothes?
- Does age or marital status of women have an impact on their tailoring engagement and tailoring earnings?

This report is structured as follows: section 2 provides the context of the SFM 2013-14 scheme in terms of history and players involved; section 3 highlights the objectives of the SFM 2013-14 and ML 2015-16 schemes and the relevance of SFM 2013-14 with reference to the global literature; section 4 discusses the evaluation design; section 5 describes the implementation activities of the SFM 2013-14 and ML 2015-16 schemes; section 6 discusses the sample characteristics and follow-up surveys; section 7 provides information on the evaluation methodology; section 8 provides a detailed analysis of findings on the impact of the skills training on individual, household, and community level outcomes of interest and also discusses the impact of the ML 2015-16 scheme on individual and inter- and intra-household level economic outcomes; section 9 provides a cost-benefit analysis of the SFM 2013-14 and ML 2015-16 schemes; section 10 highlights the lessons learned; section 11 concludes and provides recommendations.

 $^{^{7}49.9\%}$ of the population living in Muzzafargarh, 43.6% of the population living in Bahawalpur, and 33.3% the of population living in Bahawalnagar live below the poverty line, that is, consume less than 2350 calories per adult per day (UNDP, 2011).

2 Context

Punjab Skills Development Fund (PSDF), established in 2010 by the Government of Punjab (GoPb) in collaboration with UK's Department for International Development (DfID), is a not-for-profit skills financing company that has been established to provide high quality skills training to poor and vulnerable populations in Pakistan to generate sustainable income and employment opportunities. Since its inception, PSDF has expanded its domain from Punjab's high poverty districts to all districts across the province and has till date trained around 300,000 underprivileged men and women in approximately 250 demand-driven and market relevant trades across 10 sectors⁸.

In 2010, the GoPb in collaboration with DfID piloted the Punjab Economic Opportunities Program (PEOP) in four districts of Southern Punjab⁹ to help alleviate poverty and vulnerability¹⁰. PEOP was implemented by PSDF with a focus on increasing employability and earnings of low income, poor and vulnerable families by augmenting their technical and vocational skills¹¹. It was a five-year poverty alleviation program that reached its completion on 30th June 2016. The Skills Development Program (SDP) was set up by GoPb in collaboration with DfID as an extension of PEOP with the objective to further catalyse inclusive growth through skills development.

For its program formulations, PSDF follows an evidence-based framework that uses surveys and impact evaluations to calibrate its portfolio of interventions and to ensure that it receives high returns. The evidence and learning hence generated has the potential to not only influence planned interventions but also to shape the direction of large-scale skills programs and policies in the country.

PSDF is in a collaborative arrangement with the Center for Economic Research in Pakistan (CERP); CERP provides rigorous evidence and conducts randomized controlled trial (RCTs) based impact evaluations of PSDF's skills training schemes to assess their effectiveness in augmenting earnings and reducing poverty in the selected poverty-stricken districts of South Punjab. This collaboration is in line with the fact that cost-effective impact requires schemes that are grounded in and informed by solid evidence and addresses issues faced on both the demand and supply side of the skills and labour markets.

The key components of the collaboration between CERP and PSDF are (i) Producing rigorous evidence to enable PSDF to devise evidence-based and empirically grounded interventions in the market for labour and skills training, and (ii) Monitoring and evaluating the impact of select PSDF skills training schemes on economic and non-economic returns. The evaluations conducted by CERP do not include evaluation of PSDF as an organization or an overall evaluation of PSDF's skills schemes. CERP conducts third-party impact evaluations of selected skills schemes offered by PSDF, that are:

- Skills for Employability (SFE) 2011-12: The vocational skills training scheme was based on a large expressed demand for skills acquisition from surveys conducted by CERP in 2011. It measured the uptake of PSDF focused vocational training by delivering vouchers to a randomized representative sample of the general population in PEOP districts. CERP's evaluation revealed low uptake for

⁸This information is extracted from PSDF's official website.

⁹Bahawalpur, Bahawalnagar, Muzaffargarh, and Lodhran

¹⁰The total value of PEOP was $\pounds 55$ million; DfID provided $\pounds 25$ million and $\pounds 5$ million for training and technical assistance respectively and GoPb matched DfID's funding for training by providing Pak. Rupees equivalent of $\pounds 25$ million.

¹¹Initially, PEOP also focused on increasing access and returns to livestock through the Livestock and Dairy Development (L&DD) component. However, L&DD was closed down following recommendations of the program's second Annual Review.

PSDF funded schemes in the general population. This led PSDF to design schemes that included interventions to increase uptake.

- Skills for Job (SFJ) 2013: This scheme was designed to study the elasticity of stipend to enrolling in PSDF funded vocational training in PEOP districts. The idea was to see if additional stipend led to an increase in voucher acceptance and eventually enrolment in training courses. The design of this scheme was based on evidence collected from baseline household surveys and the SFE 2011-12 evaluation. The results of this phased experiment suggested that enrolment was not very responsive to increasing stipend.
- Big Push for the Rural Economy (BPRE) 2016-17: The scheme focuses on improving the knowledge base and skills set of people engaged in the agriculture and livestock sectors in PEOP districts while exploiting complementarities and economies of scale that arise out of saturating frontier skills throughout village-level value chains.

There was low uptake in the SFE 2011-12 training scheme which was especially serious for females, as only 5% of women offered vouchers for training ended up enrolling in the courses funded by PSDF. This low uptake was more acute for women belonging to the poor and vulnerable households, as well as for those women living further from the training centers (Cheema et al., 2012). These findings raised concerns as women, an important sub-population of interest for the training scheme, had insufficiently participated to benefit from the trainings provided by PSDF. Qualitative follow-up interviews and focus groups revealed that low uptake was not due to the lack of demand for training but instead women did not use their vouchers to enrol because of a host of social and logistical constraints such as community norms against travel, household obligations, and lack of transport facilities in rural areas.

The Skills for Market (SFM) pilot study¹² was designed to mitigate access constraints for rural women to improve uptake. Training centers were set up within rural villages, information about courses was delivered to potential trainees, and social mobilizers were hired to hold focus groups with women to stress the usefulness of the offered courses and to encourage them to participate¹³. Although locating the training center in the village significantly increased uptake, it did so at a higher cost. PSDF's Board recognized the large welfare gains associated with finding solutions that increase women's access to training in a cost-effective manner and demonstrating their logistical viability at a large scale. The next SFM training scheme (2013-14) was therefore designed to reach more women and to identify cost-effective interventions that could alleviate distance related access constraints.

¹²This scheme was designed to test for factors that affect rural women enrolment in skills training. We have referred to this scheme as SFM-A in the past but avoid this nomenclature in the report for the sake of simplicity. We refer to the bigger evaluation as the SFM evaluation for the purpose of this report and refer to SFM-A as the "SFM pilot study".

¹³The RCT-based SFM pilot study showed that, enrolment rates increased by 35% for women who had the training center located inside their villages, and 17% for women who received social mobilization, but enrolment rates stayed low for women who received only information (2.6%) (Cheema et al., 2013).

3 Skills for Market (SFM) 2013-14 and Market Linkage (ML) 2015-16

The design and evaluation of SFM 2013-14 was informed by previous evaluations of PSDF schemes¹⁴. SFM 2013-14 was a skills training scheme designed to augment the human capital of marginalized women in South Punjab. Women across randomly selected villages from the three districts of interest, Bahawalpur, Muzzafargarh, and Bahawalnagar, were offered a course in tailoring; training centers were set up within the selected villages to encourage uptake given rural women face significant barriers to out-of-village travel.

Given a lack of opportunities for skills employability and income generation, a post-training market linkage (ML) component was introduced for a subset of the treatment population in Bahawalpur and Bahawalnagar. The ML scheme was a complementary scheme implemented by one of the SFM training providers, which hired sales agents to enhance the earning opportunities of these graduates by providing them access to marketable designs, raw materials, quality control and by attempting to sell their suits in urban markets. The ML scheme incentivised sales agents to provide these services for a time-bound period of 10 months. At a minimum, the goal of the ML scheme was to expose a random subset of SFM 2013-14 graduates to a temporary external demand shock that allowed them to augment the skills they had acquired by producing for non-local markets.

The objective of the SFM 2013-14 evaluation, as measured through a randomized controlled trial (RCT) methodology, is to investigate whether skills training has a positive impact on individual, household and community level outcomes of interest. Moreover, the aim of the ML 2015-16 evaluation is to determine the incremental effect on economic empowerment of graduates linked to the market.

3.1 Literature Review

In this section, we discuss the relevance of the SFM 2013-14 scheme in light of skills training schemes offered in other parts of the world. The aim of skills training, in general, is to improve economic and non-economic outcomes for disadvantaged populations. Such interventions have been used by countries to alleviate poverty and create income-generating opportunities for their marginalized citizens. A detailed literature review assessing the effectiveness of relevant skills training programs¹⁵ is attached in Appendix A.

As the literature review highlights, skill-building schemes are offered in developing countries to train young adults, low-income men, and/or women. However, the focus of most skills training schemes is on women who have limited mobility within conservative environments and hence have low literacy and employment rates. The Empowerment and Livelihood for Adolescents (ELA) program initiated in Uganda offered vocational and life skills training to disempowered girls who were held back by societal constraints. The training was offered to a group of girls out of which only 12% were involved in any income-generating activities (Bandiera et al., 2015). Also, the sample of women offered the free tailoring course by Social Awakening Through Youth Action (SATYA) in India had low employment and literacy rates; more than

¹⁴Information obtained through field visits and literature review identified four main access constraints: physical distance, safe and reliable transport, financial and credit constraints, and social norms. Refer to SFM Interim Impact Evaluation Report for more information (Cheema et al., 2016).

¹⁵The studies included in the literature review use randomized controlled trials (RCTs) to evaluate the effectiveness of skills training programs.

50% of the sample women had not completed secondary schooling and only 5% were employed at baseline (Maitra & Mani, 2017). Similarly, the SFM 2013-14 training scheme targeted marginalized women with limited or no education in three high poverty districts of South Punjab.

Apart from vocational and life skills training, skills training schemes are also specifically tailored to provide women with business start-up and management training. For business development skills training programs, the targeted population often has higher level of literacy and numeracy(Adoho et al., 2014; De Mel et al., 2012). In fact, the applicants for the Youth Opportunities Program (YOP) in Uganda had 1.7 years more education and 0.15 standard deviations more wealth than the average population (Blattman et al., 2013). Business skills training programs are more suitable for women who are out of the labour force as De Mel et al. (2012) report how getting women to start a business is easier than getting already established businesses to expand.

Many social programs fail to reach a large fraction of their intended beneficiaries (Currie, 2004). Besides yielding insight into individual choice vis-a-vis social programs, well-identified research on selection can also help design programs that are more inclusive in helping a broader set of individuals. Given that skills training targets marginalized populations, success is also measured in terms of uptake because even if the targeted population wants to attend courses, they may feel unable to do so because of restrictive social norms (Wigfield et al., 2012). Men often see transgressing restrictive gender norms as impacting their reputation directly (Jamali, 2009), and may be unwilling to allow women of their household to participate, even if they see its value (Naqvi et al., 2002).

A high uptake rate indicates more people accepting the training offer despite restrictive social norms. In case of the Employment Fund (EF) and the Adolescent Girls Employment Initiative (AGEI) launched in Nepal, Chakravarty et al. (2016) report uptake of 65 to 74%. The uptake for the vocational training under the Empowerment and Livelihood for Adolescents (ELA) program in Uganda was only 21% suggesting that most girls were held back by restrictive social norms around female labour force participation, marriage and childbearing (Bandiera et al., 2015).

As a result, imperfect compliance is often anticipated while designing skills training schemes. For their study, Maitra and Mani (2017) included another 50 women in their target sample to eventually achieve an uptake of 97%. When uptake rates are low, the control group can be used to recruit more participants for the intervention. As the uptake for the first round of training for the Economic Empowerment of Adolescent Girls and Young Women (EPAG) project in Liberia was around 90%, the remaining slots were filled by willing participants from the control group (Adoho et al., 2014).

If skills training programs across the world are effective in improving economic empowerment, they can serve as a model to help inform and upscale future schemes elsewhere. In discussing the Programa Juventud y Empleo (PJyE) scheme implemented in the Dominican Republic, Acevedo et al. (2017) report the skills training in fact helped women experience improved labour outcomes in the short run. The Economic Empowerment of Adolescent Girls and Young Women (EPAG) program helped increase employment and earnings by 47% and 80% respectively for randomly chosen Liberian girls (Adoho et al., 2014). Moreover, trainees had increased earnings and a higher probability of getting employed as compared to non-trainees in response to the Youth in Action program implemented in Colombia (Attanasio et al., 2011). The Empowerment and Livelihood for Adolescents (ELA) program implemented in Uganda helped achieve a 72% increase in trained girls' engagement in income-generating activities and

a 41% increase in their monthly consumption expenditures (Bandiera et al., 2015).

Maitra and Mani (2017) report the evidence from a randomized evaluation in India to highlight the impact of a subsidized vocational education program in stitching and tailoring. Women who were offered training were 6% points more likely to be employed, 4% points more likely to be self-employed, and earn 150% more than women in the control group. The treatment effects are all sustained in the medium run as revealed by follow-up data collected after 18 months of the intervention.

However, there are also skills training programs that failed to achieve a sustainable impact on key economic outcomes (Card et al., 2011; Kandpal et al., 2013). Skills training programs can report impact in the short run but these effects may dissipate over time. The *entra21* program introduced in Argentina led to gains of 8% in formal employment for trained youth as compared to the control, however, the effect dissipated in both the medium and long run (Alzúa et al., 2016). Vocational training courses covering a wide range of vocations in Turkey resulted in an overall small positive effect on employment and earnings. However, the impact dissipated three years after the training (Hirshleifer et al., 2014).

It is assumed that focusing on women as an essential target group for skills training will not only result in economic improvements but will also boost non-economic outcomes such as female empowerment and well-being. Trained women tend to be more optimistic, have higher levels of self-esteem, and fewer children in the long run (Acevedo et al., 2017). Positive effects have been noted for empowerment measures such as access to money and self-confidence (Adoho et al., 2014) and ability to go out without permission and having an identification card (Kandpal et al., 2013). Skills training has been shown to achieve a fall in teen pregnancy and early entry into marriage (Bandiera et al., 2015). In the evaluation by Cho et al. (2013), trained women were significantly less likely to have given birth in the past year in comparison to non-trainees.

3.2 Theory of Change

For SFM 2013-14, constraints such as access barriers to training, cultural norms, and information deficits were removed or alleviated by setting up training centers within a treatment village boundary and by conducting social mobilization activities and information sessions within treatment villages. The hypothesis is that alleviating such constraints to training would not only increase course uptake but would also improve a number of individual and household level economic and non-economic outcomes as well as have wider spillover effects on the community.

PSDF's theory of change expects that graduates would have improved skills in the immediate aftermath of the treatment assuming the SFM 2013-14 training scheme successfully disseminates skills. As an outcome, it expects that improved skills and market knowledge will result in higher earnings from tailoring. In the long run, the theory of change expects poverty reduction for the average household of SFM 2013-14 graduates in target villages and greater participation in income-generating activities.

Moreover, for the ML 2015-16 scheme, if graduates were sufficiently connected to markets and used their skills to produce products that could be sold through designated middlemen, the theory of change proposes graduates would enjoy higher earnings through improvements in tailoring skills and productivity enhancement. Therefore, the theory of change hypothesizes that linking graduates to the market would increase their income-earning potential over and above the skills training impact.

Figure 1 outlines the theory of change for SFM 2013-14 and the complementary ML 2015-16 scheme.



Figure 1: SFM 2013-14 and ML 2015-16 Theory of Change

The schemes are designed to realize a tangible impact of training and market linkage on PSDF's log frame outputs and outcomes¹⁶. In terms of individual level outcomes, the theory of change expects improvement in trainee's tailoring skills, knowledge and engagement and increment in their earnings and employment. Improvements in non-economic outcomes such as female empowerment, well-being, civic engagement, and government services usage are also hypothesised. Moreover, the theory of change expects the tailoring course to lead to improvements in household income, consumption, and expenditure as well as to spillover effects measured through changes in women's mobility perceptions, male gender-role perceptions, and child nutrition.

Refer to the section on Evaluation Methodology (section 7.1) for further details on the outcome variables of our evaluation.

 $^{^{16}}$ PEOP's log frame outcomes include income and consumption, non-economic factors such as civic engagement, female empowerment, well-being, usage of government services, and externalities (positive and/or negative) on other household members.

4 Impact Evaluation Design

A key policy objective of the scheme was that skills training and market linkages should lead to improved tailoring skills and income generating potential for trained women. In addition, the evaluation design seeks to assess the impact of skills training and market linkages on economic and non-economic individual and household level outcomes for the target population.

4.1 SFM 2013-14 Evaluation Design: Evaluating the Impact of Skills Training

Figure 2 below illustrates the evaluation design for SFM 2013-14. Starting from the SFM baseline sample of 324 villages, we randomly assigned 81 villages to be control villages (C - where no treatment is offered) and assigned the remaining 243 villages to two treatment groups. 135 villages were randomly assigned to receive non-village based training (T1 villages) and the remaining 108 villages were assigned to receive village based training (T2 villages).

We used an encouragement design where vouchers for training were given to a set of randomly selected individuals (the treatment group) from the CERP baseline survey conducted as part of PSDF's SFM 2013-14 scheme. The randomization conducted guaranteed that, on average, these groups were identical on all factors that might influence enrolment and training outcomes except for receiving the offer of training¹⁷. Comparing average outcomes for households in T2 and T1 villages allows us to investigate access constraints and evaluate uptake¹⁸.

For the SFM impact evaluation, we compare outcomes between average eligible household in T2 and C villages; such a comparison provides an accurate estimate of the scheme's impact on various key outcomes discussed in detail in section 7.1.

For the T2 treatment villages, training centers within village boundaries catered to the concern that distance to training center is a major barrier to course participation (Maitra & Mani, 2017; Kabeer et al., 2012). Previous evaluations (SFE 2011-12 and SFM pilot study 2012-13) had revealed how physical distance to training center is one of the main reasons for lack of enrolment in or completion of the training course (Cheema et al., 2013). Moreover, social mobilization in these treatment villages encouraged course participation¹⁹.

4.2 ML 2015-16 Evaluation Design: Evaluating the Impact of Market Linkage

Qualitative focus groups and post-treatment interviews²⁰ on the SFM 2013-14 sample highlighted that the high cost of market access was limiting the ability of graduates to earn from their newly acquired

 $^{^{17}}$ Please refer to section 6.1 and Appendix C for details on how the treatment and control groups for the SFM impact evaluation are balanced on key outcomes.

¹⁸In an earlier report titled "Alleviating Access Constraints for Rural Women" (Cheema et al., 2015a), we analysed the numbers for course uptake across treatment arms. We found that rural women find it difficult to travel to training centers due to logistical hassle and social norms that limit their mobility and thus providing in-village training significantly increases uptake among rural women.

¹⁹PSDF had added several design calibrations to SFM 2013-14 in order to improve access and encourage trainees to enrol. These included higher stipend amounts, variants of social mobilization, in-village training, access to transport in villages that did not have a center. The analysis for this report is for villages with village-based training centers. Refer to the SFM Interim Impact Evaluation report (Cheema et al., 2016) for further detail on the different treatment arms under the SFM scheme.

 $^{^{20}\}mathrm{We}$ conducted 80 post-treatment qualitative interviews from the SFM baseline sample.





skill.of trained rural women to enable them to use their newly-acquired skills. Women who had been trained as per the scheme reported trouble finding places to sell their products and, hence, generate income. As connecting SFM graduates to markets could help them utilize their skills and could prove to be a stable source of earnings, a scheme was designed as part of PEOP to create market linkages for a random sub-sample of SFM 2013-14 graduates; by allowing these women to work from home while linking them to markets, it was expected that the model would augment their earnings.

A sub-sample of SFM 2013-14 villages in Bahawalpur and Bahawalnagar, therefore, received this Market Linkage (ML) treatment. As shown in fig. 2, the ML sample consists of a randomly drawn subsample of villages (n = 75) that received a training facility under the SFM 2013-14 scheme. For the purpose of the ML 2015-16 evaluation, we compare SFM graduates in villages randomized to receive the complementary ML intervention, which we call ML treatment villages (T_{ML}), versus SFM graduates in ML control villages (T_C) that did not receive the ML scheme. Comparing average outcomes for households in T_{ML} (51 villages) and C_{ML} (24 villages) allows us to investigate the effectiveness of linking trainees to the market.

5 Implementation

PSDF does not conduct trainings itself, instead, it asks training service providers (TSPs) to submit their vocational training proposals and bid for PSDF funding. Once the training providers are selected and approved, they advertise the course, conduct mobilization activity where applicable and accept applications. This section discusses the rollout activities and briefs how TSPs were hired and trained for the SFM 2013-14 training scheme as well as for the ML 2015-16 scheme. Appendix B provides a detailed timeline of the implementation and evaluation activities conducted for the SFM 2013-14 and ML 2015-16 schemes.

5.1 Skills for Market (SFM) 2013-14

5.1.1 Hiring and Training of TSPs

Implementation of the SFM 2013-14 training scheme required the recruitment of TSPs that could successfully provide training in the three districts of Southern Punjab - Bahawalnagar, Bahawalpur, and Muzzafargarh. To get shortlisted for the SFM 2013-14 scheme, all TSPs went through a rigorous procurement procedure as set by PSDF. PSDF shortlisted TSPs after evaluating their Expressions of Interest (EOI) and Technical and Financial Proposals. Two TSPs per districts, for a total of 6 TSPs, were shortlisted based on these proposals and the evaluation needs of the scheme. Table 1 provides the names of selected TSPs per district.

