Gender Matters in Economic Empowerment Interventions: A Research Review

Mayra Buvinic and Megan O'Donnell

Abstract

A review of the recent evaluation evidence on financial services and training interventions questions their gender neutrality and suggests that some design features in these interventions can yield more positive economic outcomes for women than for men. These include features in savings and 'Graduation' programs that increase women's economic self-reliance and self-control, and the practice of repeated micro borrowing that increases financial risk-taking and choice. 'Smart' design also includes high quality business management and jobs skills training, and stipends and other incentives in these training programs that address women's additional time burdens and childcare demands. Peer support may also help to increase financial risk taking and confidence in business decisions, and may augment an otherwise negligible impact of financial literacy training. These features help women overcome gender-related constraints. However, when social norms are too restrictive, and women are prevented from doing any paid work, no design will be smart enough. Subjective economic empowerment appears to be an important intermediate outcome for women that should be promoted and more reliably and accurately measured. More research is also needed on de-biasing service provision, which can be gender biased; lastly, whenever possible, results should be sex-disaggregated and reported for individuals as well as households.

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Introduction

A rapidly growing body of research uses rigorous designs to examine what works to economically empower the poor in developing countries. A subset of this research has evidence that is specific to women but often relegated to subtext or a row of numbers in one or more tables. This article brings these facts to the forefront showing that gender matters in determining economic outcomes and that it should be much more carefully and intentionally incorporated into research designs.

The article reviews the recent evaluation evidence on financial services and training interventions designed to increase the productivity and income of the poor; it includes the subset of evaluations where women, with a couple of exceptions, constitute half or more of those in the sample. The interventions reviewed are savings; microcredit; 'Graduation' programs for the very poor that provide bundled services (including a productive asset grant and training); business management training; financial literacy training; and job skills training and other services for young people. While a few of these interventions are designed specifically to empower women economically, most are more generally targeted to entrepreneurs, farmers, wage workers or young people—both male and female—without a particular emphasis on gender. Implicitly, these interventions are assumed to be gender neutral; that is, that they should work equally well for both sexes.

This review makes several contributions to the literature. First, its careful examination of the evidence challenges the assumption of gender-neutrality, suggesting that some of these interventions may work relatively better for women than for men (and vice versa). Second, the review identifies possible underlying mechanisms explaining why these interventions may be more effective for women. Lastly, the review isolates design features that are 'gender smart;' these features can increase the effectiveness of interventions intended to economically empower women by addressing gender-specific constraints they face.

Methodological Note

To ensure adequate coverage of the recent evidence, we commissioned a systematic compilation of empirical evaluations starting in 2013 and included only studies with rigorous designs using statistical or natural controls (Table 1).[1] Relevant studies prior to 2013 are summarized here and reviewed in more detail in Buvinic, Furst-Nichols and Pryor (2013); and Buvinic and Furst-Nichols (2016).

We define economic empowerment to include both a well-accepted *objective* dimension measured by increases in productivity and income, and a *subjective* dimension experienced by the individual, including increased agency and well-being, which are both valued in

[1] The review of the evidence generated since 2013 prioritized nine databases (EconPapers, National Bureau of Economic Research, Social Science Research Network, Web of Science, World Institute for Development Economics, JSTOR, Science Direct, Center for the Study of African Economies, and Institute for the Study of Labor) and search terms relevant to entrepreneurship, farming, wage employment, and young women's employment; search terms specific to each of the six interventions covered were also identified.

themselves and can be instrumental in helping to achieve economic empowerment outcomes. The quality of evidence substantiating the role of intervening mechanisms in explaining final outcomes varies—causal chains for savings and business management training are supported by stronger evidence, whereas the evidence is still insufficient for microcredit, Graduation programs, and demand-driven job training and services for youth.

Several evaluation studies used for this review, including some bundled in groups addressing the same intervention, reported outcomes for households rather than for individuals; however, women were the majority of those sampled. Because the studies are important and advance our knowledge of which interventions work, we included them and assumed that the results reported for households could be extended to women in those households. This is a challenging assumption, particularly because a substantial literature shows that household resources are not distributed equally within families, and that girls and women lose out in this distribution, especially when households are poor and resources are scarce (World Bank 2012). The review indicates when this assumption is made and reports the percentage of women included in all studies. The more women are represented in the study sample, the more confidence we have that the reported outcomes can be attributed to them. An additional complexity with some studies is use of the term 'female head of household.' Most studies do not define this term when they use it. In some cases, the term seems loosely applied to the primary adult woman in the household, rather than the more widely accepted definition: a woman heading a household single handedly, without a spouse or partner present. The review notes when studies are unclear in their use of this term. Table 1 includes the percentage of women in each study and the definition of female headship used when the study focuses on this group. It also adds a column indicating studies' time horizon, distinguishing those that measured effects only in the short run (1 year) versus those that measured effects over time (long run).

Savings

Description: Secure (private) individual savings accounts, including liquid accounts with no restrictions on withdrawals and accounts that restrict withdrawals and/or build in some form of commitment.

Prior to 2013, two randomized controlled trials (RCTs) provided credible evidence on the impact of savings accounts on women. The first RCT in the Philippines showed that women were more likely than men to take up commitment savings accounts, and that these accounts were particularly attractive to less empowered women who, helped by the added control that the savings product offered, improved their decision-making authority in the family (Ashraf, Karlan and Yin 2006). The second RCT in Kenya with a female-only sample demonstrated that access to individual savings accounts increased savings rates, business investments and incomes among women entrepreneurs (Dupas and Robinson 2013a).

Recent field experiments in Kenya, Chile and Nepal, along with a study in Malawi focused on men, and a panel household survey in Kenya, support this earlier evidence showing that savings accounts are particularly demanded by and beneficial to women, when compared to men. In addition, the new evidence shows that effects can be sustained over time and sheds light on the mechanisms by which savings increase women's earnings and decision-making power.

In rural Kenya, labeling group savings for a purpose and adding a soft commitment (a lockbox and key) generated significant increases in health savings for poor members of informal savings and credit groups (74 percent women members) who continued saving three years hence (Dupas and Robinson 2013b). This result suggests that mentally labeling the use of money makes it less available for other uses, including pressures to share monies with relatives, to which women are particularly susceptible. A second field experiment in Kenya further supports the idea that women want secure savings accounts that enable them to more easily resist pressures to transfer funds. ATM cards with reduced fees, but also reduced security (since husbands could use the cards), were not used by women and had no impact on female-owned individual accounts. With higher bargaining power, men, instead, had no problems using individual as well as joint accounts, and their overall account use increased (Schaner 2014).

Findings from an experiment in Malawi indirectly suggest that the preference for commitment saving devices to guard against pressures from self or others is specific to women. In this case, smallholder tobacco farmers (94 percent men) chose ordinary rather than commitment savings accounts (Brune et al 2013). We hypothesize that these men were not under significant pressure from themselves or others to spend, and did not need to use the protective crutch of a commitment account. However, both genders seem to prefer individual over joint accounts, as research in Western Kenya documented. When offered free bank accounts, the majority of men and women in poor unbanked households chose individual rather than joint accounts for opening and accumulating bank savings (Dupas, Keats and Robinson 2016).

