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Generation Evaluation in India and Kenya: Phase II Report

An Outcome Evaluation of Six Generation Programs

November 29, 2023

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Acronyms

AMBER	Accelerated Mission for Better Employment and Retention
AWS	Amazon Web Services
CCE	Customer Care Executive
DCS	Digital Customer Service
ILO	International Labor Organization
JFSJD	Junior Full Stack Java Developer
NSDC	National Skill Development Corporation
PMKVY	*Pradhan Mantri Kaushal Vikas Yojana*
RQ	Research Question
RSA	Retail Sales Associate
SMO	Sewing Machine Operator
STEM	Science, technology, engineering, and mathematics
TVET	Technical and vocational education and training
USAID	United States Agency for International Development

Executive Summary

Generation is partnering with Mathematica to conduct an independent evaluation of Generation programs in India and Kenya. The evaluation is guided by the following research questions:

RQ.1 What outcomes do we find, corresponding to metrics outlined in Generation's logic model (with a specific focus on learners)? What other metrics might augment our view of impact, especially related to employers and society?

RQ.2 To what extent does Generation provide employers with talent with alternative profiles (marginalized and/or non-traditional backgrounds versus their job peers)?

RQ.3 How do the labor market outcomes of Generation learners compare to those of applicants who were not selected for the Generation program?

We are conducting a two-phase evaluation to answer these questions; this report presents the findings from Phase II of the evaluation, which focuses on long-term outcomes of learners in four Generation programs in India (Retail Sales Associate [RSA], Customer Care Executive [CCE], Amazon Web Services [AWS] Cloud Support Practitioner, and Junior Full Stack Java Developer [JFSJD]) and two programs in Kenya (Sewing Machine Operator [SMO] and Digital Customer Service [DCS]). In India, the Generation programs included in the Phase II evaluation were implemented under project AMBER (Accelerated Mission for Better Employment and Retention), a joint initiative of Generation India Foundation and the National Skill Development Corporation (NSDC) in collaboration with the Ministry of Skill Development and Entrepreneurship, under the World Bank-supported Sankalp Program.

A. Evaluation methodology

The Phase II evaluation has three main components:

- **Description of long-term employment outcomes for Generation learners.** We independently measure the labor market outcomes of Generation learners in both countries about 15 months after they completed their Generation programs, on average. (For the more recently introduced AWS and JFSD "technology programs" in India, we measure outcomes 11 months after completion, on average.) These outcomes are measured through a survey of 560 learners from 47 cohorts in India and 300 learners from 15 cohorts in Kenya.
- **Benchmarking of long-term employment outcomes with a comparison group.** In India, we compare the long-term outcomes of Generation learners in the "non-technology" RSA and CCE programs to those of learners from similar publicly funded programs using the standard, non-Generation methodology, which we refer to as comparison cohorts. More specifically, learners in comparison cohorts were enrolled in programs provided by official training partners under the *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY) 3.0 scheme. This approach enables us to estimate the difference in outcomes achieved by Generation programs against those of business-as-usual training programs in the public Indian training system. We measure the outcomes of comparison cohorts through a survey of 509 learners in 115 cohorts. In Kenya, we compare the long-term outcomes of Generation learners to those of individuals who applied to the DCS and SMO programs around the same time as those learners and made it through the early stages of the application process but were ultimately not accepted. The non-selected applicants provide an indication of how the

Generation learners might have fared without the Generation program. We measure these outcomes through a survey of 201 non-selected applicants.

- **Process evaluation (India only).** The process evaluation seeks to identify the successes and challenges of Generation's approach, qualitatively assess long-term outcomes for employers and society, explain how and why differences in outcomes between Generation and comparison learners measured in the benchmarking approach arise (or do not arise), and describe whether and how the characteristics of Generation learners differ from those of their job peers. The data for the process evaluation are from semi-structured interviews with Generation India staff and purposefully selected employers, training providers, instructors, and Generation learners. We did not collect equivalent data for Phase II in Kenya; however, for completeness we include Phase I findings from interviews with employers of Generation learners from the SMO and DCS programs.

B. Findings from India

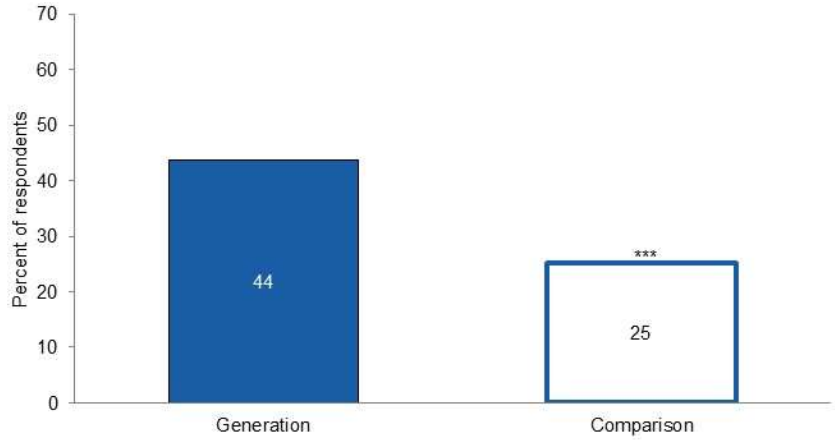
1. Non-technology programs

In India, socio-demographic characteristics were broadly similar for Generation and comparison learners in non-technology programs. An exception was that Generation learners had higher average education levels, possibly due to Generation's additional skills screening requirements for admission to its programs. Qualitative data suggest that **Generation learners in non-technology programs typically have a similar socio-economic profile relative to entry-level hires from similar non-Generation programs**, given that training providers mobilize learners in similar communities for both types of programs.

At the survey date, 44 percent of Generation learners from non-technology programs were employed (Figure ES.1); this employment rate is 19 percentage points higher than that for comparison learners in similar non-Generation programs. Our analysis controls for differences in education levels using a regression framework; further, the Generation-comparison differences in employment outcomes are similar if we compare outcomes for learners with similar education levels, where sample sizes allow. Overall, this suggests that the findings on employment outcomes are not driven by the higher educational attainment of Generation learners. Rather, **we can conclude with reasonable confidence that these positive results are attributable to Generation's methodology**, owing to Generation's selection of learners who are highly motivated and committed to the job role, high-quality instruction, and intensive efforts to identify potential job opportunities (accompanied by strong incentives for training providers to focus on job placement and retention).

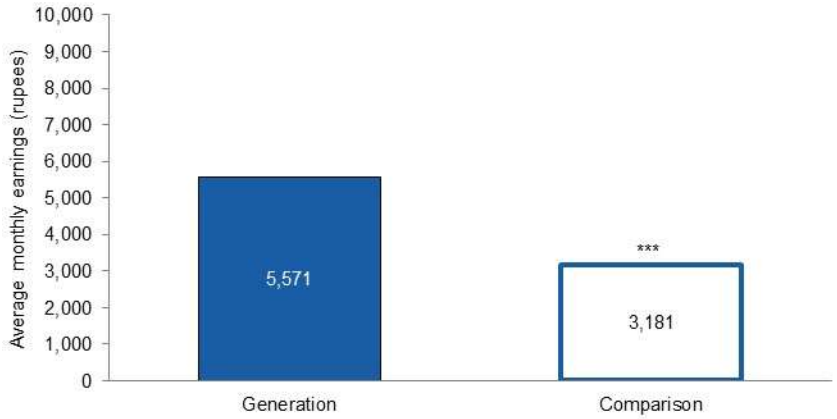
Average monthly wages in the current or most recent job for employed Generation learners from non-technology programs were 11,818 rupees (143 dollars). About one-fifth of employed Generation learners from these programs were able to all their basic expenses from their earnings, one-third were able to save, and more than three-quarters of employed female learners provided input into most or all household decisions about how to spend their earnings (a measure of female economic empowerment). For these programs, **average wages for employed learners were similar for Generation and comparison learners**. However, considering that those who were not employed had zero earnings, among the full sample **Generation learners were earning about 75 percent more than comparison learners at the survey date (Figure ES.2)**.

Figure ES.1. Employment at the survey date, non-technology programs, India



*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Figure ES.2. Average monthly earnings at the survey date in the full sample, non-technology programs, India



Notes: Earnings are zero for those not employed at the survey date.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

In terms of the characteristics of learners' current or most recent job, **almost all employed Generation learners from non-technology programs held full time jobs, about one-third held a permanent job contract, and about 7 in 10 were satisfied with their job. About one-half of Generation learners' current or most recent jobs were very or somewhat relevant to their training,** substantially higher than the proportion for comparison learners. Almost all Generation learners felt a strong sense of workplace belongingness and support, although these rates were similarly high for comparison learners.

Generation learners only modestly improved their broader financial well-being relative to comparison learners, and there were no differences in measures of physical or mental well-being. It may have been too soon to observe some of these potential effects in the timeframe of the evaluation. The

vast majority of Generation and comparison learners had a positive mindset (for example, sense of purpose, confidence, and optimism) using standard survey measures, leaving little room for improvement.

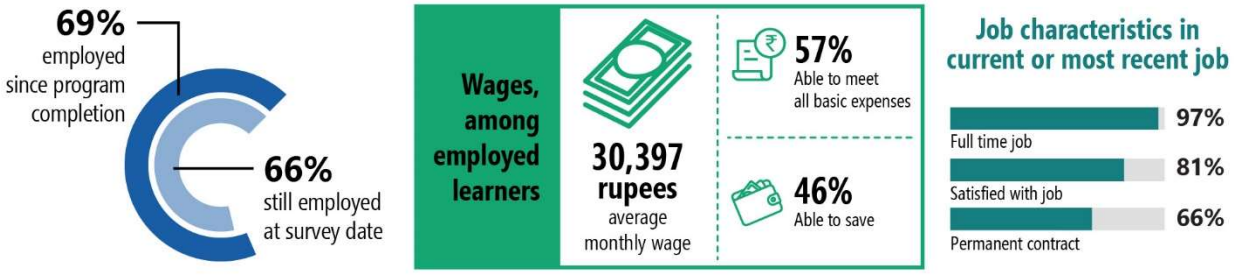
From the perspective of employers of learners from non-technology programs, **the higher quality of Generation learners in terms of job performance is the primary advantage** of working with Generation. This is supported by Generation's rigorous screening of potential learners as part of its mobilization process, which identifies highly motivated individuals who are committed to the job role. High-quality standardized instruction during the training itself—including a rigorous screening process for instructors, regular oversight of instructors, a low learner to instructor ratio, and strong program curricula—contributes to strong acquisition of relevant technical and soft skills by learners. Adopting a more learner-friendly training schedule, improving the clarity and consistency of mentorship services, and adding an on-the-job training component were some common ideas that emerged from the process study that might further improve Generation's results across its programs.

2. Technology programs

Generation's **technology programs may offer new opportunities in the information technology field to learners with a less privileged socio-economic background**, as these Generation programs are heavily subsidized and hence much less costly to learners relative to other similar upskilling programs. Further, Generation seeks out graduates from less selective ("tier 2 and 3") colleges.

At the survey date, 66 percent of Generation learners from technology programs were employed (Figure ES.3). Average monthly wages in the current or most recent job for employed Generation learners from these programs were 30,397 rupees (369 dollars). More than one-half of employed learners were able to meet all their basic expenses from these earnings, and almost one-half were able to save. **Almost all jobs were full time, about two-thirds of employed learners held a permanent job contract and about 8 in 10 were satisfied with their job.**

Figure ES.3. Outcomes for learners from technology programs, India

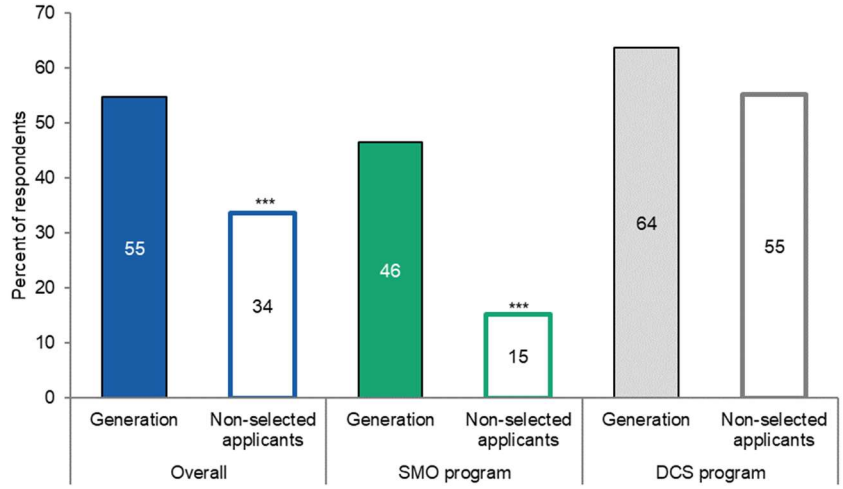


Like for non-technology programs, employers of learners from technology programs emphasized **Generation hires' typically greater motivation, eagerness to learn and advance, and job commitment relative to other entry-level hires**. This is associated with **strong job performance and retention for Generation learners**. Employers also greatly value Generation's tailoring of the training curriculum to their skills needs; some employers perceive that, as a result, Generation learners having better technical skills and requiring less onboarding training than other entry level hires.

C. Findings from Kenya

In Kenya, 55 percent of Generation learners were employed at the survey date, compared to 34 percent of non-selected applicants (Figure ES.4). Long-term job retention is also substantially higher for Generation learners than non-selected applicants, with almost two-thirds of Generation learners who entered employment since program completion still employed at the survey date compared to only one-half of non-selected applicants who entered employment since application. Differences in employment rates between Generation learners and non-selected applicants are **primarily driven by the SMO program**. This might be because SMO non-selected applicants have lower educational attainment and less prior work experience than DCS non-selected applicants, and are typically located in more rural areas, and therefore have more limited employment options absent Generation training.

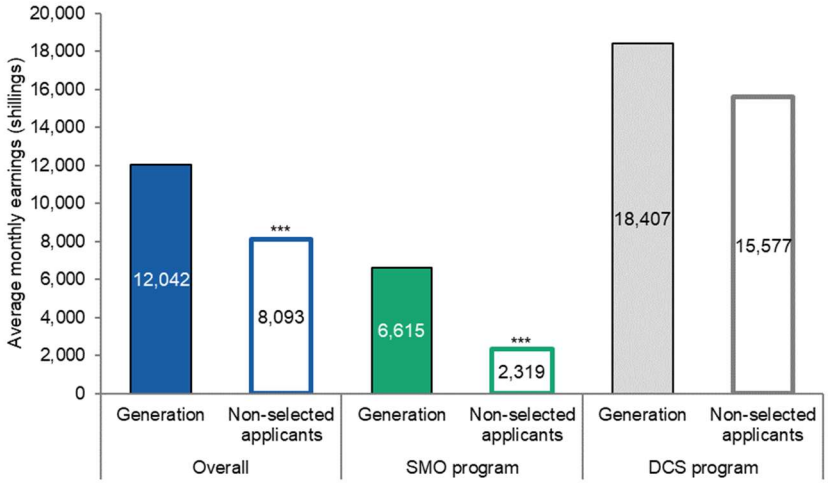
Figure ES.4. Employment at the survey date, Kenya



*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Across both Kenya programs, **average monthly wages in the current or most recent job were similar for Generation learners and non-selected applicants.** Average monthly wages for Generation learners in the DCS program (29,000 shillings [208 dollars]) were more than double those for Generation learners in the SMO program (13,400 shillings [96 dollars]). About 8 in 10 employed Generation learners reported being able to meet some but not all of their basic expenses with these wages and 6 in 10 reported being able to save; these rates are very similar for non-selected applicants. Overall, considering that those who were not employed had zero earnings, in the full sample **Generation learners were earning almost 50 percent more than non-selected applicants at the survey date (Figure ES.5)**.

Figure ES.5. Average monthly earnings at the survey date in the full sample, Kenya



Notes: Earnings are zero for those not employed at the survey date.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

About **two-thirds of Generation learners who had found a job since completing the program reported that their current or most recent job was very or somewhat related to their training.** Although most employed Generation learners reported that their current or most recent job was full time, **permanent job contracts were only common for Generation learners from the DCS program (about 3 in 10 jobs),** who were more likely to hold them than non-selected applicants. About **two-thirds of employed Generation learners were satisfied with their current or most recent job,** somewhat higher than the rate among non-selected applicants.

Across both Kenya programs, there is **little evidence of differences between Generation learners and non-selected applicants in broader measures of financial, physical, or mental well-being.** Like in India, it may have been challenging to observe some of these potential effects in the timeframe of the evaluation, and standard survey measures of mindsets were uniformly high and left little room for improvement.

For SMO employers, the Phase I evaluation findings suggested that the major benefit of access to Generation learners **is the ability to obtain large volumes of workers more easily**. However, two of the three SMO employers we interviewed reported that the **technical skills and productivity of Generation SMO learners fell short of their standards when they started the job**, although they tended to improve over time.

For two of the three DCS employers we interviewed in Phase I of the evaluation, access to Generation DCS learners has **reduced employers' onerous hiring costs**. All employers interviewed concurred that **Generation DCS learners are more skilled and perform better on the job than their job peers**, and two out of three suggested that this has reduced their internal training costs and increased firm profitability.

D. Lessons

The Phase II findings suggest the following lessons for Generation's future work:

- **Tailored, context-specific strategies will be needed to further improve long-term employment outcomes.** In both India and Kenya, the long-term employment outcomes of Generation learners were superior to those of the comparison group. However, there is still substantial room for improvement given that about half of Generation learners in both countries were not employed at the survey date. To generate these improvements, different factors will have to be addressed in each context. For example, in Kenya, identifying opportunities for longer-term employment arrangements, if feasible, could help to address a key challenge of placed learners losing their jobs when their short-term contract ends. In India, further efforts to encourage and smooth the migration of amenable learners to locations where jobs are more plentiful might help boost placement rates, while further communicating the realities of the job role to prospective learners might reduce the number of learners leaving their jobs after placement because they are unhappy with job conditions.
- **To measure long-term learner outcomes more accurately, it will be important to improve response rates for long term surveys.** Assessments of long-term labor market outcomes are critical to assessing Generation's success, but obtaining high response rates can be challenging—both for Generation's internal monitoring efforts and for external evaluations. In terms of monitoring efforts, Generation already has a process of contacting learners at 3-6-month intervals to collect information on long-term outcomes. Response rates for these long-term surveys could be improved by contacting respondents between survey rounds to update contact information, maintain rapport, and remind respondents of the upcoming survey round. Collecting more extensive secondary contact information can also help find respondents who become uncontactable between tracking rounds. In terms of external evaluations, identifying the Generation cohorts and comparison group earlier and tracking them regularly using a similar approach to that described above would likely improve response rates for long-term evaluation surveys and thereby reduce the potential for non-response bias.
- **In India, a formal long-term cost-benefit analysis would be valuable to help NSDC and state governments make better informed decisions about funding training programs in the future.** Available aggregate data on per-trainee costs suggest that Generation's approach is likely to be cost effective. Specifically, the evaluation findings imply that the cost per percentage point of long-term employment achieved and per rupee of average learner earnings generated are both about 30 percent lower for Generation programs than business-as-usual programs. A formal cost-benefit analysis would enable stakeholders to better quantify the net monetary value of investing in Generation's approach relative to the business-as-usual approach, generating metrics such as the internal rate of return, net present value, and benefit-cost ratio. This would enable NSDC and state governments to make better-informed budgetary decisions about their investments in training programs in the future. In addition to the relative economic benefits, which can be estimated based on the findings in this report, this analysis would require updated cost information for Generation and comparison programs at the program level, as well as the expected number of learners to be trained in each period.

I. Introduction

Across the world, many young adults struggle to find full-time employment. Over the past decade, youth ages 15 to 24 have remained about three times more likely to be unemployed than older workers (International Labour Organization [ILO] 2019); even when they find employment, young adults are more likely to lack full-time work or to work informally (ILO 2013). Youth are also more likely than older adults to become discouraged and stop seeking work altogether (ILO 2013). The COVID-19 pandemic exacerbated these disparities. Globally, youth employment decreased by almost 9 percent in 2020 (with job loss occurring at higher rates among young women relative to young men), compared to a decrease of about 4 percent for other workers (Fleming 2021). Pandemic-related lockdowns and restrictions also disrupted education and training for youth, leaving many ill-prepared to enter the labor market.

The struggle to find full-time formal employment can have substantial and potentially lifelong consequences. Prolonged or repeated periods of joblessness early in life can impose a lifetime earnings penalty of up to 20 percent and can result in more joblessness later in life (Gregg and Tominey 2005; Schmillen and Umkehrer 2018). Disconnected youth are also more vulnerable to poor physical and mental health and are more likely to become involved with drugs, crime, political unrest, and possibly even terrorism (International Monetary Fund 2012; Ali 2013; Institute for Economics and Peace 2012).

A potentially important factor in this crisis is a mismatch between the skills that youth possess and the skills that employers are seeking from entry-level workers. Although educated youth tend to find jobs faster than less educated youth after they finish school (ILO 2017), mismatched skills remain a serious constraint in some contexts (United Nations Development Programme 2014). This suggests that reducing youth unemployment might require not only more education but also curricula aligned with the needs of employers. To address this issue directly, McKinsey & Company founded Generation, which launched its first programs in 2015. Generation seeks to improve employment outcomes for disconnected youth through a unique seven-component methodology, which includes intensive workforce training boot camps focused on high-demand occupations that cover technical and soft skills sought by employers, as well as job placement support and mentorship during and after training. More than 85,000 learners across 17 countries have graduated from Generation's programs to date, with about 80 percent finding employment within 90 days of completing their program.[1]

As Generation seeks to further expand its reach and influence, it is partnering with Mathematica to conduct an independent evaluation of Generation programs in India and Kenya. Mathematica's evaluation seeks to inform Generation's outcomes measurement approach, provide evidence on the short- and long-term outcomes of the program, and generate insights that could be used for program improvement. The evaluation is occurring in two phases: Phase I occurred between September 2021 and September 2022, and Phase II is occurring between October 2022 and December 2023.

This report presents findings from Phase II of the evaluation, which focuses on long-term outcomes for learners in four Generation programs in India and two programs in Kenya. The Phase II evaluation has three main components. First, we describe long-term employment outcomes for Generation learners, which we independently measure about 15 months after they completed their Generation programs, on average (11 months for two of the more recently introduced programs in India). In India, these Generation learners were enrolled under project AMBER (Accelerated Mission for Better Employment and Retention), a joint initiative of Generation India Foundation and the National Skill Development

[1] According to Generation's website, www.generation.org, accessed July 11, 2023.

Corporation (NSDC) in collaboration with the Ministry of Skill Development and Entrepreneurship, under the World Bank-supported Sankalp Program. Second, we benchmark these learners' outcomes with a comparison group. In India, the comparison group comprises learners from similar programs, but provided through non-Generation government schemes using the business-as-usual, non-Generation methodology. More specifically, comparison learners were enrolled in programs provided by official training partners under the *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY) 3.0 scheme. In Kenya, the comparison group comprises applicants to the same Generation programs who were not selected into those programs. Third, in India, we also conduct a process evaluation to identify the successes and challenges of Generation's approach, qualitatively assess long-term outcomes for employers and society, explain how and why measured differences in outcomes between Generation and comparison learners arise (or do not arise), and describe whether and how the characteristics of Generation learners differ from those of their job peers. In the rest of this chapter, we provide context for the Phase II evaluation by discussing Generation's approach to youth training and the six programs being evaluated in Phase II. We also provide an overview of the existing literature on the impact of youth workforce development programs on employment and livelihood outcomes, as well as a roadmap for the rest of this report.