PSDF had training sessions organized for every TSP separately in their respective district in which presentations were carried out to explain the demand creation strategies for different mobilization treatments. PSDF informed TSPs about roll-out protocols and timeline details for each strategy that they had to follow as well as the evaluation needs with respect to the treatment under SFM 2013-14. Community mobilizers were also trained in these sessions.

District	TSP		
Bahawalpur	Institute for Rural Management Kaarvan Crafts Foundation		
Bahawalnagar	Aas Foundation Al-Kausar Welfare Organization		
Muzaffargarh	Care Foundation Human Empowerment Foundation (HEF)		

Table 1: District-wise Selected TSPs for SFM 2013-14

5.1.2 Rollout Activities

As part of the scheme, the TSPs disseminated information on the training course through a number of visits and activities where they informed sample households about the intervention or mobilized them to take part in the SFM 2013-14 scheme. During this mobilization phase, field representatives carried out an introductory visit to sample households to provide standard information about the training scheme and to share course booklets. In addition, all-female information trainee sessions and mobilization at the community level were held²¹ for details on the different treatment arms. The purpose of these sessions was to mobilize the community and encourage household members to take part in the training scheme.

Once the mobilization was done, a voucher delivery visit was carried out during which the field representatives asked sample households to nominate one eligible female member to receive training. If the nominee accepted the offer of course enrolment, the representative delivered vouchers to them. After voucher delivery had been completed, voucher recipients were told to submit their vouchers given their intent to enrol within a stipulated time-frame to the training center in which they wanted to enrol. In this voucher submission phase, sample households submitted vouchers at training centers located within their villages. Apart from the sample households, self-applicants also applied for the skills training course. These were women who opted to register themselves for training in the absence of targeted information.

As the number of applications received by TSPs exceeded class capacity, CERP conducted a random ballot for PSDF to ensure that a fair and transparent allocation of slots to applicants was made without compromising the evaluation. This ballot for enrolment determined the trainees that were short-listed for the SFM 2013-14 scheme. As the outcome of this enrolment ballot, trainees were given a randomized sort order and were categorized as 'Admitted' (enrolled in training) and 'Waitlisted' (trainees that were kept as a backup in case admitted trainees dropped out).

TSPs announced the enrolment status of applicants for training by posting the list of admitted and waitlisted applicants at all training centers on the course start date. During this period, the field staff also visited the training center to independently record trainees' attendance. Based on these sources of information as well as TSP attendance data, applicants who did not enrol in classes post admission lost their seats and the admission was offered to the next applicants on the waiting list, who were again informed of their new admission status by making house visits. This process continued until 95-97% of the training slots offered under SFM 2013-14 were filled after which the TSPs could fill any remaining slots on their own. This ensured maximum compliance with the randomized enrolment ballot and helped minimize exercise of discretion or favour by field staff in offering sought after training slots.

At the end of enrolment verification phase, PSDF initiated its independent monitoring process where training centers were visited once a month to record attendance until the course concluded. Based on trainee attendance reports generated by these field monitoring visits, PSDF determined which trainees had maintained satisfactory attendance to authorize their stipend payments of PKR 1500 per month.

The curriculum for the SFM 2013-14 scheme was based on four months vocational skills training in domestic tailoring with a training component on functional literacy, numeracy and financial literacy. TSPs were required to follow the curriculum provided by the Technical Educational and Vocational Training Authority (TEVTA) - an authority set up by the Government of Punjab to produce quality and productive workforce. There was no minimum education requirement for applicants. The course began in March 2014 and ended four months later in June 2014.

²¹Social mobilization comprised of standard information sessions, all-female trainee sessions, and community mobilization within treatment villages. As the main focus for this report is on the impact of the skills training on key individual, household, and community level outcomes, details on these different forms of social mobilization are not discussed in detail here. See SFM Interim Impact Evaluation Report (Cheema et al., 2016).

5.2 Market Linkage (ML) 2015-16

5.2.1 Hiring and Training of TSPs

The ML 2015-16 scheme, funded by PEOP, was successfully implemented by Kaarvan Crafts Foundation in two districts - Bahawalpur and Bahawalnagar. Along with possessing the necessary logistics and on-ground capacity to carry out this scheme, Kaarvan Crafts Foundation had experience with PSDF and served as a TSP for the SFM 2013-14 scheme.

5.2.2 Rollout Activities

The ML 2015-16 scheme was randomly offered to a sub-sample of SFM 2013-14 graduates from the treatment villages where village-based training centers were set up. The scheme was a time-bound demand shock that began in June 2015 and continued for 10 months till March 2016.

A random sample of SFM graduates was offered market access through means of a sales agent who linked these women to the market. The intervention was implemented as follows: the service provider recruited sales agents who engaged with the randomly selected female beneficiaries by providing them with marketable suit design for stitching and raw material given by the service provider. Once the suits were stitched, the sales agents were responsible for their quality appraisal and finishing after which they sold the stitched suits in the market²².

To ease execution, the ML scheme was broken down into sales rounds. Each sales round began with the sales agent obtaining the raw material from the service provider and ended when the approved suits stitched using that raw material were sold by the sales agent. The suits that were not sold and the suits that did not pass quality assurance were handed back to the service provider when the sales agent went to collect the next batch of raw material. As an exit strategy, exhibitions were organized for a sample of ML participants in their villages and in the metropolitan city of Lahore²³.

Each sales agent worked in two to three villages that were in close proximity. These sales agents were individuals who were mobile, educated, had working knowledge of the industry, had prior experience of working with female seamstresses, and an interest in entrepreneurship. For the duration of the ML scheme, they were given a fixed monthly remuneration²⁴ of PKR 8000 plus a commission of PKR 330 per suit sold. Moreover, these sales agents were provided with a travel allowance for their market sales visits and visits to and fro stitchers' villages.

Trained women stitching for the ML scheme, on the other hand, were given a fixed rate of PKR 200 per suit. This fixed rate was aligned with the prevailing market price charged by professional tailors at that time. As evidenced by data collected through a tailors' survey²⁵, the average price charged per stitched-to-order female suit was PKR 200 by professional tailors.

 $^{^{22} \}rm See$ the Skill Intervention Report subtitled Market Linkages Intervention: Design Report (Cheema et al., 2015b) for more details on the ML design.

 $^{^{23}}$ Lahore is one of the largest cities in Pakistan with a population of 11.13 million.

²⁴The fixed remuneration was equated with the amount that was then being offered in the market-based sales agent model and was set at two-thirds of the minimum wage to avoid distorted incentives.

 $^{^{25}}$ In 2015, we conducted a tailors' survey for villages where the ML 2015-16 scheme was introduced. Around 8 tailors were identified from each village and then surveyed about their businesses and sales.

6 Applicant Sample: Initial Assignment and Follow-up

For the SFM 2013-14, 2,874 females were in the treatment group comprising of 108 villages with village-based training centers and 2,173 females were in the control group from 81 control villages. In addition, a market linkage (ML) intervention was randomly offered to graduates of SFM 2013-14 in 51 villages where a training center was in the village. There were 389 trainees in the ML treatment sample and 380 trainees in the ML control group.

We conducted power calculations to determine the sample size needed to detect uptake across treatment arms and impact on outcomes, while controlling for intra village correlation. These calculations used simulations based on the cluster cum-household randomized design of SFM 2013-14 treatments using estimates of the average uptake and intra-cluster correlation from the earlier data available for the evaluation of the SFM pilot study. The sample size was chosen to give at least 80% power at 5% significance level for detecting 0.2-0.3 standard deviation impact on uptake. The sample size was designed to detect movement on socio-economic outcomes with three post-treatment rounds²⁶. Moreover, more survey rounds allow us to measure medium to long-run impact on outcomes.

6.1 Baseline Characteristics and Treatment Balance

The SFM scheme was successful in reaching the desired population of females who had low education levels and were unemployed. In table 2, we summarize the average baseline characteristics of the sample²⁷. The average 3-months tailoring earnings for women in the sample was PKR 42.1 (PKR 14 per month). The average household income in the sample was PKR 12,700 per month and average likelihood of engaging in tailoring related tasks in a month is 5.4%. On average, at baseline, women interested to be a part of skills training spent 0.45 days per month and 0.28 hours per day on tasks related to tailoring. Predominantly, as table 2 shows, women who were interested in skills training at the baseline were unemployed and married with no formal education. Average age of a woman interested in training was 30 years old.

 $^{^{26}}$ We recognized that potentially low course uptake would leave the scheme under powered to detect socio-economic outcomes with trainees being filtered out. Having more survey rounds in these cases increases the sample size and thus increases power

²⁷All averages are reported for women who were interested in training at the baseline. We refer to these women as infra-marginals (IMs) or household's nominee for skills training).

	Mean	Standard Deviation	Minimum	Maximum	
Age (years)	30	12.2	10	90	
3-Month Earnings from Tailor- ing(PKR)	42.1	515.8	0	15,250	
Monthly Household Income (PKR)	12,700	9,200	0	150,000	
Likelihood of engagement in tai- loring related tasks in past month (%)	5.4	0.28	0	100	
Days per month spent on tailor- ing related tasks	0.45	2.37	0	30	
Hours per day spent on tailoring related tasks	0.28	1.48	0	20	
	Categ	Categories		% of total responses	
Marital States	Marrie	d	69	.9	
Marital Status	Divorc	ed	0.	6	
	Separa	.tea zod	0.	(5	
	Never	Married	26	.2	
	Categ	ories	% of respo	total onses	
	Class 5	5 or under	17	.0	
Education Status	Matric	or under	12	.3	
	Postgr	aduate or under	3.	6	
	Vocati No for	onal training/Hafiz	0.	4	
			~ ~ ~		
	Categ	ories	% of respo	total onses	
	Currently unemployed for more than a month but interested in work		ana 1.	4	
	Currently unemployed for less than a month but interested in work		ana 0.	7	
Employment Status	Currer ternati	atly working but looking for ve work	al- 23	.1	
	Currer alterna	atly working and not looking ative work	; for 12	.5	
	Currently unemployed/never worked, and not interested in working		ked, 27	27.7	
	Studer	it worked but interested in	3.	3.4	
	INever	workea but interested in worl	king 31	.3	

Table 2: Sample Characteristics at Baseline

Note: Household income values are rounded to the nearest hundred and percentages are rounded at one decimal place.

Moreover, we tested whether the treatment and control groups for the SFM training scheme were balanced on a number of key outcomes. As expected, balance table in Appendix C exhibits that the sample was balanced on a majority of pre-treatment outcome measures and hence there are no concrete differences between the two groups. The number of unbalanced variables in Appendix C is expected, given the significance level of 5%. The balance table shows that, on average, the treatment and control groups share similar characteristics.

6.2 Surveys and Attrition

Data was collected in four survey rounds. We used household surveys to track the sample households. These surveys were done with all trainees in treatment villages as well as individuals in control villages who were identified by the head of their household as being the person who would benefit the most from vocational training. We hired a local survey firm to conduct these surveys that in turn hired and trained enumerators, while we monitored the trainings and field activity through spot checks. The survey firm provided us with regular field reports during the survey activity to check for sample response rates. After the completion of surveys, we were provided with the data for validity checks and cleaning before the analysis.

One baseline survey, two follow-up surveys, and one endline survey were completed with the sample. Table 3 lists these survey rounds along with their timelines²⁸. The baseline tracker (round 1) concluded 2 months before the start of the skills training course provided data on pre-treatment characteristics of the sample. The first follow-up tracker (round 2) conducted 6 months post-training provided data on immediate outcomes of interest. The second follow-up tracker (round 3) started 1.5 years post-training and helped to check the durability of the key outcomes. Moreover, the endline tracker (round 4) was done 2.5 years post-training and thus helped us fully assess downstream impacts of skills acquisition and market linkages on key individual, household and community level outcomes.

In general, the tracker instruments focused on getting data on the respondents' employment status, household income, expenditure, consumption, usage of government services, perceptions of the society, participation in civic life, physical and mental health, attitude towards civic life and community, attitude towards paid work and gender equality, earnings from tailoring, and time allocation. Survey instruments for round 3 and 4 also had sections on the respondents' participation in the ML scheme to determine the impact of the linkage on key outcomes. Moreover, round 4 had a male questionnaire as well to gauge household head's opinion on social and political outcomes.

Survey Round	Timeline		
Round 1: Baseline	October 2013 - December 2013 [2 months prior to training]		
Round 2: First Follow-up Tracker	December 2014 - January 2015 [6 months post-training]		
Round 3: Second Follow-up Tracker	November 2015 - December 2015 [1.5 years post-training]		
Round 4*: Endline	January 2017 - May 2017 [2.5 years post-training]		

Table 3: Timeline of Surveys

*Note: For round 4, field activity took around 13 weeks and data entry took 7-8 weeks. The field activity took slightly more time than usual to get maximum coverage. Moreover, male respondents had to be tracked down through revisits as they worked outside the village or were not available during the day.

 $^{^{28}}$ For the rest of the report, round 1 refers to the baseline survey, round 2 to the first follow-up tracker, round 3 to the second follow-up tracker, and round 4 to the endline survey

One problem with a study with multiple survey rounds is sample attrition. Tracking female respondents over different follow-up measurements is a difficult task, especially in a region like Southern Punjab where there are strict social norms and a high likelihood of household migration due to availability of better job opportunities. Table 4 shows the number of female respondents we tracked across the different follow-up measurements.

At the baseline, 4,769 female respondents were interviewed. There was a 3.7% loss to follow-up as the first follow-up measurement covered 4,591 females. In the second follow-up measurement (round 3), there was 12.5% attrition as 4,155 females were covered. At the endline (round 4), 4,247 females were covered resulting in an overall attrition rate of 11%. The large increase in non-response from round 2 to round 3 prompted us to take extra measures in round 4 (such as tracking women and households in case they relocated nearby)²⁹.

Survey Round	Survey Respondents
Round 1: Baseline	4,769
Round 2: First Follow-up Tracker	4,591
Round 3: Second Follow-up Tracker	$4,\!155$
Round 4: Endline	$4,\!247$

Table 4: Sample Attrition

In Appendix A, we highlight the attrition rates for the sixteen studies included in the literature review. For most studies, the percentage loss in survey respondents is more than 15%. Therefore, an attrition rate of 11% for the SFM training scheme is not only in line with expectations given the time period involved but is also lower than that of other skills training schemes elsewhere.

 $^{^{29}}$ We find that coverage rates are balanced across treatment and control for our survey rounds except in round 3 when there is a 3.8% difference in coverage across the two groups

7 Evaluation Methodology

7.1 Methods of Estimation

As the impacts of a training scheme are likely to be different for different individuals, impact evaluations focus on obtaining an average effect. Intent-to-Treat (ITT) measures the average effect of treatment assignment on outcomes of interest; hence, the average effect of having a temporary training facility open in your village can be investigated on key outcome variables. When compliance is imperfect, that is, not all those assigned to the treatment group participate in the training, the Local Average Treatment Effect (LATE) estimation allows measurement of causal effects on those who completed the training.

If interested in the effects among individuals who have completed the training, then actual participation and not the treatment assignment should be included as the independent variable in the regressions. LATE allows evaluation for those who participated in and completed the training and hence such an estimate is more relevant in determining the true average effect of any intervention. Thus, we discuss LATE estimates in detail in the results section (section 8)³⁰. As LATE estimation uses an instrumental variable (IV), we take assignment to treatment as the instrumental variable for training completion for the SFM analysis; participants who selected to be part of the ML scheme given they were part of the ML treatment group are taken as the instrumental variable for being a ML participant.

We, however, do estimate ITT effects by comparing the impact on outcomes between the treatment and control groups ignoring compliance with the treatment status. The results are attached in Appendix J. See Appendix D for details on the regression specifications for ITT and LATE estimates.

To infer a treatment effect between the treated and the untreated group on an outcome measured before and after the intervention, we use the analysis of covariance (ANCOVA) method with the baseline value of the dependent variable as the covariate. As ANCOVA has more power for evaluation of randomized studies (Van Breukelen, 2006) and has improved statistical power as compared to the difference-in-difference estimator (McKenzie, 2012), it is the preferred method of analysis for this report. The covariate for SFM analysis is the round 1 value of the outcome variables (discussed in section 7.1). Similarly, for the ML scheme, the covariate is the value of the outcome variables taken at the round 2 level³¹.

7.2 Outcome Variables

Vocational education under the SFM 2013-14 scheme incorporated a domestic tailoring course for women along with a training component on functional and financial literacy. At the individual trainee level, we expected to see an improvement in production of stitched suits by the trained women. We stipulated that the four-month course in tailoring would not only improve the relevant skills set of the trainees but would also enhance their knowledge of the relevant market. In other words, their knowledge on how to produce more and how to sell more would increase.

Provision of vocational educational training is increasingly being considered as an effective way to

³⁰LATE for this report is equivalent to the Average Treatment Effect on the Treated (ATT) as no one from the control group completed training; two women from the control group enrolled but did not complete the skills training course.

³¹The ML scheme began in June 2015. We use round 2, conducted from December 2014 to January 2015, as the baseline for the ML analysis due to its proximity to the ML intervention.

bolster skills and hence generate employment opportunities for trained men and women (Maitra & Mani, 2017). In terms of individual level economic outcomes, we thus expect trained women to experience an improvement in earnings generated through tailoring and have a better chance in securing employment.

In addition, skills training aims to have a positive impact on a number of non-economic individual outcomes. Women trained in vocational programs are given the opportunity to be in a classroom environment to learn new skills and have a chance to be employed and earn more. Therefore, we expect participation in the domestic tailoring course offered under the SFM 2013-14 scheme in Southern Punjab, a region with stringent social norms and limited women empowerment, to make trained women more confident and empowered to influence household investment decisions. Empowerment of a woman depends not only on the acceptability of her choices but also on her own intrinsic belief in her ability to make decisions and to control resources (Kandpal et al., 2013).

We investigate the impact of the tailoring course on women's well-being in terms of her self-reporting her tendency of feeling hopeless, nervous, anxious, and worthless. Another non-economic outcome of interest is the trainee's usage of government services such as courts, government and private education services, sanitation, public and private health centers, and the police. We also evaluate the impact on civic engagement in terms of the trainee's membership in social and political organizations, participation in protests, and ability to name key government officials.

Except happiness, the non-economic outcomes of interest (female empowerment, well-being, civic engagement, and usage of government services) are incorporated as indices. We construct each index as an additive index using multiple measures, as outlined in Appendix E.

Moreover, we also investigate the impact of the skills training for a number of household level outcomes. We surmise that participation in the skills training course will have a positive impact on household income, consumption, and expenditure. We also test for any spillover effects by including indicators such as household head's perception of gender roles, women's mobility patterns, trainee's tendency to teach tailoring to others in the neighbourhood, and child nutrition.

In table 5, we provide a summarized view of all the outcomes for the analysis of the SFM 2013-14 scheme. The ML analysis is also done on the same set of outcome variables³².

³²In this report, SFM analysis refers to the evaluation of the impact of skills training on key outcomes. ML analysis evaluates the impact of linking trainees to the market on a subset of economic outcomes

		Outcomes
	Production	Tailoring Engagement
	Economic	Earnings from Tailoring Employment
Individual	Knowledge	Tailoring Skills [*] Market Knowledge [*]
	Non-Economic	Civic Engagement Well-Being Happiness Female Empowerment Government Services Usage
Household	Income Consumption Expenditure on I Expenditure on I	Male and Female Clothes Education
Spillovers	Taught Tailoring Women's Mobility Perceptions [*] Male Gender-Role Perceptions [*] Child Nutrition [*]	
*01.11 . 1.1	1 1 1 0	

Table 5: Outcome Variables: SFM 2013-14 and ML 2015-16 Analysis

*Skills variables are only recorded from round 2 to round 4. Market knowledge, women's mobility perceptions, male gender-role perceptions, and child nutrition variables are only available in round 4 (3 market knowledge variables are available in round 3 and round 4).

8 Results

8.1 SFM Analysis on Full Sample

In this section, we report the effect of the SFM 2013-14 scheme on individual and household outcomes as well as any inter- and intra-household spillover effects³³. We discuss Local Average Treatment Effect (LATE) estimates for each outcome obtained by running instrumental variable (IV) regressions, using grid fixed effects³⁴ and clustering standard errors at the village level. Table 9 and table 10 (Column A) include LATE of skills training on outcomes of interest³⁵.

8.1.1 Impact on Individual Level Outcomes

We measure tailoring engagement in terms of the time spent on tasks related to tailoring and the number of clothes stitched³⁶. A direct consequence of a tailoring course would be an increase in the time spent on related tasks. In line with the theory of change, those who complete skills training are 11.5% points more likely to engage in tailoring related tasks, 11.6% points more likely to stitch for non-relatives, and 9.1% points more likely to stitch for relatives. Controlling for any initial differences in the outcome variables, we estimate that graduates spend 1.2 more days per month and 25 more minutes per day on tailoring and stitch around 2 more clothing items in 3 months.

Moreover, in line with the theory of change, we find that course completion translates to a statistically significant PKR 452.9 increase in 3-month tailoring earnings, a PKR 363.9 increase in 3-month tailoring earnings from non-relatives, and a PKR 84 increase in tailoring earnings from relatives³⁷. These results are as per expectations as skills training is presumed to not only improve trainees' skills and productivity but also help alleviate poverty by increasing earnings and generating employment opportunities. We, however, find no significant impact on employment.

