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The Evidence Is In
How Should Youth Employment Programs
in Low-Income Countries Be Designed?

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Abstract

Youth in many low-income countries are entering the labor force in unprecedented numbers, yet many struggle to secure rewarding livelihoods. This paper outlines the economic development challenges that constrain youth's transition into employment, and it parses the evidence on which programs and policies appear to speed that transition. It concludes that it may be time for a fundamental reassessment of approaches for addressing youth employment and the youth transition in low-income countries. Employment opportunities in low-income countries reflect the pace of economic and structural transformation. In designing strategies, policies, and programs to meet the entry-in-to-employment challenge for youth, the starting point is to diagnose the economy and current/future employment opportunities. Combined with the analysis of youth employment problems from a structural transformation

perspective, evidence from rigorous evaluations of youth employment interventions provides new insight into which kinds of interventions are more likely to help youth succeed in certain contexts. The evidence reviewed here casts serious doubt on the efficacy and value of training interventions to help youth enter formal wage employment. The case is stronger for interventions that speed the transition to self-employment in farming or non-farm household enterprises. Support for development of transferable character skills and social integration among youth through positive youth development programs should be tested further for employment and earnings impacts, perhaps along with cash transfers to youth or access to finance. In reviewing the evidence on the cost-effectiveness and sustainability of youth employment impacts, the paper also notes the need for better measures of displacement and general equilibrium effects.

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The Evidence Is In: How Should Youth Employment Programs in Low-Income Countries Be Designed?

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1 Introduction: The entry-into-employment challenge

Youth is universally a distinct human developmental stage, a time of transition marked by critical decisions that affect the future of the individual and the broader society. A positive youth trajectory concludes with the development of a mature adult who has a positive sense of self, has developed agency and impulse control, and a set of core competencies and skills for engaging effectively with the economy and society. A negative trajectory does not develop self-esteem and agency, and concludes with risky and or destructive behavior such as teen pregnancy, crime and violence, self-destructive health habits, and disengagement from society, all of which can lead to household poverty and lower economic growth (World Bank, 2006). With so much at stake, it is clear why youth development is an important economic development issue.

Youth constitute a high share of the population in low income countries, especially in Sub-Saharan Africa (SSA), where one-third of the world's projected youth population will live by 2050 (AfDB, 2015). These individuals represent an enormous opportunity and resource, yet creating the circumstances to realize that potential is a big challenge.

Economic and social development requires youth to be able to find opportunities commensurate with their skills and abilities, allowing them to transition into stable livelihoods². Although educational attainment is rising, the quality of that education is often weak, as measured by cognitive skill development (Cloutier et al., 2011). Nor is the educational experience in low-income countries designed to build the socio-emotional and problem-solving skills that help youth navigate a changing economic landscape (Filmer and Fox, 2014).

Governments in lower-income countries are increasingly looking for ways to improve youth employability and earnings, but regularly fail to recognize that the youth employment problem is simply a subset of the overall employment and earnings challenge in low-income countries, which is, in turn, a structural transformation challenge. In other words, employment opportunities in the economy will improve only with economic transformation—the creation of new more productive economic entities that use new technology, and increase productivity among existing firms and farms. When that transformation occurs, youth normally secure a large share of the new opportunities it creates, commensurate with their share in the labor force (Filmer and Fox, 2014). If structural transformation does not progress, opportunities will be limited for all labor force participants – youth or adults. Thus, the shortage of high-earning employment opportunities in an economy is not a youth specific problem. It is simply one of many economic constraints that must be reckoned with by all in the labor force (and addressed by economic development policy).

For the most part, the youth-specific challenge – the challenge youth face that older adults do not – is entry into employment. This is the problem that youth-specific programs need to address, and this is the issue addressed in this paper. To do so, this paper argues that youth employment interventions should first diagnose the actual constraints that youth face in accessing the specific segments of the economy where employment opportunities are growing. Although increased educational enrollment has generated greater aspirations and demand for wage employment from the youth population, if most employment is still found in production of goods and services by household farms and firms with limited outside labor, this paper argues that programs to help youth should target opportunities in this

² In developing countries, the definition of employment is broader than wage or salaried positions with an employer. Many individuals hold jobs that are better characterized as 'activities that generate actual or imputed income, monetary or in-kind, formal or informal.' Individuals often perform multiple activities or jobs, which in aggregate constitute a 'mixed livelihood'.

segment of the economy. Strategies, intervention design, and the theory of change underlying a youth employment intervention need to take this into account.

The paper argues that programs trying to help youth snag the few wage-earning opportunities in a situation of excess supply do not create economic growth or more employment opportunities, but simply redistribute existing opportunities. Yet this is what most youth employment programs in developing countries do. Most research on program impact covers this type of program. It is not surprising that impact evaluations have found mixed results from these interventions, and where results were positive, they come at a high cost. More importantly, recent research is finding that successful youth placement in these jobs does indeed come at the expense of others (displacement). Far better would be to support entrance into self-employment. Evidence on interventions that can help youth succeed in household production is at last beginning to appear. Simultaneously, countries should try to address broader labor market challenges by growing wage employment opportunities in existing firms, and as well as encourage new firm entrance.

The paper contributes to the emerging literature on youth employment interventions by looking at the youth employment challenge through the lens of structural transformation to examine what youth employment interventions can do to help youth transition successfully to a stable livelihood in low and lower-middle income countries. A second contribution is to review the most rigorous evidence from impact evaluations of youth employment interventions, grouped into programs that tried to help youth enter wage employment, programs that tried to create more wage employment, and programs that tried to help youth enter self-employment. Several previous literature reviews have reviewed the impact evaluation evidence on employment programs, including Card, Kluve, and Weber (2015) and Kluve et al. (2016). In both of these reviews, the majority of studies cited are from member countries of the Organization for Economic Co-operation and Development (OECD), and very few are from low- and lower-middle-income countries. As argued in section 2, the employment context in low- and lower-middle-income countries is very different from the OECD one owing to the lack of structural transformation. In addition, the scope of this review is broader than the scope of the above cited reviews. The Card, Kluve and Weber (2015) review covers Active Labor Market Programs (ALMPs), including post-school training, job search assistance, and subsidized employment. David McKenzie's (2017) recent review also limits its coverage to this category of program while focusing on low- and lower-middle-income countries. The Kluve et al., (2016) review is broader, as it covers self-employment assistance as well (called "entrepreneurship training"); this type of intervention made up 12 percent of the programs reviewed. By contrast, the review in this paper covers all of these types of programs as well programs to support existing firms to increase employment.

The paper concludes that it may be time for a fundamental reassessment of youth employment strategies, as well as the effectiveness of programs to help youth enter into employment in low-income and lower-middle income countries. The case for pursuing especially job-specific youth employment interventions for wage employment is in serious doubt. Not only do the majority not show lasting results, but there is emerging evidence of displacement – no net employment gain, but possible harm to someone else. A stronger case can be made for interventions that expand employment and firm entry. Likewise, in developing countries, there is a case for interventions to speed the transition to self-employment. In this category, cash seems to be a very cost-effective intervention as a boost to business entry, even if the effects may subsequently fade.

Other promising intervention areas include support for "soft" or non-cognitive skills development and social integration among youth. These seem to be the skills that employers are looking for, and finding in short supply, although again the evidence from low and lower-middle income countries is weaker in terms of employers' demands and program outcomes. Research in developed countries has found

them strongly linked to employment outcomes (Heckman and Kautz, 2013). These skills are often called ‘transferable skills’ because, in contrast to technical and vocational training, these skills are not industry or firm specific, so the firms usually will not pay for this type of training. The skills learned can be applied in a variety of different settings, including in school, and in self-employment and wage employment. However, evaluations of most of these programs in developing countries have not tracked employment outcomes. It may be helpful to experiment more with transferable skills development initiatives, combined with cash transfers to youth or access to finance. Finally, it may be time to reconsider an approach to youth development that focuses only on employment outcomes. It may be that it was this siloed approach led to expensive programs developing industry and job-specific technical and vocational skills, instead of the broader, foundational cognitive and noncognitive transferable skills not currently developed in basic education systems that have pay-offs in multiple domains, including economic outcomes.

2 The youth employment problem in low-income countries – a framework

It is widely agreed that the transformation of an economy from a fundamentally agrarian, subsistence mode to an urbanized, integrated, and enterprise-dominated mode is the essence of economic development, and the wellspring of continuous improvement in economic welfare (Herrendorf et al, 2013). Historically, this involves a movement of production from the household sphere—on family farms, in family businesses, commonly called the *informal* sector - to enterprises (the formal sector).³ Household businesses—called household enterprises (HEs)—are distinct from modern enterprises as they are not the growth-oriented enterprises common in developed economies (Filmer and Fox, 2014). Modern enterprises are characterized by newer technology, economies of scale, and effective management of physical, financial, and human resources through specialized departments, all working toward higher profits in a competitive environment.

Structural transformation is seen in both output (productivity) and employment space; the latter is known the *employment transformation*. The structure of employment changes more slowly than the structure of output, because the modern firms have to be created, and their creation requires more capital and knowhow than household production. As a result, it is common to find that the share of agriculture in GDP has fallen to 30 percent or less in lower-middle-income countries, while 60 percent or more of the labor force is still working on farms (Timmer and Akkus, 2008), with another 20 percent in HEs. Only in upper-middle-income and high-income countries does most of the labor force find work outside the household sphere of production in *formal*, modern enterprises or in the public sector, as wage or salaried labor (Figure 1).

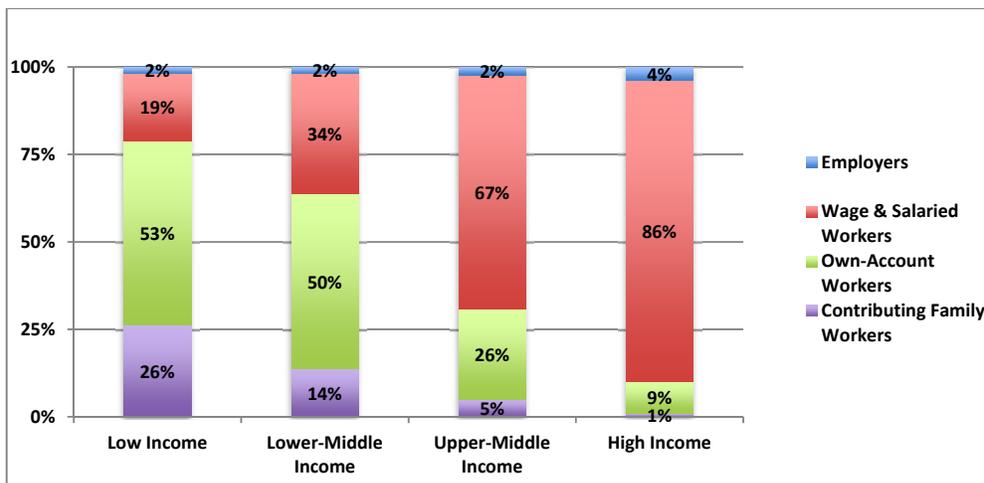
The rate at which output and employment transformation occurs is affected by several factors; one is the speed of labor force growth.⁴ If the growth of employment in firms is much greater than the growth of the labor force, then the employment transformation will move with the output transformation, with a slight lag. If the labor force is still growing rapidly (owing to slowly declining fertility, for example) then the employment transformation shown in Figure 1 will proceed more slowly, and the share of the labor force in household production will stay high, despite rising income.

³ This employment is classified as own account workers (self-employed) and contributing family members in “status in employment” classifications such as those shown in Figure 1.

⁴ For definitions and further discussion of the role of structural transformation in development and employment creation, see Fox and Thomas, (2016), and the references therein.