A. Overview of Generation programs

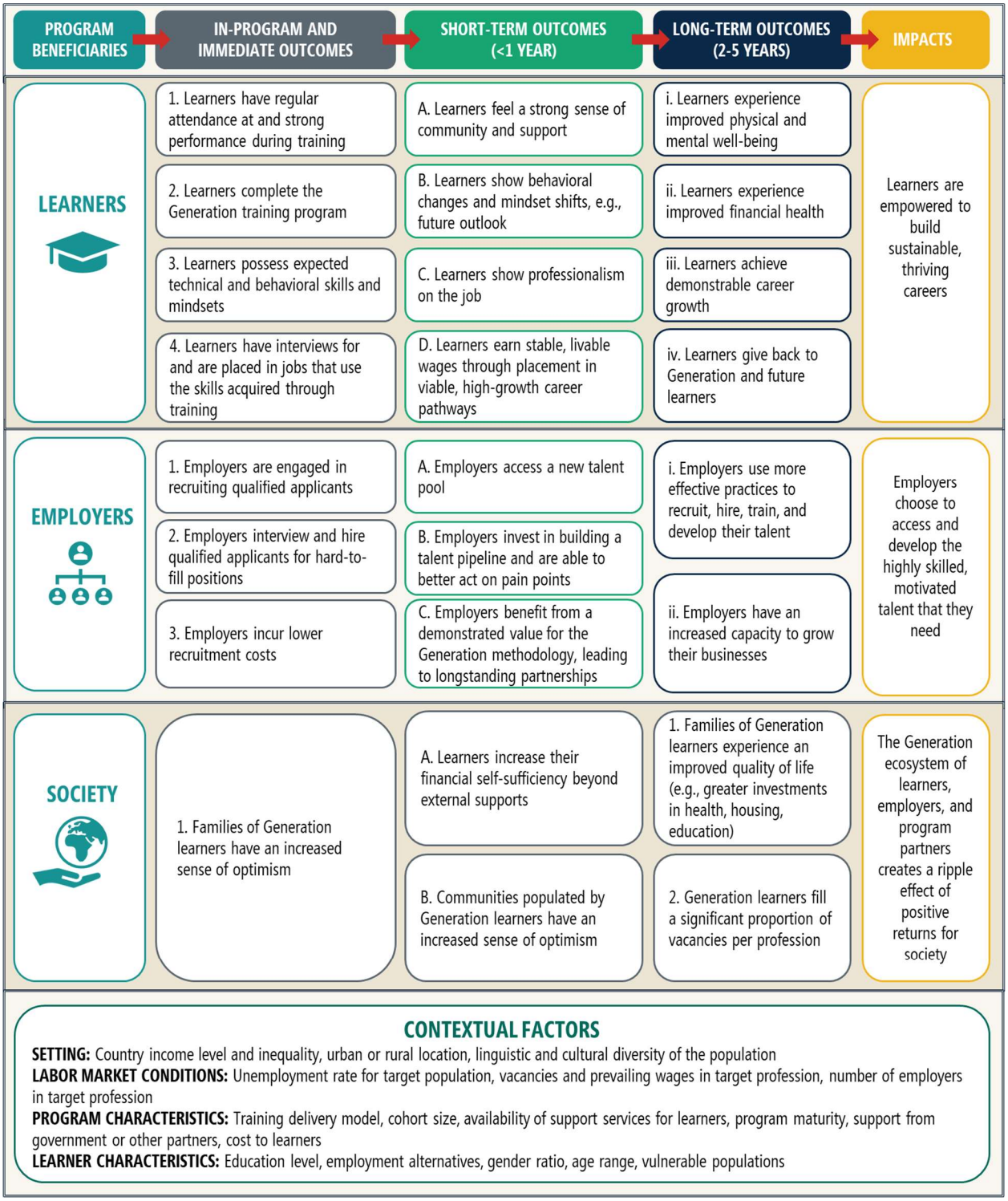
Globally, Generation provides training for jobs in four sectors: customer service and sales; digital and technology; healthcare; and skilled trades. The Generation training model consists of seven key components: (1) engaging employers from the start; (2) recruiting learners with the intrinsic qualities, effort, and employment standards necessary for success; (3) providing several weeks of comprehensive training (including technical, behavioral, mindset, and professional presence skills training); (4) arranging interviews with employer partners for immediate job placement; (5) providing mentorship during and after the program to help learners successfully complete the program and continue learning and growing in their careers; (6) generating a positive return on investment for learners, employers, and society; and (7) maintaining a data-centered approach.

Figure I.1 summarizes Generation's program logic, which illustrates how the program intends to deliver a positive return on investment for learners, employers, and society. Generation seeks to empower learners to build successful careers through training and job placement assistance, which is expected to lead to livable wages in high-growth positions in the short-term and improved well-being, financial health, and career growth in the long-term. The model also envisions learners supporting future Generation learners in the long-term.

Through Generation, employers are expected to gain access to highly skilled and motivated employees. Generation engages employers in recruiting learners from their programs for hard-to-fill positions, lowering recruitment costs. In the short-term, employers access a new talent pool and build a talent pipeline while building a longstanding partnership with Generation. In the long-term, employers can take advantage of a more effective recruitment and training process, helping them grow their business.

Society at large is also expected to benefit from Generation through a ripple effect of positive returns conferred upon communities by learners who completed their training program. In the short term, families of Generation learners are expected to benefit from learners' increased financial self-sufficiency, which will translate into a broader sense of optimism in the larger community as the financial prospects of its youth improve. In the long term, families of Generation learners are expected to experience an increased standard of living and this effect is expected to become widespread in the community as Generation learners increasingly fill vacancies in the relevant professions.

Figure I.1. Generation program logic model



Source: Generation, May 2021

Although Generation currently provides a wide variety of training programs in its four core sectors spanning 17 countries, this evaluation focuses specifically on six training programs: four in India and two in Kenya. In India, we assess outcomes for learners who completed the Retail Sales Associate (RSA), Customer Care Executive (CCE), Amazon Web Services (AWS) Cloud Support Practitioner, and Junior Full Stack Java Developer (JFSJD) programs. (In this report, we collectively refer to the AWS and JFSJD programs as the "technology programs," and the RSA and CCE programs as the "non-technology programs.") Of these, only the CCE program was included in the Phase I evaluation; the change in programs for the Phase II evaluation reflects an adjustment to Generation India's programming. As mentioned earlier, the program cohorts included in the evaluation in India are all being implemented under project AMBER a joint initiative of Generation India Foundation and the NSDC in collaboration with the Ministry of Skill Development and Entrepreneurship, under the World Bank-supported Sankalp Program.[2] In Kenya, the Phase II evaluation continues to focus on the two programs that were included in Phase I: the Sewing Machine Operator (SMO) and Digital Customer Service (DCS) programs. The job roles included in the evaluation range from classic programs delivered fully in-person, like RSA and SMO, as well as programs delivered in blended (mix of in-person and online) or fully online models, like CCE, AWS, JFSJD, and DCS. In both countries, the programs included in the Phase II evaluation account for a substantial fraction of Generation learners. In India, the RSA and CCE programs together accounted for about 30 percent of all Generation India's learners in 2022 and about 40 percent in 2023 learners (through mid-2023); the newer AWS and JFSJD programs accounted for a much smaller percentage. In Kenya, the SMO and DCS programs together accounted for about 75 percent of all Generation Kenya's learners in 2022 and about 50 percent in 2023 (through mid-2023). **Table I.1** summarizes the features of these programs for the cohorts of learners included in the Phase II evaluation. (In Chapter II we describe how we identified these cohorts.)

Applicants to all six programs undergo a rigorous application and screening process that focuses on ensuring that the program is the right fit for applicants and that they possess the necessary qualities for success. Specifically, Generation screens learners based on basic skills like literacy, numeracy and any pre-requisite skills required for the profession; Generation also tests for learners' commitment to complete the training and find a job in the field. All trainings cover technical skills for the job role—as well as soft skills related to behavior, mindset, and professional presence—to help learners succeed in the job application and interview process and in their professional roles. Learners from all six programs have access to job placement services to help them find a job, as well as ongoing professional mentorship services to support them during training and for three months after training.

[2] Under project AMBER, Generation and NSDC jointly select private training providers to implement the training programs through a competitive bidding process. The selected training providers, who own the training facilities and hire instructors, are responsible for implementing the training programs following Generation's methodology. Many of these training providers also implement training programs through national and state government schemes, including for some of the same job roles offered by Generation.

Table I.1. Generation programs included in the Phase II evaluation

Country	Program	Job function	Requirements	Duration	Modality	Location
India	RSA 	Customer sales associates in the retail industry	• Completed upper secondary school • English and math proficiency • 18 to 27 years old	6 to 12 weeks	In-person	10 cities across India
India	CCE 	Call center operators	• Completed upper secondary school • English proficiency • 18 to 27 years old	5 to 17 weeks	Blended	12 cities across India
India	AWS 	Cloud support practitioner	• STEM graduate • Up to 25 years old • Annual family income below 500,000 rupees	12 weeks	Online	4 cities in North, South, and West India
India	JFSJD 	Web developer	• STEM graduate • 21 to 25 years old • English proficiency	16 weeks	Online	2 cities in South India
Kenya	SMO 	Sewing machine operators in the apparel industry	• Completed primary school • 18 to 35 years old	6 weeks	In-person	Nairobi and suburbs
Kenya	DCS 	Call center operators	• Completed secondary school with an overall grade of C-or better and a grade of C- or better in English • 22 to 35 years old	4 to 6 weeks	Online or in-person	Mombasa and Kilifi

Notes: The standard duration of each program is the bottom of the range provided in the table. The training was longer for some cohorts due to holiday breaks, trainer availability, or extensions to ensure learners completed all required modules. Online programs are associated with a specific training center; training is delivered (online) by instructors hired by that center and job placements are typically concentrated in that location.

RSA = Retail Sales Associate; CCE = Customer Care Executive; AWS = Amazon Web Services Cloud Support Practitioner; JFSJD = Junior Full Stack Java Developer; SMO = Sewing Machine Operator; DCS = Digital Customer Service; STEM = science, technology, engineering, and mathematics.

B. Literature review

Summary of key literature findings

Impact evaluations of vocational training programs show that impacts of many programs in low-income countries are modest or non-existent (see the 12 impact evaluations reviewed by McKenzie (2017) and 5 more recent impact evaluations [Borkum et al. 2017; Alzúa et al. 2019; Chakravarty et al. 2019; Alfonsi et al. 2020; Alcid et al. 2021]).

Employment: 4 of the 17 studies found a statistically significant impact on employment. On average, across the studies reviewed by McKenzie et al. (2017), the offer of training increased employment by 2 percentage points.

Earnings: 7 of the 17 studies found a statistically significant impact on earnings. The average increase in earnings across the studies reviewed by McKenzie et al. (2017) was 17 percent; the median increase was 11 percent.

Among the programs with positive impacts were programs in India and Kenya:

India tailoring and stitching program: This was a six-month training program for low-income women. After 18 months, employment was 8 percentage points higher and earnings 96 percent higher among women who were offered the training. Among those who completed the training, employment was 15 percentage points higher and earnings 170 percent higher.

Kenya Youth Empowerment Project: This program comprised three months of technical training and a three-month internship for vulnerable urban youth. Among those offered training, employment was 6 percentage points higher and earnings were about 30 percent higher after 14 months. Among those who completed training, employment was 12 percentage points higher and earnings were almost 60 percent higher.

This evaluation will contribute to a larger body of evidence regarding the impact of youth vocational training programs on employment and earnings. Several rigorous impact evaluations have examined the relationship between vocational training programs and these labor market outcomes. Overall, this literature suggests that the impacts of many vocational training programs in low-income countries are modest or non-existent, although there are examples of positive impacts in both India and Kenya, the countries included in this evaluation. The success of any given program likely depends on factors such as social, economic, and labor market conditions; existing skill levels of targeted groups; and characteristics of the training programs.

McKenzie (2017) reviewed 12 impact evaluations that used an experimental design, which provides the highest standard of evidence (**Table I.2**).[3] Only three of the nine studies that measured employment as an outcome found a statistically significant impact of the offer of training on employment; across the nine studies, employment rates among those offered training were, on average, 2 percentage points higher than

[3] The literature also includes several relevant quasi-experimental impact evaluations. However, a review by Tripney et al. (2013) found that the quality of these studies varies markedly, making it difficult to interpret the findings on labor market impacts, which also vary markedly. In addition, other studies have found that evaluations of the same training program that are based on different quasi-experimental methodologies can yield very different results (Ibarrarán and Rosas Shady 2009; Delajara et al. 2006). Therefore, we focus our review on the experimental studies summarized in Table I.2.

Table I.2. Experimental evaluations of vocational training programs in low- and middle-income countries reviewed by McKenzie (2017)

Country	Study	Population	Follow-up period relative to end of training	Impact of the offer of training				Cost per trainee (USD)
				Employment (percentage points)	Formal employment (percentage points)	Earnings (percent)	Formal earnings (percent)	
Argentina	Alzúa et al. (2016)	Low-income youth	18 months	--	**8.0**	--	**64.9**	$1,722
		Low-income youth	33 months	--	4.3	--	23.1	
Colombia	Attanasio et al. (2011)	Low-income youth	14 months	**4.5**	**6.4**	**11.6**	**27.1**	$750
	Attanasio et al. (2015)	Low-income youth	Up to 10 years	--	**4.2**	--	**13.6**	
Dominican Republic	Card et al. (2011)	Low-income youth	12 months	0.7	2.2	10.8	--	$330
	Ibarrarán et al. (2014)	Low-income youth	18 to 24 months	-1.3	1.8	6.5	--	$700
	Ibarrarán et al. (2015)	Low-income youth	6 years	-1.4	2.6	-1.9	--	$700
	Acevedo et al. (2017)	Low-income youth	3 years	0.7	--	--	--	--
India	Maitra and Mani (2017)	Low-income women	18 months	**8.1**	--	**95.7**	--	$39
Kenya	Honorati (2015)	Low-income youth	14 months	**5.6**	--	29.7	--	$1,150
Malawi	Cho et al. (2013)	Low-income youth	4 months	--	--	-19.6	--	--
Peru	Diaz and Rosas (2016)	Low-income youth	36 months	1.6	**3.8**	13.4	--	$420
		Low-income youth	36 months	--	4.5	--	--	
Turkey	Hirshleifer et al. (2016)	Unemployed	1 year	2.0	2.0	5.8	8.6	$1,700
		Unemployed	2.5 years	--	-0.1	--	-0.8	

Source: McKenzie (2017)

Notes: Impacts that are statistically significant at the 5 percent level are in bold.

USD = United States Dollars

-- = not reported

among those not offered training.[4] (The median follow-up period for these nine studies was 14 months after the end of training.) However, there is some evidence of larger impacts on formal employment. Formal employment rates were, on average, almost 4 percentage points higher among those offered training relative to those not offered training—suggesting that training might shift workers from the informal to the formal sector.[5] Only two of nine studies that examined earnings as an outcome found a statistically significant impact, although most estimates were positive, with an average impact of 17 percent and a median impact of 11 percent.

Although McKenzie (2017) found that the overall evidence of the impact of vocational training on employment, formal employment, and wages was mixed, the evaluations of programs in India and Kenya included in his review were among those that registered positive impacts on employment and earnings. In India, using a randomized controlled trial, Maitra and Mani (2017) evaluated a six-month tailoring and stitching training program for low-income women. They found that six months after training, employment (including casual, full-time, and self-employment) was six percentage points higher among women who were offered the training relative to the control group, and that this impact on employment increased to eight percentage points 18 months after training completion. Women who were offered the training also worked more hours per week and had substantially higher earnings compared to those who were not offered the training (almost double after 18 months). Among women who completed the training, the 18-month impacts were 15 percentage points for employment and 170 percent for earnings. At a cost of 39 dollars per trainee, the training in India was also by far the most cost-effective training of the 12 reviewed by McKenzie (2017), which had an average cost per trainee of 835 dollars and a median cost per trainee of 700 dollars.

In Kenya, a study conducted by Honorati (2015) evaluated a youth training and internship program called the Kenya Youth Empowerment Project. This public-private partnership provided vulnerable youth with three months of technical and life-skills training and placed them in three-month internships with private sector employers in five formal sectors and one informal sector. The randomized controlled trial found that the offer of the program had a statistically significant impact of 6 percentage points on the likelihood of employment 14 months after training. There was a 30 percent difference in earnings between those offered and not offered training, although the difference was not statistically significant. Among those who completed the program, the average impact on employment was 12 percentage points and the average impact on earnings was about 60 percent.[6] The study also found that the program increased the number of hours worked per week and, for male trainees, increased the probability of having a written employment contract. At a cost of 1,150 dollars per trainee, it was the third most expensive program among those reviewed by McKenzie (2017).

Considering the evidence from all 12 evaluations he reviewed, McKenzie concluded that the impacts of vocational training on employment and earnings are modest in most studies, although they are positive in some cases—including the programs in India and Kenya discussed above. He also suggested that few of

[4] The impact estimates provided in Table I.2 are the intent-to-treat effects, which are the impacts of being offered vocational training. The treatment-on-treated effects, which are the impacts of taking the training when it is offered, are between 20 and 40 percent larger than the intent-to-treat effects. (The magnitude of the difference depends on the take-up rate for the offer of training in each study, which typically varies between about 70 and 85 percent.)

[5] The definition of formal sector employment varies across studies. It is typically based on employment in a job that includes legally mandated benefits in each country context, such as health insurance, injury compensation, or social security contributions.

[6] The reported impact estimates are a weighted average of the impacts for males and females, which are presented separately in the study.

these programs are likely to pass a simple cost-benefit test given the high costs of training (with the training in India being a notable exception) and uncertainty about the sustainability of labor market impacts beyond the timeframes studied.

To complement McKenzie (2017), we also identified several more recent rigorous impact evaluations of vocational training programs, which found similarly mixed impacts:

- Mathematica's impact evaluation of scholarships funded by the Millennium Challenge Corporation for vocational training in Namibia (Borkum et al. 2017) randomly assigned the offer of vocational training scholarships to eligible applicants. The scholarships were provided by issuing competitive grants to training providers and were designed to fund training in high-priority skill areas. Although the evaluation found that receiving a scholarship offer had large impacts on the probability of enrolling in and completing vocational training, especially among women, there was no evidence of positive impacts on employment and wages. A complementary qualitative study (Velyvis et al. 2017) suggested that the process technical and vocational education and training (TVET) providers used to assess market demand for skills was not fully developed when the grants were made, which could partially explain the project's limited labor market impacts.
- Alzúa et al. (2019) conducted a randomized controlled trial of short, inexpensive vocational training programs for disadvantaged youth in Mongolia, which offered up to 45 days of training and included a substantial internship component. The authors found that the offer of training led to an increase in the self-employment rate (of 3 to 4 percentage points) and monthly earnings (of more than 20 percent) after 12 months, but that it did not increase overall employment. Most of these benefits accrued to trainees who were wealthier, older, and better educated. Also, take-up of training was low, possibly because the program placed part of the burden of finding internships on trainees.
- Chakravarty et al. (2019) used a regression discontinuity design to conduct an impact evaluation of the Nepal Employment Fund, a large training and job placement program for disadvantaged youth in Nepal. The program gives trainees one to three months of technical training, six months of paid on-the-job trainings, and life skills training for female trainees. The study found positive impacts of the offer of training on non-farm employment (10 percentage points) and monthly earnings (almost 50 percent) one year after the end of training, but no impacts on overall employment. These impacts were largely driven by women who started their own businesses inside their homes.
- Alfonsi et al. (2020) randomly assigned the offer of a scholarship for participation in a six-month vocational training program among disadvantaged youth in Uganda. The program covered eight manufacturing and service sectors and was offered at vocational training institutions across Uganda. The study found that the scholarship offer increased the employment rate by 9 percentage points and monthly earnings by 25 percent, when averaged over one-, two-, and three-year follow-up surveys. Among those who took up the offer and participated in the training, the impacts were 25 percentage points for employment and 42 percent for earnings. A simple cost-benefit analysis suggests that the program, which cost between 400 and 500 dollars per trainee, was highly cost effective. The authors speculate that the intense nature of the training, strong reputation of the vocational training institutions included in the study, focus on sectors with high demand for skilled workers, and incentives to training institutions to work to limit dropouts contributed to these strong results.

- Alcid et al. (2023) conducted a randomized controlled trial of a program targeted at school dropouts in Rwanda that included one month of soft skills and work readiness training, a short entrepreneurship training, two to three months of vocational training, and a three-month internship. The aim was to increase the work-readiness and employability of participants. The program had positive short-term impacts on measures of work readiness. However, despite its comprehensive nature, there were no substantive effects on employment or income two years after the end of the program.

Although our Phase II evaluation does not include a randomized controlled trial, the most rigorous impact evaluation design, the benchmarking approach and process evaluation will provide valuable information about the extent to which Generation's unique training methodology contributes to positive outcomes for learners in the training programs included in the evaluation.

C. Report roadmap

The remainder of this report is structured as follows. In Chapter II, we present the research questions, evaluation design, data sources and sampling approach, and analytic approach. We then present findings separately by country: Chapter III presents findings from India and Chapter IV presents findings from Kenya. We conclude in Chapter V with a summary of overall findings and lessons from the Phase II evaluation.

II. Evaluation Methodology

In this chapter we describe the research questions, evaluation design, the data sources we use, and our approach to analyzing these data. We also summarize the key limitations of the Phase II evaluation.

A. Research questions

Mathematica's overall evaluation is guided by three research questions developed by Generation, which together seek to capture the effects of the program on learners, employers, and society more broadly (RQ.1–RQ.3).

RQ.1 What outcomes do we find, corresponding to metrics outlined in Generation's logic model (with a specific focus on learners)? What other metrics might augment our view of impact, especially related to employers and society?

RQ.2 How do the labor market outcomes of Generation learners compare to those of applicants who were not selected for the Generation program?

RQ.3 To what extent does Generation provide employers with talent with alternative profiles (marginalized and/or non-traditional backgrounds versus their job peers)?

As mentioned in Chapter I, we are conducting a two-phase evaluation to answer these questions; this report presents the design of and findings from Phase II.