The training course was successful in improving key measures of tailoring skills. Trainees were taught how to cut, sew, and design clothes. We find that, on average, skills training graduates are 44% points more likely to report improved sewing skills. Similarly, they are 35% points and 21% points more likely to have a positive self-assessment of their cutting skills and designing skills respectively.

In terms of relevant market knowledge, graduates have a 10.3% point higher likelihood of reporting better knowledge on access to input and product markets, 11.5% points higher likelihood of knowing raw

³³This section reports the treatment effects on the full SFM sample that also includes villages that were offered the subsequent ML scheme a year post-skills training. In section 8.1.3, we drop these ML treatment villages to look at the impact of skills training only. The treatment effects, though smaller in magnitude, continue to hold after dropping the ML treatment villages.

 $^{^{34}}$ Sample villages were put into groups of twelve called grids based on geographical proximity. Grids were spatially spread out to ensure coverage across each of the three districts so that they represented meaningful geographical strata and also served as useful units for randomization.

³⁵See Appendix F for detailed LATE results. We find a smaller but significant ITT impact of opening a village-based training center on our key outcome measures as well. ITT results are attached in Appendix J for reference.

³⁶Trainees responded to tailoring engagement measures based on information from the past month.

³⁷Using the collected data, we have identified the characteristics of women who earn more. These outliers are defined as those women whose tailoring earnings in round 4 (2.5 years post training) are equal to or above the 95th percentile. We find that these high earning women are 34 years on average, married and have 4 dependents (children or elder members of the household) to take care of at home. Moreover, they spend around 7 hours per day on housework. Their households on average have a monthly income of PKR 18,750. Moreover, there are no observable differences between an average trained women and a high-earning woman.

material costs, and 3.5% points higher chance of knowing local tailor charges. Moreover, they have better knowledge of markets where their suits could be sold.

Providing skills training to women is expected to lead to increases in their civic engagement, wellbeing, happiness, empowerment, and usage of government services. However, we find that graduates report a subjective decrease in their well-being. We find no significant impact on civic engagement, happiness, female empowerment, and government services usage.

8.1.2 Impact on Household Level Outcomes

Skills training not only improves individual outcomes but also has positive and milder impacts on household level outcomes such as income and expenditure. Given the tailoring course offered to women was only 4 months long and a single household unit comprises of multiple individuals, we do not expect a radical change at the household level. We find that households with female members completing training have 13.8% higher income and spend twice as much on education. As expected, the increase in household income is modest in comparison to the increase in graduates' tailoring earnings. Nonetheless, these statistically significant increases in household income and education expenditure underscore the notion that skills training and enabling women can bring about changes for the better for the entire household.

Moreover, as expenditure on male and female clothes is lower for households with graduated members, we find a reduction in clothing expenditure as graduates substitute away from local tailors. Surprisingly, we find that monthly household consumption is lower for households with graduated members.

8.1.3 Spillover Effects

Trainees who complete the tailoring course offered under the SFM 2013-14 scheme report a 3.8% points higher likelihood of helping others learn tailoring in their household or neighbourhood. Skills training schemes have limited capacity which means that not every one who applies is enrolled in the training course. Trainees can help disseminate the skills taught and hence create a multiplier effect to have a positive impact beyond the originally treated group.

We do not find a significant impact on women's mobility perceptions, male gender-role perceptions, and child nutrition outcomes. Nonetheless, women who complete training are more likely to travel for job and have children with a higher Body Mass Index (BMI) (see table 10).

8.2 Trajectory of SFM Training Impact Over Time

Previously we reported the average effect measured across survey rounds. Of course, a key consideration in conducting multiple rounds of survey was to measure both the short- and long-term impacts. In this section we discuss the short- (6 months post-training), medium- (1.5 years post-training), and longterm (2.5 years post-training) impacts of skills training. The average effect on key outcomes (variables recorded in round 2, round 3 as well as in round 4) for all follow-up rounds is reported in table 6.

To assess the effect of the skills training scheme over time, we run regressions using LATE estimation for different follow-up measurements. In other words, we investigate the impact of the tailoring course on key outcomes at the first follow-up measurement done 6 months post-training, second follow-up measurement conducted 1.5 years post-training, and third follow-up measurement carried out 2.5 years post-training. The effect of providing skills training to women is hence studied over time to understand any underlying trends. For most individual, household, and community outcomes, the effect increases from the first follow-up to the second follow-up after which the effect tends to persist in the third followup survey. Thus it is heartening to note that a 4-month training course produced effects that lasted 2.5 years or longer.

Skills training increases the probability of engaging in tailoring activities over time. Figure 3 illustrates this sustained increase in the likelihood of engaging in tailoring related tasks. Six months post-training, women who complete training have a 10.3% points higher likelihood of engaging in such activities. There is a slight increase in this likelihood to 11.7% points 1.5 years post-training. At the third follow-up measurement 2.5 years after training, trained women are 12.4% points more likely to engage in tasks related to the learnt vocation.

As shown in table 6, even though the effect on certain tailoring engagement measures is strongest 1.5 years post-training, it is encouraging the positive impacts hold 2.5 years post-training. Graduated women, on average, spend 0.6 more days per month and 17 more minutes per day on tailoring related tasks as measured 6 months post-training. At the second follow-up 1.5 years after training, graduates spend 1.7 more days per month and 29 more minutes per day on tailoring related tasks. After 2.5 years of training, the impact persists and graduates spend 1.4 more hours per day and 29 more minutes per day on tailoring tasks.



Figure 3: Trajectory of Impact on Tailoring Engagement

Note: Bar chart plots the short-, medium-, and long-term average treatment effect of skills training on tailoring engagement. We are reporting variables for which the impact is statistically significant across all three post-treatment rounds.

After the first follow-up measurement 6 months post-training, women who complete the tailoring course have PKR 107.4 higher tailoring earnings (see fig. 4). After 2.5 years, the effect not only persists but increases as graduated women experience an increase of PKR 599.3 in their tailoring earnings. Earnings from stitching for non-relatives follow a similar trend whereby the positive impact continues to hold; a

PKR 83.1 increase in tailoring earnings from non-relatives transforms to a PKR 439.1 increase 2.5 years post-training.



Figure 4: Trajectory of Impact on Tailoring Earnings

Note: Bar chart plots the short-, medium-, and long-term average treatment effect of skills training on tailoring earnings. We are reporting variables for which the impact is statistically significant across all three post-treatment rounds.

Women who complete training experience a long-term improvement in their self-assessment of relevant skills. Graduates are 36.2% points more likely to report better cutting skills 6 months post-training and they continue to have a positive self-assessment 2.5 years later (22.4% points). The trajectory for designing and sewing skills follows a similar trend as shown in fig. 5.

Civic engagement, female empowerment, and government services usage have insignificant short- to long-term effects. It is interesting to note the significant negative effect on well-being that comes up about 1.5 years post-training and persists in the long-term. Moreover, negative impact on happiness shows up 1.5 years post-training but does not sustain after 2.5 years of the training.

The impact on monthly household income is sustained 2.5 years post-training: households with graduated members have 18% higher monthly income 6 months post-training and 23% higher monthly income 2.5 years after the end of training course. Similarly, there is a long-term impact on education expenditure as it ranges from an increase of 145% 6 months post-training to a 134% increase at the endline. Lastly, skills training graduates spend more time not only on tailoring related tasks but also on teaching tailoring to others in the household or neighbourhood.



Figure 5: Trajectory of Impact on Tailoring Skills

Note: Bar chart plots the short-, medium-, and long-term average treatment effect of skills training on tailoring skills. We are reporting variables for which the impact is statistically significant across all three post-treatment rounds.

Outcome Variables	Round 2^a	Round 3^a	Round 4^a
Individual Level			
Tailoring Engagement			
Engagement in any tailoring related activities in last month	0.103***	0.117***	0.124***
Number of days spent on tailoring related tasks in last month	(0.022) 0.613^{***}	(0.025) 1.690^{***}	(0.021) 1.423^{***}
Number of hours per day spent on tailoring related tasks in last month	(0.238) 0.285^{**}	(0.329) 0.475^{***}	(0.354) 0.488^{***}
Tailoring for non-relatives	(0.111) 0.049^{***}	(0.092) 0.229^{***}	(0.111) 0.074^{***}
Tailoring for relatives	(0.016) 0.087^{***}	(0.029) 0.117^{***}	(0.02) 0.068^{***}
Number of clothes stitched (in 3 months	$(0.019) \\ 0.451 \\ (0.322)$	$(0.023) \\ 3.325^{***} \\ (0.669)$	$(0.022) \\ 2.737^{***} \\ (1.050)$
Economic Outcomes			
Tailoring earnings in PKR (3-month earnings)	107.408**	683.710***	599.344***
Tailoring earnings from non-relatives in PKR (3-month earnings)	(49.435) 83.095^{**}	(131.855) 593.396^{***}	(216.886) 439.133^{***}
Tailoring earnings from relatives in PKR (3-month earnings)	(34.232) 21.881	(101.364) 84.684^*	(140.384) 152.854
Employed based on the past month	(19.881) 0.039 (0.060)	(47.209) 0.074 (0.070)	(99.518) 0.051
	(0.069)	(0.070)	(0.048)
Tailoring Skills			
Self-assessment of cutting skills (adult clothes)	0.362^{***} (0.036)	0.452^{***} (0.038)	0.224^{***} (0.033)
Self-assessment of designing skills (adult clothes)	0.194^{***}	0.260^{***}	0.173^{***}
Self-assessment of sewing skills (adult clothes)	(0.031) 0.493^{***} (0.039)	(0.037) 0.574^{***} (0.038)	(0.03) 0.253^{***} (0.034)
Non-Economic Outcomes	()	()	()
Civic Engagement	0.344	-0.244	0.433
	(0.342)	(0.293)	(0.353)
wen-being	(0.132) (0.206)	(0.182)	(0.198)
Happiness	0.002	-0.057^{*}	0.052
Female Empowerment	(0.044) 0.718	(0.034) 0.234	(0.042) 0.618
Covernment Services Henre	(0.487) 0.205	(0.518)	(0.497) 0.126
dovernment bervices osage	(0.172)	(0.186)	(0.120)
Household (HH) Level			
Log of monthly HH income	0.164***	0.024	0.206**
Log of monthly HH consumption	$(0.059) \\ -0.033$	(0.073) -0.179***	$(0.094) \\ -0.017$
Log of expenditure on male clothes	(0.057) -0.363	(0.056) - 0.453^{**}	(0.054) -0.260
Log of expenditure on female clothes	(0.280) -0.318	(0.216) - 0.352^*	(0.260)
log of experience on remain closes	(0.262)	(0.205)	(0.258)
Log of education expenditure	0.897^{**} (0.408)	$0.355 \\ (0.385)$	$\begin{array}{c} 0.852^{**} \\ (0.364) \end{array}$
Spillovers			
Taught Tailoring	0.014^{*} (0.008)	0.055^{***} (0.012)	0.045^{***} (0.015)

Table 6: Trajectory of SFM 2013-14 Impact Over Time

Standard errors clustered at the village-level are reported in parenthesis

*p < .10, **p < .05, ***p < .01

^a Round 2 is 6 months post-training, Round 3 is 1.5 years post-training, and Round 4 is 2.5 years post-training.

Note: Earnings and self-assessment variables ask for respondents' answers based on the past 3 and 6 months respectively.

8.3 Market Linkage Analysis

The ML intervention started a year after the end of skills training (5 months after round 2 of data collection) to mitigate demand-side constraints. We capture the effect of the ML intervention in the third and fourth survey rounds³⁸. We report summarized ML analysis results in table X and attach detailed results in Appendix G.

8.3.1 Impact on Individual Level Outcomes

Trainees part of the ML intervention received a time-bound external demand shock that allowed them to practice the skills learnt. They stitched suits according to contemporary designs and latest fashion that gave a boost to their confidence and tailoring skills. Not only did their quality of stitching improve, but their knowledge of market improved as well as they interacted with sales agents and received feedback.

As expected from the proposed theory of change, the impact of the ML intervention on tailoring engagement is both significant and positive. ML participants, on average, are 39.7% points more likely to engage in tailoring related tasks in round 3. Nine months post-ML, participants are 6.7% points more likely to engage in such tasks. Moreover, they stitch 11.7 more clothes in past 3 months as measured in round 3. Nine months after the end of ML intervention, participants continue to stitch more.

In round 3, graduates linked to the market have an improved self-assessment of their cutting, designing, and sewing skills over and above the skills training impact. Trained women linked to the market are 26.6 percentage points more likely to report an improvement in their sewing skills. Nine months later, they continue to perceive significant improvements in their sewing skills and designing skills. The ML scheme is successful in boosting market knowledge: participants of the ML scheme are 10.1 percentage points more likely to know potential markets for their stitched suits while they are linked to the market. The impact remains significant at 9.1 percentage points in round 4. The positive impact on the likelihood of reporting changes in market knowledge and access to inputs and products markets remains significant nine months after ML scheme ends.

By investigating the impact 9 months post-ML through round 4, we determine if providing market linkage to skills training graduates helps them earn a higher income even though they are not very mobile and still located in a rural environment. Graduates linked with the market in fact have higher tailoring earnings while ML is ongoing and have an increase of PKR 2585.6 in their 3-month tailoring earnings. This effect remains significant 9 months after the intervention, with ML participants earning PKR 586.6 more from tailoring.

As evidenced by LATE estimates for additive indices constructed to measure female empowerment, graduates linked the market are more empowered. We find no significant impact on well-being, government services usage, and civic engagement in round 3. In round 4, however, ML participants have a higher civic engagement and more likely to travel for field work.

 $^{^{38}}$ We conducted round 3 whilst the ML intervention was ongoing; thus the comprehensive effect of linking graduates to the market is captured in the endline survey (round 4).

Outcome Variables	$\begin{array}{c} {\bf (A)}\\ {\bf Round} \ {\bf 3}^a \end{array}$	$\begin{array}{c} \textbf{(B)}\\ \textbf{Round} \ \textbf{4}^{a} \end{array}$
Tailoring engagement		
Engagement in any tailoring related activities in last month	0.397***	0.066**
	(0.051)	(0.032)
Number of days spent on tailoring related tasks in last month	5.520^{***}	0.240
Number of hours per day spent on tailoring related tasks in last month	(0.780) 1.276^{***} (0.108)	(0.417) 0.374^{**} (0.164)
Tailoring for non-relatives	(0.198) 0.879^{***} (0.020)	(0.104) 0.043^{*} (0.023)
Tailoring for relatives	0.124***	0.074^{***}
Number of clothes stitched	(0.035) 11.714^{***} (1.220)	(0.024) 3.493^{***} (1.315)
Earnings and Employment	()	()
Teilering complexity and Displayment	2525 506***	FOC CO0**
ranoring earnings in PKK (5-month earnings)	(221.115)	(272.032)
Tailoring earnings from non-relatives in PKR (3-month earnings)	2630.368***	395.636*
	(164.284)	(220.970)
Tailoring earnings from relatives in PKR (3-month earnings)	-44.310	192.044^{**}
Employed based on the past month	(80.009) 0.409^{***}	(80.939) 0.072^{**}
F	(0.042)	(0.033)
Tailoring Skills		
Self-assessment of cutting skills (adult clothes)	0.314***	0.068
о (),	(0.033)	(0.046)
Self-assessment of designing skills (adult clothes)	0.337***	0.071*
Colf aggregation of gaming chills (adult clothes)	(0.040)	(0.042)
sen-assessment of sewing skins (adult clothes)	(0.027)	(0.098)
Market Knowledge	. ,	. ,
Current market knowledge of where stitched suits could be sold	0 101***	0.001***
Current market knowledge of where stitched suits could be sold	(0.033)	(0.026)
Self-assessment of change in level of knowledge about markets	0.322***	0.099***
	(0.053)	(0.032)
Self-assessment of change in access to input & product markets	0.299***	0.121***
Knowledge of fabric costs	(0.053)	(0.031)
Knowledge of fabric costs	_	(0.011)
Knowledge of raw material costs	-	0.034
		(0.022)
Knowledge of local tailor charges for stitching an adult female suit	-	0.007
		(0.006)
Non-Economic Outcomes		
Civic Engagement	0.208	0.513^{***}
Well-heing	(0.207) -0.006	(0.193) -0.234
The sound	(0.135)	(0.149)
Happiness	-0.010	-0.039
	(0.019)	(0.036)
Female empowerment	1.356***	1.161***
Covernment Services Hears	(0.318)	(0.245)
Government pervices Usage	(0.1044)	(0.009)

Table 7: Impact of Market Linkage on Individual Level Outcomes

Standard errors clustered at the village-level are reported in parenthesis *p < .10, **p < .05, **p < .01Note: Earnings and self-assessment variables ask for respondents' answers based on the past 3 and 6 months respectively' ^a Round 3 is while the market linkage (ML) intervention is on-going. Round 4 is 9 months post-ML; Three market knowledge outcomes and women's mobility outcomes are only asked in Round 4.