Only if the growth in wage jobs weighted by its share in the labor force exceeds growth of the labor force will the share of employment in nonwage jobs fall rapidly.

Figure 1: Employment structure by income group



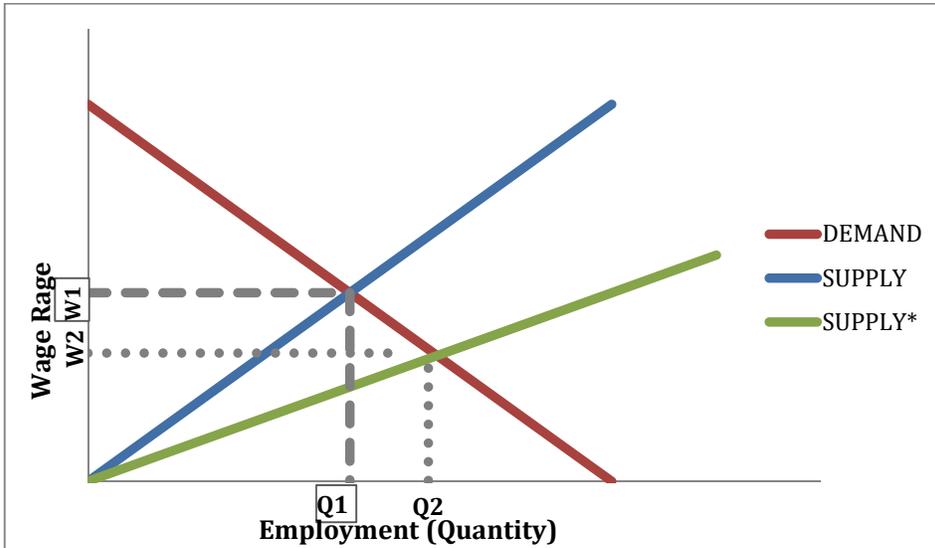
Source: ILO Stat, 2016.

People looking for jobs and firms looking for employees interact in the labor market (Figure 2). The intersection of the supply of labor and firm demand establishes the market wage in the standard or classical model.⁵ Wages at any point adjust to equilibrate supply and demand—as shown in Figure 2, where W_1 is the equilibrium wage. In a growing, developed economy, most workers will find jobs, allowing for some spatial frictions or temporary joblessness during the search process. Some workers will potentially remain out of the labor force because the equilibrium wage rate is too low to induce entry. As the economy grows, demand for labor shifts out. As the population grows, the labor supply curve shifts out. A new equilibrium results.

Most people enter the labor market in earnest after leaving school. If the labor supply is growing faster than labor demand, the equilibrium wage could fall. For example, where labor markets are differentiated by education, an increase in educated labor could cause that supply curve to shift out faster than the demand curve, causing wages for educated workers to fall. Figure 2 shows this effect as W_2 .

Figure 2: A classical model of the labor market

⁵ Skill differentials could create a number of labor markets, with integration between them.



The classical model of the labor market illustrated in Figure 2 is an oversimplification, of course, even for developed countries. Informational asymmetries between job candidates and firms, along with other frictions, will to varying degrees reduce the market's efficiency. It is difficult to reduce nominal wages, so some unemployment may result if the supply is increasing faster than demand. To compensate for the overwhelming power of employers in large firms relative to the individual employee, governments may enact employment protection laws and a minimum wage, which may reduce labor demand somewhat because wages cannot fall to a market clearing level. Economies with effective labor market institutions can address these frictions by improving information and providing social safety nets for those who are temporarily unemployed, reducing the potential for adverse effects on labor market participants.

In low-income countries, the classical model does not hold either, but for different reasons. Low and lower middle-income countries are characterized by a perpetual shortage of shortage of firms relative to the supply of labor – a structural transformation problem. This demand-side problem cannot be solved with temporary solutions or social insurance because it is structural; it is not an insurable risk. Until the growth in new firms increases dramatically and the growth in the labor force declines significantly, the labor market will not clear.

In this situation, the supply of labor is completely elastic—as far as firms are concerned. Firms can hire as many workers as they want at the going wage rate, and the wage does not fall to zero (or near-zero) as expected in the model shown in Figure 2. The entry-level wage is fixed, either by an actual minimum wage set by government, or by the cost of living and transport in urban areas and traveling to and from work. Workers will not accept wages below subsistence living costs. As a result, the labor market looks more like the model in Figure 3, where a flat segment dominates the supply curve at the prevailing wage. Amount of labor hired is set by the demand curve, Q_1 , even though people at Q_2 are also willing to work for this wage. Those not hired ($Q_2 - Q_1$, group B) are either unemployed, waiting for an increase in labor demand to give them a chance at a job, or they enter informal employment (the household production sphere).

In reality in a low-income country, most people do not even bother to look for wage jobs. They already know there are more workers than jobs. Since employment in modern firms or the public sector often requires more education than the average labor force participant in a low-income country achieves,

they may see little reason to search for a wage job. If they have no work on the family farm or in the household business, they stay home, doing chores or waiting for an opportunity.

Figure 3: A model of the developing country labor market

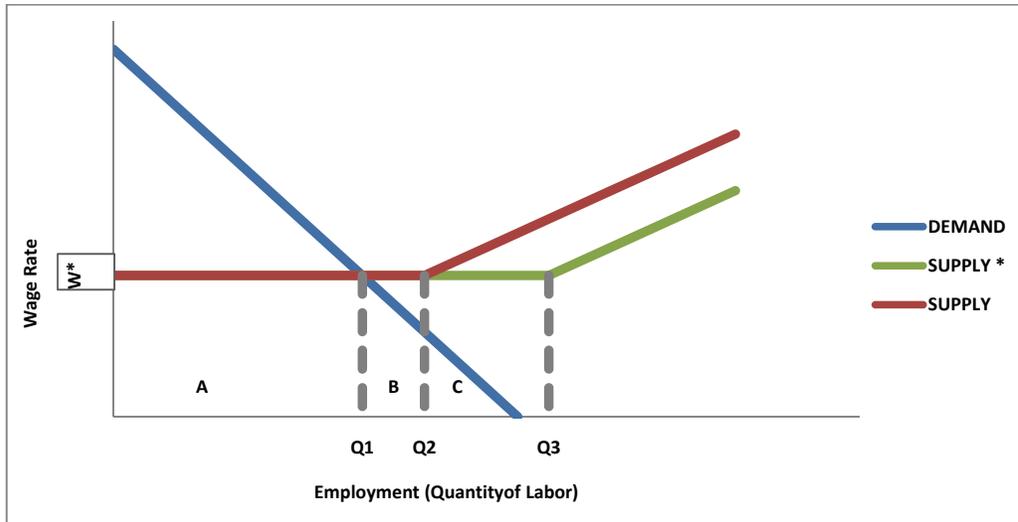


Figure 3 is especially important for understanding the youth employment challenge, as it illustrates the market for entry-level jobs almost perfectly. To an employer, new entrants to the labor market mostly look alike (assuming that they all have the required minimum education). The employer is indifferent between those workers in the rectangle bordered by Q_1 (group A) and those in the trapezoid bordered by Q_1 and Q_2 (group B), who were not at the front of the B queue so did not get hired. If, through some kind of job matching intervention, those in group B move to the front of the line and get hired, some of group A will not get hired. But total employment will not go up. The only way total employment goes up is if firms start hiring more workers than before (through the expansion of production by existing firms, or the creation of new firms), so that the demand curve shifts out. From this perspective, the youth employment problem is really just a special case of the overall labor market challenge—an oversupply of workers relative to the number of firms. The evidence from enterprise and household surveys suggests that as wage employment increases, youth employment expands proportionately (Filmer and Fox, 2014).

Suppose that an employer wants entry-level workers to have some work experience. In this case the employer would prefer not to hire youth who have recently left school. The employer wants to hire entry-level workers who have been out of school for a few years, and who have worked in temporary jobs or in the family farm or business. Only after this pool is exhausted will the younger job seekers be hired. So, to help the younger individuals get a job, the government finances an apprenticeship or internship program, possibly combined with vocational training, so that youth entering the labor market can compete effectively with those already looking for jobs, who have some work experience. The effect of this intervention is to move the supply curve out to S^* . Now the number of people eligible for an entry-level wage job has expanded to Q_3 and includes groups A, B, and C. But the total number of jobs has not expanded. The intervention simply moved some youth into group A, but bounced some other youth or some slightly older adults still looking for an entry-level job into groups B and C. Without a shift in the demand curve, the intervention effect was only *displacement*. Younger job seekers displaced older job seekers in line for jobs.

If the participants in the intervention were somehow marginalized or disadvantaged, perhaps the cost of the intervention could be justified. But making this determination requires knowing who did not get a job, and evaluating their circumstances as well. From a social welfare point of view, because we do not know who lost out, this type of trade-off is very difficult to evaluate, and generally discouraged. Displacement effects are important in estimating the true impact and cost-benefit of an employment program, but are rarely considered.

But what if employers cannot find people to fill entry level jobs? In this case Figure 3 is also an oversimplification. Even entry level labor markets can be segmented – by geography, for example, or by type of pre-employment education and training. In a rapidly growing economy, in some segments job creation is happening rapidly and wages are beginning to rise, there may be cost-effective interventions that reduce labor market frictions. These interventions might improve the flow of information about available jobs and their entry-level skill requirements, as well as help youth learn transferable, “employability” skills. Programs to connect rural youths with urban jobs, for example, by subsidizing transportation costs and solving networking problems would also fall in this category.

Given the shortage of wage jobs in low-income economies, *the real challenge for employing youth is to help them gain a foothold in the informal sector*, either in farming or non-farm household businesses. The objective of such an intervention would be livelihood development, not firm growth. Since these youth will have to find an economic opportunity and exploit it, interventions such as training, apprenticeship, or access to finance might be justified. In this case displacement is rarely a concern, so the key issues are the cost-effectiveness of the intervention, and who should finance it.

In sum, the opportunities for youth are a function of the overall set of employment opportunities in a country. Stakeholders need to be aware of this so that they do not misdiagnose the problems facing youth as they try to find a stable and productive livelihood. Employment transformation takes time, and it lags economic transformation. It is an economic growth and development problem. The labor market model shown in Figure 3 suggests that failure to consider this point can lead to strategies which are at best not cost-effective and ignore the situation and prospects of most youth. In the next section, a systematic review of recent impact evaluations of programs for youth employment in developing countries is presented, using the lens of structural transformation.

3 Youth employment programs: Lessons from impact evaluations

3.1 Types of interventions and theories of change

As the earlier discussion of employment problems in low-income countries illustrates, most constraints youth face in the transition to work are closely related to the rate of economic transformation in each country, and thus are shared by youth and adults. Some constraints, however, such as incomplete information and limited noncognitive skills related to job readiness, are specific to youth. Adults who are successful in the labor market have overcome these issues, often through a period of post-school search and exploration. Stakeholders (public or private) seeking to help youth overcome these constraints have developed and implemented a variety of interventions; these can be categorized as addressing supply side constraints or demand side ones (usually related to the business climate). A third type of intervention, not discussed in this paper, includes reforms and changes to the institutional environment.⁶

⁶Institutional interventions are designed to improve public sector capacity or better regulate key markets (financial, labor, land, or goods and services) to improve employment outcomes. Rigorous impact evaluations of this type of intervention are rare.