B. Evaluation design

The Phase II evaluation focuses on four programs in India (RSA, CCE, AWS, and JFSJD) and two programs in Kenya (SMO and DCS). The Phase II evaluation design for these programs includes the following components (**Table II.1**):

- **Description of long-term employment outcomes for Generation learners.** We independently measure the labor market outcomes of Generation learners in both countries about 15 months after they completed their Generation programs, on average. (For the AWS and JFSJD technology programs in India, which were introduced more recently, we measure outcomes 11 months after completion, on average.) These estimates of long-term outcomes complement the estimates of short-term outcomes from Phase I, which were measured between 1 and 3 months after program completion.
- **Benchmarking of long-term employment outcomes with a comparison group.** In India, this component involves comparing the long-term outcomes of Generation learners to those of learners from similar non-Generation programs, which we refer to as comparison cohorts. To identify comparison cohorts, we identified—to the extent possible—cohorts that were undertaking publicly funded programs for the same job roles, in the same states of India, and with similar completion dates. (We discuss the selection of comparison cohorts in more detail in the next section.) This approach enables us to estimate the difference in outcomes achieved by Generation programs against those of training programs in the public Indian training system that use the business-as-usual, non-Generation methodology. We only conduct benchmarking for the RSA and CCE programs because there are no similar publicly funded non-Generation programs for the two technology programs, AWS and JFSJD. In Kenya, the benchmarking component involves comparing the long-term outcomes of Generation learners to those of individuals who applied to the same programs around the

same time as those learners and made it through the early stages of the application process but were ultimately not accepted.[7] The non-selected applicants provide an indication of how the Generation learners might have fared without the Generation program.

- **Process evaluation (India only).** The process evaluation seeks to identify the successes and challenges of Generation's approach, qualitatively assess long-term outcomes for employers and society, explain how and why differences in outcomes between Generation and comparison learners measured in the benchmarking approach arise (or do not arise), and describe whether and how the characteristics of Generation learners differ from those of their job peers. We did not collect equivalent data for Phase II in Kenya; however, for completeness we include Phase I findings from interviews with employers of Generation learners from the SMO and DCS programs.

Table II.1. Phase II evaluation design

Design component	Objectives	India	Kenya
Description of long-term employment outcomes for Generation learners	• Measure long-term employment outcomes among Generation learners	✓	✓
Benchmarking of long-term employment outcomes with a comparison group	• Estimate the long-term effects of Generation by comparing employment outcomes among Generation learners to outcomes among: (1) learners from similar non-Generation programs (India), or (2) non-selected applicants (Kenya)	✓	✓
Process evaluation	• Identify key successes and challenges of Generation's approach • Identify long-term benefit streams, especially for employers and society • Understand how and why differences in outcomes between Generation and comparison learners arise (or do not arise) • Describe whether and how Generation learners differ from their job peers	✓	

C. Data sources and sampling approach

The Phase II evaluation draws on three data sources: (a) program data on learner characteristics and contact information; (b) long-term learner outcome data collected through a phone survey; and (c) semi-structured interviews with Generation India staff, employers, training providers, instructors, and learners engaged in the targeted programs. **Table II.2** summarizes the different data sources and sample sizes, which we discuss in more detail below.

[7] In Kenya, we cannot compare the outcomes of Generation graduates to those of similar non-Generation programs because there are no such programs.

Table II.2. Data sources for Phase II evaluation

Source	Learners	Comparison[a]	Source	Sample sizes
India: RSA, CCE, AWS, and JFSJD				
Program data on learner characteristics and contact information	✓	✓	• *Generation learners:* Generation (learner database) • *Comparison learners:* NSDC (Skill India Portal)	• 102 Generation AWS learners • 119 Generation JFSJD learners • 457 Generation RSA learners • 418 Generation CCE learners • 1,356 comparison RSA learners • 935 comparison CCE learners
Long-term outcome data (survey)	✓	✓	• RSB Insights and Analytics (phone)	• 49 Generation AWS learners • 52 Generation JFSJD learners • 236 Generation RSA learners • 223 Generation CCE learners • 228 comparison RSA learners • 281 comparison CCE learners
Stakeholder interviews	✓		• Mathematica (phone)	• 5 Generation India staff • 9 employers • 3 training providers • 6 instructors • 8 Generation learners
Kenya: SMO and DCS[b]				
Program data on learner/applicant characteristics and contact information	✓	✓	• Generation (existing databases)	• 213 Generation SMO learners • 196 Generation DCS learners • 217 SMO non-selected applicants • 249 DCS non-selected applicants
Long-term outcome data (survey)	✓	✓	• EDI Global (phone)	• 157 Generation SMO learners • 143 Generation DCS learners • 98 SMO non-selected applicants • 103 DCS non-selected applicants

[a] In India, the comparison group is restricted to the RSA and CCE programs only

[b] For completeness, we also present findings from interviews with 6 employers of Generation learners that were conducted in Phase I of the evaluation (3 SMO employers and 3 DCS employers)

RSA = Retail Sales Associate; CCE = Customer Care Executive; AWS = Amazon Web Services Cloud Support Practitioner; JFSJD = Junior Full Stack Java Developer; SMO = Sewing Machine Operator, DCS = Digital Customer Service, NSDC = National Skill Development Corporation

1. Program data on cohorts, learner characteristics, and learner contact information

Generation provided basic descriptive information—including program start and end dates and the city where the training was held—for cohorts in the six training programs of interest. In India, the Generation cohorts in Phase II largely differed from those included in Phase I, reflecting changes in the programs of

interest and larger desired sample sizes relative to Phase I. For the RSA and CCE programs, we included all Generation cohorts that completed programs between January and May 2022. These cohorts were sufficient to meet our Phase II sample size targets and were between 12 and 18 months after program completion when we collected the Phase II data (15 months, on average). For the two technology programs, which were only introduced more recently, we included all cohorts that completed their programs in July 2022 for the AWS program and between May and July 2022 for the JFSJD program. These were the earliest available cohorts for these programs that were sufficient to meet our sample size targets and were between 9 and 14 months after program completion (11 months, on average) when we collected the Phase II data.

Generation obtained similar descriptive information on cohorts in equivalent non-Generation RSA and CCE programs from the Skill India Portal managed by the NSDC, which we used to identify comparison cohorts. To improve comparability, we limited our consideration of comparison cohorts to those who were trained in PMKVY training centers—the same type of training centers that were used for Generation cohorts. PMKVY training centers are the flagship training program of the Ministry of Skill Development and Entrepreneurship. The training provided by these centers is considered high-quality because training programs adhere to national occupational standards as well as qualification and quality standards developed in consultation with the private sector (which may not be true of trainings provided in non-PMKVY centers).

To identify comparison cohorts, we divided the Generation RSA and CCE cohorts into unique strata defined by program, state, and approximate completion date, and aimed to identify comparison cohorts for each stratum that (1) ended as close as possible to the Generation cohort;[8] and (2) were in the same state of India, to the extent possible.[9] These criteria were intended to improve the overall similarity between the Generation and comparison cohorts in terms of context and labor market conditions. Ultimately, we identified 71 comparison cohorts for the RSA program and 44 comparison cohorts for the CCE program, with completion dates between November 2021 and June 2022 for the former and between October 2021 and May 2022 for the latter. As mentioned earlier, we did not identify comparison cohorts for the two technology programs because there are no similar publicly funded non-Generation programs.

Generation provided information from their learner database for learners in the selected Generation cohorts, comprising basic demographic details and contact information.[10] Generation also obtained similar information on learners in the selected comparison cohorts from NSDC. We used these data to identify learners who completed the targeted training program and had contact information available. These Generation and comparison learners comprised the sample frame for the Phase II outcome survey in India.[11]

[8] The vast majority were within 120 days, and some were within 30 days, but the maximum difference in end dates was about 240 days.

[9] For some states in the South, there were not enough potential comparison cohorts to restrict to the same states. In those cases, we identified comparison cohorts from other states in the South. Specifically, for the RSA program, comparison cohorts for Kerala are drawn both from Kerala and neighboring Tamil Nadu. For the CCE programs, comparison cohorts for Andhra Pradesh, Karnataka, Kerala, Telangana, and Tamil Nadu are drawn from Andhra Pradesh and Karnataka.

[10] The criterion for selecting these cohorts in Phase I was that they were more than 30 days and not much more than 120 days after program completion when we collected Phase I data, in spring 2022.

[11] We use the term "learners" rather than "graduates" throughout this report even though we focus on learners who completed their training program because in India "graduate" typically refers to completing a bachelor's degree.

In Kenya, we focused primarily on the Generation cohorts that were included in Phase I of the evaluation. Specifically, we focused on 7 DCS cohorts and 4 SMO cohorts with completion dates between November and December 2021. However, because the Phase I response rate for SMO learners was relatively low, it was necessary to add some more recent SMO cohorts to meet our Phase II sample size targets. Therefore, we added 4 SMO cohorts with a completion date of February 2022, yielding a total of 8 SMO cohorts for Phase II. Overall, the Generation cohorts in our Phase II Kenya sample were between 13 and 17 months after program completion when we collected the Phase II data—on average, 15 months.

Like in India, Generation provided basic demographic details and contact information from their learner database for learners in the selected Generation cohorts in Kenya. Generation also provided baseline program intake data for non-selected applicants to the DCS and SMO cohorts included in the Phase II sample, including the stage of the application process to which they successfully advanced. We used these data to identify non-selected applicants who advanced to the later stages of the application process but were ultimately not accepted into the program.[12] For cohorts included in Phase I, we further restricted the non-selected applicants to those whose contact information we were able to validate in Phase I; for new cohorts, which we had not previously tried to contact, we restricted to those with available contact information. These non-selected applicants, together with Generation learners in the relevant cohorts who completed the training program and had contact information available, comprised the sample frame for the long-term outcome survey in Kenya.

2. Long-term outcome data collected through a phone survey

For each program, we determined a target survey sample size for Generation and comparison learners or non-selected applicants. To do so, we sought to balance the cost of a larger sample with the additional statistical power that it would yield, while also considering the number of learners or non-selected applicants available in the cohorts that we included in the Phase II sample. This led to the following sampling approach:

- In **India**, our target sample size for the RSA and CCE programs was 250 Generation learners per program, out of a sample frame of 457 and 418 learners, respectively. For each of these programs, we allocated the total target sample size of 250 Generation learners across strata (defined, as above, by state and approximate program completion date) in proportion to their size. We then randomly ordered the sample frame within each stratum and successively contacted learners until we met stratum-level targets, and hence the overall target for each program.[13]

  The target sample size for comparison RSA and CCE cohorts was also 250 learners per program. For the RSA program, the target comparison sample size in each stratum was similar to that for Generation learners, and again we attempted to meet these targets by successively contacting learners from a randomly ordered list in each stratum. However, for the CCE program, there were relatively few comparison learners available in the South. Therefore, we sought to maximize the comparison

[12] For each program, we identify the latest stage in the application process after which there was a substantial drop-off in the number of applicants who continued to the next stage. For the SMO program, we drew our sample from applicants who advanced to at least stage 4 out of 12 and for the DCS program we drew our sample from applicants who advanced to at least stage 6. This enabled us to focus on non-selected applicants who would be the most similar to Generation learners, while also meeting the sample size requirements of the evaluation.

[13] Despite making up to three attempts on different days and times of day to contact each potential survey respondent, the available sample of Generation learners in some strata was exhausted before the sample size target was met. In those cases, we increased the sample size targets in other strata to try to ensure that the overall sample size target was met. The same was true for the sample of comparison learners.

cohort sample size in strata with states in the South but had to increase targets in other strata to achieve the overall target.[14]

For the two technology programs, our target sample size was 50 Generation learners per program, out of a sample frame of 102 AWS and 119 JFSJD learners.[15] For each of these programs, we divided the sample frame into strata defined by state and allocated the target sample size of 50 across strata in proportion to their size. We then randomly ordered the sample frame within each stratum and successively contacted learners until stratum-specific targets were achieved.

- In **Kenya**, our target sample size for each program was 150 Generation learners and 100 non-selected applicants. For the DCS program, we randomly ordered the sample frames of Generation learners and non-selected applicants and went down each list in order until the target sample size was achieved. For the SMO program, we first prioritized trying to contact all the individuals from the cohorts included in Phase I. We then went down randomly ordered lists of Generation learners and non-selected applicants from the new cohorts added for Phase II until the total sample size targets for the SMO program were met.

Working with our data collection partners, RSB Insights and Analytics in India and EDI Global in Kenya,[16] we collected long-term outcomes data from the cohorts described above through a survey. In both countries, the survey was conducted over the phone and interviewers recorded responses using SurveyCTO, a computer-assisted personal interviewing software. **Table II.3** summarizes the topics covered by the survey, which were identical for India and Kenya. Many of the questions regarding employment outcomes were repeated from Phase I, except with a focus on the current or most recent job as of the Phase II survey date. However, we also added a broader set of measures to capture financial, physical, and mental well-being, consistent with some of the longer-term learner outcomes in the program logic.[17] To the extent possible, we drew or adapted these measures from existing well-being measures that have been validated in the literature. The median survey duration was 10 minutes in India and 14 minutes in Kenya.

[14] As we describe later, we account for stratum in the analysis using stratum fixed effects in a regression framework. This implies that an imbalance in the distribution of the Generation and comparison cohort samples across strata does not bias the estimates.

[15] The target sample sizes for the technology programs were lower than for the other programs because the data from Generation learners will be used for descriptive purposes only, in the absence of a comparison group. Further, these programs are smaller than the other programs, so the smaller sample size still covers a relatively large fraction of learners.

[16] EDI Global provided technical assistance to RSB Insights and Analytics to ensure quality and consistency across the data collection efforts.

[17] The program logic suggests that the effects of Generation training on these outcomes might only be experienced between two and five years after program completion, whereas the Phase II survey was conducted an average of 15 months after completion. Nevertheless, we included these measures to assess whether there were any early indications that these aspects of learner well-being would be affected.

Table II.3. Long-term outcome survey modules and topics covered

Survey module	Topics covered
Background information	• Confirm learners' completion of specified training (or, in Kenya, non-selected applicants' application to and rejection from specified training) to verify eligibility for the survey • Marital status • Number of children • Number of household members and whether respondent is the household head • Number of household members engaged in work • Receipt of financial assistance from the government or non-governmental organizations • Number of dependents on respondent's income (if any)
Training activities and employment status since program completion or application	• Additional training completed or currently underway • Current employment status (including paid work or seeking paid work) • Number of jobs held since program completion or application • Details of current or most recent job: start and end date; wages; ability to meet basic expenses for self and dependents; ability to save; decision-making power over earnings; contract type; number of hours worked per week; job relevance to the training program; job satisfaction; reason for leaving job (if no longer held) • Workplace belongingness and support (United States Agency for International Development [USAID] 2016) • Main reason for not finding a job (among those who did not find one)
Well-being	• Perceptions of physical health and how it has changed over the past year (RAND, undated) • Perceptions of household's financial situation and how it has changed over the past year • Sense of purpose (Steger et al. 2006) • Confidence (USAID 2016) • Optimism about the future (USAID 2016; Cantril 1965)

In India, RSB Insights and Analytics conducted the long-term outcome survey for both Generation learners and learners from comparison cohorts between May 11 and July 2, 2023. Phone interviews were conducted in Hindi, Tamil, Marathi, Kannada, Telugu. Malayalam, or Bengali, depending on the preference of the respondent.[18] RSB Insights and Analytics ultimately completed 236 interviews with Generation RSA learners, 223 with Generation CCE learners, 49 with Generation AWS learners, and 52 with Generation JFSJD learners, for a combined response rate of 67 percent for Generation learners (**Table II.4**). Among comparison cohorts, RSB Insights and Analytics completed surveys with 228

[18] As mentioned earlier, the sample of Generation learners and comparison cohorts comprised a randomly ordered list of relevant individuals for each stratum (defined by program, state, and approximate program completion date), with a stratum-specific sample size target. To increase response rates, we released each ordered sample list in small batches, with RSB Insights and Analytics making up to three attempts on different days and times of day to contact all the individuals in each batch before accessing the next batch. The sample in some strata was exhausted before the sample size target was met; in those cases, we increased the sample size targets in other strata to try to ensure that the overall sample size target was met.

comparison RSA learners and 281 comparison CCE learners, for a combined response rate of 70 percent.[19]

Table II.4. Long-term outcome survey response rates by program

Program	Number of cohorts	Sample attempted	Completed surveys	Ineligible respondents	Response rate[a]
India					
Generation RSA	19	355	236	10	68%
Generation CCE	19	349	223	17	67%
Generation AWS	4	64	49	7	86%
Generation JFSJD	5	99	52	2	54%
Generation total	**47**	**867**	**560**	**36**	**67%**
Comparison RSA	71	386	228	12	61%
Comparison CCE	44	373	281	21	80%
Comparison total	**115**	**759**	**509**	**33**	**70%**
Kenya					
Generation DCS	7	196	143	0	73%
Generation SMO	8	278	157	6	56%
Generation total	**15**	**474**	**300**	**6**	**63%**
Comparison (non-selected) DCS	7	156	103	0	66%
Comparison (non-selected) SMO	8	241	98	29	46%
Comparison (non-selected) total	**15**	**397**	**201**	**29**	**51%**

[a] Response rates were calculated as the number of completed surveys divided by the sample attempted, excluding the ineligible respondents

In Kenya, EDI Global conducted the long-term outcome survey between March 29 and April 17, 2023. Interviews were conducted in English or Swahili, depending on the respondent's preference. For the DCS program, the list of Generation learners was exhausted, yielding 143 completed surveys for a response rate of 73 percent (**Table II.4**). Like in Phase I, the response rate for SMO Generation learners was lower, because many of them could not be reached using the available contact information; EDI Global completed 157 interviews with these learners, for a response rate of 56 percent. Overall, EDI Global completed 300 interviews with Generation learners in Kenya, for a total response rate of 63 percent. For non-selected applicants, EDI Global completed 201 completed surveys in total, for a response rate of 51 percent.

3. Stakeholder interviews

Mathematica staff conducted virtual semi-structured interviews with several key stakeholders between late May and early July 2023. Interviews were conducted using videoconference software and each lasted between 30 and 60 minutes. These interviews covered the following stakeholders:

[19] For some groups, we fell slightly short of our target sample size even after exhausting the full sample available; we exceeded the original sample size target of 250 for comparison CCE learners to make up for small deficits in the target elsewhere.

- **Generation India staff.** We interviewed the Generation staff leading the curriculum and instruction, business development, and overall operations aspects of the India programs, as well as two regional coordinators, who are responsible for overseeing implementation in their region. The interviews were tailored to each respondent but focused primarily on implementation successes and challenges.
- **Employers.** We worked with Generation to identify a purposeful sample of employers who were willing to be interviewed. These employers were typically medium or large companies, had been partnering with Generation for more than a year, and had hired a substantial number of Generation learners over the previous year. We interviewed three employers each from the RSA, CCE, and technology programs (combined), for a total of nine employer interviews. These interviews focused on differences between Generation learners and their job peers in terms of their profile, skills, and job performance, as well as the main implications of working with Generation for the employers.[20]
- **Training providers.** We interviewed three of the largest training providers who provided programs under project AMBER, including the programs targeted for the Phase II evaluation. These providers also provide training programs under other government and corporate schemes. The provider interviews focused on the role of training providers in implementing Generation programs, perceived differences between Generation and non-Generation programs, and the successes and challenges of implementing Generation's approach.
- **Instructors.** We worked with Generation to identify a purposeful sample of six instructors who were willing to be interviewed—two each for the RSA, CCE, and technology programs (combined). These instructors were employed by a variety of training providers in different parts of India and had been working with Generation for between eight months and two years. The interviews focused on instructors' perceptions of Generation's programs and trainee engagement in these programs, how this compares to non-Generation programs, and the successes and challenges of Generation's approach to instruction and program monitoring.
- **Generation learners.** Using the survey data in India, we focused on survey respondents who attended training in five states in which we had language capabilities to conduct the interviews. We grouped these states into three regions (North, South, and East), and in each region identified survey respondents who had at least one job since completing training and indicated in the survey that they were willing to participate in an additional interview. We then contacted learners in each region in random order until we met our total sample size targets, while also ensuring variation across regions and programs. The trainee interviews sought to understand learners' satisfaction with training, labor market experiences since completing the program, and effects of completing Generation training on their well-being.

D. Analytic approach

We use the learner characteristics and outcome data from Generation, the long-term survey data, and stakeholder interviews to conduct three types of analysis. First, in both India and Kenya, we describe the long-term outcomes of Generation learners based on the survey data. Second, we use the survey data to compare the outcomes of Generation learners to those of comparison cohorts (India) or non-selected applicants (Kenya) to benchmark Generation learners' outcomes against their peers. Third, using the data

[20] As mentioned earlier, for completeness this report also includes findings from employer interviews conducted for the SMO and DCS programs in Kenya as part of Phase I of the evaluation We conducted these interviews between March and May 2022. The selection of employers for these interviews and the interview questions were similar to the Phase II employer interviews in India.

collected from stakeholder interviews in India, we qualitatively assess the successes and challenges of implementation, long-term outcomes for employers and society, reasons underlying the benchmarking findings, and perceptions of learner characteristics. Below we discuss our analytic approach for each of these components of the Phase II evaluation.

1. Description of long-term outcomes

We use the long-term outcome survey data from Generation learners to report the average for these learners' employment and well-being outcomes, which we define in **Table II.5** below. For each country, we report average outcomes for the full sample and by program; we also report differences by sex where they are of interest.[21]

Table II.5. Definitions of key long-term outcomes

Outcome	Definition
Among all respondents	
Employment and earnings:	
Employed since program completion or application	Employed in a paid job at any point since completing the training program or applying to it
Currently employed	Employed in a paid job as of the Phase II survey date
Currently productively engaged	Employed in a paid job or engaged in further education or training as of the Phase II survey date
Current average earnings	Average monthly earnings as of the Phase II survey date (zero for those not currently employed; top-coded at the 95th percentile of non-zero earnings to account for outliers)
Financial, physical, and mental well-being:	
Receives financial assistance	Receives financial support individually or as a household from the government or non-governmental organizations.
Improved physical health	Physical health better or somewhat better than a year ago
Improved financial situation	Household financial situation better or somewhat better than a year ago
Has strong sense of purpose	Agrees or somewhat agrees that they have clear life goals and are acting to achieve them
Confident about ability to meet professional goals	Agrees or somewhat agrees that they are confident in their ability to meet their professional goals
Optimistic about the future	Agrees or somewhat agrees that they feel optimistic about the future
Optimistic about the future (Cantril scale)	Expects improvement in life situation in the next five years
Among respondents with at least one paid job since completing the training program or applying to it	
Employment and earnings:	
Currently employed	Employed in a paid job as of the Phase II survey date[a]
Job tenure	Months employed in current or most recent job
Average monthly wage	Average monthly wage in current or most recent job (top-coded at the 95th percentile to account for outliers)
Job is relevant to training	Current or most recent job is in a role that is very or somewhat relevant to the training[b]

[21] In India, we report the full sample estimates separately for the non-technology programs combined (RSA and CCE) and the technology programs combined (AWS and JFSJD).

Outcome	Definition
Job is full-time	Works at least 40 hours per week in current or most recent job[c]
Job is a permanent contract	Hired as a permanent employee (with an open-ended contract) for current or most recent job
Job is a fixed contract	Hired as a fixed-term employee (on a contract with a specific duration or pre-determined end date) for current or most recent job
Job is non-contract	Hired as a short-term or casual employee, paid trainee or apprentice, paid intern, or was self-employed for current or most recent job
Satisfied with job	Satisfied or very satisfied with current or most recent job
Feels a sense of workplace belongingness	Agrees or somewhat agrees that they felt welcomed by others in the workplace at the current or most recent job
Feels a sense of workplace support	Agrees or somewhat agrees that they felt able to ask a manager or colleague for help at the current or most recent job
Financial, physical, and mental well-being:	
Able to meet own basic expenses	Able to meet all/some/no basic expenses from earnings at current or most recent job
Able to meet dependents' basic expenses	Able to meet all/some/no basic expenses for dependents from earnings at current or most recent job
Able to save	Able to save a little or a lot from earnings at current or most recent job
Female economically empowered	Provides input into most or all decisions about how to spend earnings from current or most recent job (among females)

[a] When restricted to respondents with at least one paid job since completing the training program or applying to it, the currently employed outcome is a measure of long-term job retention; it measures the percentage of those who found a job who retained employment by the survey date.