Household (HH) Level: Log of monthly HH income 0.064 -0.079 Log of monthly HH consumption 0.089*** 0.060* Log of monthly HH consumption 0.030) (0.031) Log of expenditure on male clothes -0.092 0.356** Log of expenditure on female clothes 0.064 0.162 Log of expenditure on female clothes 0.064 0.162 Log of education expenditure -0.316 -0.151 Log of education expenditure -0.316 -0.151 (0.248) (0.285) 0.032 Spillovers: - 0.0318 Help others learn tailoring in HH/neighborhood 0.042** 0.093*** (0.020) (0.032) 0.033* Travel for chores - 0.0318 (Travel for chores - 0.00547 Travel for field work - 0.0038* (0.043) - 0.0433 Travel for job - 0.0404 Male Gender-Role Perceptions - 0.0031 Women should only work inside ho	Outcome Variables	$(\mathbf{A}) \\ \mathbf{Round} \ 3^a$	$\begin{array}{c} \textbf{(B)} \\ \textbf{Round} \ \textbf{4}^{a} \end{array}$
Log of monthly HH income 0.064 -0.079 Log of monthly HH consumption 0.080^{**} 0.060^* Log of expenditure on male clothes -0.092 0.356^{**} Log of expenditure on female clothes -0.092 0.356^{**} Log of expenditure on female clothes 0.064 0.162 Log of education expenditure -0.316 -0.151 Log of education expenditure -0.316 -0.151 (0.248) (0.285) Spillovers: Help others learn tailoring in HH/neighborhood 0.042^{**} 0.003^{***} Travel for chores - 0.0318 Travel for chores - 0.00547 Travel for field work - 0.0903^{**} Travel for job - 0.0043 Travel for job - 0.00318 Travel for recreation - 0.00318 Women are better or equal at management of daily affairs - -0.019 (0.043) - -0.011^{**} Women should only work inside home - -0.037 <	Household (HH) Level:		
Log of monthly HH consumption (0.044) (0.049) Log of expenditure on male clothes -0.092 0.356^{**} Log of expenditure on female clothes 0.064 0.162 Log of expenditure on female clothes 0.064 0.162 Log of expenditure on female clothes 0.064 0.162 Log of education expenditure -0.316 -0.151 Log of education expenditure -0.316 -0.151 Women's Mobility (0.0248) (0.0285) Women's Mobility $(0.042)^*$ $(0.042)^*$ Travel for chores $ 0.0031^*$ Travel for field work $ 0.0031^*$ Travel for field work $ 0.0031^*$ Travel for recreation $ 0.0031^*$ Travel for recreation $ 0.0031^*$ Women are better or equal at management of daily affairs $ -0.019^*$ 0.0031^* (0.044) $ 0.032^*$ Women should only work on HH tasks $ -0.019^*$ 0.007^* $(0.021)^*$	Log of monthly HH income	0.064	-0.079
Log of monthly HH consumption 0.080^{***} 0.060^* Log of expenditure on male clothes -0.092 0.336^{***} Log of expenditure on female clothes 0.064 0.162 Log of expenditure on female clothes 0.064 0.162 (0.200) (0.233) Log of education expenditure -0.316 -0.151 Log of education expenditure -0.316 -0.151 (0.248) (0.285) Spillovers: - 0.0032^{***} (0.0020) (0.032) Women's Mobility - 0.00547 $(0.042)^*$ (0.043) Travel for chores - 0.00547 (0.044) Travel for field work - 0.0903^{**} (0.044) Travel for job - 0.00318 (0.044) Travel for recreation - 0.00318 (0.044) Male Gender-Role Perceptions - 0.00318 (0.004) Women should only work on HH tasks - -0.019 (0.035) Child Nutrition - 0.035		(0.044)	(0.049)
Log of expenditure on male clothes (0.031) Log of expenditure on female clothes (0.200) (0.233) Log of education expenditure (0.125) (0.141) Log of education expenditure (0.248) (0.285) Spillovers: (0.020) (0.032) Women's Mobility (0.042)** $(0.093)^{***}$ Travel for chores - 0.0318 Travel for education - 0.00547 Travel for field work - 0.0093^{***} (0.043) Travel for field work - 0.0093^{**} Travel for field work - 0.0093^{**} (0.043) Travel for field work - 0.0093^{**} (0.043) Travel for recreation - 0.00318 (0.043) Travel for pob - 0.00318 (0.043) Travel for recreation - (0.043) (0.043) Travel for recreation - (0.043) (0.043) Women are better or equal at management of daily affairs - -0.011^{**} <	Log of monthly HH consumption	0.080***	0.060*
Log of expenditure on finite clothes (0.200) (0.233) Log of expenditure on female clothes (0.125) (0.125) Log of education expenditure -0.316 -0.151 Log of education expenditure 0.042 ** (0.285) Spillovers: (0.248) (0.285) Help others learn tailoring in HH/neighborhood 0.042^{**} $(0.093^{***}$ Momen's Mobility - 0.0318 (0.042) Travel for chores - 0.00547 (0.043) Travel for field work - 0.0093^{***} (0.044) Travel for field work - 0.00318 (0.043) Travel for recreation - 0.00318 (0.043) Travel for recreation - 0.00318 (0.004) Travel for recreation - 0.00318 (0.044) Women are better or equal at management of daily affairs - -0.019 (0.034) - -0.037 (0.035) Child Nutrition - -0.0414^{**} (0.017) Proportion of stunted children - -0.0414^{**} $($	Log of expenditure on male clothes	(0.030)	(0.031) 0.356**
Log of expenditure on female clothes 0.064 0.162 Log of education expenditure 0.0125 (0.141) Log of education expenditure -0.316 -0.151 (0.285) (0.285) (0.285) Spillovers: (0.248) (0.020) Help others learn tailoring in HH/neighborhood 0.042^{**} $(0.093^{***}$ Travel for chores - 0.00547 Travel for education - 0.00547 Travel for field work - 0.0093^{***} Travel for field work - 0.0093^{**} Travel for recreation - 0.0003^{**} Travel for recreation - 0.0042 Travel for recreation - 0.0008 Male Gender-Role Perceptions (0.044) Women should only work on HH tasks - -0.019 (0.035) - -0.037 Outlethen - -0.037 Women should only work inside home - -0.0414^{**} Proportion of stunted children - -0.04	log of expenditure on male clothes	(0.200)	(0.233)
(0.125) (0.141) Log of education expenditure 0.316 -0.151 (0.248) (0.285) Spillovers:	Log of expenditure on female clothes	0.064	0.162
Log of education expenditure -0.316 (0.248) -0.151 (0.285) Spillovers: (0.020) (0.032) Women's Mobility 0.042** (0.020) 0.093*** (0.032) Women's Mobility - 0.0318 (0.042) Travel for chores - 0.0318 (0.042) Travel for education - 0.00547 (0.043) Travel for field work - 0.0903** (0.043) Travel for job - 0.0408 (0.043) Travel for recreation - 0.00318 (0.008) Male Gender-Role Perceptions - - Women should only work on HH tasks - - Women should only work inside home - - Proportion of stunted children - 0.0192 (0.021) Proportion of underweight children - - Proportion of wasted children - - <td></td> <td>(0.125)</td> <td>(0.141)</td>		(0.125)	(0.141)
(0.248) (0.285) Spillovers: $(0.021)^{3}$ 0.093^{***} Help others learn tailoring in HH/neighborhood 0.042^{**} 0.093^{***} (0.020) (0.032) Women's Mobility Travel for chores - 0.0318 (0.042) Travel for chores - 0.00547 Travel for field work - 0.0903^{**} (0.043) Travel for field work - 0.0903^{**} (0.043) Travel for field work - 0.00303^{**} (0.043) Travel for recreation - 0.00318 (0.043) Travel for recreation - 0.00318 (0.043) Women are better or equal at management of daily affairs - -0.019 Women should only work on HH tasks - -0.037 (0.035) Child Nutrition - -0.0414^{**} (0.011) Proportion of stunted children - -0.0445^{***} (0.011) Proportion of wasted children - -0.0445^{***} (0.011)	Log of education expenditure	-0.316	-0.151
Spillovers: Help others learn tailoring in HH/neighborhood 0.042^{**} 0.093^{***} (0.020) (0.032) Women's Mobility - 0.0318 Travel for chores - 0.00547 Travel for education - 0.00547 Travel for field work - 0.0093^{**} Travel for field work - 0.0093^{**} Travel for job - 0.0408 Travel for recreation - 0.0408 Travel for recreation - 0.00318 Travel for recreation - 0.00318 Women are better or equal at management of daily affairs - -0.019 (0.044) - 0.034 (0.044) Women should only work on HH tasks - -0.011^{**} (0.035) Child Nutrition - -0.037 Proportion of stunted children - -0.0414^{**} (0.021) - -0.0445^{****} Proportion of wasted children - -0.0445^{****} (0.011)		(0.248)	(0.285)
Help others learn tailoring in HH/neighborhood 0.042^{**} 0.093^{***} (0.020) (0.032) Women's Mobility - 0.0318 Travel for chores - 0.0042^* Travel for education - 0.0042^* Travel for field work - 0.003^{**} Travel for field work - 0.003^{**} Travel for job - 0.0408 Travel for recreation - 0.00318 Travel for recreation - 0.00318 Women are better or equal at management of daily affairs - -0.019 Women should only work on HH tasks - -0.101^{**} Women should only work inside home - -0.037 Proportion of stunted children - 0.0192 Proportion of underweight children - -0.0445^{***} Proportion of wasted children - -0.0445^{***} 0.017 - 0.0995^{**}	Spillovers:		
	Help others learn tailoring in HH/neighborhood	0.042**	0.093***
Women's Mobility Travel for chores - 0.0318 (0.042) Travel for education - 0.00547 (0.043) Travel for field work - 0.0903** (0.044) Travel for job - 0.0408 (0.043) Travel for recreation - 0.00318 (0.008) Male Gender-Role Perceptions - 0.00318 (0.008) Women are better or equal at management of daily affairs - - - (0.034) - - Women should only work on HH tasks - - - Women should only work inside home - - - - Proportion of stunted children - - 0.0192 (0.021) - Proportion of underweight children - - - 0.0177 (0.017) Proportion of wasted children - - - - 0.0414*** (0.011) Average child Body Mass Index (BMI) - 0.995** (0.400) -		(0.020)	(0.032)
Travel for chores - 0.0318 Travel for education - 0.00547 Travel for field work - 0.0093^{**} Travel for field work - 0.0093^{**} Travel for job - 0.0408 Travel for recreation - 0.00318 Travel for recreation - 0.00318 Male Gender-Role Perceptions - 0.00318 Women are better or equal at management of daily affairs - -0.019 - 0.034) - 0.0034 Women should only work on HH tasks - -0.101^{**} (0.044) - 0.035 (0.044) Women should only work inside home - -0.037 (0.035) - (0.021) Proportion of stunted children - -0.0414^{***} (0.017) - -0.0445^{****} (0.011) - 0.995^{**} (0.040) - 0.0995^{**}	Women's Mobility		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Travel for chores	-	0.0318
Travel for education - 0.00547 Travel for field work - 0.0903^{**} Travel for job - 0.0408 Travel for recreation - 0.00318 Travel for recreation - 0.00318 Women are better or equal at management of daily affairs - -0.019 Women should only work on HH tasks - -0.101^{**} Women should only work inside home - -0.037 Child Nutrition - 0.044^* Proportion of stunted children - 0.0192 Proportion of wasted children - -0.0414^{**} (0.017) - -0.0445^{****} Average child Body Mass Index (BMI) - 0.995^{**}			(0.042)
Travel for field work - (0.043) Travel for field work - 0.0903^{**} Travel for job - 0.0408 Travel for recreation - 0.00318 Male Gender-Role Perceptions - 0.00318 Women are better or equal at management of daily affairs - -0.019 - (0.034) - (0.034) Women should only work on HH tasks - -0.101** Women should only work inside home - -0.037 (0.044) - -0.037 (0.021) Proportion of stunted children - -0.0192 (0.021) Proportion of wasted children - -0.0414** (0.011) - -0.0445**** (0.011) Average child Body Mass Index (BMI) - 0.995** (0.400)	Travel for education	-	0.00547
Travel for held work- 0.0905^{++} (0.044)Travel for job- 0.0408 (0.043)Travel for recreation- 0.00318 (0.008)Male Gender-Role Perceptions- -0.019 - (0.034)Women are better or equal at management of daily affairs -0.019 - (0.034)Women should only work on HH tasks- -0.101^{**} (0.044)Women should only work inside home- -0.037 (0.035)Child Nutrition- 0.0192 (0.021)Proportion of stunted children (0.017)- 0.0192 (0.011)Proportion of wasted children (0.011)- -0.0445^{***} (0.001)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)	Travel for field more		(0.043)
Travel for job - 0.0408 Travel for recreation - 0.00318 Male Gender-Role Perceptions - 0.00318 Women are better or equal at management of daily affairs - -0.019 - (0.034) - (0.034) Women should only work on HH tasks - -0.101^{**} Women should only work inside home - -0.037 (0.044) - -0.037 Women of stunted children - -0.0192 Proportion of stunted children - -0.0414^{**} Proportion of wasted children - -0.0445^{***} Average child Body Mass Index (BMI) - 0.995^{**}	Travel for field work	-	(0.0903^{++})
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Travel for recreation- 0.00318 (0.008) Male Gender-Role Perceptions- 0.00318 (0.008) Women are better or equal at management of daily affairs- -0.019 $-$ Women should only work on HH tasks- -0.101^{**} (0.044) Women should only work inside home- -0.037 (0.035) Child Nutrition- -0.0192 (0.021) Proportion of stunted children- -0.0414^{**} (0.017) Proportion of wasted children- -0.0445^{***} (0.011) Average child Body Mass Index (BMI)- 0.995^{**} (0.400)	114/01/01/00		(0.043)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Travel for recreation	-	0.00318
Male Gender-Role PerceptionsWomen are better or equal at management of daily affairs- -0.019 -(0.034)Women should only work on HH tasks- -0.101^{**} Women should only work inside home- -0.037 Women should only work inside home- -0.037 Women should only work inside home- 0.0192 Proportion of stunted children- 0.0192 Proportion of underweight children- -0.0414^{**} Proportion of wasted children- -0.0445^{***} (0.017)- 0.995^{**} Average child Body Mass Index (BMI)- 0.995^{**}			(0.008)
Women are better or equal at management of daily affairs- -0.019 Women should only work on HH tasks- -0.101^{**} Women should only work inside home- -0.037 Women should only work inside home- -0.037 Child Nutrition- 0.0192 Proportion of stunted children- 0.0192 Proportion of underweight children- -0.0414^{**} Proportion of wasted children- -0.0445^{***} Newrage child Body Mass Index (BMI)- 0.995^{**}	Male Gender-Role Perceptions		
Women should only work on HH tasks- (0.034) Women should only work inside home- 0.011^{**} Women should only work inside home- 0.037 Child Nutrition- 0.0192 Proportion of stunted children- 0.0192 Proportion of underweight children- -0.0414^{**} Proportion of wasted children- -0.0445^{***} Newrage child Body Mass Index (BMI)- 0.995^{**}	Women are better or equal at management of daily affairs	-	-0.019
Women should only work on HH tasks- -0.101^{**} (0.044)Women should only work inside home- -0.037 (0.035)Child Nutrition- 0.0192 (0.021)Proportion of stunted children- 0.0192 (0.021)Proportion of underweight children- -0.0414^{**} (0.017)Proportion of wasted children- -0.0445^{***} (0.011)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)		-	(0.034)
Women should only work inside home- $\begin{pmatrix} (0.044) \\ -0.037 \\ (0.037) \end{pmatrix}$ Child Nutrition-0.0192 \\ (0.021) \end{pmatrix}Proportion of stunted children-0.0192 \\ (0.021) \end{pmatrix}Proportion of underweight children0.0414** \\ (0.017) \end{pmatrix}Proportion of wasted children0.0445*** \\ (0.011) \end{pmatrix}Average child Body Mass Index (BMI)-0.995** \\ (0.400) \end{pmatrix}	Women should only work on HH tasks	-	-0.101**
Women should only work inside home- -0.037 (0.035)Child Nutrition- 0.0192 (0.021)Proportion of stunted children- 0.0414^{**} (0.017)Proportion of wasted children- -0.0444^{**} (0.017)Proportion of wasted children- -0.0445^{***} (0.011)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)			(0.044)
$\begin{array}{c c} (0.035) \\\hline \hline \\ \hline \\$	Women should only work inside home	-	-0.037
Child NutritionProportion of stunted children- 0.0192 (0.021)Proportion of underweight children- -0.0414^{**} (0.017)Proportion of wasted children- -0.0445^{***} (0.011)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)			(0.035)
Proportion of stunted children- 0.0192 (0.021)Proportion of underweight children- -0.0414^{**} (0.017)Proportion of wasted children- -0.0445^{***} (0.011)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)	Child Nutrition		
Proportion of underweight children- (0.021) Proportion of wasted children- -0.0414^{**} Proportion of wasted children- -0.0445^{***} (0.011)- 0.995^{**} Average child Body Mass Index (BMI)- 0.995^{**}	Proportion of stunted children	-	0.0192
Proportion of underweight children- -0.0414^{**} (0.017)Proportion of wasted children- -0.0445^{***} (0.011)Average child Body Mass Index (BMI)- 0.995^{**} (0.400)			(0.021)
Proportion of wasted children - (0.017) Average child Body Mass Index (BMI) - 0.0445^{***} (0.011) - 0.995^{**} (0.400) - 0.995^{**}	Proportion of underweight children	-	-0.0414**
Proportion of wasted children0.0445***Average child Body Mass Index (BMI)-0.995**(0.400)			(0.017)
Average child Body Mass Index (BMI) - 0.995^{**} (0.400)	Proportion of wasted children	-	-0.0445^{***}
Average clinid body mass index (bmi) - 0.995 ⁺⁺ (0.400)	Average child Body Mass Index (BMI)		(0.011)
	Inverage child body mass index (Divit)	-	(0.400)

Table 8: Impact of Market Linkage on Inter- and Intra-Household Level Outcomes

Standard errors clustered at the village-level are reported in parenthesis

^{*}p < .10, * * p < .05, * * *p < .01^a Round 3 is while the market linkage (ML) intervention is on-going. Round 4 is 9 months post-ML.

⁻ Women's mobility, male gender-role perceptions and child nutrition outcomes are only recorded in Round 4.
8.3.2 Impact on Intra- and Inter-Household Level Outcomes

We find that monthly consumption is 8.3% higher while the ML 2015-16 scheme was ongoing for households that had ML participants. This effect remains statistically significant 9 months post-ML, with households of ML participants spending 6.2% more on monthly consumption. The effect on monthly household income and expenditure on male and female clothes is insignificant. There is, however, a positive and significant impact on expenditure on male clothes 9 months post-ML as participants report a 42.6% decrease in spending on male clothes.

We find a positive impact on male gender-role perceptions. Belonging to households of graduates linked to the market, male members are 10.1 percentage points more likely to be against the notion of women working on only household tasks. The positive impact is also extant for child nutrition outcomes. We find a decrease in the proportion of underweight and wasted children and a 0.995 kg/m^2 increase in the average child BMI.

At the inter-household level, participants are 4.2 percentage points more likely to teach tailoring skills to others in round 3. Over time, they are even more likely (9.3 percentage points) to help others learn tailoring in their household or neighborhood.

8.4 Robustness: SFM Analysis on SFM Only Sample

Given that we find stronger effects from providing market linkage as compared to providing skills training, in this section, we conduct a robustness check to determine whether the impact of the SFM 2013-14 training still holds after dropping ML treatment villages from the sample. In this section we discuss the impact of the tailoring course on key outcomes using LATE estimates³⁹ and after dropping villages where the ML intervention was offered (ML treatment villages). Overall, the results do hold even after the ML treatment sample is excluded from the analysis.

As table 9 shows, the statistically significant impact on tailoring engagement still holds after dropping the ML treatment villages. The positive impact, however, has lowered in magnitude to 7.8%. The impact on the other tailoring engagement outcomes, even though slightly smaller in magnitude as shown in fig. 6, continues to hold. However, the variable for number of suits stitched is no longer statistically significant hinting that the previous impact was not driven by graduates but by graduates linked to the market.

The increase in tailoring earnings for graduated women continues to hold but falls to PKR 174.2 with the exclusion of ML treatment villages. Similarly, the impact on tailoring earnings from non-relatives remains significant but falls to PKR 125.9. These results are summarized in fig. 7. These results highlight that skills training alone has a direct positive impact on tailoring earnings in a context where most of the rural women in our sample did not engage in tailoring at baseline.

We also observe significant positive impacts on tailoring skills after excluding ML treatment villages. As fig. 8 shows, the impact magnitude is lower in comparison to the full sample results but continues to hold for the SFM only sample.

Moreover, all the household level significant effects found using the entire treatment sample hold after dropping the ML treatment villages. In fact, the treatment effect for household consumption and expenditure on male clothes is bigger in magnitude for the SFM only sample as shown in fig. 9. However,

³⁹Robustness checks are also carried out using ITT estimates. The results for ITT estimates are reported for reference in Appendix J.



Figure 6: Impact on Tailoring Engagement Outcomes: Full Sample & SFM Only Sample

Note: Bar chart plots the skills training impact on tailoring engagement outcomes. Only significant and robust results are included.





Note: Bar chart plots the skills training impact on tailoring engagement outcomes. Only significant and robust results are included.

the significant and meaningful impact on education expenditure vanishes after excluding ML treatment villages, as shown in table 10.

Another interesting result to note is the strengthened negative impact on well-being and the significant impact on government services usage. Moreover, even though there is a decrease in strength, the spillover effects on community level outcomes persist. One anomaly is the effect on women's travel patterns: the



Figure 8: Impact on Tailoring Skills: Full Sample & SFM Only Sample

Note: Bar chart plots the skills training impact on tailoring engagement outcomes. Only significant and robust results are included.

Figure 9: Impact on Household Outcomes: Full Sample & SFM Only Sample



Note: Bar chart plots the skills training impact on tailoring engagement outcomes. Only significant and robust results are included.

positive impact reported for women travelling for jobs is no longer significant. In terms of male genderrole perceptions, men from households with trainees are now 16.6% points more likely to prefer women to work on household tasks; the effect is not significant when ML treated villages were part of the sample.

See Column B in table 9 and table 10 for the robustness results.

Outcome Variables	(A) LATE a	$(B) \\ LATEa \\ (exc. ML \\ treatment \\ villages)$
Individual Level		
Tailoring engagement		
Engagement in any tailoring related activities in last month	0.115***	0.077***
Number of days spent on tailoring related tasks in last month	(0.016) 1.229^{***} (0.221)	(0.015) 0.649^{***} (0.208)
Number of hours per day spent on tailoring related tasks in last month	(0.221) 0.414^{***} (0.07)	(0.208) 0.269^{***} (0.060)
Tailoring for non-relatives	(0.07) 0.116^{***} (0.015)	(0.009) 0.053^{***} (0.014)
Tailoring for relatives	(0.013) 0.091^{***} (0.015)	(0.014) 0.062^{***} (0.018)
Number of clothes stitched (over past 3 months)	(0.015) 2.121^{***} (0.505)	(0.513) 0.763 (0.554)
Earnings and Employment		
Tailoring earnings in PKR (3-months earnings)	452.9***	174.2*
Tailoring earnings from non-relatives in PKR (3-months earnings)	(99.722) 363.9***	(104.726) 125.9^*
Tailoring earnings from relatives in PKR (3-months earnings)	(68.128) 83.982^{**}	(67.679) 41.9* (45.905)
Employed based on past month	(39.965) 0.0584 (0.042)	(45.295) -0.006 (0.047)
	(0.042)	(0.047)
Self-assessment of cutting skills (adult clothes)	0.347^{***}	0.309^{***}
Self-assessment of designing skills (adult clothes)	0.209***	0.163***
	(0.024)	(0.024)
Self-assessment of sewing skills (adult clothes)	$(0.443)^{-0.443}$	(0.031)
Market Knowledge	(0.020)	(01001)
	0.0964***	0.0150
Current market knowledge of where stitched suits could be sold	(0.0364^{++++})	(0.0153)
Self-assessment of change in level of knowledge about markets	0.00990	-0.000954
	(0.007)	(0.007)
Self-assessment of change in access to input & product markets	0.103^{***}	0.0401^{*}
Knowledge of fabric costs	0.0583*	0.0784**
	(0.032)	(0.035)
Knowledge of raw material costs	0.115^{**}	0.116^{**}
Knowledge of local tailor charges for stitching an adult female suit	(0.047) 0.0349^{***} (0.013)	(0.054) 0.0490^{***} (0.016)
Non-Economic Outcomes	(0.010)	(0.010)
	0.400	
Civic Engagement ^o	(0.192)	(0.089)
Well-being ^{b}	-0.180	-0.295**
Happiness	(0.131)	(0.137)
паррінсьо	(0.025)	(0.032)
Female empowerment ^{b}	0.537	$0.119^{'}$
Comment Somicon Harmah	(0.369)	(0.423)
Government Services Usage"	(0.101) (0.121)	$(0.198)^{**}$ (0.119)

^a LATE is equal to the Average Treatment Effect on the Treated (ATT). ^b Each index is constructed as an additive index **32** ing multiple measures, as outlined in Appendix E.

^{*}p < .10, **p < .05, ***p < .01Note: Earnings and self-assessment variables ask for respondents' answers based on the past 3 and 6 months respectively.