In urban Chile there was particularly high uptake of free, liquid savings accounts among microentrepreneurs who were not head of household, were more exposed to family pressures than others, and were 'socially taxed'—savings protected resources from being shared with others (Kast and Pomeranz 2014). Women constituted ninety-one percent of the study sample, although gender was not mentioned as an important variable in the study. While there was no commitment feature, these liquid savings seem to have operated in a similar way to commitment savings, perhaps because stronger nudges are not needed in more anonymous (private) urban settings with a more formal (secure) banking sector.

In Nepal's urban slums, there was high demand from female-headed households for simple, liquid savings accounts offered through mobile bank branches with no bank fees. When given the opportunity, the majority of eligible households opened an account (Prina 2013). A year later, access to savings had increased both monetary and total assets, especially for households at the bottom of the income distribution, again showing that liquid savings can work as well as commitment savings under particular circumstances.

Lastly, a household panel survey in Kenya, which measured the effect of changes in access to mobile money over six years, found that increases in mobile savings reduced poverty rates among vulnerable groups and that impacts were more pronounced for female-headed households (although no definition was provided) and women more generally. Having a private, low cost means to manage financial resources and save increased financial resilience and per capita consumption in female-headed households; it also expanded women's occupational choices from subsistence agriculture to more profitable businesses (Suri and Jack 2016).

The evidence is consistent in suggesting that women's access to individual secure (private) saving accounts with varying levels of commitments helps to foster economic self-reliance and overcome a lack of control over financial resources, especially for women who have less decision-making authority in the household or are less empowered. Mentally allocating or more strictly earmarking money to savings makes the money less fungible, helps women feel less obligated to share available money with others (Hoff and Stiglitz 2016), and seems to be an important mechanism explaining savings' positive impacts on women's economic outcomes.

Women's distinct preference for savings may also be because they tend to be more risk averse than men in financial risk preferences and may prefer to keep savings in case of emergencies and use their own savings, rather than borrowed capital, when making business investments (Croson and Gneezy 2009). A different but complementary explanation for women's greater risk aversion is that women face a wider set of risks—particularly health risks associated with fertility and childcare—that men do not, which may lead them to make more conservative choices in the short-term, such as opening savings accounts (less profitable) rather than purchasing agricultural insurance (more profitable). This differential outcome was observed in a randomized field experiment with male and female farmers in Burkina Faso and Senegal (Delavallade et al. 2015).

The experimental evidence is mostly restricted to poor women, but the benefits of increasing access to savings accounts should extend across income groups. One exception may be very poor rural women, who may be too poor to save at all, or live too far away from bank branches, as recent evidence from lack of uptake for bare-bones free bank accounts in rural Malawi and Uganda suggests. The authors speculate that both poverty and distance from banks were main reasons for the lack of interest in opening free savings accounts (Dupas, Karlan, Robinson and Ubfal 2016). While gender was not mentioned as a relevant variable, 72 percent of those interviewed in poor unbanked households in Malawi and 68 percent in Uganda were women. In contrast, the very poor women in the urban slums of Nepal who opened savings accounts had access to mobile bank branches that reduced travel costs (see above).

For savings to be impactful for very poor rural women, it may need to be part of a package of productive oriented interventions, as discussed in the 'Graduation' programs section below. Another exception to savings' positive impacts on women may be in cases where marked gender inequality keeps women altogether away from paid work. In very conservative Somali agro-pastoralist communities in Eastern Kenya, for instance, women faced less rather than (the more common finding of) more family pressures than men to share income with relatives (the 'kin tax,' which access to private savings helps to overcome). However, this was because women's work options were severely restricted in these communities and they were not expected to help support relatives (Squires 2016).

Multifaceted 'Graduation' programs

Description: Combined ('multifaceted') provision of a large (often in-kind) asset transfer, asset specific training and technical assistance, cash stipend and access to savings, and often health information and life skills coaching.

Pre-2013 evaluations of Building Resources Across Communities (BRAC) ultra-poor programs in Bangladesh and India (one in West Bengal and one in Andhra Pradesh) that bundled the provision of a large productive asset transfer, such as a cow or goats, with intensive training and technical assistance to manage the asset, a cash stipend and access to savings, and targeted women in these households, found that these multifaceted interventions transformed women's occupational choices and, while more expensive up front, were still cost-effective over the long term (Bandiera et al. 2013).

The Bangladesh program, for instance, targeted the poorest women in households that had to satisfy three of five criteria including having a very small plot, no adult male income earner, adult women and/or school-aged children having to work, and having no productive assets. Women were mostly illiterate (only 7 percent could read or write); 37 percent of the households were headed by a female and 38 percent had a female as the sole income earner. Two years after the program's inception, women had increased earnings and per-capita consumption of non-food and food items significantly (Bandiera et al. op cit).

New evidence summarizing randomized impact evaluations of similar BRAC ultra-poor programs in six countries finds that this 'big push' does help overcome poverty traps and has positive economic outcomes (on per capita consumption, household assets and food security) that are maintained a year after the program ends (or 24 months after the start of the intervention). There are large increases in savings (that go beyond required savings during the first year) and, while total program costs are comparatively high, benefits are significantly greater than costs in all but one of the cases (Banerjee et al. 2015).

The studies' samples are representative of the very poor and results are mostly reported for households rather than individuals. However, programs in four of the six countries targeted women: in India and Pakistan preference was given to households with able-bodied female members and no economically active males; in Ghana households with no female members were excluded; and in Honduras female heads of household were targeted and required to open a savings account.[2] The studies tracked some individual measures, including of women's empowerment.

[2] The remaining two countries in the study are Ethiopia and Peru.

This new evidence is persuasive in making the case that these Graduation programs for the very poor, the majority women, increase income and are sustainable and cost-effective. The mechanisms, however, that explain why this 'big push' from this services combination may work especially well for the very poor remain unclear (Banerjee et al. op cit). We think that, like in the case of savings with a commitment feature (see above), the transfer of a large physical (non-divisible) asset nudges very poor women (who tend to be under significant pressures to spend) to keep rather than consume the asset, thereby fostering self-reliance and being particularly beneficial to them. However, conclusive evidence that these programs are more beneficial to very poor women versus similar men is still lacking.

A puzzling finding is a reported short-lived effect on women's empowerment. Banerjee and colleagues (op cit) found that an increase in women's empowerment picked up in most programs dissipated within the year. A recent evaluation of a BRAC ultra-poor program in Bangladesh that tracked economic empowerment carefully found that ownership and control over transferred livestock increased for women (who also reported 'intangible' benefits such as more social capital), but that the ownership of new agricultural investments mobilized by the project went to men (Roy et al. 2015).