[b] Not relevant for non-selected applicants.

[c] There is no internationally standard definition of full-time employment. However, rather than ask directly about whether each job was full- or part-time, we chose to ask about the number of hours per week and defined full-time employment as working at least 40 hours a week (8 hours per day over a 5-day work week, which has traditionally been viewed as a full-time role in many countries like the United States). This approach enabled us to use the response for hours worked to calculate monthly wages for respondents who are paid by the hour. Our estimates for full-time employment in Chapters III and IV are not sensitive to using alternative cutoffs like 35 (7 hours per day over a 5-day work week) or 48 hours per week (8 hours per day over a 6-day work week).

2. Benchmarking of long-term outcomes

We also benchmark the outcomes of Generation learners against those of learners from comparison cohorts (India) or non-selected applicants (Kenya). As described earlier, in India, the benchmarking approach seeks to compare Generation and comparison learners within the same state (or the same region, in the South), and in Kenya it seeks to compare Generation learners and non-selected applicants from the same cohorts. In both countries, we use a regression framework to ensure that appropriate benchmarking comparisons are conducted (for example, within the same states in India) and to control for differences in learner demographic characteristics (sex, education, and age).[22]

[22] We did not attempt to conduct statistical matching based on demographic characteristics, for two main reasons. First, the additional level of rigor would be limited and would not justify the required analytical complexity. This is because obtaining comparability across the limited set of demographic characteristics available (sex, age, and education) would not address the larger issue of a possible lack of comparability—especially in terms of unobserved individual characteristics—which limits the rigor of the design. Second, doing so would likely have resulted in sample loss because of unmatched observations and hence a loss in statistical power, which is already limited.

Specifically, for each outcome we use the following regression model to test for differences between Generation and comparison cohorts:

(1) $Y_{ip} = \alpha + \beta_1 T_{ip} + \phi_p + \lambda_{ip} + \varepsilon_{ip}$

where Y_{ip} is the outcome of interest for learner *i* in program *p;* T_{ip} is an indicator for whether the learner was in a Generation cohort, equal to 1 for learners from Generation cohorts and 0 for learners from comparison cohorts or non-selected applicants; and ϕ_p is a stratum effect that improves comparability by ensuring that comparisons are only made within the same stratum. In India, the strata are defined by program, state (or a group of states, in the South), and approximate program completion date. In Kenya, they are primarily defined by program, but for the SMO program we place the Phase I and more recent cohorts into separate strata to account for possible differences in labor market conditions over time. Learner demographic characteristics that might be correlated with the outcomes of interest (sex, education categories, age, and age squared) are included as control variables, λ_{ip}. The coefficient of interest is the parameter β_1, which captures the average difference in outcomes between the Generation and comparison learners (India) or non-selected applicants (Kenya) for each outcome. Finally, ε_{ip} is a learner-level error term.

3. Qualitative data analysis

We analyzed the data collected from stakeholder interviews to help address the research questions, with a focus on understanding program impacts, assessing candidate profiles, and developing additional programmatic insights. Immediately after each interview, we reviewed and refined our interview notes, using recordings of the interviews to fill gaps as needed. We then used these notes to collate the information from the interviews for each program, organizing these data by key topics. We developed a set of findings (themes) relevant to the research questions by examining patterns in the combined data, triangulating similarities and differences in responses across respondents.

E. Limitations

The Phase II evaluation is intended to provide Generation with a better understanding of long-term outcomes in India and Kenya. However, the evaluation has several limitations:

- **In Kenya, our ability to attribute outcomes to participation in the Generation program is limited.** In Kenya, the comparison group of non-selected applicants is intended to indicate how the Generation learners might have fared without the Generation program, enabling us to interpret differences in outcomes between the two groups as attributable to participation in Generation. However, differences between the characteristics of Generation learners and non-selected applicants might be contributing to differences in outcomes between the two groups. Specifically, although we control for differences in basic socio-demographic characteristics through regression analysis, Generation's learner selection process is designed to identify highly motivated individuals who are strongly committed to engage in training and employment in their chosen field and have the innate skills to succeed in it. Differences in outcomes between Generation learners and non-selected applicants might therefore reflect, in part, differences in these unobservable characteristics. That is, Generation learners might be expected to outperform non-selected applicants on the job market to some extent by virtue of their motivation and innate skills, regardless of Generation training. In that case, the outcomes of non-selected applicants would underestimate the outcomes of Generation

learners in the absence of Generation, and hence overestimate the differences in outcomes attributable to participating in Generation.

- **In India, we can attribute outcomes to Generation's methodology with reasonable confidence, but are unable to quantitatively disentangle the effects of Generation's approach to learner selection and the other components of its methodology.** In India, the comparison group is intended to indicate the outcomes achieved by business-as-usual public training programs, enabling us to interpret differences in outcomes with Generation programs as attributable to Generation's methodology. There are two main potential confounders to this attribution, but we view both as unlikely to be a major concern. First, there might be differences in local labor markets for Generation and comparison cohorts, even though comparison cohorts are generally located in the same states as Generation cohorts. However, interviews with providers and Generation India staff suggested that there were no systematic differences in the characteristics of locations within states where Generation versus non-Generation programs were implemented. Second, there might be differences in the characteristics of training providers serving Generation and comparison cohorts. However, training providers for Generation and non-Generation training programs are selected through a similarly rigorous process involving NSDC's procurement team; further, there is overlap between the training providers working with Generation and comparison cohorts. Therefore, we can conclude with reasonable confidence that the differences in outcomes between Generation and comparison learners are attributable to Generation's methodology. Like in Kenya, Generation learners are likely to be systematically different from comparison learners in terms of motivation and innate skills given Generation's learner mobilization approach, which might be associated with improved labor market outcomes for Generation learners. We therefore interpret differences in outcomes between Generation and comparison learners as being attributable to Generation's methodology as a whole, which includes its learner mobilization approach and the rest of its training methodology (instruction, job placement, and mentorship components). This is appropriate because learner mobilization is an integral part of Generation's methodology and a potentially key improvement over the business-as-usual methodology.
- **Low response rates for the long-term outcome survey might result in bias; however, substantive positive differences in outcomes between Generation learners and the comparison group remain even after accounting for possible non-response bias.** Response rates for the long-term outcome survey in both India and Kenya were lower than ideal. Mostly this was because we were unable to contact learners or non-selected applicants using the available contact information, which might have been out of date in many cases. This raises a concern that non-response bias might bias the results. Non-response bias could arise, for example, if those who were employed were too busy to answer the phone for the survey, which would bias estimated employment rates downwards. Alternatively, those who were employed might have been more likely to keep their original phone number and respond to the survey, which would bias estimated employment rates upwards. We cannot rule out that non-response bias is affecting the estimated outcomes for Generation learners, nor can we determine the direction of this bias. However, under certain assumptions about the nature of non-response, we show in Chapters III and IV that non-response bias is unlikely to be substantially affecting the estimated differences in outcomes between Generation learners and the comparison group in either India or Kenya.[23] Therefore, there remains a substantive positive effect on labor

[23] Specifically, we assume that both groups include a common proportion of individuals who do not respond to the survey for reasons unrelated to Generation training, and that Generation training leads an "extra" proportion to

market outcomes—which, in India, we are reasonably confident can be attributed to Generation's methodology—even after accounting for possible non-response bias.

- **A small, purposively selected sample of stakeholders for qualitative interviews might limit generalizability.** Our samples of employers, training providers, instructors, and learners for qualitative interviews was relatively small due to resource constraints and challenges in the availability and willingness of respondents to participate in interviews. The experiences and opinions of these stakeholders might not be representative of those of the full range of stakeholders engaged with Generation, especially given the geographic breadth of Generation's programming. Nevertheless, the viewpoints of the stakeholders we interviewed enabled us to identify several key themes to help address the research questions and enhance the survey findings.

respond (if response rates are higher for Generation learners) or not respond (if response rates are lower). This implies that much of the non-response bias is common to Generation learners and the comparison group and cancels out when estimating differences in outcomes; it is differential non-response across the two groups that is a concern. We then impose unfavorable assumptions about differential non-response bias (following Lee 2009) to assess the potential effect of non-response bias on the estimates. Although there are differences in response rates between Generation learners and the comparison group in both India and Kenya, our key findings about differences in employment rates are qualitatively unchanged under these unfavorable assumptions.

III. Findings from India

In this chapter we present our Phase II evaluation findings for India. We use data from the survey conducted with Generation learners both (1) to describe the long-term outcomes of Generation learners in all four programs and, (2) for the RSA and CCE programs (the non-technology programs), to compare these outcomes to those of learners in comparison cohorts. We also integrate insights from the process study that might help explain these differences in outcomes and inform the research questions more broadly.

A. Generation learner and comparison cohort characteristics

To provide context for the analysis of long-term outcomes, we describe the socio-demographic characteristics of Generation learners that might be associated with outcomes and assess how these characteristics differ from those of comparison learners. We also use qualitative data from stakeholder interviews to provide additional insights on whether Generation provides employers with candidates that have alternative profiles relative to their job peers, such as more marginalized individuals or those with non-traditional backgrounds, addressing a key research question.

For the non-technology programs, about one-half of Generation learners were female, the average learner was 21 years old, almost all were unemployed when entering Generation, and Generation learners had higher average education levels than comparison learners (Table III.1). Although the gender balance and average age of Generation learners in non-technology programs were similar to those of comparison learners in these programs, Generation learners were substantially more likely to have completed high school or (less commonly) have some college relative to comparison learners. This might be related to Generation's skills screening requirements for admission to their programs—for example, applicants are tested on basic English skills. These differences in education between Generation and comparison learners are especially large for the RSA program. Generation learners from non-technology programs lived in households with between four and five members, on average, with one other member besides themselves engaged in paid work at the survey date. Consistent with their age, few Generation learners were heads of their households. Although there are some statistically significant differences in average household characteristics between Generation and comparison learners, most are small in magnitude and unlikely to drive differences in outcomes. Overall, the most substantive difference in socio-demographic characteristics between Generation and comparison learners in non-technology programs is in terms of education, which we control for through regression analysis. Further, as we discuss later, the Generation-comparison differences in employment outcomes are similar if we compare outcomes for learners with similar education levels, where sample sizes allow. Overall, this suggests that the findings on employment outcomes are not driven by the higher educational attainment of Generation learners. However, we cannot rule out the possibility of differences between Generation and comparison learners in unobserved characteristics like innate skills or motivation. We are unable to control for these differences, which might be associated with the Generation's learner selection process and could affect employment outcomes. As mentioned earlier, the differences in employment outcomes we describe in this chapter should be interpreted as incorporating these differences in unobserved learner characteristics, which are an inherent part of Generation's methodology.

Table III.1. Generation and comparison learner characteristics, non-technology programs, India

	RSA			CCE		
	Generation learners	Comparison learners	Difference	Generation learners	Comparison learners	Difference
Characteristics at the time of enrollment						
Female (%)	46	57	-11**	57	48	9
Age (years)	21	22	-1	22	21	1
Education (%)						
Less than lower secondary education	3	3	-1	0	1	-1
Lower secondary education	3	68	-65***	0	24	-24***
Higher secondary education/high school	69	24	45***	55	64	-9
Vocational education	1	0	0	4	0	3**
Bachelors/ undergraduate degree	15	5	10***	32	9	22***
Masters/graduate degree	4	1	3	8	0	8***
Other	6	-1	7***	2	1	1
Unemployed when entering Generation (%)	98	n.a.	n.a.	99	n.a.	n.a.
Characteristics at the time of Phase II survey						
Completed other training since completion (%)	28	36	-8**	27	33	-6
Ever married (%)	18	22	-4	20	18	2
Has children (%)	9	11	-2	8	7	0
Learner is household head (%)	3	12	-9***	10	3	7**
Number of household members (including learner)	4.6	5.2	-0.6***	4.3	4.6	-0.2
Number of household members engaged in paid work (excluding learner)	1.2	1.4	-0.3***	1.3	0.7	0.6***

Source: Generation and NSDC learner records (top panel) and Phase II survey data (bottom panel)

Notes: Sample sizes vary from 234 to 236 for RSA Generation learners, 224 to 228 for RSA comparison learners, 220 to 223 for CCE Generation learners, and 251 to 281 for CCE comparison learners.

*/**/*** Statistically significant difference between Generation learners and comparison learners at the .10/.05/.01 level

n.a. = not available

Generation learners in technology programs were less likely to be female, were slightly older, and were more highly educated than those in non-technology programs (Table II.2). For the technology programs, about one-third of Generation learners were female, learners were 23 years old on average,[24] and almost all learners had a university degree (consistent with these programs' admissions requirements). Other socio-demographic characteristics of these learners were broadly similar to those of Generation learners from non-technology programs.

Table III.2. Learner characteristics, technology programs, India

	AWS	JFSJD	AWS and JFSJD
Characteristics at the time of enrollment			
Female (%)	24	38	32
Age (years)	n.a.	23	n.a.
Education (%)			
Higher secondary education/high school	0	2	1
Bachelors/undergraduate degree	84	79	81
Masters/graduate degree	16	19	18
Unemployed when entering Generation (%)	96	96	96
Characteristics at the time of Phase II survey			
Completed other training since completion/application (%)	20	13	17
Ever married (%)	24	23	24
Has children (%)	8	4	6
Learner is household head (%)	14	2	8
Number of household members (including learner)	4.0	4.2	4.1
Number of household members engaged in paid work (excluding learner)	1.1	1.3	1.2

Source: Generation's learner records (top panel) and Phase II survey data (bottom panel)

Notes: Sample size varies from 48 to 49 for AWS and 51 to 52 for JFSJD.

n.a. = not available

For the non-technology programs, qualitative data suggest that Generation learners' profiles are similar to those of entry-level hires from non-Generation programs. The profiles of Generation learners depend on the learner mobilization process, which is implemented by training providers following Generation's methodology. For non-technology programs like RSA and CCE, training providers conduct community-based outreach using mechanisms similar to those used by comparable non-Generation programs, although the approach to selecting learners differs. These mechanisms include collaborating with community-based organizations or self-help groups to identify potential learners, advertising through posters or local print media, holding community-level events, visiting schools, and obtaining referrals from current learners. Generation staff and training providers did not perceive that there were any systematic differences between Generation and non-Generation programs in the socio-economic characteristics of communities in which these programs mobilize learners, which are typically underprivileged communities across India. Consistent with this, none of the employers we interviewed

[24] Age is not currently available for the AWS evaluation cohorts. However, Generation's internal aggregate data suggest that average age is likely to be similar to that for the JFSJD program.

had noticed any differences in the socio-economic status of candidates from Generation and non-Generation RSA and CCE programs (even though we showed above that Generation learners were likely to have a higher level of education relative to comparison learners). Rather, Generation's unique approach to learner screening—which is designed to assess whether learners have the right qualities to succeed in the relevant job role—is likely to manifest in differences in less tangible characteristics like motivation and job commitment, as we describe below. Nevertheless, CCE employers noted that some of their entry-level employees are college students seeking temporary work (although the positions are in theory permanent); learners from Generation or non-Generation CCE programs tend to be more socio-economically disadvantaged than this pool of employees, as these learners are genuinely in need of a permanent position.

Generation's technology programs may offer opportunities to learners with lower socio-economic status, but not all of Generation's employer partners appear to be aware of this. For the technology programs, which are aimed at college graduates, training providers conduct recruitment online or by working directly with college placement officers. Although there are no equivalent technology programs offered through government schemes, there are other upskilling agencies that offer similar technology programs. In contrast to programs offered by these agencies, Generation's program costs to learners are heavily subsidized; the learners we interviewed from technology programs confirmed that low cost was a primary reason for them choosing to be trained through Generation, in addition to Generation's good reputation. Generation also seeks out graduates from less selective ("tier 2 and 3") colleges. As a result, Generation learners might have a less privileged socio-economic background than other entry-level hires for these positions, on average. However, only one of the three technology employers we interviewed had noticed this difference—and saw working with Generation as helping to meet their firm's corporate social responsibility commitments. This suggests that Generation could consider further highlighting this aspect of their technology programs to current and potential employer partners.

B. Employment outcomes

In this section we report Generation learners' key long-term labor market outcomes related to employment and wages, as well as the characteristics of the jobs that they held. For the non-technology programs, we compare these outcomes and characteristics to those of comparison learners. Our measures of employment focus on the period since completing training—about 15 months for the non-technology programs and 11 months for the technology programs, on average—as well as employment at the time of the survey. Our measures of wages and job characteristics focus on respondents' current or most recent post-training paid job, for which recall was likely to be strongest.

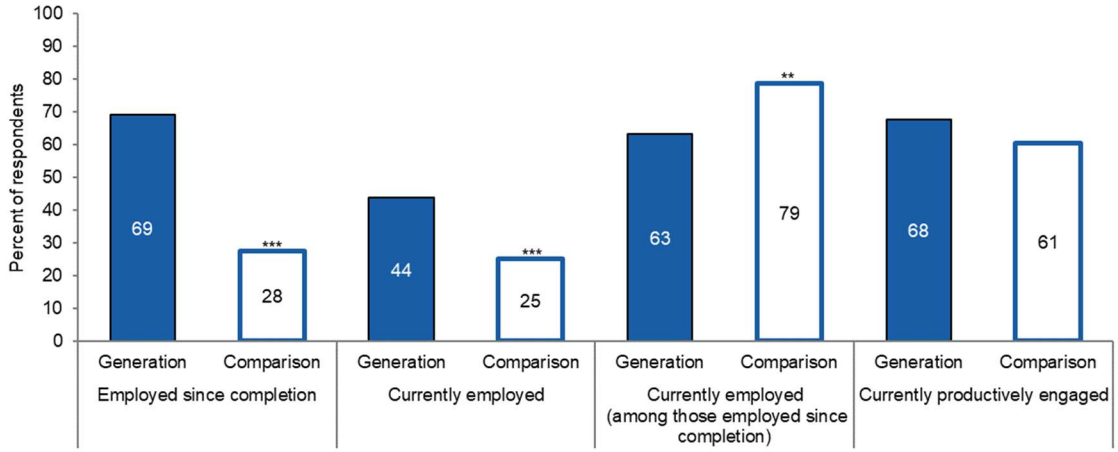
1. Employment rates

Sixty-nine percent of Generation learners in non-technology programs were employed at some point since completing their program and 44 percent were employed at the survey date; these rates are substantially higher than those for comparison learners (Figure III.1). The difference in employment rates between Generation and comparison learners is 42 percentage points for being employed at some point since program completion and 19 percentage points for being employed at the survey date. These findings control for differences in education levels between Generation and comparison learners and are similar if we compare outcomes for learners with similar education levels.[25]

[25] Specifically, for the sample of learners with an upper secondary education—for which there is the most substantial sample overlap between the Generation and comparison groups—the Generation-comparison differences in employment rates at any point and at the survey date are 39 and 16 percentage points, respectively.

As mentioned above, this suggests that the findings are not driven by higher education levels among Generation learners. More than two-thirds of Generation and comparison learners who were employed at some point since program completion had held only one job over that period, and few had held more than two jobs (not shown). Generation learners who had not had a job since program completion most commonly cited a lack of jobs near their geographic location or in general (38 percent), not being available for work due to personal reasons or further studies (36 percent), and low pay (19 percent) as the main reason for not working (**Figure III.2**). For comparison learners who had not had a job since program completion, a lack of jobs or lack of availability for work were also the most cited main reasons. However, other reasons such as limited formal education and not having received a physical training completion certificate were more important than low pay for comparison learners.[26] Among learners from non-technology programs who were not employed at the survey date, about one-half of both Generation and comparison learners reported that they were seeking paid work; job search was more common among unemployed RSA learners than among unemployed CCE learners **(Figure III.3)**.[27]

Figure III.1. Employment and productive engagement outcomes, non-technology programs, India



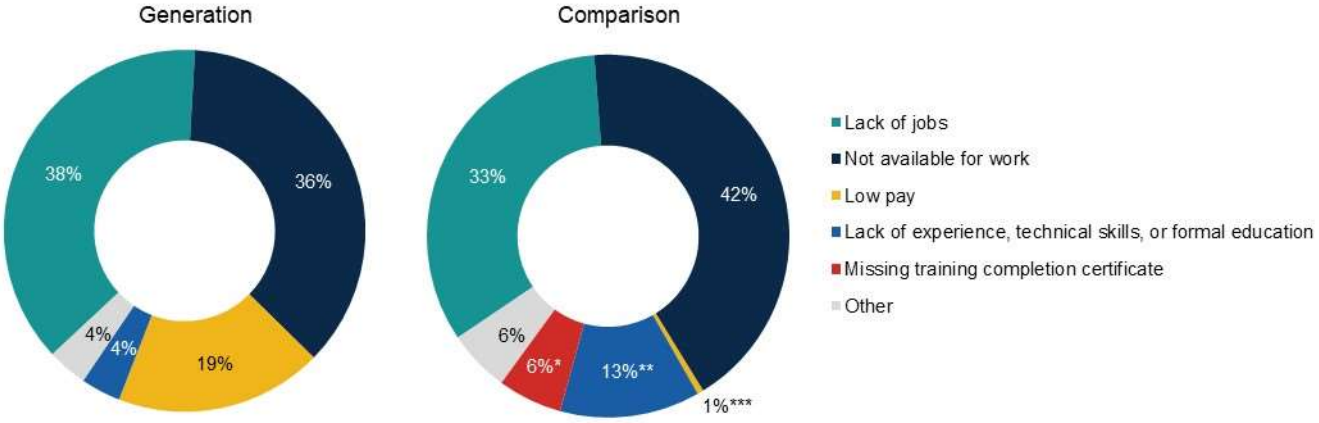
Notes: Sample sizes for employed since completion are 457 for Generation learners and 509 for comparison learners. Sample sizes for currently employed are 459 for Generation learners and 508 for comparison learners. Sample sizes for currently employed (among those employed since completion) are 316 for Generation learners and 150 for comparison learners. Sample sizes for currently productively engaged are 459 for Generation learners and 509 for comparison learners. For the comparison group, the percent currently employed (among those employed since completion) is not equal to the percent currently employed divided by the percent employed since completion because each measure is separately regression adjusted for stratum and demographic characteristics.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

[26] We show later that wages for entry-level non-technology roles were similar for Generation and comparison learners, so it is unclear why Generation learners were more likely to cite low pay as the main reason for not being employed. It might be that low pay was also a consideration for comparison learners, but that they perceived other reasons like a lack of formal education (given their lower average education levels) or absence of a physical training completion certificate (which was not an issue for Generation programs) as more critical.

[27] We did not ask unemployed respondents who were not seeking work why they were not seeking work. However, we know that 61 percent of unemployed respondents from the RSA program who were not seeking work were engaged in further education or training, compared to 43 percent from the CCE program.