	(A)	$\begin{array}{c} \textbf{(B)} \\ \textbf{LATE}^a \end{array}$
Outcome Variables	\mathbf{LATE}^{a}	(exc. ML treat-
		ment villages)
Household (HH) Level:		
Log of monthly HH income ^{a}	0.129**	0.110**
	(0.052)	(0.047)
Log of monthly HH consumption ^w	-0.075^{*}	-0.123^{***}
Log of expenditure on male $clothes^a$	-0.359**	-0.454***
	(0.160)	(0.172)
Log of expenditure on female $clothes^a$	-0.232	-0.366**
Log of education expenditure ^{a}	(0.154) 0.713**	(0.163)
log of education expenditure	(0.308)	(0.354)
Spillovers		
Help others learn tailoring in HH/neighborhood	0.038***	0.0156**
	(0.008)	(0.007)
Women's Mobility		
Travel for chores	-0.081	-0.0927
	(0.06)	(0.068)
Travel for education	0.054	0.0191
Travel for field work	(0.053)	(0.052) 0.0176
Travel for held work	(0.023)	(0.0170)
Travel for job	0.105^{*}	0.0599
	(0.054)	(0.060)
Travel for recreation	0.021	0.000350
	(0.019)	(0.008)
Male Gender-Role Perceptions		
Women are better or same at management of daily affairs	0.040	0.0410
	(0.057)	(0.062)
Women should only work on HH tasks	0.080	0.166^{**}
	(0.058)	(0.070)
Women should only work inside home	0.087	0.0953
	(0.058)	(0.069)
Child Nutririon		
Proportion of stunted children	0.020	0.0143
	(0.031)	(0.038)
Proportion of underweight children	-0.003	(0.000705)
Proportion of wasted children	-0.005	(0.034) 0.0142
reperior of wasted emilien	(0.015)	(0.0142)
Average child Body Mass Index (BMI)	1.960*	1.685
- · · / /	(1.073)	(1.027)

Table 10: Impact of Skills Training on Inter- and Intra-Household Level Outcomes

Standard errors clustered at the village-level are reported in parenthesis *n < 10 * *n < 05 * * *n < 01

p < .10, p < .05, p < .05, p < .01^a LATE is equal to the Average Treatment Effect on the Treated (ATT).

8.5 In-village Demand Analysis

We conducted the in-village demand analysis to understand how skills training treatment effects vary by village demand. The analysis conducted illustrates how lack of in-village demand translates to a lack of opportunities for trained women to use the skills learned. Using the total number of households to represent village demand, we analyze how the impact of completing skills training differs between villages with high demand and those with low demand. As table 11 shows, in comparison to trained women in villages with low demand, trained women in high-demand villages spend 0.7 more days per month on tailoring, stitch 2 more suits over a period of three months, and more importantly have a PKR 1,496 increase in their annual tailoring earnings. Therefore, we can conclude that lack of in-village demand for stitched-to-order clothes is one of the multiple constraints faced by trained women.

	Days per month spent on tailoring	Stitch clothes for non-relatives	Stitch clothes for relatives	Number of clothes stitched
Completed training	0.287 (0.257)	0.035^{**} (0.017)	0.041^{*} (0.022)	-0.303 (0.596)
Completed training x Village Demand	0.673^{*} (0.399)	$0.033 \\ (0.028)$	$0.038 \\ (0.034)$	1.983^{*} (1.068)
Village Demand	0.073 (0.100)	-0.000 (0.007)	$0.000 \\ (0.008)$	$0.093 \\ (0.264)$
Constant	0.488^{***} (0.109)	$0.010 \\ (0.008)$	0.009^{**} (0.005)	0.359^{**} (0.170)
Observations	8857	8857	8857	8857
	Tailoring earnings (PKR)	Tailoring earnings from non-relatives (PKR)	Tailoring earnings from relatives (PKR)	Employed (based on past month)
Completed training	-27.036 (104.044)	-7.366 (79.580)	-32.245 (41.585)	0.073 (0.062)
Completed training x Village Demand	374.225^{*} (194.578)	247.810^{**} (120.842)	$137.968 \\ (90.796)$	-0.150 (0.097)
Village Demand	9.771	9.170	-0.962	0.042
	(52.518)	(34.048)	(22.280)	(0.026)
Constant	$(52.518) \\ 22.283 \\ (21.863)$	$(34.048) \\ 11.083 \\ (14.785)$	$(22.280) \\ 13.115 \\ (9.281)$	$\begin{array}{c}(0.026)\\0.316^{***}\\(0.054)\end{array}$

Table 11: Effect of Village Demand on the Impact of Skills Training

Standard errors clustered at the village-level are reported in parenthesis

*p < .10, **p < .05, ***p < .01

We use round 1 value of the outcomes to control for baseline values and grid fixed effects to control for randomization strata.

Completed x Village Demand is the interaction effect of village demand, as measured by the total number of households in the village, with the treatment status. For village demand, we construct a dummy variable that equals 1 for those villages that fall above the median and 0 otherwise.

Note: We report LATE estimates for the skills training only sample - full sample minus market linkage treatment villages.

8.6 Impact Heterogeneity

We examine whether the LATE estimates for skills training mask heterogeneity of impact across females of different characteristics such as age and marital status. As shown in table 12a, we find that aged women spend fewer hours per day on tailoring. We also find that married women are less likely to work on tailoring related tasks in a month and 8.1 percentage points less likely to stitch for non-relatives. As opposed to unmarried women, they spend less time – fewer days per month and fewer hours per day – on tailoring. However, the treatment effect on tailoring earnings and employment does not vary with the age and marital status of women.

	(1) Tailoring engagement	(2) Days per month spent on tailoring	(3) Hours per day spent on tailoring	(4) Stitch clothes for non-relatives	(5) Number of clothes stitched
Age					
Completed training	0.101^{***} (0.022)	0.909^{***} (0.279)	$0.412^{***} \\ (0.104)$	0.075^{***} (0.020)	1.223^{**} (0.582)
Completed training x Age	-0.054 (0.036)	-0.626 (0.456)	-0.339^{**} (0.158)	-0.051 (0.033)	-1.125 (1.112)
Age	-0.013^{**} (0.006)	-0.010 (0.072)	-0.021 (0.029)	-0.007 (0.006)	$0.041 \\ (0.220)$
Constant	0.070^{***} (0.009)	$\begin{array}{c} 0.412^{***} \\ (0.094) \end{array}$	0.173^{***} (0.056)	$0.009 \\ (0.011)$	$0.135 \\ (0.188)$
Observations	8857	8857	8857	8857	8857
Marital Status					
Completed training	$0.113^{***} \\ (0.027)$	$ \begin{array}{c} 1.132^{***} \\ (0.325) \end{array} $	0.508^{***} (0.135)	$\begin{array}{c} 0.110^{***} \\ (0.025) \end{array}$	$ 1.418^* \\ (0.751) $
Completed training x Married	-0.052 (0.036)	-0.712^{*} (0.421)	-0.358^{**} (0.168)	-0.081^{**} (0.033)	-0.729 (0.982)
Married	-0.019^{**} (0.008)	-0.110 (0.089)	-0.038 (0.035)	-0.003 (0.007)	-0.439^{*} (0.244)
Constant	0.081^{***} (0.010)	0.510^{***} (0.100)	0.204^{***} (0.061)	$0.007 \\ (0.013)$	0.434^{*} (0.236)
Observations	8563	8563	8563	8563	8563

Table 12a: In	mpact Heter	ogeneity of Sl	ills Training fo	or Tailoring	Engagement	Outcomes
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Standard errors clustered at the village-level are reported in parenthesis

*p < .10, **p < .05, ***p < .01

We use round 1 value of the outcomes to control for baseline values and grid fixed effects to control for randomization strata. Completed x X is the interaction effect of characteristic X, as measured at baseline, with the treatment status. For the continuous variable age, we construct a dummy variable that equals 1 for those that fall above the median and 0 otherwise. The variable for marital status equals 1 for those who are married and 0 otherwise.

Note: We report LATE estimates to study impact heterogeneity on the skills training only sample - full sample minus market linkage treatment villages.

	(1)	(2)	(3)
	Tailoring earnings	Stitching earnings	Employed (based on
	(PKR)	from non-relatives	past month)
Age			
Completed training	222.740**	151.855**	-0.024
	(108.578)	(67.864)	(0.052)
Completed training x Age	-121.657	-66.914	0.038
	(207.369)	(133.465)	(0.076)
Age	14.913	15.323	0.026
	(39.981)	(24.154)	(0.016)
Constant	-19.384	-18.249	0.319^{***}
	(43.670)	(27.457)	(0.048)
Observations	8857	8857	8940
Marital Status			
Completed training	230.797*	154.219*	-0.037
	(132.656)	(91.227)	(0.054)
Completed training x Married	-40.677	-10.253	0.033
	(179.849)	(116.239)	(0.071)
Married	-56.204	-40.637	0.024
	(45.125)	(30.363)	(0.019)
Constant	19.828	11.537	0.325^{***}
	(54.106)	(36.521)	(0.057)
Observations	8563	8563	8643

Table 12b: Impact Heterogeneity of Skills Training for Earnings and Employment

Standard errors clustered at the village-level are reported in parenthesis

*p < .10, **p < .05, ***p < .01

We use round 1 value of the outcomes to control for baseline values and grid fixed effects to control for randomization strata.

Completed x X is the interaction effect of characteristic X, as measured at baseline, with the treatment status. For the continuous variable age, we construct a dummy variable that equals 1 for those that fall above the median and 0 otherwise. The variable for marital status equals 1 for those who are married and 0 otherwise. Note: We report LATE estimates to study impact heterogeneity on the skills training only sample - full sample minus market linkage treatment villages.

9 Cost-Benefit Analysis

PSDF designed the SFM 2013-14 scheme for rural women living in Punjab's high poverty districts. The target population predominantly comprised of marginalized women with limited or no education. PSDF used competitive bidding to contract training services providers (TSPs) who were responsible for opening and running training centers, conducting social mobilization, and administering the 4-month long course in tailoring. PSDF also engaged a third- party firm to monitor the delivery of the scheme through an extensive system of field visits to the training sites.

In this section we investigate the cost-effectiveness of the SFM 2013-14 scheme and the complementary ML 2015-16 scheme. Table 13 reports the total cost of the SFM 2013-14 scheme as the sum of the total training expenditure or payments given to the hired TSPs, administrative costs, and monitoring costs. The final cost of the skills training scheme is PKR 30,000 (£188)⁴⁰ per trainee or PKR 7,500 (£57) per trainee per month.

	Value (PKR)
Total Training Expenditure	100,577,000
Administrative Cost - Mobilization, Communication, and Advertising Costs - Operational Costs	1,539,000 5,188,000
Monitoring and Evaluation Costs	3,870,000
Total Cost	111,174,000
Scheme Beneficiaries*	3,739
Cost per Trainee	30,000

Table 13: Cost Structure for SFM 2013-14

Note: All monetary values are rounded off to the nearest thousand.

*Against the 4,000 contracted training slots, 3,739 trainees actually completed training across all districts.

Table 14 reports the total and per training cost of the complementary ML 2015-16 scheme that was introduced to enhance the earnings opportunities of a sub-sample of SFM 2013-14 graduates. The final cost with the ML scheme comes to PKR 71,000 (£444) per trainee.

For studies included in Appendix A that report information on cost, cost per trainee ranges from \$94⁴¹ (Maitra & Mani, 2017) to \$2950 (Elias et al., 2004). Therefore, the cost per trainee of SFM 2013-14 is in line with international standards and well within the range of skills training schemes elsewhere and this is true even if we add the cost of the ML scheme.

In terms of benefits, our findings show that the SFM 2013-14 without ML results in graduates earning PKR 174.2 more from tailoring over a period of 3 months. We multiply this three-month impact by 4 to get the annual increase of PKR 697 in their tailoring earnings. A key point to note here is that the skills training scheme was provided in a context of extreme poverty where women's annual earnings from tailoring were only PKR 168.4 on average. Therefore, 2.5 years post-training, there is an increase of more

⁴⁰The 2015 exchange rate ($\pounds 1 = PKR$ 160) is used to calculate the equivalent cost in pounds. To compare the cost with that of other skills training schemes given in Appendix A, we also calculate the cost in USD using 2015 as the base year (\$1 = PKR 105) to get cost estimates of \$286 per trainee.

⁴¹We have converted all nominal figures of cost to the same base year (2015) for ease of comparison.

	Value (PKR)
Operational Cost	11,372,000
Raw material cost & Stitcher payments	4,570,000
Total Cost	15,942,000
Participants	390
Incremental cost per trainee	41,000
Cost per Trainee for SFM 2013-14	30,000
Total Cost per trainee for SFM + ML	71,000

Table 14: Cost Structure for ML 2015-16

Note: All monetary values are rounded off to the nearest thousand.

Table 15: Payback Period for SFM-ML

	SFM only	$\mathbf{SFM} + \mathbf{ML}$
Cost per trainee (PKR)	30,000	71,000
Benefit per trainee (PKR)	697	3,043
Time to Recover Cost (years)	43	23.3

than 300% in their earnings.

To compare this increase in earnings with other similar studies, we look at the meta-analysis by Chinen et al. (2017) which is a systematic review of vocational and business training schemes implemented in low- and middle-income countries. Part of their analysis focuses on determining the average impact of vocational training on women's earnings in randomized control trails based impact evaluations. They show that vocational training programs, on average, have a positive impact on women's earnings. They use effect sizes to combine and compare estimates from eight different studies to report an overall effect size of 0.11 standardized mean differences (SMDs). This means that if the difference between two groups - treatment and control - does not differ by 0.11 standard deviations or more, then the difference between the groups is trivial. They also report that effect sizes range from 0.04 (Hirshleifer et al., 2014) to 0.30 (Acevedo et al., 2017) standardized mean differences for the eight studies included in the review. For our skills training study, we obtain an effect size of 0.34 SMDs⁴². We can thus conclude that we have a large effect size for the skills training scheme, that is more than the average effect size obtained from combining eight different skills training programs introduced elsewhere.

Furthermore, although the scheme had a number of other positive impacts at the individual, household and community level, we use a conservative calculation for cost-effectiveness that uses the tailoring related earnings of graduates who did not participate in ML to measure the benefit of the scheme. Table 15 shows that assuming no appreciation or depreciation in tailoring earnings and a zero-discount rate⁴³, it would take 43 years to recover the cost of the scheme. This analysis suggests that at current costs the SFM 2013-14 scheme does not score well on cost-effectiveness. To make the scheme cost effective, PSDF will

 $^{^{42}}$ We calculate the effect size by dividing the average treatment effect with the pooled standard deviation of earnings at baseline (PKR 174.2/PKR 515.8).

 $^{^{43}}$ This is consistent with other studies cited in the literature review such as Adoho et al., 2014 and Alzua et al., 2016 that also assume a zero-discount rate for their payback period calculations.

have to redesign the scheme to improve the earning of its trainees in a context where women's access to economic opportunities and markets is limited.

One way of increasing earnings is by expanding the economic space for trained women through market linkages. We find that the ML intervention results in annual earnings of PKR 3,043 from tailoring for trained women who are linked to markets. This is approximately a 4-fold increase in annual earnings compared to only being provided vocational training and this gain is achieved through a 2-fold increase in per trainee costs (table 15). However, at the current level of earnings it would still take 23.3 years to recover the cost of the ML scheme. While strengthening market linkages is a promising complementary intervention to vocational training for women in Punjab's high poverty districts, the design challenge for PSDF is to reduce its cost of delivery and create linkages that, at a minimum, allow trained women to generate income that is equivalent in magnitude to what ML participants were receiving while the scheme was operational⁴⁴.

⁴⁴While the ML scheme was ongoing in round 3, participants' 3-month tailoring earnings increased by an incremental amount of PKR 2,585.6 (??). There was also a 4-fold increase in the number of clothes tailored while the ML 2015-16 scheme was operational (round 3) compared to after it ended (round 4) (see ??.

10 Lessons Learned

One of the main lessons learned from the SFM 2013-14 impact evaluation is that, in the context of multiple constraints, design of a scheme that alleviates just one constraint is not sufficient and may have poor value for money. Our findings show that when the supply-side constraint of lack of skills development is alleviated through skills training, the impact on outcomes of interest is limited in scope and size: trained women engage more in tailoring related activities, however, the increase in annual tailoring earnings is only PKR 697. Moreover, skills training alone does not lead to a significant impact on non-economic outcomes such as female empowerment, government services usage, civic engagement, and women mobility. Qualitative evidence further shows that although women completed the training, few engaged in the production of clothes to augment their income as they encountered a host of constraints and lack of opportunities to employ their skills and generate income.

Moreover, the importance of addressing demand-side constraints is also highlighted from the findings of the in-village demand analysis in 8.1.3. We conducted the analysis to understand how skills training treatment effects vary by village demand. Our findings show that trained women in villages with high demand have higher tailoring engagement and earnings as compared to women from low demand villages.

Therefore, constraints that need to be addressed to increase the economic returns to women training could be on the demand and the supply side of the skills and labor markets. The ML 2015-16 scheme was hence designed as a time-bound demand shock that alleviated market access and demand-side constraints by providing trained women on-the-job training on how to engage in production for the market. Our main findings from the impact evaluation of the ML 2015-16 scheme highlight how on-the-job training complements in-class skills training and has significant over and above positive impact on outcomes of interest. We find that, when linked to the market, trained women are more likely to engage in tailoring related activities and to report improved tailoring skills. They experience a PKR 2346 increase in their annual tailoring earnings, leading to an overall increase of PKR 3043 increase for women who participated in both skills training and the complementary market linkage scheme. Moreover, trained women linked to the market do better on the non-economic outcomes as they are more empowered and have a higher civic engagement.

Therefore, we can conclude that programs that provide in-class training alone show poor returns and treatment effects increase significantly when in-class training is combined with on-the-job training that offers market access and chance to practice new skills. This lesson learned from the impact evaluation of the ML 2015-16 scheme is in line with the growing body of impact evaluations of training programs in developing countries; Fares and Puerto's (2009) meta-review of skills training evaluations finds that program success rates increase significantly when in-class and workplace training are combined with complementary interventions that link graduates to jobs and markets. Nonetheless, even though the ML 2015-16 scheme leads to a 4-fold increase in annual earnings on top of the skills training impact, there is a corresponding 2-fold increase in per trainee costs and it would still take 23.3 years to recover the cost of the scheme. Another lesson learned is thus to design schemes that are lower in cost but do not compromise on their skills development and market exposure benefits.

Another lesson learned from the impact evaluation of the two schemes – SFM 2013-14 and ML 2015-16 – is that providing skills training and/or market linkage to women leads to positive spillover

impact at the intra- and inter-household level. We find that households of trained women have improved outcomes: they have a higher monthly income and spend more on education. Trained women also help create spillover benefits by imparting tailoring skills to other members of the community. Moreover, our findings show that people living in households of trained women who are linked to the market experience positive treatment effects. For these households, we report a decrease in the proportion of underweight and wasted children and an increase in the average child BMI. Male members are also more likely to have improved gender-role perceptions, as we find them to be less likely to agree that women should only work on household tasks. Therefore, schemes that are designed to help generate self-employment the household and community.

11 Conclusion and Recommendations

The SFM 2013-14 and ML 2015-16 schemes were designed to improve the livelihoods and labour force participation of some of the most vulnerable women in South Punjab, who face high mobility constraints and limited livelihood opportunities. This report assesses the impact of these two schemes on a variety of individual, household and community level outcomes as well as the cost-effectiveness of these schemes.

We find that skills training results in greater engagement in tailoring related activities and improved self-reported tailoring skills and results in a PKR 697 increase in annual earnings for its graduates. We also find that the households of these graduates have a higher income and training creates positive spillover benefits as graduates are more likely to impart tailoring skills to other members of the community. Importantly, we find that these positive impacts of the 4-month long vocational training course in tailoring persist 2.5 years after it has ended. These positive impacts are in line with the expectations of the theory of change of the scheme.

The challenge for PSDF is that the positive impact on earnings translates into a modest level of annual earnings of PKR 697 for SFM 2013-14 graduates. Our conservative estimation of cost-effectiveness finds that given the current costs of delivering the scheme it would take 43 years for an SFM 2013-14 graduate to recover the cost of the scheme. This analysis suggests that at current costs the SFM 2013-14 scheme does not score well on cost-effectiveness. We also find that the scheme does not have a significant impact on non-economic outcomes such as empowerment, happiness and civic engagement for skills training graduates.

Much more significant gains are made by augmenting skills training with a market linkage scheme. We find that the ML 2015-16 scheme results in a 4-fold increase in annual earnings of SFM 2013-14 graduates who are linked to the market compared to graduates who are only provided vocational training. The 4-fold increase in gain is achieved through a roughly 2-fold increase in per trainee costs associated with the scheme. These positive impacts are in line with the theory of change of the ML 2015-16 scheme. Based on these findings, we recommend that in the case of marginalized women in high poverty districts it is important to combine vocational training with interventions, such as market linkages, that expand the space of economic opportunities associated with the skills that have been acquired.

While graduates of the skills scheme who also participate in the market linkage scheme see an annual increase of PKR 3,043 compared to women who do not enrol in the training, given the current costs of the ML scheme it would still take 23.3 years for trainees to earn back the amount spent on this scheme. Therefore, the design challenge for PSDF in serving marginalized women in high poverty districts is to consider ways of reducing the overall cost of delivering schemes without compromising on its skills acquisition and market exposure benefits. In the case of vocational training, we recommend that effort has to be made to bring the cost of the scheme towards the lower end of the international benchmarks for delivery cost presented in ??. In the case of market linkages, we suggest creating sustainable linkages to deeper product markets that increase the size of orders that they receive.