- *Supply-side interventions* are designed to improve the characteristics of actual and prospective labor force participants in order to raise earnings (including helping them to enter the labor force or exit unemployment). These interventions include skills training: in vocational and technical skills, in business skills for self-employment, and in noncognitive transferrable skills (called life or employability skills). They may also include counseling and mentoring services for either self- or wage-employment, and transportation subsidies to help youth search for jobs. Although not strictly a supply-side intervention, matching services to reduce information deficits and frictions by linking youth to job vacancies are usually put in this classification.
- *Business climate interventions* are designed to improve factors outside the control of the labor force participants that affect labor demand and productivity. In the case of wage employment, interventions may benefit firms in order to affect their employment decisions—for example, by raising the profitability of firms and helping them to expand (through management training, mentoring, and incubation services); increasing access to finance; reducing firm taxation; investing in infrastructure to support firm entry and growth; and providing employment subsidies to encourage firms to hire youth.⁷ In the case of self-employment, business climate interventions may benefit actual or potential self-employed business owners by affecting choice of activity, earnings potential, and risk.

Different types of youth interventions will have different theories of change. For example:

- Supply-side interventions assume that *the business climate is adequate and creating jobs*, but youth are not qualified enough for them. In the absence of the intervention, the jobs would go unfilled, or the potential employer would wait until a qualified applicant appears. This means that labor demand intersects labor supply at the upward sloping portion of the supply curve.
- Business climate interventions assume that *the supply of youth with the characteristics needed to succeed in employment is adequate*, but the business climate needs to improve to generate more and better opportunities for youth. These interventions try to move out the demand curve along the supply curve.

Most youth employment interventions are supply side ones, and of these, almost all involve some kind of training.⁸ As discussed in Section 2, the assumptions behind supply-side interventions for wage employment are certainly open to question in low-income countries.

Because multiple constraints can be involved, youth employment issues are often addressed by several interventions. This complexity often makes program evaluation difficult, especially impact evaluation, as it is not clear which component was most effective in alleviating which constraint, and what might be the most cost-effective way to move forward.

A critical challenge in experimental research on employment interventions is measuring displacement. Most studies have not even tried to do so. Although displacement can be difficult to measure in an impact evaluation, a few have been able to do it. A Ugandan study measured displacement by randomizing the firms which participated in the project and received vocational training graduates or interns (Alfonsi et al., 2017). This study did find complete displacement. A study in France measured displacement effects by varying the intensity of the treatment across areas (Crepon et al., 2012). While the study did find that the employment program helped treated individuals within the treatment area find a job “slightly faster” than those who were not in the study, when the authors compared areas where most youth were allowed to participate (treated) with areas where few youth were allowed to

⁷ Most firm-level interventions aim to increase total employment, not youth employment, a point discussed below.

⁸ 82 percent of the interventions listed in the ILO’s Youth Employment Program Inventory are training programs.

participate, they found that the higher the share of youth allowed to participate, the worse the outcomes were in the short term. In other words, the treatment effect of the program came directly at the expense of the control group. The program had little or no impact on total unemployment in the area, and no medium-term effect at all—the treatment and control groups had similar outcomes in the medium term.

Displacement can also happen with projects to help youth start HEs—the new HEs may outcompete established HEs in the same sector and area. Again, most impact evaluations do not look for this effect. An exception is Blattman et al.'s (2013) evaluation of the WINGS intervention in post-conflict Uganda, where adult women were helped to leave agriculture and start a retail trading business. They found that less productive men traders lost business to the women who entered.

With these caveats in place, the remainder of this section examines the results of impact evaluation research in developing countries on programs that are expected to improve employment outcomes. Consistent with the essence of the youth problem, the analysis covers programs that target and measure outcomes primarily relevant to youth: *the generation of new employment opportunities*. We do not cover programs trying to increase earnings in existing employment (such as increased profits or wages, for example), while recognizing that for youth trying to develop a self-employment livelihood, earnings matter as well. In organizing the evidence, we focus primarily on low- and lower-middle income countries. In some cases, where evidence is scarce, we include studies from upper middle income countries such as Turkey, South Africa, and a few Latin American countries.

3.2 What do we know about interventions to increase wage employment among youth?

3.2.1 Evaluation results: Supply-side programs to increase wage employment

Training programs. The most common intervention to help youth enter the wage employment sector is training and it is also the most frequently evaluated intervention. Impact evaluations of training programs show at best mixed results (Table 1). Training programs vary in length and focus, so it is hard to know how much training is needed for what jobs and what participants. Programs tend to provide a bundle of support and training aimed at improving youth employability for wage jobs. Most include vocational skills training, often with an internship/apprenticeship component. Some include noncognitive skills training. The heterogeneity of the programs, as well as the relatively infrequent use of baseline and endline skills testing as an intermediate outcome makes it more difficult to draw conclusions from the studies.

Key results from the literature are:

- Few evaluated programs provided only vocational training. Of these, positive effects on employment were found in India for a female-only intervention. Training voucher programs, once considered “best practice,” did not show positive effects in Kenya and Turkey.
- Vocational training plus life skills and mentoring showed positive effects for young women in Liberia and Nepal.
- Comprehensive programs, which combine training (vocational, or vocational plus life skills) with internships or other kinds of work experience showed positive effects in Colombia, the Republic of Yemen, Kenya, and Nepal, but not in Dominican Republic or Peru. In the Republic of Yemen, the participants were university graduates (and they received more limited pre-internship training), while in Kenya participants were secondary school graduates, and the

training was more extensive and mostly vocationally-oriented. The *Jóvenes* model in Latin America also combined training with internships for mostly good results.

- Several programs showed good effects initially but had limited or no effects in the longer term (Colombia, Dominican Republic, and Turkey).
- The only program that checked for displacement, found it (Alfonsi et al, 2017).

Table 1: Supply-side interventions to increase wage employment

Inputs	Key results
Technical and vocational training (TVT), life skills, work experience, or combinations	Life skills only interventions in Jordan and Kenya found no effects on employment or earnings.
	TVT only interventions had no effects on earnings or employment in Kenya or Turkey. India saw slightly positive effects for female employment and earnings, but most likely from displacement. In Uganda a vocational training program resulted in increased employment and earnings for youth, but with complete displacement.
	TVT and/or life skills together with work experience (internship/apprenticeship) and/or mentoring showed mixed results by region and gender. <i>Positive:</i> Colombia (<i>Jóvenes</i>), Kenya, Nepal, Peru (<i>Projóvenes, 2016</i>), and Yemen. <i>Positive women-only programs:</i> Kenya (ICT training), Liberia (AGI). <i>No effect:</i> Argentina, Dominican Republic, and Peru (2010). In Nepal and Liberia, trainers were given financial incentives to place students. Overall, TVT and work experience together seem to have the greatest effect on participation in the formal sector. All studies ignore displacement effects.
	A male-only program in Malawi found that short training in field work plus 5 days of office experience increased future employment in temp jobs.
Employment matching services and counseling	The use of job fairs to match job seekers and employers in both Ethiopia and the Philippines noted no significant employment or earning effects.
	Recruitment services targeting young rural women in India for a new employment sector (business process outsourcing) showed positive employment and earnings effects. The novelty of the sector suggests that the recruitment effect may not be displacement (e.g. firms were labor constrained).
	In Jordan, a labor market matching service had no employment or earnings effects and was highly cost-ineffective. Cost per match (assessing ability and fit to job) averaged ~US\$20K.
	A subsidized apprenticeship program in Uganda found positive earnings effects, but no overall effect on employment, as showed a full employment displacement.
Incentives for job search	Interventions testing bus subsidies for job seekers found no employment or income effects in Ethiopia, but participants had a higher likelihood of permanent employment due to longer, more intensive job searches. In Bangladesh, a subsidy to encourage urban migration during the lean season reported increased employment and earnings for beneficiaries.
	While not intended as an incentive for job search, a wage subsidy program in South Africa increased wage employment even though 98% of the firms did not use the wage subsidy. This result suggests that subsidies encouraged beneficiaries to search longer, but the net effect is probably only displacement.

Note: For details and references on the programs evaluated, see Appendix A.

The results on *life skills training* (a form of noncognitive skills training) are somewhat of a puzzle. There is a sizable literature on the importance of noncognitive skills for employability and earnings (Bertrand et al, 2013). Interviews with African employers show that their main complaint about youth is that they lack “employability” skills, not technical skills (Filmer and Fox, 2014). Life skills are cheaper to teach than technical skills, so teaching them should be a good, low-cost intervention. Yet several impact evaluations have shown that life skills programs, by themselves, did not increase employment rates. One of these programs lasted only two weeks, a very short time. Perhaps these skills have to be “learned while doing,” which may be why internships were shown to be effective in evaluations. It may also explain the high returns to only two weeks of training and one week of work for a survey research

firm in Malawi. Experience as an administrative assistant or as an interviewer both led to a much higher probability of subsequent employment. More research on this topic seems to be warranted.

The majority of programs evaluated used *private training organizations*. These programs also showed the best results. A Kenya program used both public and private training institutes, but the number of people placed in wage employment was so small (less than 5 percent of the whole sample) that the study could not analyze which training provider was more effective.

Average employment effects for the comprehensive programs are pretty low (less than 10 percent on average), but these programs are expensive (about US\$1,000–2,000 per capita). Given the risk of displacement, it seems fair to question whether this is the best use of public or donor funds. The more elite the participants are (the university graduates in the Republic of Yemen, for instance), the more regressive are the public expenditures financing these programs, especially in low-income countries.

The evidence on training programs also suggests that employment effects are limited, mostly short-term. This leads to further questions on cost. For example, public TVT is 4–10 times as expensive on a per capita basis as general secondary school. It showed no effects in Kenya, a country struggling to provide access to general secondary education. The implication is that scarce public funds would be better spent on expanding secondary education. Meanwhile, the evaluation of the Argentina *Jóvenes* program, a privately-run program using private training providers, found that 18 months after program completion there was an estimated average monthly income gain of US\$83, conditional on being employed. After 33 months, this average gain fell to US\$45. With the cost per participant surpassing US\$1,700, participants would be ill-advised to borrow for this experience: the loan payoff period would be very lengthy and the income stream likely to continue to decline over time. Interest alone on the loan would equal about one-third of the average gain after 33 months.

It is possible that incorporating a stronger emphasis on job “knowhow” into general education may prove to be a cheaper way to achieve the same gains in employability for youth. It might also be effective to help youth get work experience while in basic secondary school through internship and apprenticeship opportunities. These approaches should be tested rigorously.

Matching services and counseling for wage jobs. Another barrier to wage employment in low- and lower-middle-income countries is thought to be search costs. Search costs can be characterized as an informational barrier; firms face a cost in assessing the quality or skills of an unknown job seeker, and youth may not know how to find jobs on offer or what to expect. The assumption is that labor market frictions are a key reason why firms are slow to hire new workers. If that is true, then interventions that reduce search costs should result in sustained employment growth. One study in the United States found that better matching of employees and employers through agglomeration raises productivity and growth (Andersson et al. 2007); one would expect to find the same effect in low-income countries.

To test this idea, researchers organized job fairs in Ethiopia and the Philippines and randomly distributed invitations to youth looking for jobs. These experiments showed no employment or earnings effects. In the study of the French program mentioned previously, these services, combined with counseling and mentoring of job seekers, created no new jobs, only displacement. Thus, even though job matching services tend to cost less than training programs, they are not recommended. Whatever employment-reducing frictions exist around information and matching, they cannot be reduced through job placement services.

The exception to the limitations of matching and job-search programs comes from an apprenticeship program in Ghana. The program offered a partial wage subsidy to firms accepting apprentices. Firms earned higher revenues and profits without reducing other labor, suggesting low displacement.

Apprentices were more likely to be employed after the subsidy ended (McCasland and Hardy, 2016). However, Ghana may be unique. Apprentices in Ghana typically finance a portion of their training, and this self-investment is used as a signal of the applicant's quality or motivation as a job seeker. The program, which targeted lower-income youth, substituted a cognitive test plus the commitment of time (showing up to several job-matching sessions) for a fee as a signal of motivation. These arrangements allowed low-income youths to get an apprenticeship. Since firms that did not get apprentices through this program did not hire other apprentices, while those that did kept theirs on, it is possible that displacement was low, and lowering the search or screening costs encouraged firms to hire apprentices they would not have considered otherwise, thus moving out demand.