A possible explanation for the lack of a sustained empowerment effect is that women's increased income and control over it is not sizeable enough to overcome traditional social norms. An evaluation of a broadly similar program in Burkina Faso showed that women's ownership and control over assets improved, and community perceptions about who can own and control certain assets also shifted, suggesting that changes in social norms can happen, perhaps in less conservative societies (van den Bold et al 2014). An alternative explanation is that economic empowerment effects are not well measured (particularly when measures are based on self-reports, which can be unreliable) or do not necessarily transfer to other domains of women's lives, and most studies do not report separate effects on economic empowerment versus on other empowerment domains.

Micro-Credit

Description: Small and very small loans to micro-entrepreneurs who lack typical forms of collateral and/or an established credit history, with weekly or monthly repayments, varied interest rates and individual or group (joint) liability.

Studies prior to 2013 showed that capital alone, as a small loan or grant, was not enough to grow women-owned subsistence level firms (Duvendack et al. 2012; Mehra et al 2013). In contrast, capital alone increased the business profits of male-owned microenterprises operating somewhat larger businesses in more profitable sectors over the long-term (De Mel et al. 2012). Gender-specific binding constraints women micro-entrepreneurs face, compared to men, help explain these divergent results and include the lower growth sectors where female-led businesses mostly operate, time and social constraints, including pressures from self or others to spend, and the fact that many women micro-loan clients are 'necessity' entrepreneurs and would be better off in wage employment if jobs were available. In addition, risk aversion may lead women to prefer using savings rather than credit for investing in the business and borrow sub-optimally (Delavallade et al. 2015).

New evidence, however, provides a more nuanced view of the effects of micro-lending for women, suggesting that microcredit may not be transformative, but may contribute to expanding financial freedom of choice and encourage risk taking over time. The evidence comes from data that followed households in Bangladesh over two decades and comparable outcomes from six randomized evaluations of microcredit. The Bangladesh study disaggregated results by sex; the randomized controlled trials reported results for households.

Panel household survey data for Bangladesh covering a 20-year period shows the benefits of cumulative microcredit borrowing on household income and poverty reduction. The study was careful in correcting for attrition (14.7 percent over the total number of years), which was correlated with household poverty (poorer households dropped out over time more so than less poor ones). Women in the household received more than two-thirds of the loans, generally from more than one micro-finance institution, and increased loan taking over the years (on average, by 4 percent yearly). Benefits took years to materialize but were significant and greater for women than for men. The study found, for instance, that a 10 percent increase in female borrowing reduces extreme poverty by 5 percentage points (Khander and Samad 2014).

The study's authors speculate that the practice of repeated borrowing over time lead to more financial risk taking, which, we believe, may have been particularly relevant for the more risk averse women versus men clients, identifying a mechanism helping to explain women's larger gains. In Kolkata, India, a two-month loan grace period versus immediate repayment requirements appeared to have similarly encouraged more risk taking among poor urban women, significantly raising their long-run (three-year) business profits (Field et al. 2014).

The results from six randomized evaluations of micro-credit projects, three of which lent only to women (India, Mexico and Mongolia) and three which lent to both women and men (Bosnia and Herzegovina, 40 percent female; Ethiopia, 13 percent female; and Morocco, 6 percent female) find modest uptake and heterogeneity across projects in the uses of credit. Results were measured at different intervals across projects, from roughly 1 year to 3 years after the credit was first offered, and most measures were reported aggregated for households. While credit did not have overall transformative effects on household income, it seemed to expand freedom of choice in terms of occupation, business scale, consumption, and risk management, and may have made people more economically self-reliant. Women, however, reported increases in household decision-making in only one (Mexico) of the four studies that measured female empowerment (Banerjee, Karlan and Zinman 2015).

Measured over a longer time frame, these projects could replicate the greater benefits of microcredit for women observed in Bangladesh, especially if repeated borrowing increases risk taking and enables some women to broaden their occupational choices and find wage employment instead of continuing to work independently. A large proportion of women in developing countries are microentrepreneurs out of necessity only; they would rather work for wages but encounter many more obstacles than men finding jobs. As such, 'culling' necessity entrepreneurs would also increase the likelihood that those receiving credit would have the skills needed to maximize business performance and outcomes. In fact, research with a large sample of women microentrepreneurs (more than 10,000 women) in urban Mexico found significant differences in business performance and management practices, controlling for cognitive skills, between 'opportunity' and 'necessity' microentrepreneurs (those who report starting a business because they saw a market need versus those who said they needed to earn money), favoring the former and confirming that entrepreneurial abilities matter for shaping positive business outcomes (Calderon et al. 2016). Both greater effects for women than men from repeated borrowing and the intervening mechanisms spelled out above are still to be proven.

Business Management Training

Description: Training on record keeping, marketing, financial planning, and/or other aspects of operating and expanding a business, of varied content, quality of instruction and duration.

Measuring the impact of business management training is inherently difficult because courses vary substantially in length and quality, as well as depth and breadth. That said, the consensus from the earlier evidence, documented in a systematic review of 20 evaluations of business training interventions that included female trainees, was that the average business training program improved business practices but had few measurable effects on business survivorship or profits (Woodruff and McKenzie 2013). This lack of positive training outcomes was not restricted to women but was more consistently observed for them and can be attributed to women's less profitable businesses and more binding external constraints, including greater childcare and household duties and limited say in household decisions (Berge et al. 2011). The recent evidence, however, is more nuanced and suggests that high quality training of reasonable duration can have positive economic outcomes for poor entrepreneurs, including women, but that impact depends on high attendance and low attrition rates, in addition to training quality.

A six-week long fully subsidized, high quality, basic business education for poor female micro-entrepreneurs in rural Mexico increased earnings among program participants, largely by improving accounting practices (Calderon, Cunha and de Giorgi 2013). A range of participant incentives to encourage regular attendance including a completion certificate, in-class raffles for small prizes, and the promise of acceptance into future courses conditional on regular attendance, seems to have worked and may have 'nudged' women to keep high attendance rates.

Similarly, a three-month intensive training (three hours, three times weekly) in Lima, Peru, delivered by specialized professionals increased women microentrepreneurs' business sales. Although in the short term, only training plus customized technical assistance to the firm showed an effect on sales, women who received only training adopted improved business practices, albeit at a slower pace, and showed increased sales two years after the training was first offered. Despite these positive outcomes, both travel time and childcare demands influenced high attrition rates—only 42 percent of the roughly 2,000 women attended at least half of the training (Valdivia 2015).

In contrast with these two positive examples, a five-day long International Labor Organization (ILO) business training program for women microentrepreneurs in Kenya had a small, yet significant, improvement in business practices, but only modest impact on sales, no impact on business survival and no self-reported changes on empowerment (McKenzie and Puerto 2015). It is likely that the five-day program was not intensive or long enough to increase business knowledge and change business practices significantly.