One way to find a more cost-effective market linkage solution is already being independently worked on by CERP and Kaarvan Crafts Foundation. Since two years post-ML 2015-16 scheme, we have been involved in the monitoring and evaluation of an improved and cost-effective market linkage scheme that links rural women who were trained under the SFM 2013-14 scheme to rural as well as urban denser markets. In appendix E, we report the key differences between the two schemes: ML 2018-19 and ML 2015-16.

The ML 2018-19 scheme is based on a model in which stitchers gain seasonal employment as they stitch suits only during the high demand seasons⁴⁵. By stitching during the peak-demand seasons, stitchers get the opportunity to stitch the maximum number of suits for the market and hence the chance to practice and hone skills learned. Another key difference highlighted is how, through the ML 2018-19 scheme, we attempt to provide low-cost market linkages to trained women. By sending raw material via postal service to women, we save up on transportation costs that were otherwise paid to sales agents in the ML 2015-16 scheme. Similarly, having a designated person for distributing raw material and quality assurance within the village reduces transportation expenses that were incurred in the earlier market linkage scheme. Consequently, ML 2018-19 costs PKR 1,700 (£10.6) per participant per month⁴⁶ which is a marked decrease from the PKR 4,100 (£25.6) per participant per month cost of the ML 2015-16 scheme⁴⁷.

Through the ML 2018-19 scheme, we have also tried to create sustainable market linkages that will help trained women stay connected with rural and urban markets. We have selected the designated persons in each village and we expect them to develop strong links with rural and urban retailers during intervention and to continue relaying orders from them to our trained women post-intervention.

In terms of monitoring the impact of this improved market linkage intervention, we closely monitor the sales numbers for each round. Till date, we have conducted two rounds of sales while the third round is ongoing. For the first two rounds, 87% and 73% of the stitched suits have been sold respectively this is an improvement from the 39% overall sales of stitched suits in ML 2015-16. Thus, through this market linkage scheme, we have been successful in tapping higher demand to generate more sales. This also has a direct impact on the earnings of trained women. Moreover, we use implementation data and feedback from the field to modify each sales round so that it is designed in line with quantitative as well as qualitative evidence.

We have rolled out a mid-line survey in April 2019 to identify the immediate impact of the market linkages on tailoring engagement, skills, practices, output, and income. The endline survey is planned for March 2020 is which we plan to capture the full impact of the intervention on key outcomes of interest.

⁴⁵These high demand seasons are classified as the Islamic festivals of Eid-ul-Fitr and Eid-ul-Adha.

⁴⁶Please note that, as ML 2018-19 is currently ongoing, this is the estimated per participant per month cost.

 $^{^{47}}$ Please note that this comparison is solely for the complementary market linkage interventions. For ease of comparison, we divide the incremental cost of ML 2015-16 (PKR 41,000 or £256) by 10 (duration) to get the per month cost per participant.

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Key Results	Women experienced im- proved labour market out- comes in the short run. They have substantially higher levels of personal skills and were more optimistic, had higher self-esteem and lower fertility in the long run.	Employment increased by 47% and earnings by 80%. There were positive impacts on a number of empowerment measures such as access to money, self-confidence, and anxiety about present and future circumstances.	There were gains of about 8% points in formal employment in the short term but these average effects tended to dissipate in both the medium and in the long term.	Women offered training earned 18% more and had a 0.05 higher probability of employment mainly in formal sector jobs.	Trained women had increased likelihood of engaging in income-generating activities by 72% and raising their monthly consumption expen- ditures by 41%. Teen preg- nancy fell by 26%, early en- try into marriage fell by 58%, share of girls reporting sex against their will halved, and preferred age of marriage and childbearing moved forward.
Outcome Variables	 Employment Risk behaviors Attitudes and expectations Participation in social networks Life skills 	 Economic activities (employment, earnings) Savings and loans Empowerment Fertility and personal behaviors 	 Formal employment Earnings 	- Employment - Earnings - Formal contract employment	 Income Monthly Monsumption expenditure Educational investment Social empowerment: Childbearing and marriage
Training	Hard skills training; soft skills training; plus internship	6 months of classroom-based technical and life skills training followed by 6 months of follow-up support	Life-skills and vocational training, as well as internships with private sector employers	3 months of in-classroom training and 3 months of on-the-job training	Vocational and life skills trainings
Cost	h.r.	\$1200 for Business Skills track and \$1650 for Job Skills track	\$1722 per trainee	\$750 per trainee	\$\$5 per participating adolescent girl
Time Frame	2013	2010-2011	2008- 2012	2002-2005	2010
Attrition	17.60%	15%	%0	18.50%	18%
Sample Size	2,779	2,500	407	4,350	4,888
Pop.	Young adults 16-29 years	Girls 16-27 years	Youth	Youth 18-25 years	Girls 14-20 years
Country	Dominican Republic	Liberia	Argentina	Colombia	Uganda
Title	Living Up to Expectations: How Job Training Made Women Better Off and Men Worse Off	The Impact of an Adolescent Girls Employment Program The EPAG Project in Liberia	Long Run Effects of Youth Training Programs: Experimental Evidence from Argentina	Subsidizing Vocational Training for Disadvantaged Youth in Developing Countries: Evidence from a Randomized Trial	Women's Economic Empowerment in Action: Evidence from a Randomized Control Trial in Africa
Authors	Accevedo et al. (2017)	Adoho et al. (2014)	Alzua et al. (2016)	Attanasio et al. (2011)	Bandiera et al. (2015)
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A Literature Review

After four years of treatment, trained women earned 73% more than control women. Youth given the cash transfer invested in vocational train- ing and tools, which then re- sulted into higher levels of employment and earnings for them.	There is a small positive ef- fect on employment outcomes but a modest effect on earn- ings conditional on working.	Trained women experienced an overall and non-farm employment gains of 13% and 19% respectively while the corresponding impacts for men were 2% and 10%.	One positive effect of training on women is that they were 14% (ToT) less likely to have given birth in the past year. 19% of young women in the control group had a child in the past year, so this signifies a very significant decline.
 Investment Employment and Occupational Occupational Choice Income Income Non-economic impacts such as community participation, protest attitudes, and kin integration 	 Employment Hours worked Monthly earnings Hourly wages 	 Employment Earnings Empowerment and self-confidence Risky behaviors Family and reproductive health outcomes 	 Skill development (using proxies such as self-assessment of skills, knowledge of profit calculation) Use of time Well-being and health behaviors Earnings Total expenditure Migration
Formed groups and submitted grant proposals for vocational training and business start-up	Classroom training with subsequent internship period of on-the-job work experience	Vocational training and placement services	On-the-job training through placement as apprentices to master craftspeople in area of interest
\$382 per member	\$330 per trainee	n.r.	n.r.
2008- 2012	2001- 2006	2010- 2012	2009- 2011
18%	38%	11%	33%
265 groups with with bers hers in group on av- erage)	1,556	4,677	1,900
Young adults 16-35 years	Low- income youth 18-29 years	Men and women 16-35 years	Young people 15-24 years
Uganda	Dominican Republic	Nepal	Malawi
Generating Skilled Self-employment in Developing Countries: Experimental Evidence from Uganda	The Labor Market Impacts of Youth Training in the Dominican Republic	y The Role of Training Programs for Youth Employment in Nepal: Impact Evaluation Report on the Employment Fund	Gender Differences in the Effects of Vocational Training Constraints on Women and Drop-Out Behavior
Blattman et al. (2014)	Card et al. (2011)	Chakravart et al. (2016)	Cho et al. (2013)
e	-1	∞	6

g increased like- participants get- ed, increased the me of the partici- oolstered the con- women who were and in their skill raining. The as- onducted at the cel that trainees optimistic about as of finding qual- nent. They were likely to hold a sition in compari- trainees who were to work as casual	ss-women, train- d business prac- had no impact sales or capital ness profitability treased in the first hs, but this im- ated in the sec- Among potential business training try and increased as well.	a 10% return on
The trainin lihood of ting employ weekly inco pants, and h fidence of v not confide set before t sessment c end suggest were more their chance ity employn also more full-time poo son to non-t more likely laborers.	For busines ing changes tices but on profits, stock; busi for them inc eight montl pact dissip ond year. start-ups, hastened en profitability	There was wages.
 Earning capacity Employment status Confidence (subjective measures of empowerment) 	 Business practices Profitability Employment 	- Income - Wages - Employment
Technical training in Information Communication Technology (ICT), training in life skills, work experience through internships, and job placement support	Training only and training plus a cash grant	Technical training phase followed by an internship phase
л.г.	\$126-\$131 per current business owner and \$133-\$140 per potential business owner	\$2000 per trainee
2011- 2013	2009- 2011	1997
midline - 31.5% endline - 50.2%	8% %	n.r.
1,230	1,256	23,500
Women 18-35 years	Women 20-40 years	Young people min. age 16 years
Kenya	Sri Lanka	Argentina
Testing What Works in Youth Employment: Evaluating Kenya's Ninaweza Program	Business Training and Female Enterprise Start-up, Growth, and Dynamics: Experimental evidence from Sri Lanka	An Econometric Cost-Benefit Analysis of Argentina's Youth Training Program
de et al. (2013)	de Mel et al. (2013)	Elias et al. (2004)
10	=	12

The gain in wage employ- ment was largely confined to women and younger workers.	Assignment to receive treat- ment had an overall pos- tive effect on employment and earnings but the small posi- tive impact dissipated 3 years after the training.	The 6-month treatment effects showed that women offered the treatment were 6% points more likely to be employed and 4% points more likely to be self-employed. They would work for an extra 2.5 hours per week and earn 150% more per month than women in the control group. These effects were all sustained in the second follow-up.	Participants were signifi- cantly more empowered than non-participants in terms of having an identification card, ability to go out without permission, and ability to attend council meetings.
- Income - Employment	- Income - Employment - Well-being	 Employment Hours worked Monthly earnings Entrepreneurship, Empowerment, and Life Satisfaction Life Satisfaction through: Ownership of sewing machine; Membership of ROSC; Happiness at home 	 Access to outside employment Physical mobility Political participation Proxy for bargaining power
Wage subsidy and skill training	General vocational training courses (class-room based) covering a wide range of vocation	Subsidized vocational education program in stitching and tailoring	Support groups, literacy camps, adult education classes, and vocational training
n.r.	\$1619 per person for government courses and \$1795 per person for private courses	5585 INR (\$82 per trainee)	ad n.r.
1998- 2000	2010- 2013	2010- 2012	Progra launche in 1988
22.50%	6%	25%	n.r.
848	5,902	6558	487
Mixed	Mixed	Women 18-39 years	Women
Argentina	Turkey	India	India
,			
Assisting the Transition from Workfare to Work: A Randomized Experiment	The Impact of Vocational Training for the Unemployed: Experimental Evidence from Turkey	Learning and Earning: Evidence from a Randomized Evaluation in India	Measuring the Effect of a Community-level Program on Women's Empowerment Outcomes
Galasso Assisting the et al. Transition from (2001) Workfare to Work: A Randomized Experiment	Hirshleifer The Impact of et al. Vocational (2014) Training for the Unemployed: Experimental Evidence from Turkey	Maitra & Learning and Mani Earning: (2017) Evidence from a Randomized Evaluation in India	Kandpal Measuring the et al. Effect of a (2013) Community-level Program on Women's Empowerment Outcomes

В SFM and ML Timeline



C SFM 2013-14 Treatment Balance

	Difference of Means
Tailoring:	
Engagement in any tailoring related activities in the past month	0.009
	(0.007)
How many days in the last month were spent on tailoring related tasks?	0.069
	(0.065)
How many hours per day were spent on tailoring related tasks in last month?	0.075
	(0.046)
Tailoring for non-relatives?	0.004
	(0.004)
Tailoring for relatives?	0.005
	(0.004)
Number of clothes stitched (in 3 months)	0.04
	(0.105)
Earnings:	
Tailoring earnings in PKR (3-month earnings)	-1.383
	(13.585)
Tailoring earnings from non-relatives in PKR	-7.602
	(11.667)
Tailoring earnings from relatives in PKR	5.580
	(4.306)
Employed	-0.006
	(0.046)
Civic Engagement:	0.057
Civic Engagement Index	0.057
Formala From automate	(0.087)
Female Empowerment:	0.245**
remaie Empowerment index	$(0.343)^{++}$
Wall hoing	(0.107)
Well being Index	0.036
Weil-being findex	(0.050)
Hannings	(0.000)
happiness	(0.031)
Government Services:	(0.001)
Government Services Usage Index	0.11
	(0.073)
Household (HH) Outcomes:	()
Log of monthly HH income	-0.165***
	(0.023)
Log of monthly HH consumption	0.009
	(0.022)
Log of expenditure on male clothes	-0.04
	(0.109)
Log of expenditure on female clothes	-0.046
	(0.108)
Log of education expenditure	0.222
	(0.167)
Community:	
Helped others learn tailoring in HH/neighbourhood?	0.000
	(0.002)

Standard errors in parentheses *p < .10, **p < .05, ***p < .01

Note: Balance checks are done after controlling for randomization strata (SFM grids) and clustering standard errors at village level.

D Regression Specifications

We report the Intent-to-Treat (ITT) and Local Average Treatment Effect (LATE) estimates measuring the impact of skills training (SFM 2013-14) and the complementary market linkage scheme (ML 2015-16) on various outcomes of interest. For the purpose of impact evaluation, we use the ANCOVA specification given its better statistical properties, i.e. improved statistical power, as compared to the difference-indifference estimator⁴⁸.

In all regression equations below, Y_{it} represents the outcome variable measured through household surveys conducted at four different points in time; hence t can take values from 1 to 4 representing the different survey rounds. As per the standard ANCOVA specification, we include the baseline value of the dependent variable (Y_{1i} and Y_{2i} in the case of SFM and ML respectively; see below) as a control in our regression and also control for the randomization strata⁴⁹ represented by the grid fixed effects, λ_i .

D.1 Intent-to-Treat (ITT)

The ITT regression specification using ANCOVA for the SFM analysis is shown in equation 1 below. In equation 1, the treatment variable is a dummy indicating the village's (randomized) assignment to receiving the treatment i.e. a training facility within the village under SFM 2013-14. Hence, the ITT estimates measure the impact of opening a training center on the outcomes of a random sample from that village. The coefficient of interest is β_1 ; a statistically significant positive value for β_1 would indicate a meaningful positive impact on the key outcome variables. u_{it} is the error term and t = 2, 3, 4.

$$Y_{it} = \beta_0 + \beta_1 Treatment_{it} + \beta_2 Y_{1i} + \lambda_i + u_{it} \tag{1}$$

D.2 Local Average Treatment Effect (LATE)

The LATE specification for the SFM analysis is shown in equation 2 below. In our context, since no woman from the control villages completed the training, the LATE also equals the Average Treatment Effect on the Treated (ATT) by definition. Since we are often more interested in measuring the average effect on the treated, we give priority to these results over the ITT estimates in the text of our report.

The treatment variable of interest in this equation, $Complete_{it}$, is a dummy variable indicating whether an individual *i* has completed the skills training in period *t*. Since this is an endogenous variable, we use the randomized treatment status of your village, $Treatment_{it}$, as an Instrumental Variable (IV) for $Complete_{it}$. Hence, b_1 provides information on the average impact of the skills training on outcomes for people who completed the training. u_{it} is the error term and t = 2, 3, 4.

$$Y_{it} = b_0 + b_1 Complete_{it} + b_2 Y_{1i} + \lambda_i + u_{it}$$

$$\tag{2}$$

Equation 3 shows the regression used for the ML impact evaluation. We take the dummy variable indicating the random selection for ML treatment, $MLtreatment_{it}$, as the instrumental variable for

⁴⁸See (McKenzie, 2012).

⁴⁹We clustered villages into geographic "grids" and randomized our village treatment status within grids. Hence, our treatment randomization was stratified on grids. For more details on the exact randomization design for each evaluation, see the earlier design reports on SFM (Cheema et al., 2014) and ML evaluation design (Cheema et al., 2015b).

the treatment dummy, $MLparticipant_{it}$, which equals 1 for participants in the ML intervention (an endogenous variable)⁵⁰. The coefficient c_1 is the parameter of interest and measures the average effect on outcomes for those who participated in the ML intervention. u_{it} is the error term and t = 3, 4.

$$Y_{it} = c_0 + c_1 M L participant_{it} + c_2 Y_{2i} + \lambda_i + u_{it}$$

$$\tag{3}$$

⁵⁰Note that while the individuals/households in the evaluation sample for SFM comprised the random sample drawn from each village, the individuals eligible for the market linkage treatment comprised of only those women who graduated from the earlier skills training. Since the trainees included women who were not part of our baseline sample, we did not have Round 1 data on every individual eligible for the ML intervention. Hence, the ML evaluation is restricted to using data from rounds 2-4 where round 2 of the survey (which happened before the ML rollout) serves as the baseline.

E Non-Economic Outcomes: Index Creation

We construct additive indices for civic engagement, well-being, female empowerment, and government services usage. We sum all the variables used to construct the index, weighting each observation by its non-missing values.

Civic Engagement

In last 6 months, donated time/money to non-govt. social welfare organization? Are you a member of a political party? Have you participated in a protest in the last 3 months? Do you see yourself as part of the community? Who is the President of Pakistan? Who is the Chief Minister of Punjab? In last 3 months, tried to help anyone in community to resolves any dispute? In last 3 months, helped neighbours with harvesting, without being paid? In the last 3 months have you made any charities? How many members of your household have a CNIC? Is it important that Pakistan is governed by representatives elected by the people? Is it important that decisions of courts are independent from all influences? Is it important that individuals express political views, even though other may not agree? Is it important that individuals be able to meet others to work on political issues? Is it important that individual property rights be secure?

Well-being

In the past 30 days, how often did you feel nervous? In the past 30 days, how often did you feel hopeless In the past 30 days, how often did you feel restless or fidgety? In the past 30 days, how often did you feel so depressed that nothing cheered you up? In the past 30 days, how often did you feel everything was an effort? In the past 30 days, how often did you feel worthless? In the past 3 months, was unable to perform normal actions for 7 days due to an illness? Do you have good physical health?

Female Empowerment

If HH head going to buy land and it's not right time, can influence them to do it later? If HH head going to borrow, it's not right source, can influence them to change decision? You wish to be involved in new activity, would you need permission from HH members? If your husband should take up new activity, can you influence him to do that? Your husband not spending as much on kid's clothing, can make him to spend more? Husband wants daughter to drop out from school, can influence him to change decision? You want to buy sewing machine, can influence your husband to change his decision? You are able: Run your own business? You are able: Obtain credit to start up/expand business? You are able: Employees get the work done properly? You are able: Manage financial accounts? You are able: Bargain to obtain cheap prices? You are able: Collecting the money someone owes you? Are men & women equal in management of daily affairs? Should men & women study till the same level? Should women take paid employment? Should women work outside the house?

Government Services Usage

Have you used Government Health Centers in the last 3 months? Have you used Private Health Centers in the last 3 months? Have you used Govt./Pvt. Edu Services in the last 3 months? Have you used Police in the last 3 months? Have you used Courts in the last 3 months? Have you used Govt. Sanitation in the last 3 months? Have you used Electricity Company in the last 3 months?