Incentives for job search. Understandably, job seekers get discouraged (or run out of money to finance the search). Two interventions suggest that it is possible to incentivize job seekers to search harder: transportation subsidies and wage subsidies. In Ethiopia, the transportation subsidy experiment showed no overall employment or earnings effect, but it did show a formal employment effect (participants were more likely to get a formal job, which did not pay more but perhaps had other benefits). In Bangladesh, the transportation subsidy encouraged rural workers to go to cities in the off-season in search of work and resulted in increased employment and earnings. In South Africa, a wage subsidy scheme appeared to have the unintended effect of encouraging workers to apply and firms to hire them, even though the firms did not take up the subsidy. In all of these cases, however, it is highly likely that the effect was purely displacement. In Ethiopia, less educated job seekers benefitted the most, suggesting that there may have been a small positive redistribution effect.

Summing up. Overall, the results on supply-side interventions are not particularly encouraging. While short term results for participants appear in some impact evaluations, these tend to disappear and may be mostly or entirely at the expense of others. One reason may be that urban labor markets (where most wage jobs are located) are actually pretty efficient at connecting job seekers and firms looking to hire entry-level employees.⁹ In other words, labor market symptoms such as the unemployment of educated youth or presence of a large informal economy are caused by factors outside the labor market. *They are caused by the lack of firms and jobs, not by the characteristics of the job seekers.* While the Ghana apprenticeship experience and the Ethiopia transport experiment suggest that low-cost efforts to match disadvantaged workers with employers may deserve more testing as an income redistribution measure, overall, the real need is to increase the supply of jobs on offer – which requires continued transformation. There is no shortcut.

3.2.2 Does gender matter?

In some countries, women face strong barriers to employment and income earning opportunities. These are not issues of structural transformation, but norms and traditions which limit economic activities and behavior of women (World Bank, 2012). Should interventions tailor their approach to these constraints? The idea that training efficacy may have a gender-differenced effect is not consistently supported by evidence. Studies suggest that in the short-to-medium-term, there may be some differences, with female beneficiaries responding more positively to training than male counterparts.

With gains to employment disappearing in the follow up, it may be that training accelerates entry for females, relative to males (in some cases), but not that it is necessarily preferred for women. Additionally, accelerating entry through training programs may not be the most cost-effective approach for increasing women's labor force participation. Studies that have directly tested for gender

⁹ I am grateful to David McKenzie for first drawing my attention to this conclusion. He makes this point as well in his recent survey of the evidence for training programs (McKenzie, 2017).

differences find mixed results - either no statistically significant differences in outcomes by gender, or stronger effects for male participants (McKenzie, 2017). Thus, while gender certainly has an impact on skill development, occupational choice and access to capital, the assumption that young women *need* vocational training to access employment may not hold. There may be cheaper and more effective approaches.

3.2.3 Evaluation results: Demand-side interventions for wage employment

All developing countries need strategies to increase investment in labor-intensive enterprises in order to grow wage employment. Over the medium term, growth in wage employment will require an accelerated transformation process to take hold, in which more and more private firms become established and create more and more jobs. An increasingly common type of development program, which may have employment effects in the near term, is to build the profitability of businesses. In the last few years, the number of completed impact evaluations on these programs has grown dramatically, but figuring out what works remains difficult, for the following reasons.

- Most countries now participate in multiple assessments of their “business climate” (by the World Bank, World Economic Forum, and others). These assessments usually find deficiencies, but they do not always agree on which ones are important. Another problem with these assessments (from the perspective of this review) is that they rarely focus on which constraints have the greatest effect on investment in labor-intensive enterprises. Finally, many constraints are not easily subjected to an impact evaluation (infrastructure construction is one example).
- In most cases, even when interventions have been subject to an impact evaluation, employment growth is often not among the outcomes evaluated.¹⁰
- It is particularly difficult to sort out what would work for youth, because employment creation outcomes are not segregated by entry level jobs vs. higher skill jobs.

Nonetheless, some evidence is available on successful interventions to increase demand for labor in modern non-agricultural firms.¹¹ In a systematic review for 3ie, Piza et al., (2016) argue that impact evaluation evidence shows that business support services for small and medium enterprises (SMEs)—training, management support, credit lines, innovation policies, and interventions that encourage firms to coordinate to realize agglomeration externalities—do increase employment, where that outcome has been measured. They also found that the number of impact evaluations is small and the interventions too heterogeneous to tease out which ones are more effective.

The discussion of results that follows (summarized in Table 2) does not attempt to determine which interventions to try, but simply catalogues where they have been found to be effective.¹² The key results are:

- Reducing constraints to firm expansion does encourage firms to hire more workers.
- Interventions targeted to larger firms seem more likely to have an employment effect.

Increasing access to finance for small and large firms to expand. The lack of affordable credit to expand operations is the constraint most commonly cited by business operators. High interest rates

¹⁰ See the Grimm and Paffhausen (2015) systematic review for a discussion of this point. Although the McKenzie and Woodruff (2013) review of business training interventions is a key systematic review, it did not cover employment outcomes at all.

¹¹ In this section, a large share of the evidence comes from middle income countries. The applications to lower income countries are highlighted.

¹² Similar to the supply-side interventions, a number of the demand-side programs included in the Piza et al., (2016) study used multiple interventions, making it difficult to determine which one actually made a difference.

and high spreads between deposit and lending rates are characteristic of the underdeveloped financial markets found in low-income developing countries, so it is not surprising that many interventions seek to offer entrepreneurs cheaper money for investment and working capital. It is difficult to use experimental evaluations in this area, as banks do not want to offer loans to a random selection of borrowers and see who defaults. Empirical evidence suggests, however, that increasing access to finance, particularly for micro, small, and medium enterprises (which face bigger credit constraints) and firms that rely more heavily on debt finance, does create more jobs. Intuitively, it makes sense that access to cheap financing will allow firms to purchase more capital assets, and that converting assets into increased production usually requires more labor.¹³

Table 2: Demand-side interventions to increase wage employment

Inputs	Key results
Access to finance (credit, grants)	Microcredit: Evaluations of six studies in Bosnia, Ethiopia, India, Mexico, Morocco, and Mongolia showed positive effects for start ups, but no employment effects for existing firms. Small loans (US\$180–200) in Uganda also showed no employment effects.
	Larger loans: Subsidized credit and credit guarantees had slightly positive employment effects in Brazil, Colombia, and in larger firms in India. Microenterprises in India saw no employment effect.
	In Nigeria, a large cash grant (averaging US\$50,000) was awarded to existing entrepreneurs for a business plan competition, with positive effects on employment. Grants in Uganda, which were only about US\$200, experienced low uptake and had no effect on employment.
Financial literacy, business development services (BDS), and managerial skills	Quality business development consulting , particularly when targeted at developing management skills and provided by consulting firms, showed positive employment effects in Argentina, Chile, India, and Mexico. Depending on the provider, BDS interventions can vary in cost-effectiveness and many effects may take several years to develop. Area of intervention matters: A BDS intervention in South Africa found that training focused on marketing and sales produced employment effects, while training focused on operational practices and financial management increased efficiency and firm profits without corresponding increases in employment or the wage bill.
	Firm type matters: A BDS training intervention in Ghana targeted to microenterprises found no employment or earning effects.
Formalization, tax policy	Interventions to increase registration and business formalization show limited results. Simplifying registration processes in Argentina and Brazil showed increases in formal employment, but net effects on employment are unclear. Other Latin American countries similarly showed that formalization might have an effect on new or entering firms, but existing firms showed no notable employment effects. Paying firms to formalize also showed no effects in Sri Lanka.
	Tax simplification and discounts for microenterprises appeared to have positive employment effects in Brazil and Mexico, although the quality of the evidence was weaker.
Electricity	Electricity access (assessed in terms of quality and quantity) has a clear impact on firm productivity and growth. A study in Ghana and a model India both showed positive employment and earnings effects from access to regular electricity. In Ghana, blackouts disproportionately affected employment in smaller firms.
Minimum wage, subsidies, and public works	In South Africa, the introduction of a minimum wage created some changes in employment patterns, reducing employment in agriculture and low-paid domestic labor, but employment effects in other sectors were limited.
	Wage subsidies showed no employment effects beyond the subsidy period in Jordan, South Africa, and Sri Lanka. In Mexico, wage subsidies during a recession increased worker retention and accelerated firm recovery, relative to control firms.
	India's public works program (MNREGA) has been successful in increasing employment and earnings in rural areas, with only partial displacement. In Malawi, a similar program found no displacement.

Note: For details and references on programs evaluated, see Appendix A.

Credit programs that favor larger businesses tend to have better results, for several reasons. First, larger businesses are much more likely to survive and be profitable (Page and Söderbom, 2012).

¹³ See Ayyagari et al., (2016).

Second, given the costs of banking, small firms often do not have accounts or cannot get loans through the formal banking system.¹⁴ Research in India used a phased-in and phased-out subsidized lending program for formal firms to see if they were constrained by a lack of credit. Large firms did indeed borrow more when credit was subsidized, and they expanded production and profits during that period. Small firms did not show the same results. An expansion in production is not the same as an expansion in employment, but the study also found that more labor-intensive firms benefitted more from the credit subsidy. Another program used excess demand and a discontinuity design to study the effect of subsidized credit in Brazil and Colombia. Businesses that received the credit expanded their operations and increased employment. These results suggest that credit constraints prevent formal firms from expanding employment, in part because they need credit to pay wages.

Lending to small firms has had more mixed results. A program in Nigeria gave very large grants (US\$50,000) to half of the small, established businesses (on average five employees) that were semi-finalists in a business plan competition. The evaluation showed highly positive employment effects. Not surprisingly, the cost per job was high (US\$8,500–9,600), equal to approximately 60 months of wages at the average rate.¹⁵ In contrast, a program in Uganda provided much smaller sums (closer to the size of a microfinance loan) to owners of established small businesses that expressed a desire to grow, and found no employment effects from either grants or loans. The Ugandan businesses were much smaller than the Nigerian ones, as at least half had no employees. Meanwhile, evidence from several studies of microfinance expansion shows no effects on employment in existing firms. Most of the microfinance client businesses were also very small, closer in size to those in the Uganda experiment. These results show the difficulty of expanding employment within small household and microenterprises, which are usually not growth-oriented.

While these studies provide the clearest possible evidence that the *price of credit* is a constraint to expanding employment, *scaling up grant programs or subsidized credit is probably not feasible in many settings*—for example, in Africa the costs would be much too high. These programs point to an alternative, however, which is the potential for financial sector reforms to lower the cost of funds to existing businesses. Reforms could entail changing regulatory regimes to encourage entry and competition in the sector, for instance, or reducing the cost of business for banks by setting up credit bureaus.

Management training and business development services (BDS). Management training is a popular intervention in developing countries to help firms grow. Numerous studies have shown that the quality of management and business practices has a large effect on sales, profits, productivity, and survival. It may also have an effect on employment, although this dimension is often neglected in impact evaluations. Programs offered included:

- Business skills training for potential or existing entrepreneurs (with or intending to have employees), covering topics such as bookkeeping, business planning, pricing, and legal requirements.
- Comprehensive interventions to improve management, including training but also mentorships or other specialized support (BDS). Financing is sometimes added.

¹⁴ Owing to regulatory requirements and other issues, retail banking has high fixed costs, making it uneconomical to serve customers with small accounts or servicing small loans. While mobile banking and microfinance innovations and the introduction of credit bureaus have improved access for lower-income customers, larger businesses still have an easier time getting credit. See Filmer and Fox (2014), Focus Note 3.