McKenzie and Woodruff (2015) analyzed business practices and business performance of mostly informal firms in seven different samples between 2008 and 2014, but do not report findings disaggregated by the business owner's sex. However, female-owned firms made up three of the seven samples (Kenya, Mexico and Sri Lanka), which lends confidence that the findings are applicable to them as well as to men. These authors find that firms with better business practices also have better business performance, measured by higher rates of firm survival and sales growth. They conclude that good business practices are important to long-term business success and that the earlier documented insignificant effect of business training programs stems from their inability to change business practices sufficiently. For instance, they showed that the average training program increases the use of good business practices by only around 6 to 7 percentage points. A high quality, intensive business program, like the one in Mexico or the one in Peru, can improve business practices sufficiently to affect business outcomes, especially if uptake is high and attrition rates are low. This means that training programs must be high quality (in terms of training materials, trainers, and duration) and address the constraints (time and other costs) that women microentrepreneurs face to attend and complete the training.

In India, women microentrepreneurs with a savings account in a Self Employed Women's Association (SEWA) bank trained alongside a friend reported increased business activity and income four months after undergoing training, while there was no change in reported business behavior for women who were trained alone (Field et al. 2015). The friend's presence seems to have raised these women's aspirations to work outside the home. Similarly, in rural Uganda pairing a woman cotton farmer with another randomly selected woman cotton farmer improved farming knowledge and yields (Vasilaky and Leonard 2015). These findings suggest that the social influence of a peer may increase the impact of business training, especially among women subject to conservative social norms. Katz and Cassar (2016), in a review of the evidence on sex-differences in risk taking behavior, believe that information and social support others can provide may be particularly important for poorer and less empowered women to gain the knowledge and confidence to make appropriate business choices and take greater financial risks.

Financial Literacy Training

Description: Training on money management and investment (separate from business management training), of varied content, quality of instruction and duration.

New evidence more clearly isolates the effects of financial literacy training, separate from that of business management training. Unfortunately, the evidence presented is aggregated for households. Assuming that the effects found for households extend to individual women (who are half or more of those interviewed in two studies cited below), stand-alone financial literacy training is unproven to improve the economic outcomes of poor and very poor women.

An earlier conducted field experiment in Indonesia found that given proper financial incentives, unbanked households opened savings accounts even without financial literacy training. The combination of training and incentives increased the number of households reporting that they had opened savings accounts, but this effect was not significant (because of sample size restrictions). The researchers reported that half the households in the experiment were female headed, but female headed was not clearly defined (Cole et al. 2011).

Similarly, video-based financial education (five consecutive weekly sessions of two to three hours each) for poor urban households in Ahmedabad, India, led to better financial awareness ten months later but did not improve behavioral outcomes on savings or borrowing. When financial education was bundled with personalized counseling, effects were greater and households had more savings and more borrowing. Fifty-eight percent of the respondents were women (Carpena et al. 2015).

Supporting the findings from the above evaluations, a global meta-analysis of 201 studies found that interventions to improve financial literacy explain only 0.1 percent of the variance in financial behavior, with weaker effects on low-income samples and in studies with better designs. The researchers, who did not disaggregate results by sex, found that financial education effects decay over time and argue that the only type of financial literacy training that makes sense is 'just in time' financial education tied to specific behaviors (Fernandes, Lynch and Netemeyer 2013). More research is needed to determine whether financial literacy training, when appropriately combined with complementary interventions such as in-kind grants, monetary incentives or peer support, can increase women's saving and borrowing behavior, and positively impact business survival and income.

Demand-Driven Youth Job Services

Description: Vocational skills or business development training that responds to market demand, plus often job internships, vouchers or subsidies to employers and stipends for transport and childcare to integrate young people into the labor market.

A generation of youth labor training programs in Latin America that provide internships and stipends for child care, in addition to vocational training, have documented success in promoting young women's employment, who have generally outperformed young men in employment gains, as observed in Argentina, Colombia and Peru (Galasso, Ravaillon and Salvia 2004; Attanasio, Kugler and Meghir 2011; and Nopo, Robles and Saavedra 2007). The exception is a youth employment program in the Dominican Republic, which had stronger impact on young men's employment (Ibarraran et al 2012). More recently, evidence from Africa and South Asia replicates these positive outcomes for young women that are sustained in follow up measures, even in contexts where wage work is scarce. The exceptions are programs in Tanzania and Jordan.

In several African countries, programs targeted young women only. In Liberia, a demand-driven skills training program increased young women's employment and incomes, and effects were sustained more than a year after the classroom training ended (Adoho et al. 2014). In Uganda, vocational and life skills training coupled with social clubs established so that adolescent girls could gather in a safe space increased participant earnings and delayed marriage, reduced fertility and decreased risky health behaviors. The authors attribute the successful outcomes evident two years after the program ended to the combined effect of health and economic empowerment interventions (Bandiera et al. 2014). In Tanzania, instead, a similar program (that also added microcredit services) had no effects on girls' economic, health or social outcomes (Buehren et al 2015). The absence of positive results was attributed to lack of program resources resulting in implementation weaknesses, underscoring (as in the case of business management training described above) that only good quality training will ensure learning the new skills.

In Kenya, technical and life-skills training as well as internships for vulnerable youth resulted fifteen months later in high employment levels for males and only marginally high for females, partly because the ability to detect significant differences was hampered by the many young women who dropped out. However, for young women within the program, wage earnings increased dramatically (a 132 percent increase over earnings of females in the control group), more so than for young men, and this was especially the case for less educated young women. Females particularly liked the life-skills training, although it showed no impacts on earnings or accumulated savings. Forty percent of the sample was female and more than 20 percent of the sample women had children (Honorati 2015).

In South Asia, a subsidized six-month vocational training program in stitching and tailoring for young women residing in poor slums of New Delhi, India, increased employment, self-employment and earnings substantially over controls. Positive effects were sustained 18 months after the training ended and were attributed to an increase in skills rather than an increase in self-confidence or the positive effect of having a training certificate (Maitra and Mani 2014). In Nepal, technical and life-skills training combined with job placement support services increased non-farm employment and earnings of young women and men, and had a positive impact on savings and self-confidence a year after the training ended. Employment gains were greater for young women than for young men but the program had no impact on fertility (Chakravarty et al. 2016).

Analyses showed that program benefits exceeded costs in all the recent programs just mentioned (except for Tanzania). Many programs, however, had low uptake and high attrition, especially from females. In Tanzania 42 percent of those interviewed at baseline dropped out. In Kenya, attrition rates for young women in the program were between 22 to 23 percent (and increased to 30 percent for women in the control group). And in India, only 56 percent of the trainees completed the six-month long program, partly because of childcare and travel constraints. A 10-minute increase in time taken to walk to the training center was associated with a 14 percentage point reduction in the likelihood of project completion (Maitra and Mani op cit). Similarly, one-third of participants in a three-month long apprenticeship program for poor vulnerable youth (orphans or school dropouts) aged 15 to 24 in Malawi dropped out. Female participants dropped out much more often because of external constraints, whereas their male counterparts did so to take advantage of unrelated job opportunities. The training was costlier for women, who had less access to financing, used more of their personal savings, and were treated worse than men by the trainers, who favored boys over girls, providing them with more food, stipends and paid work during the apprenticeship (Cho et al. 2013).