	(1) Tailoring Engagement	(2) Days per month spent on tailoring	(3) Hours per day spent on tailoring	(4) Stitch clothes for non-relatives	(5) Stitch clothes for relatives	(6) Number of clothes stitched
Completed training	$\begin{array}{c} 0.115^{***} \\ (0.016) \end{array}$	$\begin{array}{c} 1.229^{***} \\ (0.221) \end{array}$	$\begin{array}{c} 0.414^{***} \\ (0.070) \end{array}$	$\begin{array}{c} 0.116^{***} \\ (0.015) \end{array}$	$\begin{array}{c} 0.091^{***} \\ (0.015) \end{array}$	$2.121^{***} \\ (0.505)$
Baseline (1)	$\begin{array}{c} 0.120^{***} \\ (0.020) \end{array}$					
Baseline (2)		$\begin{array}{c} 0.181^{***} \\ (0.039) \end{array}$				
Baseline (3)			0.093^{***} (0.023)			
Baseline (4)				0.244^{***} (0.049)		
Baseline (5)					$\begin{array}{c} 0.156^{***} \\ (0.037) \end{array}$	
Baseline (6)						0.332^{**} (0.139)
Constant	0.080^{***} (0.019)	0.527^{***} (0.184)	$\begin{array}{c} 0.207^{***} \\ (0.060) \end{array}$	$0.018 \\ (0.015)$	$\begin{array}{c} 0.017 \\ (0.013) \end{array}$	$0.241 \\ (0.207)$
Observations	11110	11110	11110	11110	11110	11110

Table 1: Tailoring Engagement

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

	14010 2. 14110	ing skins	
	(1) Cutting Skills	(2) Designing Skills	(3) Sewing Skills
Completed training	$\begin{array}{c} 0.347^{***} \\ (0.027) \end{array}$	0.209^{***} (0.024)	$\begin{array}{c} 0.443^{***} \\ (0.028) \end{array}$
Constant	0.101^{***} (0.037)	0.070^{*} (0.037)	0.176^{***} (0.031)
Observations	12463	12463	12463

Table 2: Tailoring Skills

Standard errors clustered at the village level are in parentheses

				-		
	(1)	(2)	(3)	(4)	(5)	(6)
	Current market knowledge	Change in market knowledge	Change in access to inputs & product markets	Knowledge of fabric costs	Knowledge of raw material costs	Knowledge of local tailor costs
Completed training	0.036***	0.094^{***}	0.103***	0.058^{*}	0.115^{**}	0.035***
	(0.012)	(0.020)	(0.022)	(0.032)	(0.047)	(0.013)
Constant	0.005	0.018	0.060^{***}	0.867^{***}	0.735^{***}	0.992^{***}
	(0.012)	(0.016)	(0.020)	(0.034)	(0.042)	(0.004)
Observations	8034	8034	8034	3983	3983	3983

Table 3: Market Knowledge

*p < .10, **p < .05, ***p < .01

Table 4: Earnings & Employment

	(1)	(2)	(3)	(4)
	Tailoring earnings (PKR)	Tailoring earnings from non-relatives (PKR)	Tailoring earnings from relatives (PKR)	Employed (based on past month)
Completed training	$452.875^{***} \\ (99.722)$	$363.944^{***} \\ (68.128)$	83.982^{**} (39.965)	$0.058 \\ (0.042)$
Baseline (1)	0.369^{***} (0.139)			
Baseline (2)		0.255^{**} (0.120)		
Baseline (3)			0.509^{**} (0.205)	
Baseline (4)				0.165^{***} (0.012)
Constant	-4.766 (49.044)	-1.647 (40.511)	-2.316 (13.137)	$\begin{array}{c} 0.321^{***} \\ (0.036) \end{array}$
Observations	11110	11110	11110	11211

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(3)	(4)	(5)		
	Civic Engagement	Well-being	Happiness	Female	Government Services		
	0.0	0	11	Empowerment	Usage		
Completed training	0.192	-0.180	-0.001	0.537	0.101		
	(0.216)	(0.131)	(0.025)	(0.369)	(0.121)		
Baseline (1)	0.099***						
	(0.011)						
Baseline (2)		0.085***					
		(0.011)					
Baseline (3)			0.027^{***}				
			(0.010)				
Baseline (4)				0 278***			
				(0.012)			
Baseline(5)				· · · ·	0.067***		
Dasenne (9)					(0.013)		
C	4 710***	F 470***	0.000***	7 105***	1 740***		
Constant	4.710	5.4(8)	0.890	(135)	1.748		
	(0.152)	(0.123)	(0.022)	(0.359)	(0.119)		
Observations	11111	11111	11111	11110	11112		

Table 5: Non-economic Outcomes

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

Table 6: Women's Mobility

	(1) Travel for chores	(2) Travel for education	(3) Travel for field work	(4) Travel for job	(5) Travel for recreation
Completed training	-0.081 (0.060)	$\begin{array}{c} 0.054 \\ (0.053) \end{array}$	$\begin{array}{c} 0.025 \\ (0.073) \end{array}$	0.105^{*} (0.054)	$\begin{array}{c} 0.021 \\ (0.019) \end{array}$
Constant	$\begin{array}{c} 0.641^{***} \\ (0.055) \end{array}$	$\begin{array}{c} 0.027\\ (0.028) \end{array}$	$\begin{array}{c} 0.542^{***} \\ (0.053) \end{array}$	$\begin{array}{c} 0.258^{***} \\ (0.038) \end{array}$	$\begin{array}{c} 0.996^{***} \\ (0.004) \end{array}$
Observations	3973	3973	3973	3973	3973

Standard errors clustered at the village level are in parentheses

	(1) Log of monthly HH income	(2) Log of monthly HH consumption	(3) Log of expenditure on male clothes	(4) Log of expenditure on female clothes	(5) Log of education expenditure
Completed training	0.129^{**} (0.052)	-0.075^{*} (0.044)	-0.359^{**} (0.160)	-0.232 (0.154)	0.713^{**} (0.308)
Baseline (1)	$\begin{array}{c} 0.346^{***} \ (0.028) \end{array}$				
Baseline (2)		$\begin{array}{c} 0.444^{***} \\ (0.015) \end{array}$			
Baseline (3)			$\begin{array}{c} 0.152^{***} \\ (0.014) \end{array}$		
Baseline (4)				0.102^{***} (0.012)	
Baseline (5)					$\begin{array}{c} 0.558^{***} \\ (0.012) \end{array}$
Constant	6.360^{***} (0.267)	5.499^{***} (0.148)	6.730^{***} (0.132)	7.170^{***} (0.112)	3.224^{***} (0.259)
Observations	11588	11584	11588	11588	11588

Table 7: HH Outcomes

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

Table 8: Inter-HH Outcome			
	(1) Taught Tailoring		
Completed training	0.038^{***} (0.008)		
Baseline (1)	0.115^{*} (0.063)		
Constant	$0.000 \\ (0.004)$		
Observations	12197		

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

Table 5. Male perceptions					
	(1)	(2)	(3)		
	Women better or same at management of daily affairs	Women should only work on HH tasks	Women should only work inside home		
Completed training	0.040	0.080	0.087		
	(0.057)	(0.058)	(0.058)		
Constant	0.448^{***}	0.265^{***}	0.411^{***}		
	(0.081)	(0.065)	(0.066)		
Observations	3719	3641	3634		

Table 9: Male perceptions

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(3)	(4)
	Proportion of stunted children	Proportion of underweight children	Proportion of wasted children	Average child Body Mass Index (BMI)
Completed training	$0.020 \\ (0.031)$	-0.003 (0.025)	-0.005 (0.015)	1.960^{*} (1.073)
Constant	0.203^{***} (0.047)	0.127^{***} (0.014)	0.040^{***} (0.011)	$14.494^{***} \\ (0.403)$
Observations	741	741	741	737

Table 10: Child Nutrition

G ML 2015-16 Analysis Results: LATE Estimates

		C	, 00 ,			
	(1) Tailoring Engagement	(2) Days per month spent on tailoring	(3) Hours per day spent on tailoring	(4) Stitch clothes for non-relatives	(5) Stitch clothes for relatives	(6) Number of clothes stitched
ML participant	$\begin{array}{c} 0.397^{***} \\ (0.051) \end{array}$	5.520^{***} (0.780)	$1.276^{***} \\ (0.198)$	$\begin{array}{c} 0.879^{***} \\ (0.020) \end{array}$	$\begin{array}{c} 0.124^{***} \\ (0.035) \end{array}$	$ \begin{array}{c} 11.714^{***} \\ (1.220) \end{array} $
Baseline (1)	0.202^{***} (0.048)					
Baseline (2)		$0.092 \\ (0.057)$				
Baseline (3)			0.101^{**} (0.047)			
Baseline (4)				0.126^{***} (0.042)		
Baseline (5)					$\begin{array}{c} 0.147^{**} \\ (0.057) \end{array}$	
totalclothes_round2						0.131^{**} (0.052)
Constant	$\begin{array}{c} 0.001 \\ (0.282) \end{array}$	$1.016 \\ (4.351)$	-0.149 (0.799)	0.145^{*} (0.076)	$\begin{array}{c} 0.167 \\ (0.161) \end{array}$	$1.339 \\ (1.007)$
Observations	682	682	682	682	682	682

Table 1: Tailoring Engagement, Round 3

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(2)
	Cutting Skills	(2) Designing Skills	(3) Sewing Skills
ML participant	$\begin{array}{c} 0.314^{***} \\ (0.033) \end{array}$	$\begin{array}{c} 0.337^{***} \\ (0.040) \end{array}$	$\begin{array}{c} 0.266^{***} \\ (0.027) \end{array}$
Baseline (1)	0.196^{***} (0.039)		
Baseline (2)		0.169^{***} (0.041)	
Baseline (3)			$\begin{array}{c} 0.101^{***} \\ (0.032) \end{array}$
Constant	$\begin{array}{c} 0.349^{***} \ (0.093) \end{array}$	$\begin{array}{c} 0.117^{*} \ (0.061) \end{array}$	0.739^{***} (0.069)
Observations	682	682	682

Table 2: Tailoring Skills, Round 3

*p < .10, **p < .05, ***p < .01

	(1)	(2)	(3)
			Change in
	Current	Change in	access to
	market	market	inputs $\&$
	knowledge	knowledge	product
			markets
ML participant	0.101***	0.322^{***}	0.299***
	(0.033)	(0.053)	(0.053)
Constant	0.027	0.068	0.174
	(0.048)	(0.131)	(0.194)
Observations	686	686	686

Table 3: Market Knowledge, Round 3

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

	(1)	(2)	(3)	(4)
	Tailoring earnings (PKR)	Tailoring earnings from non-relatives (PKR)	Tailoring earnings from relatives (PKR)	Employed (based on past month)
ML participant	$2585.596^{***} \\ (221.115)$	$2630.368^{***} \\ (164.284)$	-44.310 (86.069)	0.409^{***} (0.042)
Baseline (1)	0.099^{*} (0.058)			
Baseline (2)		$0.092 \\ (0.074)$		
Baseline (3)			0.109^{**} (0.055)	
$employed_1m_round2$				0.098^{**} (0.040)
Constant	627.434^{**} (280.923)	571.056^{***} (214.283)	54.124 (73.411)	0.496^{***} (0.148)
Observations	682	682	682	682

Table 4:	Earnings	&	Employment,	Round	3
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*p < .10, **p < .05, ***p < .01

	Table 5	. 1011-econom	ne Outcomes	, nouna 5	
	(1)	(2)	(3)	(4)	(5)
	Civic Engagement	Well-being	Happiness	Female Empowerment	Government Services Usage
ML participant	$0.208 \\ (0.207)$	-0.006 (0.135)	-0.010 (0.019)	$\frac{1.356^{***}}{(0.318)}$	-0.044 (0.104)
Baseline (1)	$\begin{array}{c} 0.158^{***} \\ (0.039) \end{array}$				
Baseline (2)		$0.016 \\ (0.042)$			
Baseline (3)			-0.048^{**} (0.019)		
Baseline (4)				0.425^{***} (0.031)	
Baseline (5)					0.100^{**} (0.045)
Constant	$\begin{array}{c} 4.477^{***} \\ (0.701) \end{array}$	5.651^{***} (0.334)	1.050^{***} (0.024)	3.955^{***} (0.890)	$2.401^{***} \\ (0.812)$
Observations	682	682	682	682	682

Table 5:	Non-economic	Outcomes,	Round	3
		/		

Standard errors clustered at the village level are in parentheses

			,		
	(1)	(2)	(3)	(4)	(5)
	Log of monthly HH income	Log of monthly HH consumption	Log of expenditure on male clothes	Log of expenditure on female clothes	Log of education expenditur
ML participant	$0.064 \\ (0.044)$	0.080^{***} (0.030)	-0.092 (0.146)	$0.064 \\ (0.125)$	-0.316 (0.248)
Baseline (1)	0.563^{***} (0.057)				
Baseline (2)		0.576^{***} (0.043)			
Baseline (3)			0.219^{***} (0.046)		
Baseline (4)				0.057^{*} (0.030)	
Baseline (5)					$\begin{array}{c} 0.632^{***} \\ (0.029) \end{array}$
Constant	$\begin{array}{c} 4.474^{***} \\ (0.548) \end{array}$	$\begin{array}{c} 4.609^{***} \\ (0.420) \end{array}$	7.079^{***} (0.398)	8.487^{***} (0.309)	3.760^{***} (0.461)
Observations	722	722	722	722	722

Table 6:	HH	Outcomes,	Round	3
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*p < .10, **p < .05, ***p < .01

	(1) Taught Tailoring	
ML participant	0.042^{**} (0.020)	
Baseline (1)	$0.038 \\ (0.082)$	
Constant	-0.042** (0.020)	
Observations	768	

Table 7: Inter-HH Outcome, Round 3

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

	(1) Tailoring Engagement	(2) Days per month spent	(3) Hours per day spent on	(4) Stitch clothes for	(5) Stitch clothes for	(6) Number of clothes
	0.01	on tailoring	tailoring	non-relatives	relatives	stitched
ML participant	0.066^{**} (0.032)	$0.240 \\ (0.417)$	$\begin{array}{c} 0.374^{**} \\ (0.164) \end{array}$	0.043^{*} (0.023)	$\begin{array}{c} 0.074^{***} \\ (0.024) \end{array}$	$3.493^{***} \\ (1.315)$
Baseline (1)	0.188^{***} (0.046)					
Baseline (2)		0.238^{**} (0.099)				
Baseline (3)			0.121^{*} (0.064)			
Baseline (4)				0.276^{***} (0.061)		
Baseline (5)					0.168^{***} (0.060)	
totalclothes_round2						0.352^{*} (0.203)
Constant	$0.122 \\ (0.101)$	$\begin{array}{c} 0.258 \ (0.353) \end{array}$	$0.048 \\ (0.171)$	-0.078^{**} (0.031)	-0.078^{***} (0.028)	-3.759^{**} (1.684)
Observations	668	668	668	668	668	668

Table 1: Tailoring Engagement, Round 4
		-	
	(1)	(2)	(3)
	Cutting Skills	Designing Skills	Sewing Skills
ML participant	0.068	0.071^{*}	0.098^{**}
	(0.046)	(0.042)	(0.047)
Baseline (1)	0.215^{***}		
	(0.042)		
Baseline (2)		0.114^{***}	
		(0.037)	
Baseline (3)			0.174^{***}
			(0.042)
Constant	0.488^{***}	0.508^{***}	0.507^{***}
	(0.110)	(0.066)	(0.114)
Observations	668	668	668

Table 2: Tailoring Skills, Round 4

p < .10, * * p < .05, * * * p < .01

Table 9.	Markee Rillo	wieuge, itoui	
	(1)	(2)	(3)
			Change in
	Current	Change in	access to
	market	market	inputs &
	knowledge	knowledge	product
			markets
ML participant	0.091^{***}	0.099^{***}	0.121^{***}
	(0.026)	(0.032)	(0.031)
Constant	-0.053**	0.026	0.013
	(0.025)	(0.102)	(0.106)
Observations	673	673	673

Table 3: Market Knowledge, Round 4

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

(1)	(2)	(3)
Knowledge	Knowledge of raw	Knowledge

Table 4: Market Knowledge, Round 4

	of fabric costs	of raw material costs	of local tailor costs
ML participant	0.011 (0.016)	0.034 (0.022)	$0.007 \\ (0.006)$
Constant	$\begin{array}{c} 0.994^{***} \\ (0.009) \end{array}$	0.980^{***} (0.015)	0.996^{***} (0.004)
Observations	673	673	673

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

	(1)	(2)	(3)	(4)
	Tailoring earnings (PKR)	Tailoring earnings from non-relatives (PKR)	Tailoring earnings from relatives (PKR)	Employed (based on past month)
ML participant	586.608^{**} (272.032)	395.636^{*} (220.970)	$192.044^{**} \\ (86.959)$	0.072^{**} (0.033)
Baseline (1)	0.540^{**} (0.234)			
Baseline (2)		0.386^{**} (0.168)		
Baseline (3)			0.546^{*} (0.310)	
$employed_1m_round2$				0.126^{***} (0.030)
Constant	-844.993^{**} (360.856)	-406.199^{**} (182.745)	-380.540^{*} (204.496)	-0.035 (0.056)
Observations	668	668	668	692

Table	5:	Earnings	&	Employment,	Round	4
		0		1 1 1		

*p < .10, **p < .05, ***p < .01

	Table 0	. 1011-econom	ne Outcomes	, nouna 4	
	(1)	(2)	(3)	(4)	(5)
	Civic Engagement	Well-being	Happiness	Female Empowerment	Government Services Usage
ML participant	0.513^{***} (0.193)	-0.234 (0.149)	-0.039 (0.036)	$\frac{1.161^{***}}{(0.245)}$	$0.089 \\ (0.096)$
Baseline (1)	0.102^{***} (0.034)				
Baseline (2)		$\begin{array}{c} 0.002 \\ (0.036) \end{array}$			
Baseline (3)			$\begin{array}{c} 0.032 \\ (0.043) \end{array}$		
Baseline (4)				$\begin{array}{c} 0.403^{***} \ (0.030) \end{array}$	
Baseline (5)					0.090^{**} (0.044)
Constant	6.498^{***} (0.479)	5.965^{***} (1.021)	0.996^{***} (0.049)	5.607^{***} (0.765)	$2.151^{***} \\ (0.286)$
Observations	668	668	668	668	669

Table 6:	Non-economic	Outcomes,	Round 4	1
----------	--------------	-----------	---------	---

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(3)	(4)	(5)
	Travel for	Travel for	Travel for	Travel for	Travel for
	cnores	education	neid work	јор	recreation
ML participant	$0.032 \\ (0.042)$	$0.005 \\ (0.043)$	0.090^{**} (0.044)	$0.041 \\ (0.043)$	$0.003 \\ (0.008)$
Constant	$\begin{array}{c} 0.481^{***} \\ (0.160) \end{array}$	$\begin{array}{c} 0.330^{***} \\ (0.072) \end{array}$	$\begin{array}{c} 0.281^{***} \\ (0.066) \end{array}$	$\begin{array}{c} 0.226^{***} \\ (0.074) \end{array}$	0.998^{***} (0.005)
Observations	660	660	660	660	660

Table 7: Women's Mobility, Round 4

*p < .10, **p < .05, ***p < .01

			· · · · · · · · · · · · · · · · · · ·		
	(1) Log of monthly HH income	(2) Log of monthly HH consumption	(3) Log of expenditure on male clothes	(4) Log of expenditure on female clothes	(5) Log of education expenditure
ML participant	-0.079 (0.049)	0.060^{*} (0.031)	0.356^{**} (0.151)	$0.162 \\ (0.141)$	-0.151 (0.285)
Baseline (1)	0.530^{***} (0.049)				
Baseline (2)		0.559^{***} (0.044)			
Baseline (3)			0.193^{***} (0.050)		
Baseline (4)				0.085^{**} (0.037)	
Baseline (5)					0.561^{***} (0.037)
Constant	$\begin{array}{c} 4.602^{***} \\ (0.495) \end{array}$	$\begin{array}{c} 4.520^{***} \\ (0.439) \end{array}$	6.285^{***} (0.395)	$7.222^{***} \\ (0.302)$	$\begin{array}{c} 4.939^{***} \\ (0.565) \end{array}$
Observations	702	702	702	702	702

Table 8: HH Outcomes, Round 4

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

Table 9: Inter-HH Outcome, Round 4			
	(1) Taught Tailoring		
ML participant	0.093^{***} (0.032)		
Baseline (1)	0.258^{*} (0.140)		
Constant	-0.093^{***} (0.032)		
Observations	752		

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

	Tuble 10: Male gender	tote perceptions, noun	4 1
	(1)	(2)	(3)
	Women better or same at management of daily affairs	Women should only work on HH tasks	Women should only work inside home
ML participant	0.995**	-0.101**	-0.037
	(0.400)	(0.044)	(0.035)
Constant	14.962^{***}	0.064^{*}	0.296^{**}
	(0.212)	(0.035)	(0.148)
Observations	456	641	638

Table 10: Male gender-role perceptions, Round 4

*p < .10, **p < .05, ***p < .01

Table	11:	Child	Nutrition,	Round	4

	(1) Proportion of stunted children	(2) Proportion of underweight children	(3) Proportion of wasted children	(4) Average child Body Mass Index (BMI)
ML participant	$0.019 \\ (0.021)$	-0.041^{**} (0.018)	-0.045^{***} (0.011)	$0.995^{**} \\ (0.400)$
Constant	$\begin{array}{c} 0.376^{***} \ (0.064) \end{array}$	0.202^{***} (0.034)	0.141^{***} (0.049)	$\begin{array}{c} 14.962^{***} \\ (0.212) \end{array}$
Observations	456	456	456	456

Standard errors clustered at the village level are in parentheses

H Robustness Check

			-		-	
	(1) Tailoring Engagement	(2) Days per month spent on tailoring	(3) Hours per day spent on tailoring	(4) Stitch clothes for non-relatives	(5) Stitch clothes for relatives	(6) Number of clothes stitched
Completed training	0.077^{***} (0.015)	$\begin{array}{c} 0.649^{***} \\ (0.208) \end{array}$	0.269^{***} (0.069)	0.053^{***} (0.014)	$\begin{array}{c} 0.062^{***} \\ (0.018) \end{array}$	$0.763 \\ (0.554)$
Baseline (1)	$\begin{array}{c} 0.124^{***} \\ (0.024) \end{array}$					
Baseline (2)		0.192^{***} (0.045)				
Baseline (3)			$\begin{array}{c} 0.123^{***} \\ (0.029) \end{array}$			
Baseline (4)				0.260^{***} (0.054)		
Baseline (5)					$\begin{array}{c} 0.154^{***} \\ (0.039) \end{array}$	
Baseline (6)						0.367^{**} (0.166)
Constant	0.066^{***} (0.009)	$\begin{array}{c} 0.432^{***} \\ (0.085) \end{array}$	0.178^{***} (0.048)	$0.008 \\ (0.009)$	$0.006 \\ (0.006)$	$\begin{array}{c} 0.196 \\ (0.133) \end{array}$
Observations	8857	8857	8857	8857	8857	8857

Table 1: Tailoring Engagement, excluding ML treatment villages

Standard errors clustered at the village level are in parentheses

*p < .10, **p < .05, ***p < .01

	(1) Cutting Skills	(2) Designing Skills	(3) Sewing Skills
Completed training	0.309^{***} (0.030)	$\begin{array}{c} 0.163^{***} \\ (0.024) \end{array}$	$\begin{array}{c} 0.404^{***} \\ (0.031) \end{array}$
Constant	$0.040 \\ (0.026)$	$0.018 \\ (0.025)$	0.116^{***} (0.011)
Observations	9649	9649	9649