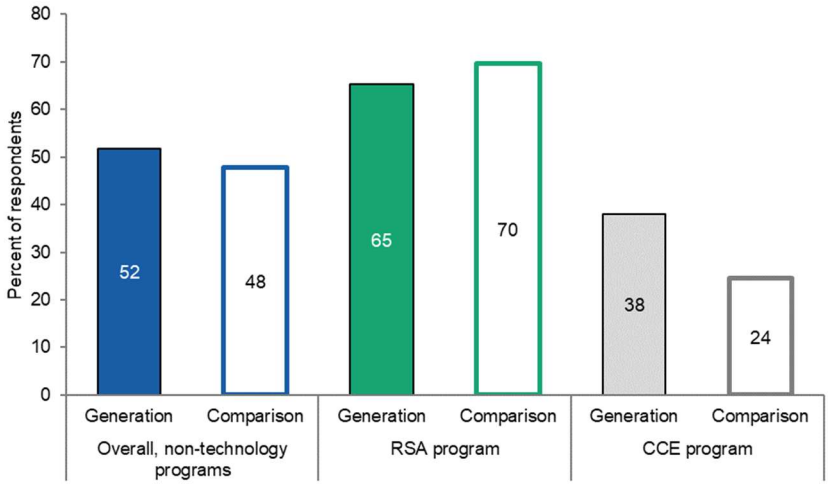
Figure III.2. Main reason for not finding a job, among learners who did not find a job since completing their program, non-technology programs, India



Notes: The sample size is 140 for Generation learners and 356 for comparison learners.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Figure III.3. Seeking paid work, among learners who were not employed at the survey date, by non-technology program, India

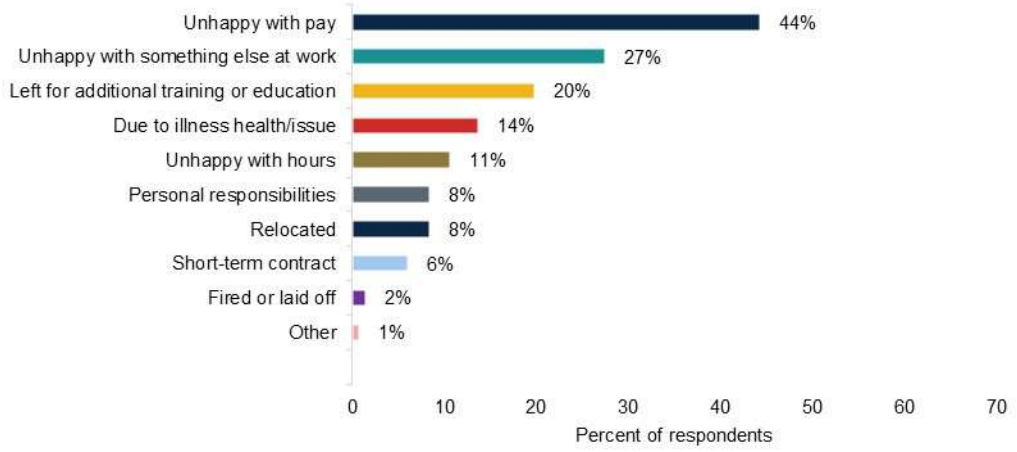


Notes: Sample sizes for non-technology programs overall are 251 for Generation learners and 388 for comparison learners. Sample sizes for the RSA program are 127 for Generation learners and 167 for comparison learners. Sample sizes for the CCE program are 124 for Generation learners and 221 for comparison learners. Differences between Generation and comparison learners are not statistically significant at the .10 level.

Long-term job retention in non-technology programs was higher for Generation learners relative to comparison learners. We also examined employment rates at the survey date among those employed since program completion, as a measure of long-term job retention among those who entered employment. Among this group, about 63 percent of Generation learners were still employed at the

survey date compared to 79 percent of comparison learners.[28,29] This suggests that, although comparison learners were less successful than Generation learners at finding employment, they were more successful at staying employed. Given their relatively low employment rates, this might reflect a selection effect, whereby only the most capable and committed comparison learners found employment. Almost 8 in 10 Generation learners who found a job after program completion but were no longer employed at the survey date indicated that a reason for leaving their most recent job was because they were unhappy with some aspect of the job, most commonly low pay **(Figure III.4)**. Because survey respondents might also have been engaged in further education or training, we examined a measure of productive engagement at the survey date, which is defined as holding a paid job or being engaged in further education or training. In contrast with the differences in employment rates, productive engagement at the survey date is similar for Generation and comparison learners, with about two-thirds productively engaged **(Figure III.1)**. This is because comparison learners were more likely to be engaged in further education and training (most commonly a university degree, in a wide variety of fields) at the survey date than Generation learners, which largely compensates for their lower employment rate.

Figure III.4. Reasons for losing their most recent job, among Generation learners who found a job after completing their program but were no longer employed at the survey date, non-technology programs, India



Notes: The sample size is 131. Shares do not add up to 100 since respondents could provide more than one reason.

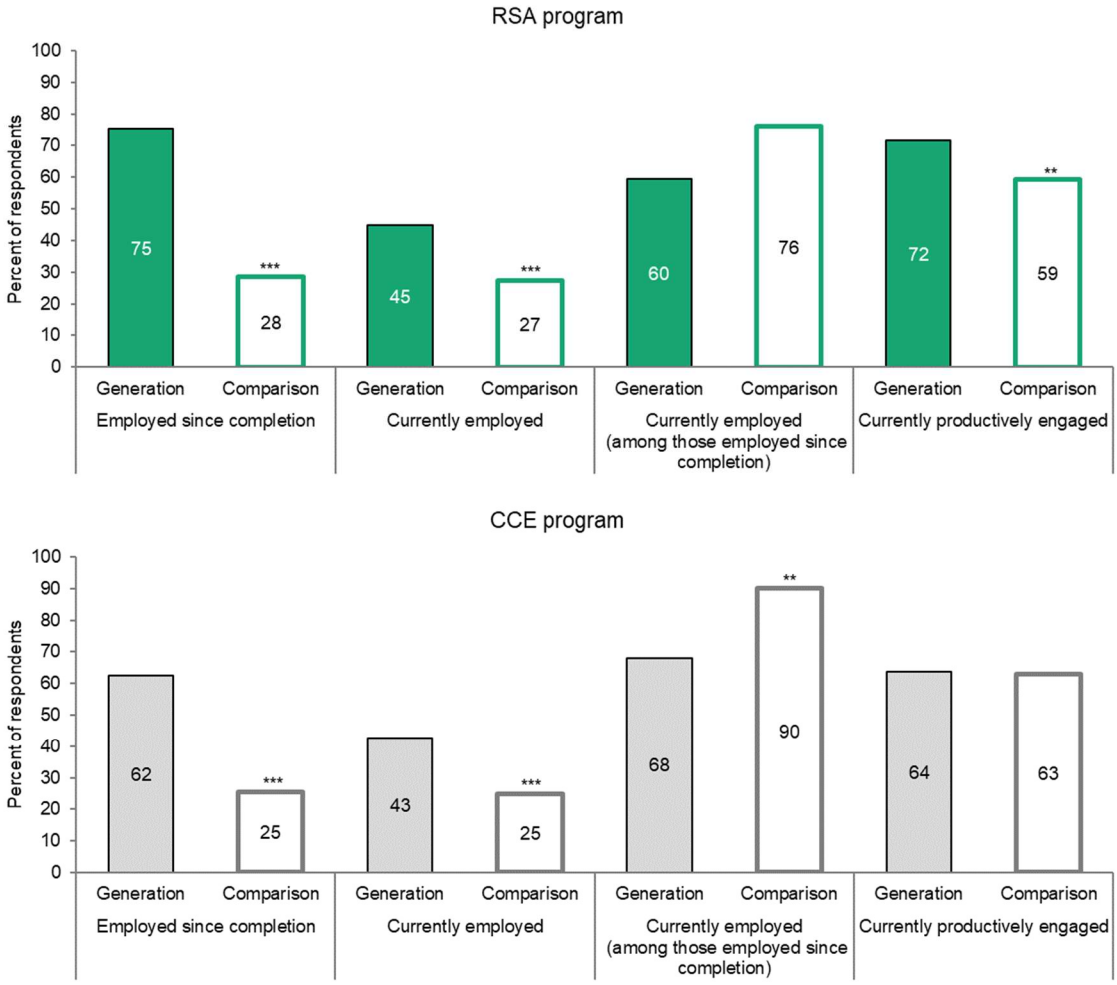
These patterns of employment and productive engagement outcomes were qualitatively similar across the RSA and CCE programs, but the percentage of Generation learners finding a job since program

[28] Among the Generation learners who had found a job after completing training but were no longer employed at the survey date, the vast majority had been unemployed for more than three months, suggesting that their loss of employment was not transitory (for example, being between jobs).

[29] In Figure III.1 and other similar figures in this report, the percent of the comparison group currently employed (among those employed since completion) is not equal to the percent currently employed divided by the percent employed since completion. This is because each of these measures for the comparison group is separately regression adjusted for stratum and demographic characteristics. Without the regression adjustment, 76 percent of comparison learners employed since completion were currently employed, which is equal to the unadjusted 22 percent currently employed divided by the unadjusted 29 percent employed since completion.

completion was higher for the RSA program **(Figure III.5)**. Males were both more likely to have found a job since program completion and to have been employed at the survey date than females **(Figure III.6)**, although the pattern of differences with comparison learners was qualitatively similar. The process study suggests that this might be related to the social context, in which some families are reluctant to allow young women to work because of concerns about their safety—especially if they must migrate for work.

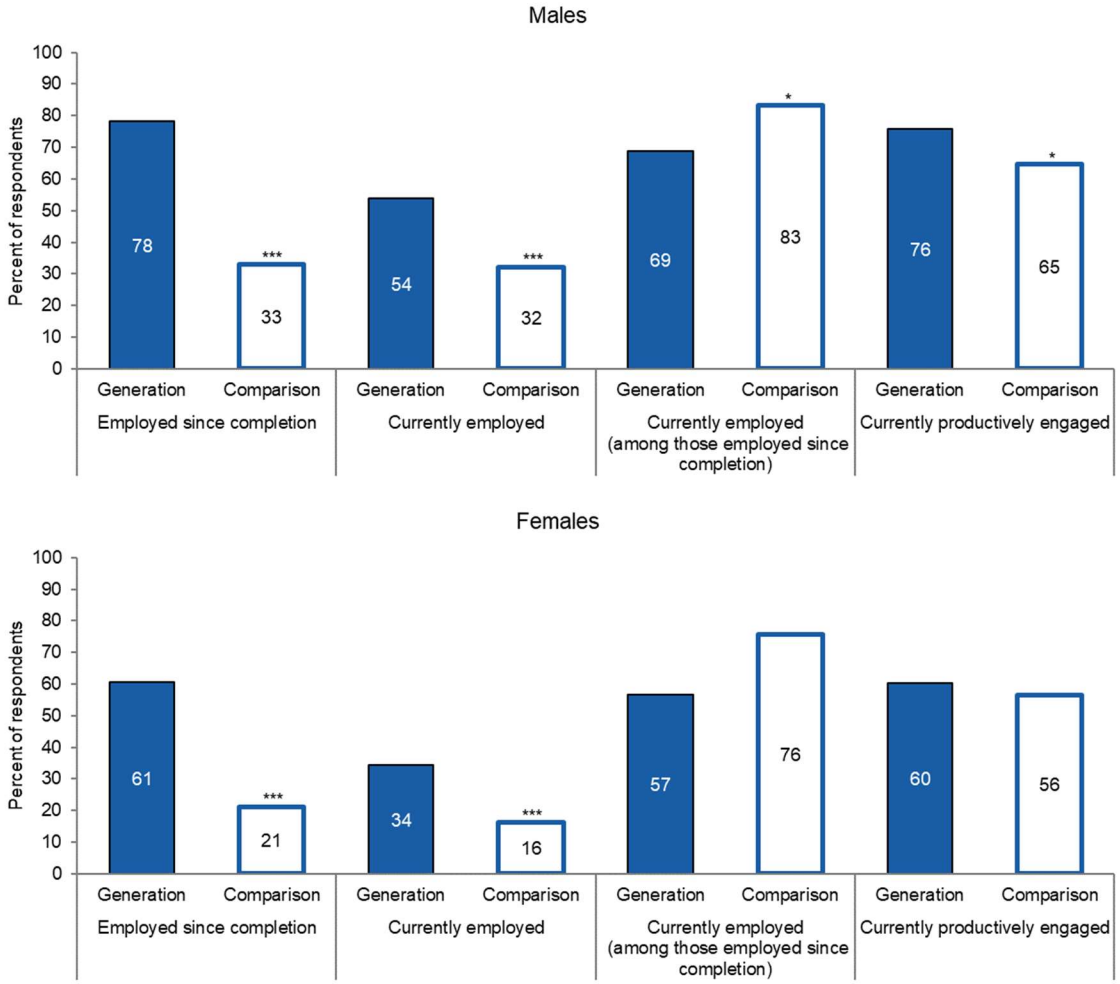
Figure III.5. Employment and productive engagement outcomes, by non-technology program, India



Notes: For the RSA program, sample sizes for employed since completion, currently employed, and productively engaged are 236 for Generation learners and 228 for comparison learners. Sample sizes for currently employed (among those employed since completion) are 178 for Generation learners 79 for comparison learners. For the CCE program, sample sizes for employed since completion are 221 for Generation learners and 281 for comparison learners. Sample sizes for currently employed are 223 for Generation learners and 280 for comparison learners. Sample sizes for currently employed (among those employed since completion) are 138 for Generation learners and 71 for comparison learners. Sample sizes for currently productively engaged are 223 for Generation learners and 281 for comparison learners. For the comparison group, the percent currently employed (among those employed since completion) is not equal to the percent currently employed divided by the percent employed since completion because each measure is separately regression adjusted for stratum and demographic characteristics.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Figure III.6. Employment and productive engagement outcomes, non-technology programs, by sex, India



Notes: For males, sample sizes for employed since completion are 221 for Generation learners and 243 for comparison learners. Sample sizes for currently employed are 223 for Generation learners and 242 for comparison learners. Sample sizes for currently employed (among those employed since completion) are 173 for Generation learners and 81 for comparison learners. Sample sizes for currently productively engaged are 223 for Generation learners and 243 for comparison learners. For females, sample sizes for employed since completion, currently employed, and productively engaged are 236 for Generation learners and 266 for comparison learners. Sample sizes for currently employed (among those employed since completion) are 143 for Generation learners and 69 for comparison learners. For the comparison group, the percent currently employed (among those employed since completion) is not equal to the percent currently employed divided by the percent employed since completion because each measure is separately regression adjusted for stratum and demographic characteristics.

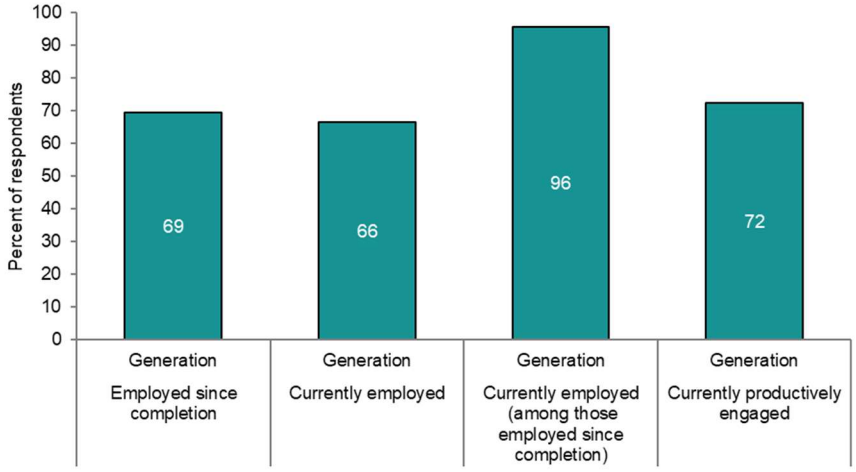
*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Non-response bias is unlikely to be driving the difference in employment outcomes between Generation and comparison learners in non-technology programs. As discussed in Chapter II, there is a concern that the estimated differences in employment outcomes could be biased by the differences in survey response rates between Generation and comparison learners. To assess the potential magnitude of non-response bias, we calculated how the estimated difference would change under conservative

assumptions about the employment outcomes of non-respondents. For the RSA program, the response rate was 68 percent for Generation learners and 61 percent for comparison learners. For the CCE program, the response rate was 67 percent for Generation learners and 80 percent for comparison learners. If we assume that the RSA differential (of 7 percent) was composed of comparison learners who were all employed and the CCE differential (of 13 percent) was composed of Generation learners who were all not employed, the estimated difference between Generation and comparison learners in employment since program completion would decrease from 42 to 32 percentage points, and the estimated difference in employment at the survey date would decrease from 19 to 9 percentage points. This analysis suggests that, although non-response bias might explain part of the differences in employment outcomes, Generation learners outperform comparison learners even after conservatively adjusting for non-response. Therefore, we can still conclude with reasonable confidence that Generation's methodology is associated with improved employment outcomes relative to business-as-usual programs.

More than two-thirds of Generation learners in technology programs had found a job since completing their program, and a similar fraction were employed at the survey date (Figure III.7). This suggests that almost all of those who found a job after program completion tended to remain employed in the longer term—typically at the same job, given that few of those employed had held more than one job (not shown). Employment rates at the survey date were higher for the AWS program than for the JFSJD program (76 versus 58 percent, not shown), although these program-specific estimates are imprecise because of small sample sizes. Like for the non-technology programs, the most common reasons provided for not finding a job after training completion were a lack of jobs near the learners' geographic location or in general (32 percent), not being available for work due to personal reasons or further studies (33 percent), and low pay (10 percent) (not shown). About one-half of learners from technology programs who were not employed at the survey date reported that they were seeking paid work (not shown).

Figure III.7. Employment and productive engagement outcomes, technology programs, India



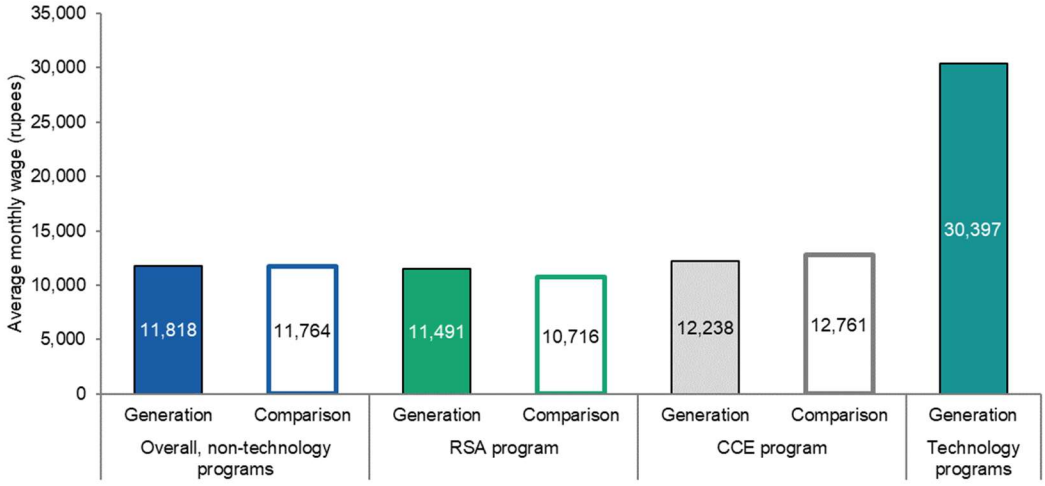
Notes: Sample sizes for the employed since completion, currently employed, and productively engaged measures are 101 for Generation learners. Sample sizes for the currently employed (among those employed since completion) measure are 70 for Generation learners.

2. Wages and earnings

In the non-technology programs, average monthly wages in the current or most recent job are similar for employed Generation and comparison learners; however, average monthly earnings are substantially higher among Generation learners once we include those who were not employed. Across the two non-technology programs, Generation and comparison learners earned similar average monthly wages in their current or most recent job, at about 12,000 rupees (146 dollars) **(Figure III.8)**.[30,31] This is consistent with evidence from employer interviews, which suggests that employers in these sectors typically operate a common entry-level hiring process regardless of the source of their hires, and would therefore be unlikely to offer different wages across hires for the same entry-level job role. Female Generation learners from these programs earned about 20 percent less than males, on average **(Figure III.9)**.[32] Average earnings for the full sample of non-technology learners at the survey date, including zero earnings for those for were not employed, were 5,571 rupees (68 dollars) for Generation learners and 3,181 (39 dollars) for comparison learners **(Figure III.10)**. These findings suggest that, although wages among those employed are similar for Generation and comparison learners, the former have higher employment rates and are therefore better off in terms of earnings, on average. Wages and earnings for learners from the technology programs were higher, with an average monthly wage of 30,397 rupees (369 dollars) in the current or most recent job and average monthly earnings at the survey date of 19,938 rupees (242 dollars), including those who were not employed.

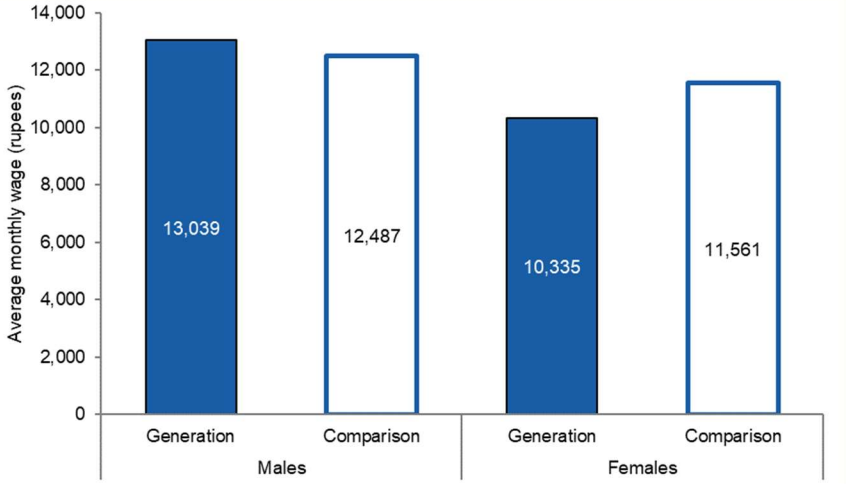
[30] We used a conversion rate of 82.4 Indian rupees to 1 U.S. dollar, based on the average exchange rate from the Reserve Bank of India over the period of the survey (between May 11, 2023 and July 2, 2023).
[31] In addition to average wages being similar for Generation and comparison learners, the distribution of wages is also very similar (not shown). Overall, one-quarter of employed Generation learners in non-technology programs earned monthly wages of 15,000 rupees (182 dollars) or more and one-tenth earned 18,000 rupees (218 dollars) or more.
[32] This remains true even after controlling for age, education, and job role in a regression framework that compares wages for male and female learners, suggesting an unexplained gap in wages by sex.