¹⁵ McKenzie (2015) notes that this is gross job creation. If the expanding firms put other firms out of business, then net job creation would be less. On the other hand, if the expanding firms increased demand for products produced by other firms, then the effect would be greater. He argues that it is unlikely that these spillover effects were large in either direction.

While *pure training* has demonstrated some positive business creation effects for HEs (see below), and some effects on sales and profits when offered to existing firms, the effects on job creation seem to be poor. Among eight programs for microenterprises or SMEs for which employment outcomes were tracked, only one (in Mexico) showed positive employment effects (Grimm and Paffhausen 2015). The rest showed no effects (five), or showed effects (two) but included other components such as loan/credits or wage subsidies, so the effectiveness of the training program alone cannot be established. In general, evaluations find that participants learn the material but have trouble applying it (in other words, the projects show outputs but no outcome). The inevitable question is whether the skills taught are actually needed by the owners of the mostly very small businesses that these programs targeted. McKenzie and Woodruff (2015) conclude that even in small firms employing five workers or less, better business practices lead to higher survival rates and faster sales growth, but they did not measure employment growth. The lack of success in employment growth after business training found by other researchers may indicate that while business practices could be improved, other constraints are more important.

The combination of services called *BDS* (including specialized services such as mentoring, support for supply chain development and market access, support for auditing and accounting) and specific plant management support (as opposed to generic business training) has a good record. This result is interesting, given that numerous studies argue that Africa suffers from a business management deficit, which may be reducing wage employment creation (Filmer and Fox, 2014). Grimm and Paffhausen (2015) reviewed six impact evaluations of BDS programs and found that all had positive employment effects, but the quality of the studies was relatively weak owing to an inability to randomize participants.

Confounding the results, however, is the fact that *pure training programs, with a more generic curriculum*, tend to target micro and small firms, while *BDS programs* tend to target larger firms because the services are quite expensive, perhaps even requiring a co-payment by the firms involved. For example, the services provided to Indian textile manufacturers evaluated in Bloom et al. (2013) cost US\$75,000 per firm (although they were highly effective; see below). The services evaluated by Bruhn and Karlan (2016) in a BDS program in Mexico cost almost US\$12,000 per firm (about US\$3,000 per job created).¹⁶

One example of the importance of management for employment comes from a study by Blattman and Dercon (2016) on hiring in manufacturing plants in Ethiopia. Economists often argue that large hiring costs deter new employment. Blattman and Dercon discovered that over half of initial hires did not complete the first week on the job. Either they did not even show up the first day, or they quit shortly after starting. Many reported that they quit because they thought they could make better money (or have a better work life) working for themselves. Only the less qualified employees stayed on the job, in part because they had fewer options outside the plant. Blattman and Dercon did not test the performance of those who stayed, but presumably it was adequate or the company would have fired them. Yet why did the human resource managers not adjust their qualification requirements and screen out the overqualified applicants? Do these inefficient hiring processes reduce employment because they drive up the cost of hiring? The study does not evaluate these questions.¹⁷

An experimental study by Bloom et al. (2013) on providing business management support to a random sample of targeted large textile firms in India is also an interesting case. The intervention provided free comprehensive consulting services (similar to what would be provided in BDS projects), the purpose of which was to encourage firms to use established good practices in quality control, inventory control,

¹⁶ See McKenzie (2017) for a discussion of the cost issue.

¹⁷ One component of BDS is help in human resource management, indicating the importance of this area for business success.

human resource management, and customer care. The study did not measure the employment impact of the intervention, as it focused on productivity and profits. It did note that after three years, firms that received the intervention were more likely to open up new plants. This result is another piece of evidence suggesting that management skill deficiencies are hindering the creation of wage employment. In a follow-on study, Anderson-MacDonald, Rajesh, and Zia (2014) found that only certain parts of the business process improvements encouraged firms to add employees—those targeted at marketing and sales. Others helped to increase profits but not employment. Anderson did not study the longer-term effect.

The issue of supporting large versus small firms for employment creation has received a lot of attention and has particular implications for employment interventions in Africa, where the majority of employment is in household, micro, and small firms. Studies have shown that such firms have a high death rate and rarely expand, whereas large firms survive to provide long-term employment. Indeed, firm creation seems to be a quite different process in Africa than in other regions (Bloom et al., 2013). Most large firms operating in Africa started out large; they did not grow from small or medium firms. Among the large firms created by domestic entrepreneurs, most were created by people who were previously brokers in foreign trade—an experience that helped them manage their input supply and break into export markets. Generally speaking, it should not matter if a firm is large or small; what should matter is the potential for it to grow. At present, however, a developing-country environment with uneven economic institutions seems to obstruct growth in small firms by being very risky for them, leading some to suggest that encouraging and supporting larger firms is a better strategy. The danger is that large firms may also be politically powerful and able to use mechanisms of government to impede the entry of other competitors.

Regulatory reform and other public sector interventions. *Regulation* (of employment and in other areas), especially as measured by the World Bank Ease of Doing Business Index, is often held up as a key obstacle to firm creation and expansion. There is some evidence that when regulations are simplified—the tax regime; business registration, licensing, and construction regulations; and employment protection legislation—more wage jobs are created. But most evaluations do not focus on employment per se. One famous study in India comparing provinces showed that a high level of employment protection legislation slowed growth in employment (Besley and Burgess, 2004). A follow-up study found that this result was driven largely by uncertainties in dispute resolution (Ahsan and Pages, 2007). This research, alongside results from Latin America on the employment effects of tax simplification, suggests that in some cases efforts to simplify procedures and increase the transparency of regulation are helpful as an employment policy. Initiatives that simply help firms comply with existing registration requirements have not shown an employment effect, because they have not changed the business environment at all (de Mel et al., 2013).

While a long debate continues on whether a *minimum wage policy* deters employment—especially youth employment—little empirical research has explored this question in Africa, where the implications for youth employment would be useful to understand. Bhorat et al., (2013) studied how rolling out minimum wages in six sectors in the Republic of South Africa affected youth employment. In five sectors they found no employment effects, but in agriculture they found that employment fell, perhaps because it is easier to substitute capital for labor in agriculture than in the other sectors studied, such as security or retail. The study also found significant levels of non-compliance with the minimum wage policy in half of the sectors, which may be why the effect was so muted.

Direct public financing for wage payments to private sector firms or public works employment has shown mixed effects. In Mexico, wage subsidies helped firms keep workers. In Turkey, analysis of the effect of a reduction in payroll taxes (a wage subsidy) on formal job creation suggested that most of

the resulting job creation that was observed came from firms making informal jobs formal. Although the increase in formal jobs boosted tax revenues, there was little net job creation. Similarly, in Colombia, a reduction in payroll taxes for the lowest-paid workers (those earning up to 10 times the minimum wage) increased the formalization of jobs, and it increased the probability that workers would have a formal job, especially in small firms (Kugler et al., 2017). The authors did not look for an effect on total employment. In Sri Lanka and Jordan, wage subsidies were completely ineffective. When the subsidy stopped, the employees were let go. Although general employment subsidies may deserve more attention in low-income countries (perhaps as part of a time-limited incentive package for large firms), youth-targeted wage subsidies do not, as the risk of displacement is very high.

Workfare (public works employment, usually in rural areas) has not been evaluated very often because the effects seem obvious: people have jobs for a few months. There could be displacement here as well, however. Two studies checked for this effect. In India, a small amount of displacement was found, while in Malawi no displacement was found (Goldberg, 2016). Some have hypothesized that public employment is a good way to teach youth “employability” skills, but this notion has not yet been tested in an impact evaluation.

Summing up. If the main constraints to an expansion of wage employment are on the demand (business climate) side, employment projects could try to release these constraints, but in many countries it is difficult to know which constraints are binding and how to release them. Problems such as regulation, management skill deficits, missing infrastructure services, and thin financial markets are easy to identify but harder to address effectively (and evaluate the results) in a project setting. The results from BDS projects are promising, but these projects tend to be complex and expensive. An added consideration is that evaluations of BDS projects have not identified the minimum conditions for such an investment to pay off. In situations of conflict, weak governance, or macroeconomic instability—all of which may also result from resource dependence—the demand-side interventions discussed here may struggle to be successful.

3.3 What do we know about programs to help youth enter self-employment?

Helping youth find a sustainable livelihood in the household sector—a livelihood which at the minimum earns enough income to keep youth out of poverty—may be *the* key employment challenge in Africa, especially among low-income countries. The household sector includes both household farms and firms (mostly self-employment), and over the next decade at least, it is likely to provide the majority of new employment in Africa. Analysis of data from Sub-Saharan Africa indicates that youth work in this sector almost as soon as they leave school, but it takes some time for them to be independent of their family (Filmer and Fox, 2014).

Limited evidence suggests that many youth enter the household enterprise sector through apprenticeships (Filmer and Fox, 2014), especially youth with lower levels of education. Most apprenticeships are informal, consisting of private arrangements between the owner of an established business and the apprentice, without any government supervision and without certification (Filmer and Fox, 2014). A small survey of 350 informal enterprises in Dar es Salaam found that more than half of the operators had apprentices, on average about two per firm (Nell and Shapiro, 1999).

Informal apprenticeships suffer from two issues. First, once apprentices have mastered their trade, they still need capital to start their business. If their family cannot help, they may end up working at apprenticeship wages for longer. Second, strong gender segregation prevails within the HE/informal business sector, with males working in carpentry, metal working, construction, mechanics, and so on while females concentrate in sewing/tailoring and hair dressing. Apprenticeships perpetuate this segregation to the detriment of women, who earn less in female-dominated fields, especially sewing

(Campos et al. 2012). In Ghana, half of women who apprenticed in tailoring never worked in the sector, but instead made a living as traders (where no apprenticeship is offered; Filmer and Fox 2014).

Interventions to help youth enter this sector (summarized in Table 3) try to overcome these constraints, often trying to affect both the skills of youth participants (supply side) and the business environment in which they work. The key results are:

- Training programs to help youth enter this sector are very heterogeneous, so it is difficult to draw conclusions.
- Even if training works, the surprising result is that cash may work just as well. Cash or credit programs combined with very limited business training also have shown success.

By far the simplest approach is to alleviate the *startup capital constraint* through grant or loan finance. Both have proved effective. An evaluation of six microfinance programs rolled out in areas where microfinance was previously unavailable showed that while they had no effect on the earnings of existing business, they did help people start business (not just youth, however; see Banerjee, Karlan, and Zinman, 2015). The effect tends to be short term, however. An impact evaluation in Kenya showed that cash grants of US\$200 helped young women in Nairobi start businesses, increasing employment and earnings. But the control group in the experiment caught up with the grant recipients in terms of employment and earnings after about 18 months, either through self-employment or wage employment. This result suggests that youth do eventually solve the startup capital problem (or, in an urban area, find wage employment paying equally well).