Sub-standard treatment of young women can affect employers as well as trainers, as the short-lived success of a training and voucher program for young women college graduates in Jordan had attested earlier on. Once the voucher incentive ended, employers reverted to their original preference to hiring young men and employment gains for young women were erased (Groh et al. 2012).

It appears that the acquisition of vocational or technical skills is critical in determining positive employment outcomes for young women across programs while the acquisition of softer personality related skills is less so. It is unclear under which conditions these programs positively influence young women's sexual and reproductive behaviors and whether positive sexual and reproductive health outcomes are necessary to sustain economic empowerment effects over time. What is clear is that to attract young women, these programs must work on leveling the playing field—assess and reduce the gender-specific time and financial constraints, provide child care subsidies or options and reduce biases against young women from both trainers and potential employers. Once these external constraints are addressed, young women can sometimes outperform young men in employment gains. This could be because young women are better students and trainees or, more likely, because they have lower baseline employment levels than young men (leading to larger potential gains) or because in the control groups young men have much easier time finding jobs than young women.

Discussion

This review of the recent evaluation evidence first underscores the important economic roles of women among the poor in developing countries—they were main protagonists in many of the programs that were open to both men and women, but face additional constraints when compared to men that affect their economic performance. Second, the review suggests that design features in financial services and training programs can help women overcome these constraints, yielding equally or at times more positive economic outcomes for women than for men. Lastly, these differences in outcomes question the gender neutrality of interventions and highlight the importance of acknowledging and incorporating a focus on gender in research and program designs.

The potential of 'smart' design to help overcome some of the constraints that have perpetuated gaps in economic performance favoring males over females is a major, although largely overlooked, contribution of the recent research. Smart design includes features in savings and 'Graduation' programs that increase women's economic self-reliance and self-control, and the practice of repeated micro-borrowing that may increase their financial risk-taking and choice. Smart design also entails high quality business management training that effectively improves business practices and high quality vocational training that improves marketable job skills. It also includes stipends and other incentives in business management and job training programs that address women's and young women's additional time burdens and childcare demands. Peer support may also help to increase financial risk taking and confidence in business decisions, and may augment the negligible impact of financial literacy training.

Some of the above features address constraints linked to women's subordinate position in the family, lower decision-making power and greater exposure to pressures from family, community and self to spend rather than invest scarce resources in economic activities. As such, interventions that encourage women's subjective economic empowerment (economic self-reliance and self-control) can make a difference. Savings products that shield women from internal and external pressures by providing mental labels, commitment devices and privacy and security encourage their autonomous decision-making, and particularly help those who are less empowered. Other features address constraints that stem from women's traditional household and childcare responsibilities, which impose time and travel restrictions that may affect women's uptake of and retention in programs offering financial services or skills or business training. Even when interventions are set up to target women, service provision may still be gender-blind if program designs fail to take these constraints into consideration.

In addition, these traditional responsibilities may partly explain women's greater financial risk aversion when compared to men's or, perhaps more accurately, the greater set of risks women face from their double roles as caregivers and economic actors that can lead them to make less than optimal business decisions affecting productivity and income. Access to and practice with a suite of financial instruments, including savings, credit and insurance may increase women's financial risk taking. Peer support and variations in loan terms may also help to increase financial risk taking and confidence in business decisions, and smart design can incorporate these features.

Interventions to empower women economically to date have largely focused on expanding women's capabilities to be productive and economically empowered. The gender and economic development literature has assumed that a main challenge is to increase women's demand for and access to supposedly gender-neutral services, such as financial services, information technologies and agricultural extension. But the provision of these services, especially in the productive sectors, where the main clientele has traditionally been masculine, cannot be expected to be gender neutral. Social and cultural stereotypes and biases about women, the most important being that women are not economic actors and are economically dependent on men, can embed these services and help perpetuate an unequal playing field between men and women. De-biasing service provision by, for instance, providing small incentives to encourage vocational trainers to treat young female and male trainees equally or bank agents to reach female and male clients equally may be simpler and cheaper to implement and bring to scale than many other, more typical interventions seeking to expand the capabilities of women clients and workers.

The smart design interventions highlighted in this review suggest that subjective economic empowerment is an important intermediate outcome that should be promoted and measured. Given this important role, the fleeting nature or absence of a women's empowerment effect, reported in some studies, is concerning. Gains in women's income may be not large enough to counteract traditional gender norms; alternatively, economic empowerment effects may be very situation-specific. A third possibility is that it takes a long time for empowerment effects to unfold and for social norms to change. Also, smart design must be evidence-based and account for the larger context where women's economic activities take place, which includes social norms. As this review has shown, when social norms are too restrictive, and women are prevented from paid work, no design will be smart enough. It is also quite possible that economic empowerment effects are not being measured well (self-reports are often unreliable) and that researchers have not been careful in separating economic empowerment effects from empowerment effects in other domains of women's lives.

The evidence base on what works to empower women economically could use significantly more project and research investments on the cognitive and social determinants of women's economic outcomes that underpin smart designs and on how gender biases in working environments affect women's economic performance. Additional research investments are also needed on how to better define and measure women's economic empowerment, capturing both its objective and subjective dimensions, simply and reliably, with the aim of developing measures that are valid across different countries and contexts. Lastly, the term 'female headed household' should be operationally defined when it is used and, whenever possible, research results should be reported for individuals and disaggregated by sex since household level results do not necessarily trickle down to members of the household equally by sex (and age).

Table 1

Study	Features	Sample	Percent Women	Definition of Female Household Head[3]	Intervention	Impact Evaluation Time Horizon[4]	Findings
Savings							
Delavallade et al. (2015)	Agricultural insurance in rural Burkina Faso and Senegal	806 individuals (.25% attrition rate)	50.6% in Senegal and 71.98% in Burkina Faso		Male and female farmers offered an index-based agricultural insurance and variety of savings instruments.	Short run (2 months after intervention)	• There is a much stronger demand for weather insurance among men and stronger demand for emergency savings among women. • Insurance was more effective at encouraging agricultural investment than savings—participants spent more on inputs and used more fertilizer. • Few differences in welfare outcomes but the insurance resulted in better ability to manage risk. • Savings devices with light commitment and more flexibility are useful in overcoming barriers to savings.
Dupas, Karlan, Robinson, and Ubfal (2016)	Microfinance institution and bank-offered basic savings accounts in rural Uganda, Malawi, and Chile	2160 households in Uganda, 2107 households in Malawi, 1975 households in Chile (3% attrition rate)	72% in Uganda, 68% in Malawi, and 78% in Chile	Household decision making index measures female headship All households—either dual or single—must have one female head, excluding polygamous families.	Partnering with banks and microfinance organizations to offer basic savings accounts to previously unbanked households.	Long run (1st follow up: 5 months after intervention, 2nd follow up: 1 year after intervention, 3rd follow up: 17 months after intervention)	• 17% (Uganda), 10% (Malawi), and 3% (Chile) of participants were active users of savings accounts. • Average treatment effect on total savings was at best very modest. • 80% of respondents in Uganda and 89% in Malawi reported being too poor to use bare-bones bank accounts, suggesting that lack of assets is the largest barrier to bank account use in addition to transaction costs (73% of respondents in Uganda) and unexpected emergencies (82% of respondents in Uganda). • Only providing access to bank accounts will not improve welfare (While Chile has the lowest savings rate, the reasons for low uptake are because respondents have no need for bank accounts).