Figure III.8. Average monthly wage in current or most recent job among those who found a job since program completion, overall and by program, India



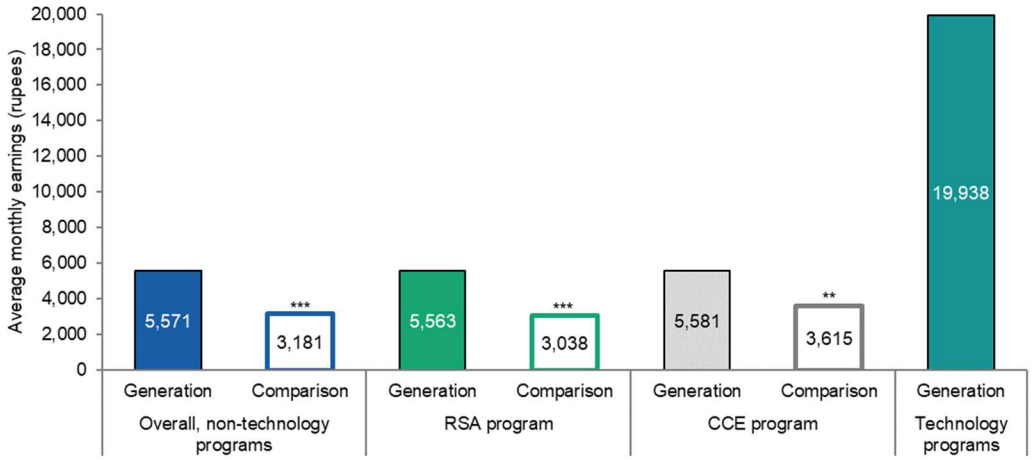
Notes: Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 21,725 rupees for non-technology programs and at 87,500 rupees for technology programs, which corresponds to the 95th percentile across non-technology programs and technology programs, respectively. For the overall sample, sample sizes are 308 for Generation learners and 147 for comparison learners. For the RSA program, sample sizes are 173 for Generation learners and 76 for comparison learners. For the CCE program, sample sizes are 135 for Generation learners and 71 for comparison learners. For the AWS and JFSJD programs, the sample size is 60 Generation learners. Differences between Generation and comparison learners are not statistically significant at the .10 level.

Figure III.9. Average monthly wage in current or most recent job among those who found a job since program completion, non-technology programs, by sex, India



Notes: Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 21,725 rupees, which corresponds to the 95th percentile across both programs. For males, sample sizes are 169 for Generation learners and 81 for comparison learners. For females, sample sizes are 139 for Generation learners and 66 for comparison learners. Differences between Generation and comparison learners are not statistically significant at the .10 level.

Figure III.10. Average monthly earnings at the survey date in the full sample, overall and by program, India



Notes: Earnings are zero for those not employed at the survey date. Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 23,000 rupees for non-technology programs and at 100,000 rupees for technology programs, which corresponds to the 95th percentile of non-zero earnings across non-technology and technology programs, respectively. For the overall sample, sample sizes are 456 for Generation learners and 506 for comparison learners. For the RSA program, sample sizes are 234 for Generation learners and 226 for comparison learners. For the CCE program, sample sizes are 222 for Generation learners and 280 for comparison learners. For technology programs, the sample size is 92.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Job earnings help Generation learners to meet their basic needs and those of their dependents, but entry-level wages in non-technology programs are typically too low to meet all these needs or to allow them to save. Only about one-fifth of Generation learners from non-technology programs who had found a job since program completion were able to meet all their basic expenses with their current or most recent job earnings, but more than one-half of those from technology programs were able to do so **(Figure III.11)**. Further, about 9 in 10 employed Generation learners from non-technology programs reported being able to meet some but not all the basic expenses of their dependents from their current or most recent job earnings, and 4 in 10 of employed learners from technology programs reported being able to meet all their dependents' expenses. (As we show later, Generation learners had an average of between one and two other people who depended at least in part on these earnings.) About one-third of employed Generation learners from non-technology programs and almost one-half of those from technology programs reported being able to save from their current or most recent job earnings **(Figure III.12)**. Overall, learners from technology programs are better able to meet basic needs and save from their earnings relative to those from non-technology programs given their higher wages. For the non-technology programs, learners' abilities to meet basic needs are similar for employed Generation and comparison learners, which is consistent with the similarity in their average wages, as discussed earlier. Generation learners are more likely to be able to save than comparison learners, but the difference is only marginally statistically significant.

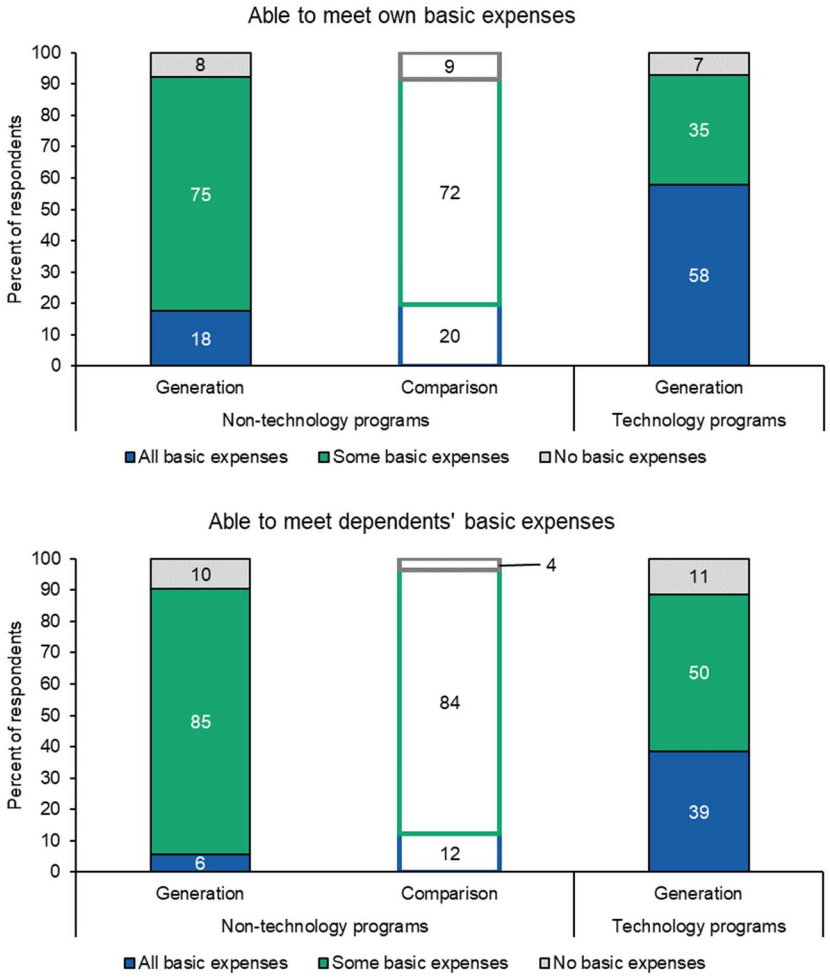
3. Job characteristics

Most employed Generation learners held full-time but not permanent positions and were satisfied with their jobs (Table III.3). About one-third of employed Generation learners from non-technology programs and two-thirds from technology programs held a permanent job contract in their current or most recent job. Across programs, almost all jobs held by Generation learners were full-time positions, and about one-half of jobs were very or somewhat relevant to their training.[33] About 7 in 10 employed Generation learners from non-technology programs and 8 in 10 from technology programs were satisfied with their current or most recent job. Because Generation's logic model envisages that Generation training will contribute to a stronger sense of community and belonging among learners, we also assessed how welcomed and supported learners felt in their jobs. Across programs, almost all employed Generation learners and comparison learners felt a sense of workplace belongingness in that they felt welcomed by others and a sense of support in that they could ask a manager or colleague for help. About 8 in 10 employed female Generation learners met our definition of economic empowerment, saying they provided input into most or all decisions about how to spend earnings from their jobs. Finally, Generation learners report having an average of between one and two dependents on the income from their current or most recent job. This suggests that any benefits of improved labor market outcomes through Generation could potentially affect the well-being of many individuals beyond the learners themselves, consistent with the program logic.

Job characteristics were similar for Generation and comparison learners in non-technology programs, except that the former were more likely to hold jobs that were very or somewhat relevant to their training (Table III.3). For the non-technology programs, job characteristics, measures of workplace belongingness and support, and female empowerment were mostly similar for Generation and comparison learners. The only exception is the percentage of jobs that were very or somewhat relevant to training, which was almost double Generation learners relative to comparison learners—driven primarily by the CCE program (not shown). For this program, 65 percent of employed comparison learners were engaged in jobs that were entirely unrelated to their training, compared to only 28 percent of employed Generation learners (not shown). This is consistent with Generation's mobilization process selecting learners who are genuinely interested in and committed to the job role, and its intensive efforts to find learners relevant jobs upon program completion (discussed below).

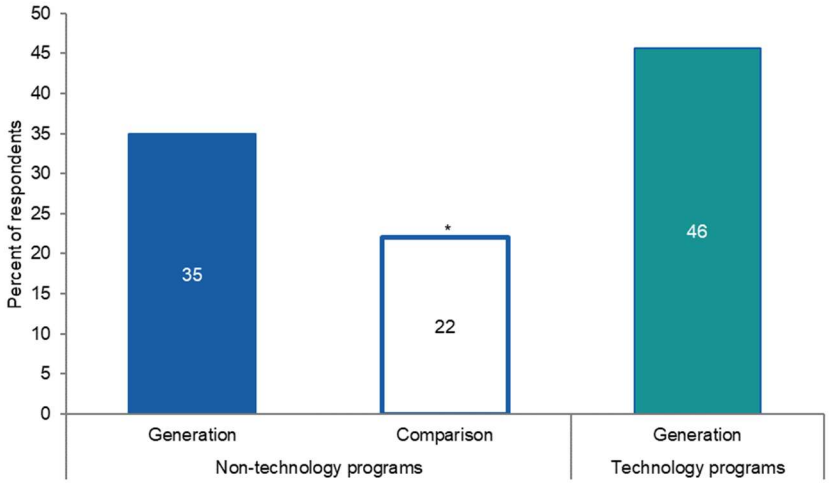
[33] This measure of job relevance might be difficult to interpret for technology programs because respondents might have been employed in technology-related jobs that used technologies or work processes beyond those covered in trainings. For example, two of the three technology learners we interviewed for the process study reported that, although they were initially hired based on their skills in the technology covered in their training, they were eventually assigned by the employer to work on other technologies.

Figure III.11. Ability to meet basic expenses from job earnings, by program type, India



Notes: For the non-technology programs, sample sizes for the able to meet own basic expenses measure are 312 for Generation learners and 149 for comparison learners. Sample sizes for the able to meet dependents' basic expenses measure are 176 for Generation learners and 85 for comparison learners. For the technology programs, the sample size for the able to meet own basic expenses measure are 69 for Generation learners. Sample sizes for the able to meet dependents' basic expenses measure are 44 Generation learners. None of the differences between Generation and comparison learners are statistically significant at the 0.10 level.

Figure III.12. Able to save a little or a lot from job earnings, by program type, India



Notes: For the non-technology programs, sample sizes are 310 for Generation learners and 147 for comparison learners. For the technology programs the sample size is 68 Generation learners.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

Table III.3. Job characteristics of current or most recent job among those who found a job since program completion, India

Outcome	Sample size		Average		Difference
	Generation learners	Comparison learners	Generation learners	Comparison learners	
RSA and CCE programs					
Job contract type (%)					
Permanent	315	150	34	30	3
Fixed contract	315	150	15	26	-11**
Non-contract	315	150	38	37	1
Other	315	150	13	6	7
Job is relevant to training (%)	315	149	56	38	18**
Full-time job (%)	313	150	92	92	0
Satisfied with job (%)	314	150	72	69	3
Feels a sense of workplace belongingness (%)[a]	314	149	95	94	1
Feels a sense of workplace support (%)[b]	315	149	97	100	-3
Female economically empowered (%)[c]	141	69	79	74	5
Number of dependents on income	265	263	1.7	1.2	0.6***
AWS and JFSJD programs					
Job contract type (%)					
Permanent	70	NA	66	NA	NA

Outcome	Sample size		Average		Difference
	Generation learners	Comparison learners	Generation learners	Comparison learners	
Fixed contract	70	NA	17	NA	NA
Non-contract	70	NA	10	NA	NA
Other	70	NA	7	NA	NA
Job is relevant to training (%)	69	NA	49	NA	NA
Full-time job (%)	70	NA	97	NA	NA
Satisfied with job (%)	70	NA	81	NA	NA
Feels a sense of workplace belongingness (%)[a]	69	NA	96	NA	NA
Feels a sense of workplace support (%)[b]	69	NA	100	NA	NA
Female economically empowered (%)[c]	18	NA	61	NA	NA
Number of dependents on income	82	NA	1.3	NA	NA

Source: Phase II survey data.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

[a] Agrees or somewhat agrees that they felt welcomed by others in the workplace at the current or most recent job

[b] Agrees or somewhat agrees that they felt able to ask a manager or colleague for help at the current or most recent job

[c] Provides input into most or all decisions about how to spend earnings from current or most recent job (among females)

NA = not applicable

C. Factors contributing to employment outcomes

In this section we use qualitative data collected as part of the process study to better understand what contributed to the improved employment outcomes for Generation learners relative to the comparison group. Specifically, we consider Generation's approach to training delivery and instruction, job placement, and mentorship. We discuss the contribution of Generation's approach to learner selection, another important component of its methodology, under employer outcomes in Section D.

1. Training delivery and instruction

Instruction in Generation programs differs substantially from other programs and is likely to be higher in quality, contributing to strong acquisition of job-relevant skills by learners. Stakeholders identified several distinguishing features of instruction in Generation's programs that are likely to result in high-quality program delivery to learners and their acquisition of job-relevant skills that make them attractive to employers:

- **A rigorous screening process for instructors.** Instructor candidates for Generation's AMBER programs are evaluated by Generation, in addition to being certified by the sector skills council. The standard process assesses qualifications and teaching experience and requires candidates to pass a written test. Generation's additional requirements involve assessing whether instructor candidates have relevant industry experience, reviewing a recording of a short, simulated instruction session to assess a candidate's teaching aptitude, and conducting a behavioral interview to assess a candidate's potential for effective engagement with learners and willingness for self-improvement. Generation

staff then provide several days of training in the curriculum and Generation methodology to accepted candidates, who must also complete a sector skills council training. Overall, Generation's selection process for instructors is likely to result in a pool of instructors who are both more connected to industry and more committed to engaging learners than instructors in non-Generation programs. All the Generation learners we interviewed spoke positively about the quality of instructors in their Generation program, highlighting their strong knowledge of the curriculum and their ability to support learners in mastering it.

- **Regular oversight of instructors.** Unlike non-Generation programs, Generation programs include senior instructional coaches, each of whom oversees about eight instructors. The instructional coaches regularly sit in remotely on training sessions or review session recordings to provide feedback to instructors for improvement. Several of the instructors we interviewed highlighted that they greatly valued the opportunity for self-improvement through regular feedback from their coaches. The senior instructor coach role is one to which instructors can aspire, providing them with additional motivation to perform well and make improvements in response to feedback.
- **Low learner to instructor ratio.** Generation's programs have an assistant instructor to support the primary instructor for each batch (with each assistant supporting two instructors), which is not the case in non-Generation programs.
- **Strong program curricula.** The instructors we interviewed highlighted that Generation's curricula are comprehensive, detailed, and well-organized, with detailed session plans to guide instructors. This translates into higher-quality in-class delivery than non-Generation programs, even for similar topics. Instructors also viewed Generation's greater focus on practical versus theoretical sessions, integration of material related to behaviors and mindsets, and preparation of candidates for job interviews as important strengths of Generation's curricula relative to non-Generation programs. Some instructors noted Generation's openness and flexibility to adjust curricula based on feedback from instructors or employers as another strength. Across programs, the Generation learners we interviewed agreed that the curriculum covered the key skills for the job role, while recognizing that it was not possible to cover more advanced technical skills (especially for technology programs) in the time available. Learners in the technology programs were especially pleased with the use of Code Academy, and online game-based learning platform, which helped them understand the technical course content. Some learners also highlighted their appreciation of the soft skills content of the curriculum, which helped improved their confidence and communication skills. Although learners appreciated the practical component of their program, some felt it should be enhanced even further—for example, by incorporating a greater variety of real-life job situations and through field visits to job sites.

Challenges to instruction in Generation programs include long training days, instructor turnover, and training a diverse group of learners with a standardized approach. Although the stakeholders we interviewed were very positive about instruction in Generation programs and its contribution to learner skill acquisition, they also identified three main challenges:

- **Long training sessions.** Some instructors and providers felt that full-day training sessions were too long to keep learners fully engaged. For in-person programs, these long days pose a challenge to attendance, as learners from socio-economically disadvantaged backgrounds often have family responsibilities to attend to on the same days as training. This makes it difficult for some learners to meet the 75 percent attendance rate required to pass the program, even though Generation reaches out to learners and their families (including through house visits) to try to address issues of low attendance. For online programs like the technology programs, it is challenging to maintain the

attention of learners during long online sessions. Many of the Generation learners we interviewed noted that the long training days were challenging for them, both in terms of meeting their family responsibilities and remaining focused for so many hours each day. Some instructors and providers suggested that Generation should consider spreading the training programs over a longer period, with fewer hours per day. For the technology programs, one instructor also suggested that some of the material could be covered offline by trainees through independent study, and that starting these programs with a purely technical component might also help engage trainees at the outset (and build their basic coding skills) before integrating behavioral components.

- **Instructor hiring and turnover.** It can be challenging to find instructors to fill positions for Generation's programs. Many instructors found other vocations after a long period of unemployment during the COVID-19 pandemic. Further, the pandemic led many instructors' NSDC certifications to expire, leading to a backlog in those who need to be recertified; the certification sessions are held irregularly, and do not always align with the desired timing of Generation batches. Instructor turnover has also been a challenge for some providers, in part because salaries—which are set by training providers and are aligned with NSDC norms—are relatively low. Some of the instructors identified by Generation—who are generally experienced and highly capable individuals, given the rigorous approach to selecting them—may therefore find more attractive jobs in industry and resign as instructors. Further, some instructors who are working with Generation for the first time might ultimately decide that they are not a good fit for the methodology. Having an instructor resign during a batch is very disruptive, both for instruction and the batch timeline (which is designed to be linked to job placements).
- **Training a diverse group of learners with a standardized approach.** As we discuss below, many stakeholders highlighted Generation's standardization of its approach through detailed, clear, and stringent guidelines as an important strength. However, it can be challenging to effectively instruct learners using a standardized instructional approach, given the diversity of Generation's learner pool. Specifically, although Generation's programs cater mostly to socio-economically disadvantaged learners, there is still a wide variety in circumstances and basic skills across these learners, especially between urban and less urban areas. Generation works with instructors to help them address this and deliver the standardized curriculum effectively to learners with different profiles, both as part of the instructor training and through feedback as batches progress. However, some instructors specifically highlighted the importance of language gaps, with some learners being able to communicate much more effectively in local dialects, even though passing a basic English test is a prerequisite for many Generation programs. One instructor suggested that trainings should be held in the language the trainees are most comfortable with—even if other language skills remain part of the screening and curriculum—so that learners were able to fully grasp the training material.

Overall, Generation's standardized approach and quality monitoring system facilitates a high-quality skilling model across multiple locations. Generation has standardized all aspects of its approach by developing standard operating procedures that allow its model to be implemented consistently across training centers in diverse locations and with varying local capacity. It also implements a comprehensive performance management system to monitor the progress of each batch in terms of attendance records, curriculum progress, learner test scores, and so on. Instructional coaches hold weekly check-ins with instructors to review the relevant quantitative metrics for each batch and determine course corrections if needed, as do Generation staff with training providers. In contrast, in typical non-Generation programs, individual training providers are largely left to implement and monitor the programs as they see fit. All three training providers we interviewed believed that Generation's standard operating procedures and

performance management system had raised the bar for quality vocational trainings in India, leading to improved long-term employment outcomes for learners. They greatly value their close engagement with Generation and suggested that they had implemented learnings from Generation in their non-Generation programs—for example, identifying individuals who are genuinely interested in the job role, improving their internal project monitoring approach, and identifying job placements ahead of time. This has led to a degree of scale-up of Generation's methodology by its training partners.

> *"Generation's methodology drives higher accountability across the teams at all levels. We are all looking at creating impacts [on employment outcomes], but that only happens if everyone is accountable for what they are supposed to be doing. The stringent standard operating procedures help us deliver better and be more accountable."*
>
> — Generation training provider partner

2. Job placement

Generation's intensive efforts to identify potential job placements likely contribute to the more favorable employment outcomes for Generation learners relative to comparison learners. Generation only launches a batch of learners if it has written commitments from several employers to provide placements for a total of at least 50 percent more learners than in the batch, through letters of intent gathered by training providers and verified by Generation. (These commitments are not binding, which is why Generation builds in a 50 percent buffer.) To secure these placements, training providers leverage existing relationships with employers or seek out new employers, typically local employers, while Generation engages with national employers that it has built a relationship with. Generation also works with training providers to support placements into the pre-identified job opportunities in several ways. These include, for example, reconfirming the pre-identified opportunities before the batch end date, identifying individual learners for specific job opportunities (often based on willingness to migrate and/or detailed job role), incorporating aspects of the employer hiring process into the curriculum, and helping trainees prepare for interviews. If the placement rate for a particular batch is usually low, Generation does not launch the next batch in that location until the issue has been identified and resolved. The identification of employers for job placements by Generation (including large national "anchor" employers in some industries, which can absorb many learners), rigorous focus on obtaining employer commitments for placements before launching training, and careful matching of individual learners to job opportunities requires a high level of effort but distinguishes Generation programs from other programs. The Generation learners we interviewed all highlighted Generation's focus on job placement as a key reason for their initial interest in the program; several highlighted Generation's support in applying to jobs, preparing them for interviews, and arranging interview logistics as critical in helping them find employment.

Under Generation, training providers have stronger incentives to focus on job placement and retention relative to other schemes. Under project AMBER, a substantial share of payments to the training providers contracted by the project are tied to job placement and retention rates. In contrast, in typical government schemes, most of the payments are based on the number of learners who are certified as having completed the program. Although there are also payments for placements and retention under other schemes, these are relatively small in practice, in part because a lengthy verification process results in many learners becoming uncontactable or changing or losing the jobs claimed by the training provider before they can be verified. Further, Generation's approach supports and empowers providers to achieve payment milestones for placement and retention—for example, by selecting learners who are a good fit

for the job role, carefully matching them to jobs, and providing mentorship as they enter the labor market—whereas typical approaches do not. These factors mean that training providers are more motivated to achieve placement and retention outcomes and tend to exert more effort in doing so relative to non-Generation schemes. Overall, it seems likely that the focus on job placement and retention contributes to the improved short-term labor market outcomes for Generation learners discussed in the Phase I report (Borkum et al. 2022), and hence the longer-term outcomes discussed in this report.

Willingness to migrate is an important challenge for job placement and retention, especially for non-technology roles; migration in small groups can help address this. Several Generation staff identified some learners' limited willingness to migrate as an important constraint to labor market outcomes. Many of Generation's programs are offered in secondary or tertiary cities, where local jobs in roles like RSA and CCE are limited. Migration to larger cities for work—potentially even in other regions of India—is a daunting prospect for many young learners and their families due to fear of the unfamiliar and the costs that they must incur before their first paycheck is received. Female learners and their families might also have concerns about their safety while traveling far from home and living in an unfamiliar large city. To address this, Generation works with learners during training to determine their willingness to migrate and tries to match those who are unwilling to migrate to local job opportunities instead (even though these might be more limited and less well paid than other opportunities). Generation also engages with learners and their families through its counselling services to try to alleviate some of their concerns about migrating. Generation staff suggested that having learners migrate in small groups (typically for work at the same employer) can help address this concern by providing peer support and the possibility of sharing accommodation and other costs. Providing subsidized accommodation for learners could also help, but it is unclear how that would be funded. Migration is less of an issue for the technology programs. Although jobs are concentrated in a few cities and often require migration, technology program learners are older than those from non-technology programs and salaries are higher, better supporting relocation costs.