Table 3: Interventions for starting household enterprises and increasing self-employment

Inputs	Key results
Technical and vocational training (TVT) plus work experience	In Kenya, TVT only was tested with the use of vouchers for public and private trainers. There was no effect on earnings or employment.
	In India vocational training targeted to young women had only a slightly positive effect on employment.
	In Nepal, private trainers offering a tailored mix of vocational and business skills increased self-employment hours.
	In Malawi, vocational training plus apprenticeships provided self-reported increases in skills and self-confidence, but no labor market outcomes in the short run.
	In post-conflict Uganda (NUSAF program), finance and TVT together had a positive employment and earnings effect (startup), which was stronger for male participants.
Business skills plus life skills and mentorship	A business skills course for university youth in their last semester in Tunisia showed slightly positive effects, though no net increase in employment. The study found training shifted youth into more self-employment, reducing wage employment in the treatment group.
	In Uganda, a life skills and mentorship intervention for youth in secondary school had a positive earnings effect and increased the likelihood that participants were engaged in self-employment (EDUCATE!).
	In Nicaragua, a study adding 1-day business skills training with finance in a household conditional cash transfer program found generally positive employment effects through household enterprise startups. Similarly the WINGS program in Northern Uganda found a cash grant and business skills training for young women increased employment and earnings, even in a post-conflict area.
	When combined with life skills training and mentorship , business skills had positive effects on earnings and employment of young women in Liberia (EPAG) and Uganda (ELA). However replication of the Uganda (ELA) program in Tanzania found no employment effects.
	A microfranchising intervention—providing business models, startup capital, and connections to local supply-chains—in Kenya was ineffective at raising employment or earnings in the medium term but did speed entry into self-employment.

Finance	Cash grants of about US\$200 speeded up self-employment in Kenya (young females), and grants (\$300) plus limited training had positive results in Ethiopia.
	Evaluations of microcredit in six countries (Bosnia, Ethiopia, India, Mexico, Morocco, and Mongolia) showed positive effects on start-ups.

Note: For details and references on programs evaluated, see Appendix A.

Training is also a popular intervention to speed entry into this employment segment and often is combined with some work experience. As with wage employment, the TVT results are mixed. In Nepal, private training contractors helped participants enter self-employment, and they also helped participants already engaged in business work more hours or develop a better business. In post-conflict Uganda, groups of youth selected by their village were provided cash grants to get apprenticeship-type training and working capital to start their business. The Uganda program succeeded in increasing both non-farm employment and earnings relative to the control group, perhaps because it included financing for the startup. In Kenya, vouchers that youth could use for public and private trainers also showed no effect on earnings or self-employment; in India providing subsidies for young women to attend TVT had only a very slight positive effect on employment (including self-employment). In Malawi, a program which paid master-craftspersons to train poor youth showed no short-term effect on employment; no medium-term survey was conducted.

Results for business skills training are also mixed. De Mel, McKenzie, and Woodruff (2013), in a survey of business training programs, found little or no effect of business training on earnings of existing HEs and microenterprises.¹⁸ For startups, very simple business skills training may be effective, however, especially when combined with some grant financing or savings support (through a savings group or microfinance mechanism). Successful examples include WINGS in Northern Uganda, a program in Nicaragua that added one day of business plan training and a cash grant to an existing conditional cash transfer program, and the AGI program in Liberia, which combined business skills with mentorship and a cash grant put into a bank account opened on behalf of the participant. Upper-class youth (such as those enrolled in secondary school in Uganda or in university in Tunisia) do not seem to need financial support along with business skills training; presumably they can get the startup capital from their families. A microfranchising intervention in Nairobi provided business skills training, limited technical training in operating the franchise (a cart selling food, for example), as well as startup capital in kind (the cart, apron, and sign, for example), but it did no better than a cash grant in improving employment and earnings for young women. In general, short, very basic business skills training seems to be as effective as longer programs (in Nicaragua, the training was only one day, to explain how to draw up a simple business plan). Notably, successful programs for young women tend to supplement the business skills training with mentorship and/or life skills.

Qualitative and non-experimental quantitative research has identified a number of other constraints in the business environment faced by youth and others in starting or sustaining HEs (Filmer and Fox, 2014). These include access to work and sales space, such as protected access to areas of high foot traffic; infrastructure, such as electricity, water, and waste disposal; protection from crime or predatory behavior by police or other officials; and access to markets, including integration into productive value chains. Experimental evidence on interventions to address these problems has not yet surfaced, although evaluations of some market access programs are underway.

Finally, displacement can also occur with programs that help youth to enter self-employment. While the programs may result in more hours of work and higher earnings for the youth, they may result in

¹⁸ McKenzie and Puerto (2017) found that business skills had an effect on profits for women HE owners, but only in a longer-term evaluation (after three years). This reason for the delayed effect was that trainees needed time to save money and/or get more capital to implement business improvements.

fewer sales for people who are already self-employed, if they are now less productive than the youth. An impact evaluation showed that this is exactly what happened to some men in Northern Uganda when the WINGS project supported women to enter the retail trading business (Blattman et al., 2013)—but since the women had become more productive, the benefit to the village as a whole was still very positive. Indeed, this result suggests that the women should have been doing this work before, but various female-specific constraints prevented them from entering the sector.

Despite the importance of *agriculture*, there is little scholarship on how to help youth establish themselves as commercial farmers. A recent report by the Alliance for a Green Revolution in Africa (AGRA) highlights the opportunities and challenges of a youth-focused agricultural strategy, observing that “the nexus between youth and agriculture has only partially and insufficiently been developed and translated into public policies” (AGRA 2015, page 174). The report argues that countries need an integrated youth agricultural strategy, which should help youth see agriculture as a business and themselves as entrepreneurs, taking advantage of new technologies being developed for African agriculture.

But evidence on successful programs of this kind is just now beginning to trickle in. The AGRA report offers several examples of new approaches being rolled out in some countries but notes that none of the programs was rigorously evaluated. The 3ie database of systematic reviews on interventions in agriculture shows only one review covering a topic of potential interest for youth employment strategies. It is on Farmer Field Schools, an innovative approach to developing and upgrading skills in the sector (Waddington et al. 2014). In this case, while a few small field school pilots were successful, all failed at scale-up, which is not a very helpful result for the development practitioner (although relevant for strategy development).

One rigorously evaluated program was in Liberia, where an NGO helped young ex-combatants to establish a commercial family farm (Blattman and Annan, 2016). The program was residential (which raised its costs) and provided agricultural training, capital, inputs, as well as counselling in life skills (self-regulation). Participants, many of whom already engaged in agriculture part-time, increased their productive time on their farms, raised their earnings from crop sales, and reduced their participation in illicit activities.

Another well-evaluated intervention is the ultra-poor graduation programs developed by BRAC. These programs were designed to enable very poor women—initially in South Asia—to develop new livelihoods to raise their incomes. Most women chose to start raising livestock and received an in-kind grant at the beginning of the project. Throughout the project, participants received mentoring in practices to raise healthy and productive livestock, as well as advice and support from a project facilitator. A review of several of these programs showed a high level of success (Banerjee et al., 2015). They are now being piloted in other countries and settings; some pilots are being run by the public sector instead of by BRAC employees and contractors.

Summing up. Although the household production sector is where most youth will find employment opportunities, the impact evaluation literature does not yield a clear conclusion on what works, perhaps because the sector is so heterogeneous. A young person needs technical skills to become a self-employed mechanical repair person, hairdresser, or carpenter, and the traditional way to acquire these skills is through an apprenticeship. On the other hand, retail trading requires no apprenticeship and, depending on the business smarts of the youth, may be as lucrative or even more lucrative than the traditional trades. Skills are not enough in agriculture, where land and capital are required as well, especially if the goal is to move beyond subsistence into commercial agriculture. Finance (savings and credit) is the one cross-cutting intervention that stands out as important in all sectors. Finally, some important potential constraints (such as access to location) are relevant for the whole household

production sector, particularly for startups, but they have not been subjected to an experimental evaluation.

3.4 Other research on youth employment interventions

Who should implement programs? Two systematic reviews have found that *programs implemented by public sector agencies show less success than those implemented by NGOs* (Vivalt 2015; Kluge et al., 2016). Yet NGOs often lack both the administrative capacity and financial resources to bring programs to scale, so their small pilot programs, implemented with support from external researchers, often fail to scale up. Public sector agencies tend to have both of these capabilities, but not the performance focus or dedication to the target group found more often in NGOs. To bridge this gap, Nepal developed a hybrid option, the Employment Fund (EF). The EF is a semi-autonomous agency which contracts with private training operators to provide training for youth who are underemployed or unemployed. Contracts are performance based; if the participants do not get a job or start a business, the contractor does not get full payment. The program has been successful at a very reasonable cost (Chakravarty et al., 2016). More experimentation with this type of hybrid approach may be needed to bring successful pilots to scale.

It goes almost without saying that *all employment programs must address the gender dimension explicitly*. While there is much heterogeneity within gender categories, most countries have a set of norms and expectations that affect, and usually constrain, women's opportunities in employment. These include norms and customs around acceptable behavior in public; laws, norms, and traditions about what jobs women can do (or are "suitable" for women), which result in occupational segregation; norms around housework and other forms of unpaid work; specific health needs; and policies and practices that may infringe on women's safety and security. Aspirations and the socio-emotional skills to act upon them are formed early in the life of females in Africa (Fox and Romero 2017; Guerra and Olenik 2013).

Many programs for youth are segregated by gender to provide special support to one group or the other. Examples include programs for adolescent females featuring reproductive health and social support as well as training or finance, or programs that inculcate socio-emotional skills in males at risk of becoming combatants. Part of the conundrum around the question of "what training is needed for self or wage employment" may reflect these norm differences which create different needs. Many programs assume that young females may not imagine that they can start a business, and thus need life skills training and career counseling along with business skills. But usually this assumption is not rigorously tested. Impact evaluations often record effects of different strengths for males and females, but follow-up research does not clarify why they differ. Microfinance, for example, was initially designed for women, although now both males and females use this form of credit. Do different microfinance products suit women more than men or vice versa?

The gender dimension of youth employment interventions clearly needs continuing experimental research. The results from the Dominican Republic, alongside results from the ELA after-school program for girls in secondary school in Uganda, suggest that it might be possible to improve women's labor market outcomes through much lower cost interventions that effectively build the necessary non-cognitive skills. It may be that the acquisition of these skills is part of the effect of microfinance group interventions as well, although this hypothesis has not been investigated using appropriate measures of power and agency (motivations and behaviors).

Can research provide better information on the processes behind the impacts observed in youth employment interventions? Practitioners express frustration with impact evaluation research because often it does not focus on the dynamic underlying the impacts measured. In the earlier discussion on

training this issue came up often, for several reasons. First, participants may have been heterogeneous, but the sample size was too small to see what part of the program worked for whom. A large sample can quickly increase the expense of an impact evaluation, however. Second, the quantitative techniques used in an impact evaluation are not designed to study processes (at the program level or the individual level), as they focus on outcomes. A “multi-arm” impact evaluation, combining different project components in different patterns, can help but not solve this problem.

Research strategies can address this problem through *mixed-methods research*, combining qualitative research (interviewing participants about how they reacted to the program as it progressed, for instance) with quantitative studies of outcomes. This type of analysis is not easy to do effectively because it generally shows little beyond high levels of satisfaction from participants. One reason why impact evaluation in training programs is popular is that participants are quite likely to claim that they have benefited, even when no quantitative results are found to confirm that perception (see for example Cho et al. 2012). This claim may represent participants’ positive feelings toward the trainers, or unwillingness to recognize that the time they invested was not well spent. Qualitative techniques have become more sophisticated over time, and computer software has been developed to improve analysis. Thus, it can be used not just to measure participants’ perceptions of program effects, but participants’ perceptions of their opportunities and constraints as the program proceeds and after the program.

3.5 Much remains to be learned about how youth employment interventions work, and why

In sum, a lot has been learned over the last 15 or so years from experimental evaluations on projects to improve employment outcomes, including ones targeted at youth, about what works. One key lesson from the evidence is that short-term gains, especially from training, often dissipate several years after a program is completed. Most research is not informative on whether there was any net gain in employment in the economy (general equilibrium effect), or whether the short-term effect came to participants at a cost to non-participants and was just a displacement effect. Given the large supply of youth relative to the demand from firms, some displacement is likely until structural transformation brings a lot more enterprises to the economy. From this point of view, more emphasis on demand side diagnostics and strategies is surely warranted.