[3] If studied

[4] Indicates when follow-up survey was conducted.

Dupas, Keats and Robinson (2016)	Formal savings accounts in in rural Kenya	885 households (11% attrition in final round)	64.5%	Households are single or dual headed. Single female-headed households are households with only one adult individual (they are all widows).	Expanding access to formal savings accounts among the unbanked.	Long run (6 surveys every 4-5 months over the course of 28 months)	• 69% of households offered an account opened one but only 15% made at least 5 transactions over the following 28-month trial period. • Among the 15%, the average amount deposited over 28 months was $223 (about 5 time more than the control group). • Respondents prefer to open individual accounts—only 5% opened an account jointly with their spouse. • Men saved more than women and male-headed households used the account more often than female-headed households. • Inter-household linkages strengthened as households sent and received transfers.
Dupas and Robinson (2013a)	Commitment savings in rural Kenya	156 participants (13% attrition rate)	89%		Individual commitment savings with interest-free account and high withdrawal fees.	Short run (3 waves of sampling, each running for 5-6 months) & long run (4 years' observation of same bank)	• Positive impact of savings on business investment among women (45% increase). • Increase in women's private expenditures (37% to 40% higher). • Some impact on making women less vulnerable to health shocks; women were less prone to sell businesses to address health emergencies. • No effect for men. • Positive effects of the savings sustained in a follow-up survey three years later. • Women made use of savings accounts far more than men did.
Dupas and Robinson (2013b)	Health-related savings devices in rural Kenya	113 ROSCAs (8% attrition)	74% (and 32% of ROSCAs have only female members)		Providing access to innovative savings devices specifically for health-related investments and emergencies.	Long run (midline six months after baseline, endline 1 year after, follow-up 3 years after)	• Positive impact of savings on business investment among women (45% increase) and on private expenditures (37% to 40% higher). • Positive effects of savings sustained in a follow-up survey three years later. • Women made use of savings accounts far more than men did.
Suri and Jack (2016)	Access to mobile money in Kenya (panel survey: 5 rounds: 2008—2014)	1608 households (from initial 3,000—with 35% attrition over 6 years)	1593 women	No reported definition of female-headed households (FHH).	Measured changes in access to mobile money thru presence of bank agents.	Long run (1st survey: 15 months after baseline, 2nd survey: 31 months after baseline)	• Increase in mobile savings lifted 2% of households out of poverty over 6 years and impacts were more pronounced for female-headed households and individual women. • Effect for FHH in consumption, more than twice the average. • In high agent, FHHs per capita consumption 18.5% higher than in low agent. • Mechanisms for women included increased financial resilience and savings, and

							expanded occupational choice (from subsistence agriculture to business).
Kast and Pomeranz (2014)	Access to formal savings in urban Chile	3572 low-income microfinance institution clients (14.2% attrition rate)	91%	Female-headed households are households where the woman has more control over intra-household resource allocation.	Providing free and easy access to a formal savings account.	Short run (1 year after baseline)	• Savings and credit are used as substitute inputs for consumption smoothing. Reducing barriers to savings reduces reliance on debt. • When cost of savings was reduced, demand for short-term credit decreases and overall consumption smoothing increases. • Consumption cutbacks associated with a negative income shock reduced by 44%. • Substantial improvements in subjective well-being. • Take-up is high among participants who are not head of the household, who have conflicts with partners over money, and who are expected to loan to social network.
Prina (2013)	Savings accounts in urban Nepal	1236 households with a 9% attrition rate	100%	Female head is the female member taking care of the household.	Access to a fully liquid bank account with no opening, maintenance, or withdrawal fees.	Short run (1 year after baseline)	• After one year, access to savings accounts increased monetary assets by more than 50%. • Total assets (monetary and non-monetary) increased by 16%. • Positive effect on monetary assets was strongest for poorer households and those not linked to formal banking institutions prior to the intervention. • Lower transaction costs due to proximity to the bank and lack of fees may have improved take-up and usage. • Saving in accounts rather than cash reduces temptation to spend immediately.

Schaner (2014)	Transaction costs, bargaining power, and savings account use in rural Kenya	1,114 newly opened bank accounts owned by 749 married couples (21-26% attrition rate)	50%	Female head is the wife in non-polygamous households.	Provision of ATM cards free of charge, when without ATM cards, bank accounts had $.78 withdrawal fee.	Long run (1st survey: first 6 months of project, 2nd survey: 3 years after baseline)	• Provision of ATM cards significantly increased overall account use among men and married couples' joint accounts. Rates of long run account use increased by 70% (4.7 percentage points). However, overall security decreased since men had access to their wives' accounts. • ATM cards had no impact on female-owned individual accounts. • Both men and women with low levels of bargaining power responded negatively to ATM, whereas both men and women with high levels of bargaining power responded positively (controlled for time inconsistency and financial literacy). • ATM cards significantly increased the share of individuals reporting that both spouses make joint spending and savings decisions.
Squires (2016)	Cash transfer in rural Kenya	1805 participants in 17 villages	70%		Estimating the effects of kinship tax on microenterprise growth using a cash transfer RCT.	Short run	• Women faced less family pressure to share income with relatives. • Because women's work options were severely restricted, they were not expected to help support relatives. • Tax rates are not linked to marital status. • Participants with more siblings faced higher kin tax rates.
Multifaceted Graduation Programs							
Banerjee et al. (2015)	Multifaceted graduation programs for very poor in Ethiopia, Ghana, Honduras, India, Pakistan, and Peru	925 households in Ethiopia, 2606 in Ghana, 2403 in Honduras, 978 in India, 1299 in Pakistan, 2284 in Peru—all very poor (9% attrition overall)	Majority women; 3 of the 6 countries specifically included household with women members	Female headed households are households with no active male member.	Multifaceted graduation programs targeting the poorest members in village through productive asset grants, training and support, life skills coaching, temporary cash consumption support, and access to savings accounts and health information / services.	Long run (1st survey: 2 years after intervention, 2nd survey: 3 years after intervention)	• At the end of the intervention, there were statistically significant gains on all 10 indices (consumption, food security, assets, finance, time use, income / revenues, physical health, mental health, political involvement, and women's decision making). • One year after the endline, the effects were still significant in 8 of 10 indices, including consumption, household assets and food security. Earnings (discounted) exceeded program costs. • While there are country by country differences, the program has positive impacts on most indices for most countries. • Among the poorest households, impacts on income / revenues, and consumption, while positive, are lower at the bottom of