Table 2: Tailoring Skills, excluding ML treatment villages

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(3)	(4)	(5)	(6)
	Current market knowledge	Change in market knowledge	Change in access to inputs & product markets	Knowledge of fabric costs	Knowledge of raw material costs	Knowledge of local tailor costs
Completed training	0.015	0.038^{*}	0.040^{*}	0.078^{**}	0.116^{**}	0.049^{***}
	(0.013)	(0.020)	(0.022)	(0.035)	(0.054)	(0.016)
Constant	-0.003	0.010	0.074^{***}	0.891^{***}	0.714^{***}	0.992^{***}
	(0.003)	(0.011)	(0.025)	(0.030)	(0.048)	(0.007)
Observations	6214	6214	6214	3087	3087	3087

Table 3: Market Knowledge, excluding ML treatment villages

*p < .10, **p < .05, ***p < .01

	(1)	(0)	(0)	(4)
	(1) Tailoring earnings (PKR)	(2) Tailoring earnings from non-relatives (PKR)	(3) Tailoring earnings from relatives (PKR)	(4) Employed (based on past month)
Completed training	174.214^{*} (104.726)	125.941^{*} (67.679)	$ \begin{array}{c} 41.931 \\ (45.295) \end{array} $	-0.006 (0.047)
Baseline (1)	0.424^{**} (0.175)			
Baseline (2)		0.280^{*} (0.143)		
Baseline (3)			0.643^{**} (0.253)	
Baseline (4)				0.162^{***} (0.014)
Constant	-8.376 (34.989)	-9.225 (22.911)	1.815 (12.383)	0.328^{***} (0.049)
Observations	8857	8857	8857	8940

Table 4: Earnings & Employment, excluding ML treatment villages

Standard errors clustered at the village level are in parentheses

		· · · · · · · · · · · · · · · · · · ·	0		
	(1)	(2)	(3)	(4)	(5)
	Civic Engagement	Well-being	Happiness	Female	Government Services
		-		Empowerment	Usage
Completed training	0.089	-0.295**	0.032	0.119	0.198^{*}
	(0.223)	(0.137)	(0.027)	(0.423)	(0.119)
Baseline (1)	0.098^{***}				
	(0.012)				
Baseline (2)		0.076***			
		(0.012)			
Baseline (3)		. ,	0.016		
Dabeline (0)			(0.010)		
$\mathbf{B}_{\mathbf{a}}$			()	0.967***	
Dasenne (4)				(0.207)	
				(0.010)	0.000***
Baseline (5)					0.066^{***}
					(0.014)
Constant	4.562^{***}	5.486^{***}	0.901^{***}	7.382***	1.655^{***}
	(0.171)	(0.125)	(0.028)	(0.276)	(0.154)
Observations	8858	8858	8858	8857	8858

Table 5: Non-economic Outcomes, excluding ML treatment villages

*p < .10, **p < .05, ***p < .01

	(1) Travel for chores	(2) Travel for education	(3) Travel for field work	(4) Travel for job	(5) Travel for recreation
Completed training	-0.093 (0.068)	0.019 (0.052)	0.018 (0.080)	$0.060 \\ (0.060)$	0.000 (0.008)
Constant	$\begin{array}{c} 0.703^{***} \\ (0.024) \end{array}$	0.061^{*} (0.036)	0.589^{***} (0.033)	$\begin{array}{c} 0.291^{***} \\ (0.043) \end{array}$	1.000^{***} (0.001)
Observations	3081	3081	3081	3081	3081

Table 6: Women's Mobility, excluding ML treatment villages

Standard errors clustered at the village level are in parentheses

	(1)	(2)	(3)	(4) T	(5)
	Log of	Log of	Log of expenditure	Log of expenditure	Log of
	monthly HH	monthly HH	on male	on female	education
	mcome	consumption	clothes	clothes	expenditure
Completed training	0.110**	-0.123***	-0.454***	-0.366**	0.399
	(0.047)	(0.043)	(0.172)	(0.163)	(0.354)
Baseline (1)	0.344^{***}				
	(0.034)				
Baseline (2)		0.442^{***}			
		(0.015)			
Baseline (3)			0.145^{***}		
			(0.015)		
Baseline (4)				0.098^{***}	
				(0.014)	
Baseline (5)					0.557^{***}
					(0.014)
Constant	6.338^{***}	5.480^{***}	6.767^{***}	7.169^{***}	3.131^{***}
	(0.317)	(0.148)	(0.147)	(0.141)	(0.373)
Observations	9243	9242	9243	9243	9243

Table 7: HH Outcomes, excluding ML treatment villages

*p < .10, **p < .05, ***p < .01

Table 8: Inter-HH Outcome, excluding ML treatment villages

	(1) Taught Tailoring
Completed training	0.016^{**} (0.007)
Baseline (1)	$0.105 \\ (0.072)$
Constant	$0.001 \\ (0.004)$
Observations	9734

Standard errors clustered at the village level are in parentheses *p < .10, **p < .05, ***p < .01

	/	0	0
	(1)	(2)	(3)
	Women better or same at management of daily affairs	Women should only work on HH tasks	Women should only work inside home
Completed training	0.041	0.166^{**}	0.095
	(0.062)	(0.070)	(0.069)
Constant	0.510^{***}	0.251^{***}	0.377^{***}
	(0.109)	(0.055)	(0.064)
Observations	2861	2786	2784

Table 9: Male perceptions, excluding ML treatment villages

Standard errors clustered at the village level are in parentheses

	(1) Proportion of stunted children	(2) Proportion of underweight children	(3) Proportion of wasted children	(4) Average child Body Mass Index (BMI)
Completed training	$0.014 \\ (0.038)$	$0.001 \\ (0.034)$	$0.014 \\ (0.018)$	$1.685 \\ (1.027)$
Constant	0.226^{***} (0.027)	$\begin{array}{c} 0.143^{***} \\ (0.008) \end{array}$	0.036^{***} (0.005)	14.597^{***} (0.345)
Observations	557	557	557	554

Table 10: Child Nutrition, excluding ML treatment villages

I Comparison of ML 2018-19 and ML 2015-16

Features of ML 2018-19	Features of ML 2015-16
This is a seasonal model focusing on pro- duction for high demand Eid seasons of 2018 and 2019 only.	ML 2015-16 was a continuous model in which 6 sales rounds were implemented from June 2015 to March 2016.
Raw material is transported from TSPs' regional offices to villages via postal service.	Sales agents were responsible for taking raw material from TSPs' regional offices and dropping them at stitchers' houses in villages.
A designated person (DP) in each village is responsible for receiving raw material and distributing among stitchers. The DP is also responsible for helping, guiding and monitoring stitchers during stitching.	Sales agents were responsible for dis- tributing raw material and monitoring the stitching process. This required them to travel to these villages often. (Please note that almost all sales agents lived in cities and had to incur heavy transportation costs to travel to the villages)
After stitching, quality assurance is con- ducted by the DP within the village.	Sales agents brought all suits back to re- gional offices in the city for quality assur- ance. This required sales agents to go back to villages for the suits which had to be re-done, thus, incurring additional travel cost.
Stitchers will be paid only for the suits which will pass quality assurance of DP.	Stitchers were paid for all the suits which they stitched regardless of the quality as- surance results.
DPs and stitchers are motivated to sell suits within the village.	After quality assurance, sales agents used to take suits from regional offices and used to sell them at different locations such as city markets, semi-urban markets, village markets etc.

Table A1: Comparison of ML 2018-19 and ML 2015-16 $\,$

SFM 2013-14 Analysis: ITT Estimates J

Stitching engagement					
	(1) Tailoring engagement	(2) Days per month spent on tailoring	(3) Hours per day spent on tailoring	(4) Stitch clothes for non-relatives	(5) Number of clothes stitched
vbt	0.0359*** (0.005)	0.380*** (0.073)	0.129*** (0.023)	0.0364*** (0.005)	0.639*** (0.173)
Baseline (1)	0.123 ^{***} (0.021)				
Baseline (2)		0.189 ^{***} (0.039)			
Baseline (3)			0.0934 ^{***} (0.023)		
Baseline (4)				0.250*** (0.049)	
Baseline (5)					0.355 ^{**} (0.144)
Constant	0.0819*** (0.020)	0.541*** (0.193)	0.213 ^{***} (0.064)	0.0213 (0.013)	0.378 (0.250)
Observations	11374	11374	11374	11374	11374

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds $p^* p < .10$, $p^{**} p < .05$, $p^{***} p < .01$

Stitching engagement, excluding mltreat villages

	(1)	(2)	(3)	(4)	(5)
	Tailoring	Days per month	Hours per day	Stitch clothes for	Number of
	engagement	spent on	spent on tailoring	non-relatives	clothes stitched
		tailoring			
vbt	0.0252***	0.204^{***}	0.0870^{***}	0.0174^{***}	0.214
	(0.005)	(0.073)	(0.024)	(0.005)	(0.202)
Baseline (1)	0.129***				
	(0.024)				
Baseline (2)		0 200***			
		(0.045)			
Basalina (3)			0 125***		
Dasenne (3)			(0.029)		
				0.0.0***	
Baseline (4)				0.263	
				(0.054)	
Baseline (5)					0.386**
					(0.171)
Constant	0.0758***	0.514***	0.208***	0.0181^{*}	0.481^{*}
	(0.013)	(0.105)	(0.055)	(0.010)	(0.287)
Observations	0002	0002	0002	0002	0002

Observations90929092909290929092Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds $p^* p < .10$, $p^{**} p < .05$, $p^{***} p < .01$

Earnings & employment

	(1)	(2)	(3)
	Tailoring earnings	Tailoring earnings from	Employed (based on
	(PKR)	non-relatives (PKR)	past month)
vbt	138.3***	109.6***	0.0196
	(34.080)	(22.737)	(0.013)
Baseline (1)	0.400***		
	(0.144)		
Baseline (2)		0.273**	
		(0.123)	
Baseline (3)			0.166***
			(0.012)
Constant	25.58	20.35	0.321***
	(55.911)	(42.002)	(0.032)
Observations	11374	11374	11484

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds $p^* p < .10$, $p^{**} p < .05$, $p^{***} p < .01$

Earnings & employment, excluding mltreat villages

	(1)	(2)	(3)
	Tailoring earnings (PKR)	Tailoring earnings from non-relatives (PKR)	Employed (based on past month)
vbt	52.50 (38.445)	35.73 (23.949)	-0.00124 (0.016)
Baseline (1)	0.447** (0.178)		
Baseline (2)		0.291 ^{**} (0.144)	
Baseline (3)			0.162 ^{***} (0.014)
Constant	55.21 (65.736)	36.61 (43.844)	0.332*** (0.044)
Observations	9092	9092	9184

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds p < .10, p < .05, p < .01

Tailoring skills

0			
	(1)	(2)	(3)
	Cutting Skills	Designing Skills	Sewing Skills
vbt	0.122***	0.0742***	0.156***
	(0.011)	(0.009)	(0.012)
Constant	0.101***	0.0709^{**}	0.178^{***}
	(0.028)	(0.030)	(0.025)
Observations	12799	12799	12799

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4

p < .10, ** p < .05, *** p < .01

Tailoring skills, excluding mltreat villages

	, 0		
	(1)	(2)	(3)
	Cutting Skills	Designing Skills	Sewing Skills
vbt	0.111****	0.0591***	0.145^{***}
	(0.013)	(0.010)	(0.014)
Constant	0.0611***	0.0329*	0.146***
	(0.017)	(0.019)	(0.016)
Observations	9936	9936	9936

Note: standard errors clustered at the village level are in parentheses there are no round 1 controls since women's mobility questions were only asked in round 4 p < .10, p < .05, p < .01

Market knowledge

	(1)	(2)	(3)	(4)	(5)	(6)
	Market	Change in	Change in	Knowledge of	Knowledge of	Knowledge of
	knowledge	market	inputs	fabric costs	raw material	local tailor
		knowledge	knowledge		costs	costs
vbt	0.0134***	0.00473*	0.0343***	0.0192^{*}	0.0416^{**}	0.0127***
	(0.004)	(0.002)	(0.008)	(0.011)	(0.017)	(0.005)
Constant	0.00423	0.00327	0.0618***	0.862***	0.735***	0.987***
	(0.011)	(0.003)	(0.020)	(0.035)	(0.044)	(0.006)
Observations	8358	8358	8358	4221	4221	4221

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since stitching skills questions were not asked in the round 1 survey; outcome variables (1)-(3) are asked in both round 3 and round 4 while outcome variables (4)-(6) are only asked in round 4

p < .10, ** p < .05, *** p < .01

Market knowledge, excluding mltreat villages

	(1)	(2)	(3)	(4)	(5)	(6)
	Market	Change in	Change in	Knowledge of	Knowledge of	Knowledge of
	knowledge	market	inputs	fabric costs	raw material	local tailor
		knowledge	knowledge		costs	costs
vbt	0.00609	0.00101	0.0129	0.0274**	0.0437**	0.0179***
	(0.005)	(0.003)	(0.009)	(0.013)	(0.021)	(0.006)
Constant	-0.00195	0.00475	0.0771***	0.892***	0.726***	0.984***
	(0.002)	(0.004)	(0.023)	(0.025)	(0.051)	(0.009)
Observations	6490	6490	6490	3289	3289	3289

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since stitching skills questions were not asked in the round 1 survey; outcome variables (1)-(3) are asked in both round 3 and round 4 while outcome variables (4)-(6) are only asked in round 4 $^{*}p < .10, ^{**}p < .05, ^{***}p < .01$

	(1)	(2)	(3)	(4)	(5)
	Civic Engagement	Well-being	Happiness	Female	Government
		-		empowerment	Services Usage
vbt	0.0602	-0.0563	0.000790	0.161	0.0294
	(0.069)	(0.042)	(0.008)	(0.118)	(0.039)
Baseline (1)	0.101***				
	(0.011)				
Baseline (2)		0.0847***			
		(0.010)			
Baseline (3)			0.0280***		
()			(0.010)		
Baseline (4)				0 277***	
Dusenne (1)				(0.012)	
Baseline (5)					0.0696***
Dusenne (3)					(0.013)
Constant	4.712***	5.477***	0.884^{***}	7.200***	1.743***
	(0.149)	(0.119)	(0.022)	(0.356)	(0.118)
Observations	11375	11375	11375	11374	11376

Individual non-economic outcomes

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds * p < .10, *** p < .05, **** p < .01

Individual non-economic outcomes, excluding mltreat villages						
	(1)	(2)	(3)	(4)	(5)	
	Civic Engagement	Well-being	Happiness	Female	Government	
		-		empowerment	Services Usage	
vbt	0.0219	-0.0941**	0.0127	0.0209	0.0622	
	(0.075)	(0.045)	(0.009)	(0.141)	(0.040)	
Baseline (1)	0.100***					
	(0.011)					
Baseline (2)		0.0757***				
		(0.011)				
Baseline (3)			0.0165*			
(0)			(0.010)			
Baseline (4)				0 267***		
Dusenne (1)				(0.013)		
Baseline (5)					0.0680***	
Dasenne (5)					(0.014)	
Constant	4.576***	5.465***	0.893***	7.458***	1.662***	
	(0.160)	(0.123)	(0.029)	(0.295)	(0.154)	
Observations	9093	9093	9093	9092	9093	

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds ${}^{*} p < .10$, ${}^{**} p < .05$, ${}^{***} p < .01$

HH Outcomes

	(1)	(2)	(3)	(4)	(5)
	Log of monthly	Log of monthly	Log of	Log of	Log of education
	HH income	HH consumption	expenditure on	expenditure on	expenditure
			male clothes	female clothes	
vbt	0.0446^{**}	-0.0244*	-0.108**	-0.0718	0.223**
	(0.018)	(0.014)	(0.052)	(0.049)	(0.099)
Baseline (1)	0.347***				
	(0.028)				
Baseline (2)		0.443***			
(_)		(0.015)			
Baseline (3)			0.152***		
24301110 (0)			(0.014)		
Baseline (4)				0.0999***	
				(0.012)	
Baseline (5)					0.560***
					(0.012)
Constant	6.347***	5.513***	6.737***	7.197***	3.191***
	(0.268)	(0.145)	(0.130)	(0.109)	(0.269)
Observations	11868	11864	11868	11868	11868

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds p < .10, p < .05, p < .01

HH Outcomes, excl	uding mltreat villages				
	(1)	(2)	(3)	(4)	(5)
	Log of monthly	Log of monthly	Log of	Log of	Log of education
	HH income	HH consumption	expenditure on	expenditure on	expenditure
			male clothes	female clothes	
vbt	0.0409^{**}	-0.0413***	-0.151**	-0.121**	0.132
	(0.017)	(0.014)	(0.059)	(0.055)	(0.122)
Baseline (1)	0.345***				
	(0.034)				
Baseline (2)		0 442***			
Buschille (2)		(0.015)			
Baseline (3)			0.146^{***}		
			(0.015)		
Baseline (4)				0.0956***	
				(0.014)	
Pacalina (5)					0 556***
Dasenne (3)					(0.013)
					(0.015)
Constant	6.338***	5.490***	6.742***	7.183***	3.145***
	(0.317)	(0.143)	(0.142)	(0.127)	(0.385)
Observations	9493	9492	9493	9493	9493

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds p < .10, p < .05, p < .01

Community Outcome

	(1)
	Taught Tailoring
vbt	0.0109***
	(0.002)
Baseline (1)	0.106^{*}
	(0.058)
Constant	0.00213
	(0.005)
Observations	13201

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds ${}^{*}p < .10$, ${}^{**}p < .05$, ${}^{***}p < .01$

Community Outcome, excluding mltreat villages				
	(1)			
	Taught Tailoring			
vbt	0.00453**			
	(0.002)			
Baseline (1)	0.0889			
	(0.064)			
Constant	0.00520			
	(0.006)			
Observations	10573			

Note: standard errors clustered at the village level are in parentheses; baseline value is the round 1 value of the outcome variable in the corresponding column; coefficients give the average effect for all post-treatment rounds

* p < .10, ** p < .05, *** p < .01

Women's mobility

	(1)	(2)	(3)	(4)	(5)
	Travel for chores	Travel for	Travel for field	Travel for job	Travel for
		education	work		recreation
vbt	-0.0278	0.0151	0.0114	0.0343*	0.00742
	(0.022)	(0.019)	(0.026)	(0.019)	(0.007)
Constant	0.632***	0.0278	0.524***	0.260***	0.996***
	(0.052)	(0.027)	(0.053)	(0.035)	(0.004)
Observations	4203	4203	4203	4203	4203

Note: standard errors clustered at the village level are in parentheses there are no round 1 controls since women's mobility questions were only asked in round 4 p < .10, p < .05, p < .01

Women's mobility, excluding mltreat villages

	(1)	(2)	(3)	(4)	(5)
	Travel for chores	Travel for	Travel for field	Travel for job	Travel for
		education	work		recreation
vbt	-0.0306	0.00185	0.00984	0.0209	0.0000182
	(0.025)	(0.019)	(0.030)	(0.022)	(0.003)
Constant	0.673***	0.0607^{*}	0.568***	0.300***	1.000***
	(0.034)	(0.035)	(0.035)	(0.036)	(0.001)
Observations	3280	3280	3280	3280	3280

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4 p < .10, ** p < .05, *** p < .01

Male gender-role perceptions

filling geniaer Tone perceptions			
	(1)	(2)	(3)
	Women better or same	Women should only	Women should only
	at management of daily	work on HH tasks	work inside home
	affairs		
vbt	0.0235	0.0239	0.0267
	(0.021)	(0.021)	(0.021)
Constant	0.433***	0.279***	0.424***
	(0.080)	(0.069)	(0.069)
Observations	3954	3873	3862

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4

p < .10, ** p < .05, *** p < .01

Male gender-role perceptions, excluding mltreat villages

	(1)	(2)	(3)
	Women better or same	Women should only	Women should only
	at management of daily	work on HH tasks	work inside home
	affairs		
vbt	0.0230	0.0524^{*}	0.0307
	(0.024)	(0.027)	(0.026)
Constant	0.498^{***}	0.275***	0.399***
	(0.105)	(0.058)	(0.066)
Observations	3057	2979	2973

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4

p < .10, ** p < .05, *** p < .01

Child nutrition outcomes

	(1)	(2)	(3)	(4)
	Proportion of stunted	Proportion of	Proportion of wasted	Average child Body
	children	underweight children	children	Mass Index (BMI)
vbt	0.0131	0.00411	-0.00414	0.748^{*}
	(0.014)	(0.011)	(0.007)	(0.428)
Constant	0.196***	0.118***	0.0386***	14.67***
	(0.046)	(0.013)	(0.010)	(0.413)
Observations	797	797	797	793

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4

p < .10, ** p < .05, *** p < .01

Child nutrition outcomes, excluding mltreat villages

	(1)	(2)	(3)	(4)
	Proportion of stunted	Proportion of	Proportion of wasted	Average child Body
	children	underweight children	children	Mass Index (BMI)
vbt	0.00919	0.00478	0.00129	0.620
	(0.017)	(0.014)	(0.008)	(0.395)
Constant	0.215***	0.129***	0.0330***	14.84***
	(0.029)	(0.010)	(0.004)	(0.335)
Observations	601	601	601	598

Note: standard errors clustered at the village level are in parentheses; there are no round 1 controls since women's mobility questions were only asked in round 4 p < .10, p < .05, p < .01