It is clear that much more needs to be learned about what support youth need to successfully enter into employment. One reason that this task is particularly difficult is that youth are still developing a number of skills and behaviors, including but not limited to those related to finding employment and earning a living. The sometimes confusing results on training cited here may indicate how difficult it is to separate the skills needed for other aspects of adulthood from skills needed to develop a successful and sustainable livelihood strategy. While the benefits of better noncognitive skills in the workplace in developed countries have been established for some years, research is only beginning to quantify their benefits in lower income settings, and the consequences for employment outcomes and profits if they are missing. Campos et al. (2017) found that teaching big 5 noncognitive skills applied to business (including customer service and negotiation skills and persistence) had an effect on the profits of household and micro-businesses, while teaching basic business skills (such as bookkeeping) did not. Avaryu et al. (2018) found that teaching these skills to garment workers in India raised output and lowered employee absence and turn-over.

Indeed, it may be that simply focusing on the broader non-cognitive skills that are transferable and support positive outcomes across employment segments and economic and social outcomes would be more cost-effective (especially for women and girls). One way to test this assumption would be for

impact evaluations to measure longer-term employment and earnings outcomes in programs not specifically designed as employment interventions.

Mixed results on training may also reflect large heterogeneity in the quality of education and learning outcomes of youth in low income countries. Mastery of basic cognitive skills is a prerequisite to mastering business or vocational skills; this fact is often not recognized in program design. If participants enter programs with different levels of these basic skills, the program outcomes are likely to show substantial variation, making it difficult to isolate a program effect. It would be helpful if programs could test baseline cognitive and non-cognitive skills of participants, as well as these same skills post training.

Project designers usually have some theory of change underlying their proposed intervention package, and theories of change involve assumptions. Most projects do not spend resources collecting and analyzing data which might confirm or refute these assumptions. For example, it would be useful to have data in context on how employers hire. Do they perceive an excess of the candidates for entry-level jobs? Do they adjust their hiring criteria based on experience? Tracking how these variables change over a project could illuminate more of the “whys” related to the success (or not) of specific interventions for specific populations.

A J-PAL review on youth development concluded that “there is surprisingly little rigorous evidence to guide policy makers. This lack of evidence is especially noticeable in developing countries, where the need for effective youth programming is the greatest” (Bertrand et al. 2013). More evidence has surfaced in the years since those words were written, but they still ring true. What is particularly missing is cost-effectiveness analysis. Development practitioners working in low-income settings need to know the minimum cost of achieving a particular outcome for a particular group. They also need to know when the outcome would happen anyway (so no intervention is needed) and when the cost is infinite (in the context where they are working, the result will probably never be achieved).

4 Conclusion: The need for a long-term transformation agenda, near-term interventions, and more research

To reach a critical mass of young people, fundamental shifts in our approach to skills-building, access to finance and entrepreneurship support are necessary. Development efforts must strengthen social, education and economic systems, and promote inclusive growth that will provide the most vulnerable and marginalized young people with opportunities to improve their lives.

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Youth are frustrated with opportunities in low and lower-middle income countries. Youth employment interventions seek to improve these opportunities, mostly by changing the skills of youth. But do they actually do any good beyond redistributing existing opportunities? Evidence is fairly weak on this point. In part it is weak because the broader, general equilibrium question related to displacement is usually not addressed in an impact evaluation. Most impact evaluations simply look at who got a job, not who did *not* get a job.

Overall, opportunities will improve only as economies transform. This needs to be the focus for low- and lower-middle-income countries. The agenda includes transformation of the rural economic space

¹⁹ <http://www.mastercardfdn.org/invisible-lives-five-takeaways-from-new-research>.

(where so many youth live), increased connectivity between rural and urban areas, and measures to increase private investment in urban areas in labor-intensive production of goods and services so that more wage jobs will be on offer—and there will be more opportunities in the HE sector.

In lower-income countries where the labor force is young and growing rapidly—and especially in Africa—the employment transformation will continue to lag the transformation in the structure of production, and this lag will also frustrate youth. In countries where effective economic transformation policies are stymied by governance and political economy challenges, youth will be even more restive.

Different interventions might help, but they need to be tested. For example, the results from the two programs in Uganda (ELA and EDUCATE!) suggest that there may be cheap interventions that could be introduced into secondary schools or as after-school programs to bolster character skills and provide more knowledge about labor market opportunities, thus speeding youth's transition into the household production sector. Overall, it is unclear where the deficits in character skills are greatest (what types and for whom), how they interact with other youth development challenges, and what role these skills play in improved employment outcomes in a situation where most youth will not have a clear livelihood pathway such as a lifetime wage job in a firm or subsector. In other words, we need to understand more about the actual needs of youth.

Outcomes tend to be measured very soon after development projects are completed. This timing may yield misleading results—either an underestimation or an overestimation of benefits. Longer-term evaluations now coming in, especially from Latin America, are helpful. They have mostly indicated that control groups tend to catch up, although some programs were found to deliver additional benefits to treatment groups aside from the initial advantages. Those benefits include spillovers to family members and the accumulation of increased wealth by treatment groups in the period that they are ahead of their control-group peers. In the case of HE owners, longer-term evaluations have highlighted the time it takes for program participants to act on the skills built in business training, and the importance of additional constraints beyond skills. At the same time, it is important for future impact evaluations to consider the issue of displacement, especially in evaluating programs to train workers for wage jobs. *It is no longer sufficient to just check and see if the program managed to insert participants into a job.*

Finally, other data are needed to help capture and understand how employment processes operate. For example, data on what youth are actually doing and how they manage their transition are still not widely available. One problem is that national survey data provide a poor picture of what the labor force is actually doing. A large share of the labor force in low-income countries undertakes a number of activities over the year. Surveys are limited because they tend to focus on (1) activities over the last seven days (in part because this is the recall period used to measure unemployment according to international standards) or (2) the main activity only, not a second job (regardless of recall period). Yet an important characteristic of youth, especially low-income youth, is that they move between activities during their search (Filmer and Fox, 2014; Fox and Pimhidzai, 2013). More survey research may be needed on how to collect such data efficiently in low-income settings; recall periods as long as one year are certainly problematic but perhaps the quality of response could be improved with a different type of questionnaire. New research on income sources over the year using diaries is one example of this type of innovation.

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Appendix A: References and Program Descriptions by Country/Region

Country/region	Authors	Employment	Intervention	Inputs	Outcomes
Argentina	Alzúa et al. (2016)	Wage employment	Life skills + vocational training + internship	Training and internship experience were used to help disadvantaged youth enter more stable employment.	Employment effects were not sustained, but earnings appeared to rise, as a result of more formal and persistent employment.
Bangladesh	Bryan et al. (2014)	Wage employment	Incentives for job search	Offered a bus ticket (\$8) to incentivize rural-to-urban migration during the lean season. Targeted households of the extreme poor, who otherwise experienced seasonal deprivation.	Positive employment effects on those who migrated. Tickets eased constraints to experimentation. Migrants had higher propensity to migrate the following year, without subsidy.
Bosnia, Ethiopia, India, Mexico, Morocco, Mongolia	Banerjee et al. (2015)	Wage and self-employment	Finance (loan)	6 evaluations of microcredit to HEs.	No employment effects in existing firms, but new self-employment starts.
Brazil, Argentina*	Maurizio (2014)	Wage employment	Business environment	Businesses registered under simplified scheme.	Net employment effects unclear, but both countries showed a net increase in formal employment (entry rates were above exit rates).
Brazil, Mexico*	Grimm and Paffhausen (2015)	Wage employment	Business environment	Simplified tax system, offered a reduction to microenterprises.	Positive employment effects.
Chile, Argentina	Grimm and Paffhausen (2015)	Wage employment	BDS	Various management and support schemes for existing businesses.	Some positive employment effects but high-cost programs.
Colombia	Attanasio et al. (2015)	Wage employment	TVT + work experience	Long-term review of <i>Jóvenes</i> classroom training programs by private providers, combined with internship (unpaid on-the-job-training).	Limited employment effect (from increase in formal employment) and no sustained earnings effects.
Colombia, Brazil*	Grimm and Paffhausen (2015)	Wage employment	Finance (loan)	Partial credit guarantees to SMEs (Colombia); public credit lines, some at subsidized rates (Brazil)	Positive employment effects in both countries.
Dominican Republic	Acevedo et al. (2017)	Wage employment	TVT + work experience	Full vocational and soft-skills training and internship experience compared to life skills training with an internship and a control group.	Results differed for male and female participants (employment effects for men disappear). Women have sustained soft skills, but employment effects largely in formal sector (may be displacement).
Dominican Republic.	Ibarraran et al. (2015)	Wage employment	TVT + work experience	Youth skills training program, results measured 6 years after program ends.	No effect on average employment, 6 years later. Slightly positive effect on the “quality” of employment for men.
Ethiopia	Abebe et al. (2017)	Wage employment	Employment matching	Randomly invited job seekers and firms to job fair.	Despite strong attendance at the job fair, intervention had modest employment effect: 1 job for every 10 firms invited. May be displacement effect.
Ethiopia	Blattman and Dercon (2016)	Self-employment	Business skills + finance	Eligible workers randomly allocated to receive training and a cash grant (\$300) to start a business.	Business skills training and a cash grant resulted in higher earnings relative to those who received factory or wage employment.
Ethiopia	Franklin (2016)	Wage employment	Incentives for job search	Subsidized bus transport into Addis Ababa to support job-search for youth.	No employment or earnings effect; quality of employment may have improved with more formal and permanent jobs.
Ghana	McCasland & Hardy (2016)	Wage employment	Employment matching + work experience	Matching 6-month apprenticeships; firms randomized.	Apprentices retained for full duration (6 months). Firms experienced higher revenues and profits. No reduction in other employment. Suggests limited displacement.

Country/region	Authors	Employment	Intervention	Inputs	Outcomes
Ghana	Karlan et al. (2015)	Wage employment	BDS + finance	Management consulting and cash grant for small tailoring shops (microenterprises).	No employment or earnings effect.
Ghana*	Hardy and McCasland (2016)	Wage employment	Business environment	Impact of electricity blackouts on firm size, productivity, and profits.	Blackouts adversely affect small firms, resulting in fewer hours worked, smaller wage bills. Likely also to cause displacement away from skilled workers to apprentices.
India	Banerjee and Duflo (2014)	Wage employment	Finance (loan)	Variation in access to targeted subsidized credit	Positive for large firms; no employment effect for microenterprises.
India	Bloom et al. (2013)	Wage employment	BDS	Consulting firms provided management “best practices” to randomly selected textile factories.	Positive employment effect.
India	Dutta et al. (2014)	Wage employment	Public works	National public works program for rural poor (MGNREGA).	Partial displacement effect.
India	Jensen (2012)	Wage employment	Employment matching	Recruiting services offered to young women in rural villages to encourage employment in business process outsourcing (new growth sector).	Positive effect on women’s employment opportunities and likelihood of paid employment relative to control.
India	Maitra and Mani (2016)	Wage and self-employment	TVT	Subsidized vocational education for young women.	Slightly positive effect on employment (wage and self-employment) and earnings. May be displacement.
India*	IFC Development Impact Department (2012)	Wage employment	Business environment	Electricity access.	Simulation model showed positive effects.
Jordan	Groh et al. (2015)	Wage employment	Employment matching	Labor market matching service: participants tested to assess ability, technical, and soft skills, and matched to openings.	No significant impact, high drop-out, and cost per job was ~US\$20K.
Jordan	Groh et al. (2016a)	Wage employment	Wage subsidies	Subsidies provided to firms to hire young female community college graduates.	Firms did not retain employees after subsidy expired.
Jordan	Groh et al. (2016b)	Wage employment	Life skills	45 hours of soft skills training randomly provided to a sample of young (female) community college graduates.	No employment impacts from soft-skills (even after 2 years); no complementarity with wage subsidies (tested in companion experiment).
Kenya	Alvares de Azevedo et al. (2013)	Wage employment	TVT + life skills + work experience	ICT training for young women in Nairobi slums.	Employment and earnings increased, but likely to be displacement.
Kenya	Brudevold-Newman et al. (2017)	Self-employment	Business skills + finance	Microfranchise provided (women only) a business model, capital, and supply chain linkages to start and run self-employed businesses.	Short-term increase in employment and earnings. Effects not sustained after 2 years.
Kenya	Brudevold-Newman et al. (2017)	Self-employment	Finance (grant)	Transfer of only capital, without training.	Short-term increase in earnings. Women shifted to self-employment. Effects not sustained after 2 years.
Kenya	Hicks et al. (2016)	Wage and self-employment	TVT	Training vouchers randomized to public vs. private training institutions.	No effects on earnings or employment.
Kenya	Honorati (2015)	Wage employment	Life skills	2 weeks of life skills training for young males only.	No effect.
Kenya	Honorati (2015)	Wage employment	TVT + life skills + work experience	Youth life skills training, technical training, and a 3-month internship.	Females: Positive effect on earnings. Males: increase in current employment.
Latin America	Grimm and	Wage	Business environment	Incentivized formalization of firms with simpler and cheaper	No effect for existing firms.