3. Mentorship

Generation's mentorship services for learners can also support improved placement and retention outcomes, but learners' experiences with these services are variable. Generation's provision of mentorship services for learners is another unique component of its approach. Under this component, Generation assigns each cohort a trained professional who is tasked with proving psychological support to and ensuring the well-being of learners during training and for about three months thereafter. Mentor-learner interactions are intended to include both scheduled check-ins and on-demand contacts, although some Generation staff noted that some mentors might need to be more proactive in following up with individual learners when planned interactions fall through. Many of the instructors we interviewed viewed Generation's mentorship as critical to the success of its programs by addressing learners' and parents' concerns during training, guiding learners' choices of jobs to which to apply, and helping learners to overcome challenges as they transition into the labor market (for example, counselling learners who have migrated for work to help them settle into a new city). As mentioned earlier, several employers we interviewed also identified Generation's post-program mentoring support for learners as unique relative to other skilling entities and suggested it might help improve job retention. However, mentorship services were not central to the experience of the Generation learners we interviewed. Several learners recalled interacting regularly with someone besides the instructor during training, but most viewed the goal of these interactions as gathering broader feedback about the program and their experience and learner well-being rather than providing individual mentorship or counselling. Only two out of the eight learners we

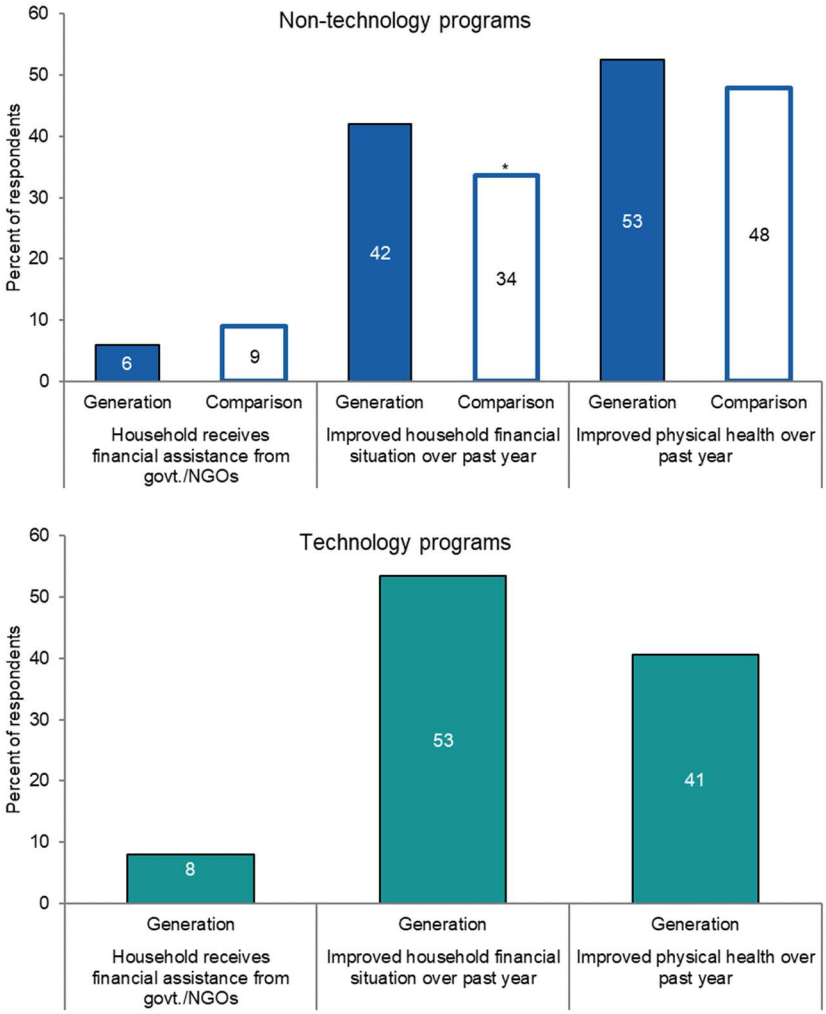
interviewed (both from a technology program) recalled receiving any contact after completing the course to assess how their job interviews or new job were going. Our sample of learners for interviews was small and not designed to be representative, so we are unable to generalize these findings to the broader group of Generation learners. However, they suggest that there is scope for strengthening Generation's mentorship services to ensure that their goal is clearer for learners and mentors, and that they are provided more consistently across learners—especially after they complete their training. This could help achieve the full potential of these services, as highlighted by instructors and employers.

D. Well-being outcomes

Generation's logic model posits that Generation training will lead to improvement in learners' financial, physical, and mental well-being. Although these effects are only expected to occur between two and five years after completing training—beyond the time horizon of the Phase II survey—we nevertheless included several measures of these outcomes in the survey to assess whether there was any evidence of early effects along these dimensions of well-being. Further, effects on some outcomes related to mental well-being, particularly mindset shifts, were expected to occur sooner, according to the program logic.

Generation had only modest effects on learners' broader financial well-being in the timeframe of the Phase II evaluation. About 4 in 10 Generation learners in non-technology programs and 5 in 10 learners in the technology programs reported having improved their financial well-being over the past year—that is, since soon after completing their Generation program **(Figure III.13)**. For non-technology programs, this fraction was only modestly higher than the comparison group and the difference only marginally statistically significant, even though we showed earlier that average earnings were substantially higher for Generation learners. Overall, about one-half of Generation learners in the non-technology programs and two-thirds of learners in the technology programs reported that their household's financial situation at the time of the follow-up survey was good, very good, or excellent (not shown); for the non-technology programs, this was similar to the comparison group. Because Generation's program logic suggests that Generation learners will experience greater financial self-sufficiency, we also explored their reliance on external financial assistance. Overall, fewer than 10 percent of Generation and comparison learners across all programs reported that their household received financial assistance from the government or a non-governmental organization at the time of the survey **(Figure III.13)** or in the previous year (not shown). This suggests that it was uncommon for this population to rely on this type of financial assistance, leaving little room for changes in this measure after completing Generation training. There is also no evidence of differential changes in physical health over the year prior to the survey for Generation and comparison learners. Despite the limited effects on these

Figure III.13. Financial and physical well-being outcomes, by program type, India



Notes: For the non-technology programs, sample sizes across measures range from 454 to 457 for Generation learners and 508 for comparison learners. For the technology programs, the sample size across measures was 101 Generation learners.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

financial and physical well-being outcomes, we cannot rule out that larger effects might manifest in the longer term as learners progress further in their careers and increase their earnings. Consistent with this, although most of the Generation learners we interviewed as part of the process study believed that their financial situation had improved because of the training, they suggested that there was still much room for improvement given their relatively low entry-level wages. Nevertheless, several believed that the training had set them on a positive career trajectory, which could lead to improved earnings and a more comfortable financial situation in the future.

"It was a nice start to my career. More than the salary package, I was looking to start my career in a good company. I got a job in my dream company so was very happy with that."

— Generation learner, technology program

Almost all Generation learners had a strong sense of purpose, self-confidence, and optimism, but these measures were also very high among comparison learners (Table III.4). These measures of mindset, which are related to mental well-being, assessed the extent to which respondents agreed with statements about having clear life goals and acting to achieve them, being confident in their ability to meet their professional goals, and being optimistic about the future, respectively. We included them because Generation's logic model expects to see mindset shifts in its learners within a year of program completion, recognizing that broader shifts in mental well-being might take longer. Across programs, more than 9 in 10 Generation learners agreed or strongly agreed with the relevant statements. For the non-technology programs, these measures were similarly high for comparison learners, although there was a modest difference in favor of Generation learners for the sense of purpose measure. Respondents were also asked the "Cantril ladder" question, which asked them to evaluate their life from a scale of 0 to 10 using a hypothetical ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder (step 10) represents the best possible life and the bottom (step 0) represents the worst. For Generation learners, the average current position in the ladder of life scale was step 5 for non-technology programs and step 6 for technology programs, but almost all learners said that they expected an improvement in the next 5 years. For non-technology programs, the percentage of Generation learners expecting an improvement was higher than among comparison learners, but only very modestly so. Overall, although we relied on standard survey measures of mental well-being that have been used in low- and middle-income countries, survey responses suggest that that there was little room for improvement in these measures among Generation and comparison learners. We also cannot rule out that survey respondents provided socially desirable responses. These findings suggest that effects on mindset shifts, as well as broader mental well-being in the longer term, might be nuanced and challenging to capture through some of the quantitative measures and the methodological approach we used (which did not include a baseline). Despite the limited effects that we identified through the survey, the small sample of Generation learners we interviewed as part of the process study revealed examples of learners experiencing increased confidence in job interviews, in their ability to successfully migrate for work, and in their capacity to succeed in opening their own business in the future, suggesting that these effects remain plausible.

"Before joining this program, I could never have imagined moving to a new city on my own."

— Generation learner, non-technology program

Table III.4. Mental well-being outcomes by program type, India

Outcome	Sample size		Average		
	Generation learners	Comparison learners	Generation learners	Comparison learners	Difference
RSA and CCE programs					
Has strong sense of purpose (%)[a]	459	508	94	86	9***
Confident about ability to meet professional goals (%)[b]	458	508	99	98	1
Optimistic about the future (%)[c]	458	509	95	96	-1
Current position in ladder of life scale (Cantril scale 0-10)[d]	458	509	4.7	4.9	-0.3
Expect improvement in ladder of life scale in next 5 years (%)[d]	442	507	93	88	5**
AWS and JFSJD programs					
Has strong sense of purpose (%)[a]	101	NA	96	NA	NA
Confident about ability to meet professional goals (%)[b]	101	NA	100	NA	NA
Optimistic about the future (%)[c]	101	NA	89	NA	NA
Current position in ladder of life scale (Cantril scale 0-10)[d]	101	NA	6.0	NA	NA
Expect improvement in ladder of life scale in next 5 years (%)[d]	101	NA	96	NA	NA

Source: Phase II survey data.

*/**/*** Statistically significant difference between Generation and comparison learners at the .10/.05/.01 level

[a] Agrees or somewhat agrees that they have clear life goals and are acting to achieve them

[b] Agrees or somewhat agrees that they are confident in their ability to meet their professional goals

[c] Agrees or somewhat agrees that they feel optimistic about the future

[d] The ladder of life scale (Cantril 1965), where the top of the ladder (step 10) represents the best possible life for the respondent and the bottom (step 0) represents the worst

NA = not applicable

E. Outcomes for employers

Generation operates in a crowded skilling marketplace for entry-level positions in India, with employers typically hiring for these positions from multiple sources. For non-technology programs like RSA and CCE, similar non-Generation programs are offered by training providers under national and state government schemes. For technology programs like AWS and JFSJD, upskilling agencies offer similar programs to prepare college graduates for entry-level roles in the industry, although some technology employers also hire directly from colleges. In this section, we draw on stakeholder interviews to describe how Generation compares to these other hiring sources, particularly from the employers' perspectives, and how hiring through Generation has affected employers.

Generation's rigorous screening process identifies learners who are typically more motivated and committed than other entry-level hires. A unique feature of Generation's learner mobilization process is the rigorous screening process it undertakes to identify learners who are genuinely interested in the relevant job role and have the underlying motivation and skills to succeed in it. This screening includes a

series of assessments, aptitude tests (basic English and numeracy tests for non-technology programs, or English, Math, and coding tests for technology programs), and interviews. This process can be challenging for training providers to implement, especially for those working with Generation for the first time, and/or in communities they have not worked in before—because it is much more rigorous than their standard process and requires them to screen many potential learners to attain the targeted number of enrollees. (Although all the training providers we interviewed spoke favorably about this process, one suggested that the process needed to be streamlined because it takes some time to form a batch and some potential learners lose interest because of this delay.) Generation conducts workshops with the training providers and provides on-the-ground technical support where necessary, so that providers can become adept at the process by their second or third batches. Generation's rigorous screening process contributes to a noticeable difference in candidates' behaviors and mindsets from the perspective of employers. Specifically, almost all of the employers we interviewed across the technology and non-technology programs noted that Generation hires were typically more motivated, eager to learn and advance professionally, and committed to succeed in their roles than other hires.

"Generation hires are much more motivated; they want to prove a point and are much more interested in learning and growing than other hires."

— Employer, technology program

"The learning ability of Generation hires is excellent—they understand things quickly and are even able to catch up to more experienced employees within a few months."

— Employer, non-technology program

Employers had mixed views on whether Generation hires' technical skills were similar to or better than those of other hires, but most thought that Generation hires had better soft skills. Two of the three technology employers we interviewed thought that Generation hires had better technical skills than other hires for entry-level positions and attributed this to their engagement with Generation to tailor the training curriculum to their needs (as discussed earlier). The third technology employer thought that technical skills were similar for other hires, given their firms' rigorous screening process for new hires. Three of the six non-technology employers we interviewed also thought Generation hires' technical skills were better; the others thought they were similar given their pre-hiring screening process and the in-house training that they require all new entry-level hires to undergo. However, most of the employers across all programs suggested that Generation candidates had better soft skills than other hires—for example, appearing more presentable and well-groomed, communicating more politely and effectively with customers, or reacting appropriately to feedback from their managers. These soft skills, which are integrated with technical skills during training as part of real job situations, are an important feature of Generation's training, according to Generation staff. Employers believed that these soft skills translated into better job performance—for example, improved interactions with customers on the shop floor for RSA employees or improved customer satisfaction for CCE employees. Overall, although firms' internal screening and training processes are designed to result in hires who meet their basic standards for technical and soft skills, Generation candidates often stand out from their job peers in at least some of these skills.

Employers greatly value Generation's efforts and flexibility to align the training curriculum with their needs. Generation engages employers in curriculum development at the very outset of a new program's development, by conducting detailed discussions with staff at a handful of employers about the job role and key differentiators for strong performance in that role. Generation uses this input—together with the standard curriculum from the relevant sector skills council,[34] where one exists—to build a curriculum, which it then validates with the employers before starting to implement the program. There is flexibility to further adjust the curriculum over time based on employer partners' feedback, as long as the basic elements of the initial curriculum are maintained. All the technology employers we interviewed emphasized that Generation sought and incorporated their input on the program curriculum, especially when the programs were first launched, to reflect the latest technologies and provide a degree of tailoring to their firm-specific requirements. This is typically not the case for other upskilling agencies operating in the market. The tailored curriculum helped hires from Generation technology programs acclimatize to their roles more rapidly to other entry-level hires and perform better in those roles. Generation staff suggested that it will be important to regularly adjust the curriculum of the technology programs—or even overhaul it in some cases—to keep pace with rapid changes in technology and market demand, which are driven by trends in the United States. For the non-technology programs, one large RSA employer noted that Generation provides some tailoring of the curriculum to cover its hiring process (for example, preparing learners for an assessment that new hires must pass) and job-specific soft skills, but another suggested that they would prefer more tailoring to their sub-sector of the industry. Generation staff suggested that they are generally open to tailoring the curriculum for these non-technology programs to accommodate the needs of large employers who can absorb many learners, although they need to ensure that the basic standard curriculum established by the sector skills council is followed. In contrast, learners trained in the equivalent programs provided through government schemes typically experience the standard curriculum only. Generation staff suggested that future changes in the curriculum of non-technology programs might also be required to keep pace with market trends, for example in the retail sector.

"The quality of candidates from Generation is much higher than the rest of the market. They conduct a very pointed training and connect with us to understand what skills are going to be relevant for the future. They keep on modulating and customizing their trainings through connections with us."

— Employer, technology program

"Generation trains according to our business requirements. That is one of the greatest advantages that I see in being associated with them."

— Employer, non-technology program

Most employers we interviewed perceived better candidate quality as the main advantage of working with Generation and did not perceive substantial savings in recruitment costs. Although Generation's program logic model identifies lower recruitment costs as a benefit of the programs, this did not emerge as a major theme in qualitative interviews with employers. Across all job roles, employers' hiring process is similar for all candidates. Some, but not all, employers suggested that Generation candidates are more likely to be hired than other candidates, so that fewer candidates must be assessed to fill a vacant position. For large non-technology employers—who tend to have constant staffing needs due to staff turnover (especially for CCE employers) and business expansion—Generation's ability to provide

[34] Sector skills councils are autonomous industry-led bodies established by NSDC that are intended to better align vocational training programs with the skills required by industry.

large batches of candidates to facilitate bulk hiring also saves time. However, these benefits do not necessarily translate into substantial cost savings because many of employers' human resources staff costs are fixed. Given the tailoring of the curriculum to employers' needs, some technology employers provide a shorter onboarding training to Generation hires relative to other entry level hires, although even Generation hires still need some training in firm-specific systems and processes. For non-technology roles, even when tailoring of the curriculum does take place, it typically does not reduce firms' training costs because they have developed a standard firm-specific onboarding training for all entry-level hires. Overall, employers emphasized better candidate quality—in terms of behaviors, mindsets, and skills—rather than cost savings as the main perceived benefit of working with Generation.

Most employers perceived job retention as being better for Generation hires than other entry-level hires. Most of the employers we interviewed perceived that Generation hires tended to stay longer in their positions than other entry-level hires, although a few did not perceive any difference.[35] Technology employers emphasized that Generation hires had a clearer idea of their career path and the specific roles they were interested in than other entry-level hires, contributing to a high retention rate for their Generation hires to date. Non-technology employers emphasized Generation hires' aspirations for career advancement leading them to stay in their roles, although they suggested that these promotions might take more time. For the CCE role, tenure differences for Generation hires are especially stark relative to college students who tend to fill some entry-level CCE roles on a temporary basis. Some employers also noted that there is more support for Generation learners once they start work compared to other entry-level hires. As we discussed earlier, this includes support for learners through a Generation-assigned mentor and financial incentives for providers to remain in contact with learners once they are hired to help support job retention, although most of the learners we interviewed did not recall receiving this support.

> *"Learners from Generation tend to stay with us longer because they are fully prepared for the job. Their mental maturity is greater, and they have clear life goals that they are trying to achieve. As a result, they are more focused on and more serious about their job responsibilities."*
>
> — Employer, non-technology program

[35] The survey findings discussed earlier did not suggest that Generation learners had better job retention than comparison learners but might not be representative of employers' pools of non-Generation entry-level employees. Further, the small group of employers we interviewed for the process study was not designed to be representative of the employers of survey respondents.

Employers value Generation staff's responsiveness to their hiring needs and view Generation as a trusted long-term partner. Almost all of the employers we interviewed highlighted that they are in regular communication with Generation regarding job opportunities— with the employer communicating upcoming job opportunities and Generation communicating the upcoming availability of learners. These employers' strong long-term relationship with Generation and Generation's responsiveness to meeting their hiring needs is unusual relative to other skilling entities, where the engagement tends to be more ad-hoc in nature and focused on meeting the entities' needs in terms of placement. Several employers also noted that Generation was more likely than other entities to meet its commitments to provide an agreed-upon number of candidates for interviews—and that those candidates tended to be better prepared for the interviews. Together with the higher overall quality of Generation's candidates, this leads employers to perceive Generation as a trusted long-term partner and to prefer working with Generation over other entities.

"With other skilling partners, the commitment level is very low. I don't know whether the number of candidates they have committed will be available or if the interviews will happen. And even if the interviews happen, I don't know whether the candidate will meet our quality expectations or not."

— Employer, non-technology program

"Generation provides candidates who are well groomed, presentable, and able to speak to me properly in the interview. With other agencies we get a lot of candidates who are not groomed appropriately for an interview, or stumble and are not confident in the interview."

— Employer, non-technology program

Some employers suggested that an on-the-job training component could improve the readiness of learners for the job environment. Some of the non-technology employers we interviewed suggested that many entry-level hires, even those from Generation, do not have a good understanding of the realities of the job when they first start. For example, many new RSA hires are not aware of the challenges associated with evening shifts and with many hours standing on the shop floor, and many CCE hires seem initially overwhelmed by a busy call center environment. This is consistent with the survey findings that unhappiness with the job is the main reason for Generation learners who find a job after training completion to lose it. Although the greater motivation and job commitment of Generation hires might help them better overcome these challenges than other hires, these employers suggested that having trainees spend time with the potential employer during training could help improve their job readiness and further improve retention rates. This goes beyond practicing for real job situations, which is already integrated into the Generation curriculum, and is more related to becoming familiar with the work environment.

F. Summary

1. Non-technology programs

Overall, about two-thirds of Generation learners from the RSA and CCE programs found a job in the period since program completion (about 15 months, on average). However, some of these learners did not retain their jobs through the survey date, leaving a little less than one-half of learners employed at the survey date. The employment rates of Generation learners in these non-technology programs were substantially higher than those of comparison learners. Specifically, Generation learners were more than twice as likely to have found a job since program completion and about 75 percent more likely to be employed at the survey date than comparison learners. We can conclude with reasonable confidence that

these positive results are attributable to Generation's methodology, owing to Generation's selection of learners who are highly motivated and committed to the job role, high-quality instruction, and intensive efforts to identify potential job opportunities (accompanied by strong incentives for training providers to focus on job placement and retention).

Wages among those employed were similar for Generation and comparison learners in non-technology programs. However, the higher employment rates of the former imply that average earnings in the full sample were 75 percent higher for Generation learners at the survey date (assuming those who were unemployed have zero earnings). This is a key measure of how Generation training might be associated with improved welfare in the Phase II evaluation timeframe. For these non-technology programs, Generation learners were more likely to report that their broader financial well-being had improved over the past year than comparison learners, but this difference was modest and only marginally statistically significant. It may have been too soon for more substantive changes in financial, physical, and mental well-being to manifest given relatively low entry-level wages, while many standard measures of mindsets were uniformly high and suggest that there was little room for improvement.

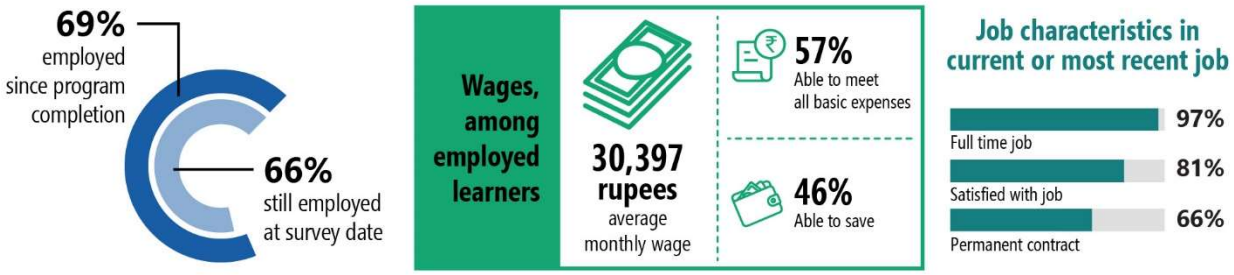
From the perspective of employers of Generation learners from non-technology programs, the higher quality of Generation learners in terms of job performance is the primary advantage of working with Generation. This is supported by both Generation's rigorous screening of potential learners as part of its mobilization process, which identifies highly motivated individuals who are committed to the job role, and high-quality instruction during the training itself, which leads to strong acquisition of relevant technical and soft skills.