							distribution. The poorest also do not have significant gains in financial inclusion. • The poorest have a lower return to the asset or they consume more of it. • The effect of a “push” by means of an asset transfer is heterogeneous; a combination of services is likely more beneficial, though this is unclear given the evidence.
Roy et al. (2015)	Asset transfer for ultra-poor in rural Bangladesh (BRAC)	6066 households (2599 control, 3467 treatment) in 13 districts	Households with either a female spouse or a female head	Female-headed households are households where women have sole ownership and control over household assets.	Provision of productive asset transfer in the form of cows or goats and training on the use of these productive assets to women in ultra-poor rural households.	Short run (1 year after intervention)	• Tangible outcomes i.e. women’s ownership and control over transferred livestock increased, but the ownership on new investments and assets continued to be seen only for men. • The results show a 9090 Taka increase in women's sole perceived ownership. -Intangible outcomes such as social capital and self-confidence improved.
van den Bold et al. (2014)	Agricultural nutrition programs in rural Burkina Faso	1380 men and 1380 women (data pre-controlled for attrition)	50%		Communal village model farms that encourage women to garden in farms and continue gardening in their own homes.	Short run (endline conducted over 5 months immediately after intervention)	• Women in the treatment villages showed a higher increase in the ownership of agricultural assets. • Men held 15 times the value of agricultural assets women held, and after the intervention, this ratio dropped to 5.9. • The ratio of male to female ownership of small animals decreased from 4.0 to 2.8 in the treatment villages. • Men remained largely in charge of high-value animals such as goats. • During the interviews, opinions about who can use and own land were changed; this paralleled changes related to women's ability to use and to own land.
Micro-Credit							
Banerjee, Karlan, and Zinman (2015)	Microcredit in Bosnia and Herzegovina, Ethiopia, India, Mexico, Mongolia, and Morocco	1196 individuals in Bosnia (17% attrition), 6263 in Ethiopia, 6862 in India (10.5% attrition), 2912 in Mexico (37% attrition), 1148 in Mongolia (16% attrition), 4465 in	All interventions loaned to female borrowers, though three loaned only to female borrowers.		Study with six randomized trials involving microcredit to evaluate best approaches.	Long run: Bosnia (14 months after intervention), Ethiopia (36 months after intervention), India (1st survey: 15-18 months after intervention, 2nd survey: 39-42 months after intervention), Mexico (16 months	• Some evidence of substitution effect (formal for informal credit) but no evidence on using other sources. • Partial influence of MFI on entrepreneurial activity but no effects on ownerships, startups, or closures. • MFI effects on investment, business size, occupational choice, female decision making, risk management and profits are more promising and statistically significant.

		Morocco (8% attrition)				after intervention), Mongolia (1st survey: 19 months after intervention, 2nd survey: 43 months after intervention), and Morocco (24 months after intervention)	• Very little effect on amount household consumption but the composition of consumption changes to more durable stocks and "belt-tightening." • Each case finds that MFI in at least one aspect has expanded business activity. • Women in Mexico only reported increases in household decision-making.
Calderon et al. (2016)	Microentrepreneurs in business training programs in urban Mexico	10,275 micro-entrepreneurs	100%		Measures entrepreneurial performance, controlling for skills. Based on self-report, 21% are opportunity, 79% are necessity entrepreneurs.	Short run	• Mean weekly profits and sales are higher for opportunity than for necessity entrepreneurs. • Opportunity entrepreneurs also have a higher business practice score and higher mean cognitive skills. • Necessity entrepreneurs with characteristics that resemble opportunity entrepreneurs' (about a third in the sample) are significantly more profitable and better managed. • In general, entrepreneurs starting their businesses because of necessity are less profitable.
Field et al. (2014)	Microfinance in urban India	845 clients	100%		Provision of microcredit; groups were randomized into one of two repayment cycles (two weeks or two months after loan disbursement).	Long run (1st survey: upon intervention conclusion, 2nd survey: 2 years after intervention)	• Relative to regular clients, grace period clients invest 6% more of their loans in their businesses (rather than setting money aside for initial loan payments). • Grace period clients are more likely to report high profits (57.1% higher profits) • Three years out, grace period clients have larger and more profitable businesses. • Suggests that liquidity constraints limit small entrepreneurs from exploiting high returns; early repayment discourages risky investment.
Khandker and Samad (2014)	Microcredit in rural Bangladesh	2599 households in 87 villages (14.7% attrition)	67% in 1991/2; 84% in 1998/9; 73% in 2010/1	No reported definition of head of household	20-year panel survey measuring impact of cumulative microcredit borrowing.	Long run (20-year panel survey data)	• Increased household non-land assets (by 0.25%). • Increased income and expenditure. • Increased labor supply of men (by 0.33%) and women (by 0.46%). • 10 percent increase in female borrowing reduced extreme poverty by 5 percentage points.

Business Management Training							
Calderon, Cunha, and de Giorgi (2013)	Business literacy in rural Mexico	875 entrepreneurs (17.3% attrition)	100%		6 weeks of business literacy classes with two four-hour meetings per week; total of 48 hours.	Long run (1st survey: 6 months after intervention, 2nd survey: 2 years after intervention)	• For entirely female sample, 24% increase in profits and 20% increase in revenues, largely through improved accounting practices. • 50% of businesses which had not dropped out had closed by the time of second follow-up survey 28 months after training.
Field et al. (2015)	Peer networks used in business training in urban India	636 women	100%		Two days of business counseling and assistance, with a random subsample invited to attend training with a friend.	Short run (Staggered follow-ups 4 months after each group of training; 1 year total)	• Women who attended training alone used loans for home repair, whereas those invited with a friend used loans for business purposes. • After four months, those who came with a friend reported differences in business behavior and higher household income and expenditures. • Impacts of peer training on business loans and labor supply are concentrated among women in social castes/religions with more restrictive social norms.
McKenzie and Puerto (2015)	Business training in rural Kenya	3537 female-owned businesses	100%		ILO's Gender and Enterprise Together businesses training program (five-day course).	Long run (1st survey: 1 year after intervention, 2nd survey: 15 months after intervention)	• Training had no impact on business survival (11% of firms shut down during the process). • 10% increase in weekly sales and profits due to spillover effects. • USD 1.30 to 2.47 increase in profits per week. • Effective in increasing business practices for women with low and high initial business skills.
McKenzie and Woodruff (2015)	Effect of firm practices on efficiency in Bangladesh, Chile, Ghana, Kenya, Mexico, Nigeria, Sri Lanka	1724 enterprises in Bangladesh, 158 individuals in Chile, 335 individuals in Ghana, 3532 women in Kenya, 10265 female-run firms in Mexico, 1725 individuals in Nigeria, 2661 male-run microenterprises in Sri Lanka	1% in Bangladesh, 91% in Chile, 22% in Ghana, 100% in Kenya, 100% in Mexico, 15% in Nigeria, 53% in Sri Lanka (out of three samples in Sri Lanka, one sample was 100% women)		A questionnaire to study whether the practices of firm managers matter for efficiency.	Short run in Bangladesh, Mexico, Chile (less than 1 year after intervention), Kenya (1 year after baseline), and Sri Lanka 2nd sample (1 year) Long run in Ghana (1st survey: 1 year after baseline, 2nd survey: two years after baseline), Nigeria (over 1 year after baseline), and Sri Lanka 1st and 3rd sample (5.5 years)	• Variation in business practices explains variation in sales, profits, and labor productivity. • Better business practices are associated with higher business survival rates and faster sales growth. • Business training programs increase good business practices by only 6-7 percentage points. • Children of entrepreneurs employ better business practices. • Competition has less effects.