Country/region	Authors	Employment	Intervention	Inputs	Outcomes
	Paffhausen (2015)	employment		formalization process.	
Latin America: Colombia, Peru, Dominican Republic	Tripney et al. (2013)	Wage employment	TVT + work experience	Review of <i>Jóvenes</i> classroom training and internship programs by private providers targeting disadvantaged youth.	Slightly positive effect on formal employment in Peru and Dominican Republic; positive effects for females but no male effect in Colombia.
Liberia	Adoho et al. (2014)	Self-employment	Business skills + life skills	EPAG training program for adolescent girls.	EPAG program increased employment by 47% and earnings by 80%.
Liberia	Blattman and Annan (2016)	Self-employment	TVT + finance	Provided agricultural training, capital inputs, and counselling for ex-fighters.	Increased employment and profits in agriculture.
Malawi	Cho et al. (2012)	Self-employment	TVT + work experience	On-the-job apprenticeship training to track differential outcomes of program dropouts.	No employment effects. Women's decision-making was more constrained. Training was more expensive and less effective for women.
Malawi	Godlonton (2016)	Wage employment	Work experience	Randomly assigned (males only) to training and 5 days (short-term) work experience, in surveys or office work.	Positive effect on employment and wage returns to experience. However, treated individuals ended up in largely temporary jobs.
Malawi	Goldberg (2016)	Wage employment	Wage subsidies	1 day of subsidized wage work (per week) for 12 weeks offered in a workfare-type program during agricultural low season.	Positive employment effects, even at low wages. This result supports the conclusion that the labor supply is relatively elastic.
Mexico	Bruhn (2016)	Wage employment	Wage subsidies	Eligible firms provided subsidies to retain workers during a recession.	Positive longer-term effects and faster recovery, though likely as a result of the subsidies removing constraints on access to credit during an economic recovery.
Mexico	Bruhn and Karlan (2016)	Wage employment	BDS	Consulting services provided to improve management capital. (Not targeted to youth).	No short-term impact; 5-year follow-up showed 57% growth in labor and 72% increase in wage bills.
Nepal	Chakravarty et al. (2016)	Self-employment	TVT + work experience placement	Employment Fund trained contractors to provide business and technical skills.	Despite high baseline self-employment, training had a positive and significant impact on employment outcomes and earnings / savings.
Nepal	Chakravarty et al. (2015)	Wage and self-employment	TVT + work experience	Private trainers offered mix of trainings; paid according to placement (for wage employment).	Positive employment effects (non-farm employment increased 15-16 percentage points).
Nicaragua	Macours et al. (2012 & 2013)	Self-employment	Business skills + finance (conditional cash transfer)	Households in conditional cash transfer program provided with minimal business plan training; some got an extra grant.	Positive effect on HE business startup.
Nigeria	McKenzie (2015)	Wage employment	Finance (grant)	Cash grants (~\$50K) randomly allocated to semi-finalists of a national business plan competition for aspiring entrepreneurs.	Positive employment effects.
Peru	Diaz and Rosas-Shady (2016)	Wage employment	TVT + internship	3 months of technical classroom training combined with a 3-month internship.	3-year follow-up found positive effects on employment and earnings. Effect is stronger for formal employment.
Peru	Espinoza (2010)	Wage employment	TVT + internship	3 months of technical classroom training combined with a 3-month internship.	No effect.
Peru, Pakistan	Grimm and Paffhausen (2015)	Wage employment	Business skills + finance	Business skills training added to existing microfinance program.	No employment effect.
Philippines	Beam (2016)	Wage employment	Employment matching	Impact of job fairs on employment outcomes. Also looked at effect on migration of including international employers.	Attendance did not facilitate direct job matches, but it increased the likelihood of formal sector employment and increased job search. No effect on migration.
Philippines	Karlan and Zinman (2010)	Self-employment	Finance (loan)	Subsidized microfinance credit (short-term loans) to household businesses or those interested in starting household enterprises.	Negative employment effects: reduction in number of business activities (by household) and employees. Positive effects on

Country/region	Authors	Employment	Intervention	Inputs	Outcomes
				Used credit scoring to select households.	resilience and firm survival and access to informal credit.
South Africa	Anderson et al. (2014)	Wage employment	BDS - marketing training	Firms received targeted business skills training on marketing approaches and aligning worker incentives.	Positive employment effects from sales incentives.
South Africa	Anderson et al. (2014)	Wage employment	BDS - finance training	Firms received targeted business skills training on best finance practices and how to raise firm efficiency.	No employment effects.
South Africa	Bhorat et al. 2013	Wage employment	Business environment	Minimum wage.	Some decline in employment in low-paid farm and domestic labor, and some sectors with fewer hours worked (less overtime), but employment effects in other sectors were limited.
South Africa	Levinsohn et al. (2014)	Wage employment	Wage subsidies	National wage subsidy program; had very little take-up, very few firms actually claimed the subsidy.	Voucher group was more likely to be in wage employment, even after voucher ended. Only 1.5% of firms redeemed vouchers. Most likely to be entirely displacement (voucher does not induce firms to hire labor).
Sri Lanka	de Mel et al. (2013)	Wage employment	Incentives for firm formalization	Informal firms were randomly offered varying degrees of incentives to formalize and register to test impacts on profits, sales, and business practices.	Even with very large financial incentives, less than 2% of treated firms actually registered. Among those that registered, no impacts on employment or sales were noted.
Sri Lanka	de Mel et al. (2012)	Self-employment	Finance (grant)	One-time grant (\$100 or \$200) given to microenterprise owners.	Male-owned microenterprises: higher survival and increased profits. Female-owned microenterprises: no employment or earnings effect, as grant was typically invested into household.
Sri Lanka	de Mel et al. (2014)	Self-employment	Business skills + finance	Training and finance offered to existing (female) microenterprise owners or those interested in starting an enterprise.	No employment effect.
Sri Lanka	de Mel et al. (2016)	Wage employment	Incentives for job search (wage subsidies)	Microenterprises were offered wage subsidies to induce firms to hire additional labor.	No long-term effects on employment, profit, or sales. Treatment and control differences disappeared after subsidy ended.
Tunisia	Premand et al. (2012)	Self-employment	Business skills	Entrepreneurship training targeted to college students; focused on business planning.	Slight positive effects on self-employment. No change to overall employment. Implies effect comes from shift from wage to self-employment.
Turkey	Betcherman et al. (2010)	Wage employment	Wage subsidies	Subsidized employment subsidies for registration of workers in social security.	No net employment effects. Study does note an increase in registration of jobs, but cost was high and effect was largely to increase registration into social security, not to increase total employment.
Turkey	Hirschleifer et al. (2015)	Wage employment	TVT	Large scale vocational training program for unemployed (youth not targeted).	Effects are positive but close to zero. Slightly stronger with private providers, but after 3 years, even those effects disappear. Public training shows no impact.
Uganda	Bandiera et al. (2015)	Self-employment	Business skills + life skills + mentorship	ELA after-school program for adolescent females in rural towns and peri-urban areas offered support, mentoring, health advice, and life skills plus minimal vocational training.	Positive employment and earnings effects.
Uganda	Blattman et al. (2013)	Self-employment	Business skills + finance	Cash grants (~\$150) combined with skills training for adult women working in agriculture in a post-conflict setting (WINGS).	Large non-farm employment effects; earnings effects as well (however effects appear to be largely displacement).
Uganda	Blattman et al. (2014)	Self-employment	TVT + finance	Grant competition for groups of youths looking to move into skilled artisanal self-employment groups. (NUSAF).	Positive employment and earnings effects; higher for men.
Uganda	Fiala (2013)	Wage employment	Business skills + finance (loan)	Microenterprise owners interested in expanding were randomly allocated to 4 treatments; loans offered (\$180–220).	No direct paid employment impacts; male owners increased employment within the family.
Uganda	Fiala (2013)	Wage	Business skills + finance (grant)	Microenterprise owners interested in expanding were randomly	No effect on employment.

Country/region	Authors	Employment	Intervention	Inputs	Outcomes
		employment		allocated to 4 treatments; grant provided(\$200).	
Uganda	Fiala (2013)	Wage employment	Finance (loan)	Microenterprise owners provided with loan financing (\$180–200).	Loan only had short-term employment effects for male owners; disappeared entirely in 9 months.
Uganda	Fiala (2013)	Wage employment	Finance (grant)	Microenterprise owners interested in expanding were randomly allocated to 4 treatments; grant provided (\$200).	No effect on employment.
Uganda	Kwauk and Perlman Robinson (2016)	Self-employment	Life skills + mentorship	EDUCATE! provided leadership and mentorship training, shifting toward a more skills-based curriculum for Ugandan youth.	Increased probability of self-employment and earnings relative to the control group.
Yemen, Rep.*	McKenzie et al. (2016)	Wage employment	TVT + internship	Firms offered a 50% wage subsidy to hire interns for 6 months. Firms not randomized.	Short-term impacts showed positive employment effect, 2–3 months after internship. Outbreak of conflict eliminated further follow-up. Some effect may be through displacement.

Note: * denotes studies categorized as less robust because they lacked a thorough experimental design or had insufficient follow up.

Appendix B: Literature Search Strategy

The primary objective of this review is to provide a synthesis of the best available evidence on youth employment interventions in low and lower-middle income countries. Several previous literature reviews have reviewed the impact evaluation evidence on employment programs, but a majority of these studies cite evidence from OECD countries, which are very different from the employment context in low and lower-middle income countries. In addition to differences geographic scope, the literature reviewed in this paper covers a broader range of programs.

The research included in this review was identified through a search strategy which included recent evaluations and a number of foundational studies and meta-analyses of youth employment in order to produce a comprehensive review of the available knowledge on what we know works (and does not work) to improve youth employment outcomes. This review does not contain a meta-evaluation or any other quantitative presentation of the strength of the results. We chose not to do this because the programs covered and the participants groups are too heterogeneous.

Studies selected are drawn from peer-reviewed (published and forthcoming journals) and working papers utilizing randomized control trial or quasi-experimental research designs to evaluate the impacts of interventions. The following databases were searched from March 2017 – June 2017: Google Scholar, JSTOR, NBER, and The World Bank Policy and Research Paper Series. Additional literature was sourced through grey literature searches, the Oxford CSAE conference, and expert referrals from development practitioners and researchers at the World Bank and USAID.