Valdivia (2015)	Business training plus technical assistance in urban Peru	1600 female entrepreneurs (18% attrition)	100%		Intensive business training course (three, three-hour sessions a week over 12 weeks); half also offered individualized technical assistance.	Long run (1st survey: 7-10 months after intervention, 2nd survey: 27-30 months after intervention)	• Women who received both business training and technical assistance saw an increase of 19% in sales after treatment. • Training only group 'catches up' and increase business sales more than 15% 2 years after end training, especially large firms. • In the long run, those in both treatments were more likely to pay themselves a fixed salary, indicating better business planning. • 42% of the sample attended at least half the training. • Extra cost of TA not cost-effective
Vasilaky and Leonard (2015)	Effect of social networks on agriculture in rural Uganda	14 farmers in each village, 30 villages	50%	The head of household is the individual who made land, resource and income allocation decisions in the household.	A Social Network Intervention (SNI) for cotton farmers. Teaching about new crop and pairing with another randomly selected cotton farmer.	Short run (3-5 months after intervention)	• Difference in difference estimates of cotton yields show that cotton farmers in villages that received the SNI experienced large gains compared to the control group. • The intervention was successful in creating new links between female cotton growers. • Knowledge about cotton farming improved among treated women, which accounts for about a quarter of the total gains in yields.
Financial Literacy							
Carpena et al. (2015)	Video-based financial education program in urban India	1328 individuals with less than 6% attrition	57%		Five-week, video-based financial education program on budgeting, savings, credit, and insurance or video-based health training.	Short run (10 months after intervention)	• Financial education alone had no effect on financial numeracy but individuals in the program were 22% more likely to understand the benefits of budgeting and 28% more likely to attempt budgeting. • Participants were 2.8% more likely to hold informal savings and 7.5% more likely to hold formal savings. • Borrowing decreased by 2.5%. • Participants were 5.4% more likely to purchase life insurance.
Demand Driven Job Services for Youth							
Adoho et al. (2014)	Adolescent girls' employment program in urban Liberia	1,989 young women aged 16-27 with basic literacy and numeracy skills, not enrolled in school, and residing in or near	100%		Livelihood and life skills training and assistance with job placement.	Short run (1 year after intervention)	• Increased employment by 47% and earnings by 80%. • Positive effects on empowerment measures, including access to money, self-confidence, and anxiety about future. • No net impact on fertility or sexual behavior. • Cost-benefit analysis: Budget cost of EPAG business development training is equivalent to three years' increased income.

		Monrovia					
Bandiera et al. (2014)	Women's empowerment in rural and urban Uganda	5966 adolescent girls in 100 treatment communities (baseline) with 4888 responding to follow-up surveys (82% response rate)	100%		Vocational and life skills training.	Long run (1st survey: 2 years after intervention, 2nd survey: 4 years after intervention)	• Significant improvements in entrepreneurial skills. • 72% increase in likelihood of engaging in self-employment. • Gains in employment did not come at expense of school enrollment. • 26% lower fertility rates in treatment and 6.9 percentage points less likely to be married after two years.
Buehren et al. (2015)	Microfinance and business development training for adolescent girls in Tanzania	5454 adolescent girls (42% attrition)	100%		Life skill and livelihood training, and a safe space plus microfinance	Short run (1 year after intervention)	• -Combined intervention of club and microfinance service increased the likelihood of adolescent girls having positive savings and a 2.8% increase in the likelihood of having savings at ROSCAs. • No impact on borrowing, or health and social outcomes.
Chakravarty et al. (2016)	Youth employment programs in Nepal	4677 young men and women (12% attrition)	60.1%		Employment training services offered by the Employment Fund, a Swiss NGO, providing youth training initiatives. Women also receive a 40-hour life skills training course.	Short run (waves of follow-ups conducted 9-12 months after each cohort's training)	• Participation in the program led to an increase in non-farm employment of 15-16 percentage points (from a base of 29.6 percent), and a gain in monthly earnings of approximately US $12. • An 18-19 percentage point increase in individuals who work in trade and are able to find employment in the same trade group. • The training also decreases the underemployment rate. • Employment effects (at the extensive margin) are greater for women than men, but there is no significant difference in wages or fertility. • Of those that are in non-farm activities, women are also more likely than men to be employed.
Cho et al. (2013)	Vocational training for vulnerable youth in urban Malawi	759 poor vulnerable youth (orphans or school dropouts)	32.8%		Three-month vocational and entrepreneurship program	Short run (4 months after intervention)	• Training outcomes were better for male trainees: women faced greater obstacles in undertaking and benefiting from the training. • One-third of participants dropped out: whereas males dropped out to take advantage of unrelated job opportunities, females dropped out more due to external constraints.

							• Training was costlier for women, who had less access to financing and used more personal savings and were treated worse than men during apprenticeship.
Honorati (2015)	Private sector internships and training in urban Kenya	1650 vulnerable youth (2% attrition)	41.1%		Trainings and internships for vulnerable youth in 3 areas of Kenya.	Long run (1st survey: 18 months after intervention, 2nd survey: 22 months after intervention)	• The treatment increased women and girls' probability of being employed by 4.5% (6.5% for males); 6.7% for those who did part of the training and internship and 8.7% for those who finished the program. • Wages increased by 132% for women and girls in treatment groups. • An increase in probability of opening bank accounts and accumulating savings by females who participated in the training program.
Maitra and Mani (2014)	Learning and earning in urban India	594 young women (504 responded to follow-up survey)	100%		Six-month vocational training program in stitching for young women.	Short run (5 months after intervention)	• Employment increased by six percentage points. • Self-employment increased by four percentage points. • Earnings increased by 150% monthly. • Positive effects sustained 18 months after completion of training and were attributed to an increase in skills rather than in self-confidence or having a training certificate. • More than 40% of trainees did not complete six-month course due to distance to training center and lack of available child care support. • Cost-benefit analysis suggests that program is highly cost effective. • Using a second round of follow-up data 18 months after the program, all effects are sustained in medium run.

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