2. Technology programs

About two-thirds of Generation learners from the JFSJD and AWS programs found a job in the period since program completion (about 11 months, on average) **(Figure III.14)**. Almost all the learners from these technology programs retained their jobs through the survey date, suggesting strong long-term job retention for these programs. These technology programs offer learners opportunities in relatively high-wage jobs, with employed learners reporting an average monthly wage of about 30,000 rupees—about two and a half times the average wage for employed learners from non-technology programs. More than one-half of employed learners from technology programs reported being able to meet all their basic expenses from their earnings and almost one-half reported being able to save. Almost all the jobs held by these learners were full time, two-thirds involved a permanent contract, and more than three-quarters of learners were satisfied with their jobs.

Relative to similar technology programs offered by other upskilling agencies, Generation's technology programs are more accessible to learners with lower socio-economic status, because of their lower (subsidized) cost to learners and admission of graduates from less selective colleges. This offers Generation opportunities to form relationships with employer partners for job placements to help meet employers' corporate social responsibility goals, which could further boost labor market outcomes for Generation learners. Like for non-technology programs, employers of learners from technology programs emphasized Generation hires' typically greater motivation, eagerness to learn and advance, and job commitment relative to other entry-level hires. This is associated with strong job performance and retention for Generation learners. Employers also greatly value Generation's tailoring of the training curriculum to their skills needs; some employers perceive that, as a result, Generation learners having better technical skills and requiring less onboarding training than other entry level hires.

Figure III.14. Outcomes for learners from technology programs, India



IV. Findings from Kenya

In this chapter we present our Phase II evaluation findings for Kenya. We use the survey data to describe the long-term outcomes of Generation learners in the SMO and DCS programs and compare them to the outcomes of non-selected applicants from the same cohorts.

A. Generation learner and non-selected applicant characteristics

We begin by describing the socio-demographic characteristics of Generation learners and non-selected applicants and assessing the differences between them. We also examine the extent to which these groups received other training since participating in or applying to Generation training, to better understand what the comparison between Generation learners and non-selected applicants is capturing, given that the latter were not accepted for Generation training.

Across both the SMO and DCS programs, the typical Generation learner was female, in her mid-20's, and unemployed when entering Generation; Generation learners were more likely to be female but less likely to have some college education relative to non-selected applicants (Table IV.1). For both programs, more than two-thirds of Generation learners were female; they were substantially more likely to be female than non-selected applicants. Relative to non-selected applicants, Generation learners in both programs were less likely to have completed some college education; Generation learners in the DCS program had a higher level of education than those from the SMO program, on average, with one-half of DCS learners having completed a Bachelors/undergraduate degree. Average age was similar for Generation learners and non-selected applicants for both programs. Almost 4 in 10 of Generation learners from the SMO program and 5 in 10 from the DCS program were heads of their households, and about 5 in 10 from the SMO program and 4 in 10 from DCS program had children. The average Generation learner lived in a household with 5.6 members for the SMO program and 3.5 members for the DCS program, with an average of about 1 other member besides themselves engaged in paid work at the survey date; these characteristics were very similar for non-selected applicants. Overall, the main differences in socio-demographic characteristics between Generation learners and non-selected applicants are in terms of sex and education, which we control for through regression analysis. However, there might still be differences between Generation learners and non-selected applicants in unobserved characteristics like innate skills or motivation. We cannot control for these differences, which might be associated with the rejection of non-selected applicants from the program and could affect employment outcomes**.**

About 2 in 10 non-selected applicants from the SMO program and 3 in 10 from the DCS program reported having completed other trainings since applying to Generation (Table IV.1). For the SMO program, most non-selected applicants who participated in another training completed a non-diploma technical or vocational program (not shown). For the DCS program, about one-half of the non-selected applicants who participated in another training completed a non-diploma technical or vocational program, about one-quarter completed a diploma program, and about one-quarter completed a university degree at the bachelors/undergraduate level (not shown). The trainings completed by non-selected applicants covered a wide range of fields including computer science, education, and hospitality, amongst others (not shown). About 1 in 10 Generation SMO learners and 3 in 10 DCS learners also reported having completed additional training since completing their Generation program, with a similar level of training and range of training fields to non-selected applicants. Although the rate of additional training for the SMO program was higher for non-selected applicants than for Generation learners, post-Generation

training experiences are sufficiently similar (and limited) overall to suggest that it is appropriate to interpret the differences in labor market outcomes as the difference between participating in Generation or not, rather than the difference between participating in Generation versus alternative programs.

Table IV.1. Learner and non-selected applicant characteristics, SMO and DCS programs, Kenya

	SMO			DCS		
	Generation learners	Non-selected applicants	Difference	Generation learners	Non-selected applicants	Difference
Characteristics at the time of enrollment/application						
Female (%)	68	56	12*	71	50	22***
Age (years)	25	25	0	26	26	0
Education (%)						
Primary education	31	25	6	0	0	0
Higher secondary education/high school	62	60	2	13	11	2
Vocational education	6	4	2	35	10	25***
Some college/associate degree	1	10	-9***	2	20	-18***
Bachelors/undergraduate degree	0	1	-1	50	59	-9
Unemployed when entering/applying to Generation (%)	99	98	2	82	80	1
Characteristics at the time of Phase II survey						
Completed other training since completion/application (%)	10	19	-10**	31	27	4
Ever married (%)	46	33	13**	29	30	-3
Has children (%)	56	46	10	43	42	2
Learner/applicant is household head (%)	35	36	-1	47	57	-10
Number of household members (including learner/applicant)	5.6	5.6	0.0	3.5	3.4	0.0
Number of household members engaged in paid work (excluding learner/applicant)	1.0	1.1	-0.1	0.8	1.0	-0.2

Source: Generation's learner and applicants records (top panel) and Phase II survey data (bottom panel)

Notes: Sample sizes vary from 156 to 157 for SMO Generation learners, 97 to 98 for SMO non-selected applicants, 140 to 143 for DCS Generation learners, and 101 to 103 for DCS non-selected applicants.

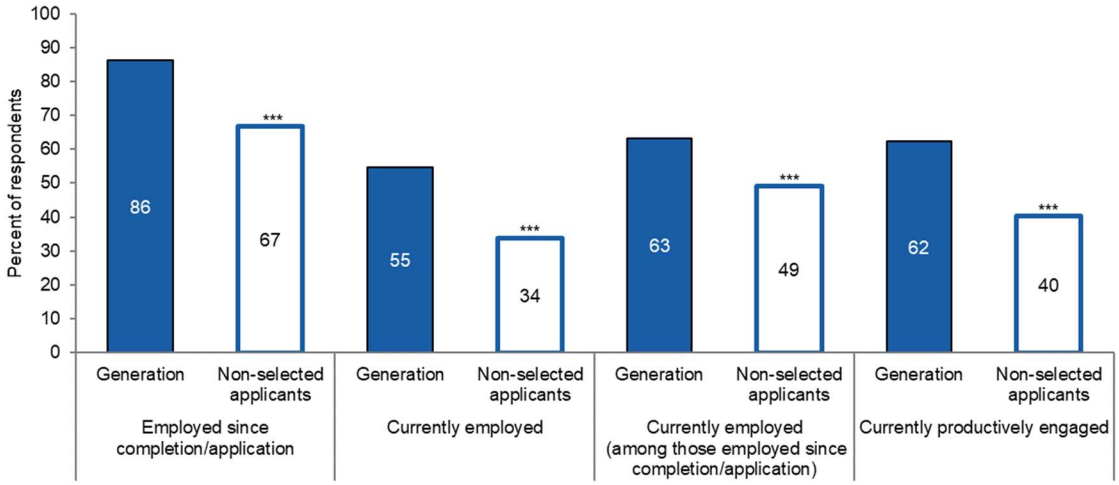
*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

B. Employment outcomes

In this section we examine the differences between Generation learners and non-selected applicants in key long-term labor market outcomes related to employment and wages, as well as in job characteristics. Like in India, our measures of employment cover the period since completing or applying to the Generation program, as well as on the survey date, and our measures of wages and job characteristics focus on respondents' most recent post-training or post-application paid job.

Eighty-six percent of Generation learners were employed at some point since completing the program and 55 percent were employed at the survey date; these rates are substantially higher than those for non-selected applicants (Figure IV.1). The difference in employment rates between Generation learners and non-selected applicants is 19 percentage points for employment at some point since program completion or application and 21 percentage points for employment at the survey date. More than two-thirds of Generation learners and about one-half of non-selected applicants who were employed at some point since program completion or application had held only one job over that period; it was uncommon for respondents to have held more than two jobs (not shown). Among those employed since program completion or application, almost two-thirds of Generation learners were still employed at the survey date compared to only one-half of non-selected applicants.[36] Generation learners were therefore more successful than non-selected applicants at both finding employment and staying employed.

Figure IV.1. Employment and productive engagement outcomes, overall, Kenya



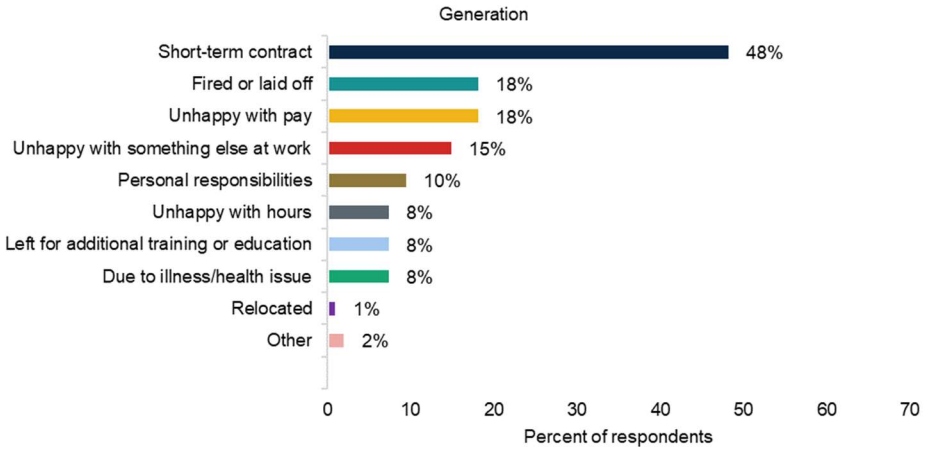
Notes: Sample sizes for employed since completion/application, currently employed, and currently productively engaged are 300 for Generation learners and 201 for non-selected applicants. Sample sizes for currently employed (among those employed since completion/application) are 259 for Generation learners and 139 for non-selected applicants. For non-selected applicants, the percent currently employed (among those employed) is not equal to the percent currently employed divided by the percent employed since completion because each measure is separately regression adjusted for stratum and demographic characteristics.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

[36] Like in India, among the Generation learners who had found a job after completing training but were no longer employed at the survey date, most had been unemployed for more than three months. This suggests that their loss of employment was more than just a short-term phenomenon.

Almost one-half of Generation learners who found a job after program completion or application but were no longer employed at the survey date indicated that a reason for losing their most recent job was because it was a short-term contract **(Figure IV.2)**. Other common reasons cited by Generation learners for losing their most recent job included being fired or laid off, being unhappy with pay or something else at work, and personal responsibilities. Consistent with the differences in employment rates, productive engagement at the survey date—defined as holding a paid job or being engaged in further education or training—is substantially higher for Generation learners than for non-selected applicants, with about 6 in 10 Generation learners productively engaged compared to 4 in 10 non-selected applicants **(Figure IV.1)**.

Figure IV.2. Reasons for losing their most recent job, among Generation learners who found a job after completing their program but were no longer employed at the survey date, overall, Kenya

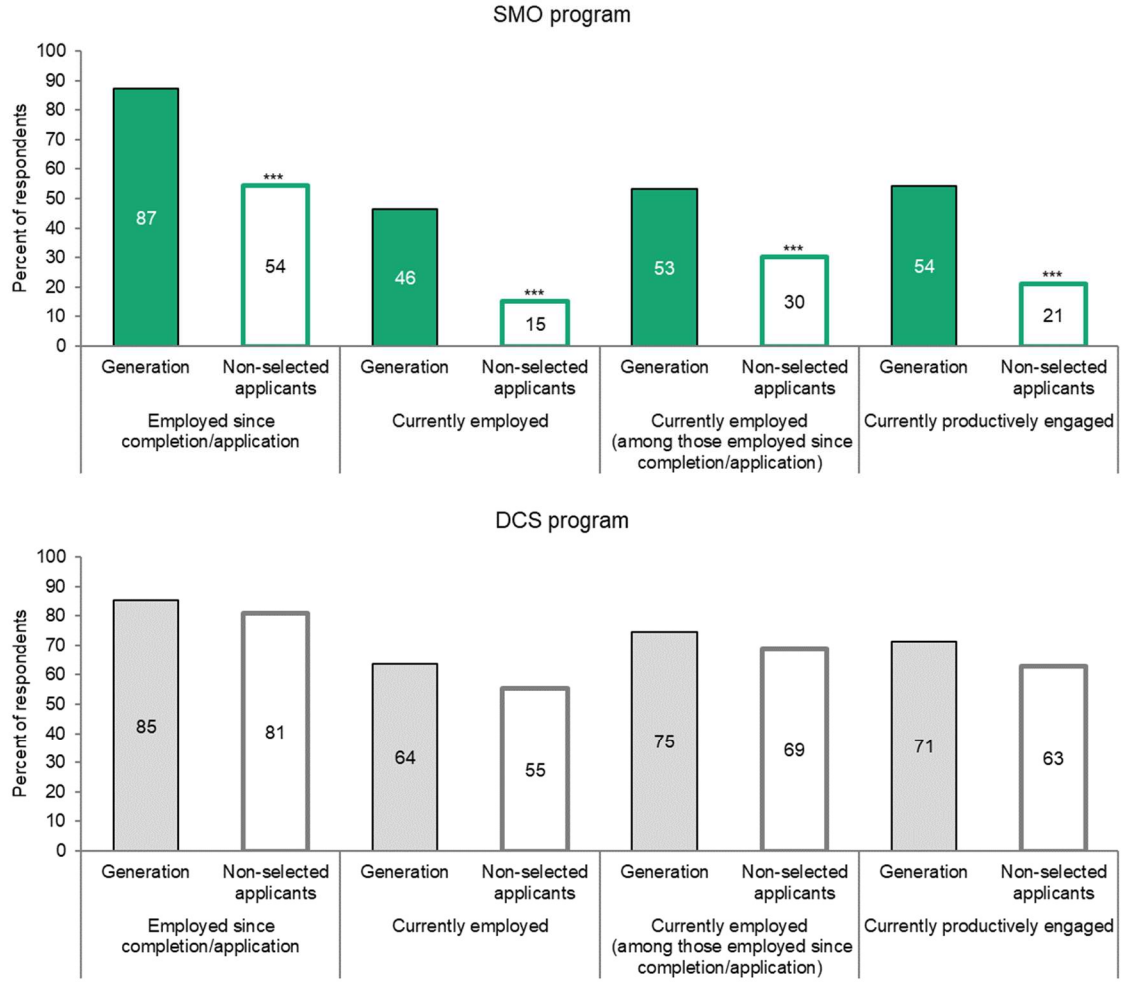


Notes: The sample size is 95. Shares do not add up to 100 since respondents could provide more than one reason.

Differences in employment rates between Generation learners and non-selected applicants are primarily driven by the SMO program (Figure IV.3). Across both programs, at least 85 percent of Generation learners were employed at some point since program completion, but only for the SMO program is this rate substantially higher than among non-selected applicants (by 33 percentage points). Employment rates at the survey date were lower for SMO learners than for DCS learners, with about 46 percent and 64 percent of Generation learners employed, respectively. However, only for the SMO program is this rate substantially higher than among non-selected applicants (by 31 percentage points); the difference for the DCS program is positive, but smaller and not statistically significant. These patterns are similar for employment rates at the survey date amongst those employed since program completion or application, and for productive engagement at the survey date. Generation staff suggested several possible reasons why non-selected applicants for the DCS program might have better employment prospects than non-selected applicants from the SMO program. First, non-selected applicants for the DCS program have higher education levels, driven by the requirements to be considered for the DCS program—a high school degree with a passing English grade, relative to a primary school pass for the SMO program. Second, Generation's internal data suggest that DCS applicants are more likely to have prior work experience than SMO applicants, although it is still the case that relatively few have such experience. Third, SMO learners are typically recruited from peri-urban or rural communities, which likely offer fewer employment opportunities than the urban areas from which DCS learners are typically recruited. The levels of

employment outcomes for Generation learners and differences with non-selected applicants are similar for males and females (not shown).

Figure IV.3. Employment and productive engagement outcomes, by program, Kenya



Notes: For the SMO program, sample sizes for employed, currently employed, and currently productively engaged are 157 for Generation learners and 98 for non-selected applicants. Sample sizes for currently employed (among those employed since completion/application) are 137 for Generation learners and 55 for non-selected applicants. For the DCS program, sample sizes for employed since completion/application, currently employed, and productively engaged are 143 for Generation learners and 103 for non-selected applicants. Sample sizes for currently employed (among those employed since completion/application) are 122 for Generation learners and 84 for non-selected applicants. For non-selected applicants, the percent currently employed (among those employed) is not equal to the percent currently employed divided by the percent employed since completion because each measure is separately regression adjusted for stratum and demographic characteristics.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Substantive differences in employment outcomes between Generation learners and non-selected applicants remain even after considering potential survey non-response bias. As discussed in Chapter II, there was substantial survey non-response and the response rate was lower for SMO non-selected

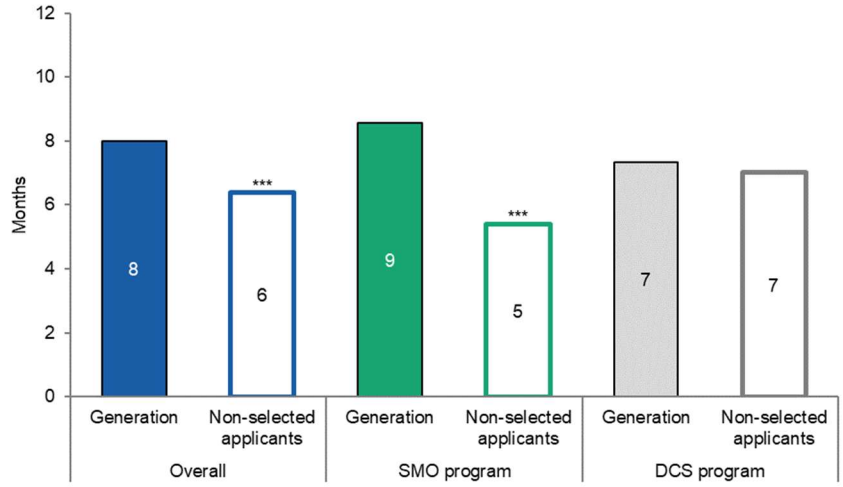
applicants than Generation learners, raising a concern that non-response bias is driving the estimated differences in employment outcomes between Generation learners and non-selected applicants. Like in India, we investigated the potential magnitude of non-response bias by calculating how the estimated difference would change under conservative assumptions about the employment outcomes of non-respondents. For the SMO program, the response rate was 56 percent for Generation learners and 46 percent for comparison learners. If we assume that the differential (of 10 percent) was composed of non-selected applicants who were all employed, the estimated difference between SMO Generation learners and non-selected applicants in employment at the survey date would decrease from 31 to 21 percentage points. This analysis suggests that that non-response bias accounts for only part of the differences in employment outcomes between Generation learners and non-selected applicants, at best. However, it remains possible that differences in unobserved characteristics between Generation learners and non-selected applicants are driving the differences in outcomes.

Average job tenure in the current or most recent job was 8 months for Generation learners and 6 months for non-selected applicants, with differences driven by the SMO program (Figure IV.4). For the SMO program, average job tenure of Generation learners in their current or most recent job was 9 months compared to just 5 months for non-selected applicants. For the DCS program, average job tenure was 7 months for both Generation learners and non-selected applicants. These patterns are consistent with the earlier findings that SMO Generation learners who found a job after completing their program were more likely to still be employed at the survey date than non-selected applicants who found a job after application; both measures point to better job retention for Generation SMO learners relative to non-selected applicants. There are also some substantial differences in job tenure by sex, with male Generation learners averaging 8 months, compared to 5 months for male non-selected applicants; in contrast, average job tenure was similar between female Generation learners (8 months) and female non-selected applicants (7 months) (not shown).

Across both programs, average monthly wages in the current or most recent job are similar for Generation learners and non-selected applicants; however, if we also consider those who were not employed, average monthly earnings are substantially higher among Generation learners. For the SMO program, employed Generation learners and non-selected applicants earned similar average monthly wages in their current or most recent job, at about 13,400 shillings (101 dollars) **(Figure IV.5)**.[37] For the DCS program, employed Generation learners and non-selected applicants also earned similar average monthly wages of just under 29,000 shillings (218 dollars). The similarity in average wages in the current or most recent job masks some differences by sex, with male Generation learners earning an average monthly wage of almost 21,000 shilling (158 dollars) compared to about 17,000 shillings (120 dollars) for male non-selected applicants; in contrast, female Generation learners earned slightly less than female non-selected applicants, but this difference is not statistically significant (Figure IV.6).

[37] We used a conversion rate of 133.2 Kenyan shillings to 1 U.S. dollar, based on the average exchange rate from the Central Bank of Kenya over the period of the survey (between March 29, 2023 and April 17, 2023).

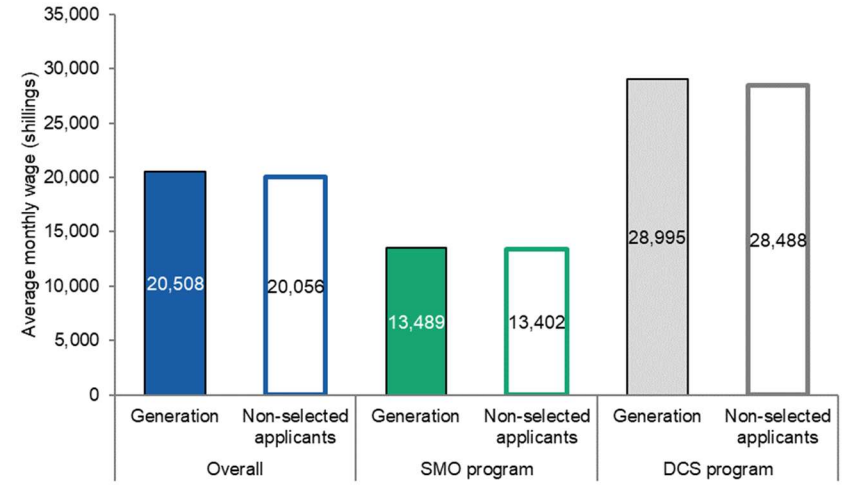
Figure IV.4. Average job tenure in current or most recent job among those who found a job since program completion/application, overall and by program, Kenya



Notes: For the overall sample, sample sizes are 236 for Generation learners and 119 for non-selected applicants. For the SMO program, sample sizes are 124 for Generation learners and 48 for non-selected applicants. For the DCS program, sample sizes are 112 for Generation learners and 71 for non-selected applicants.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

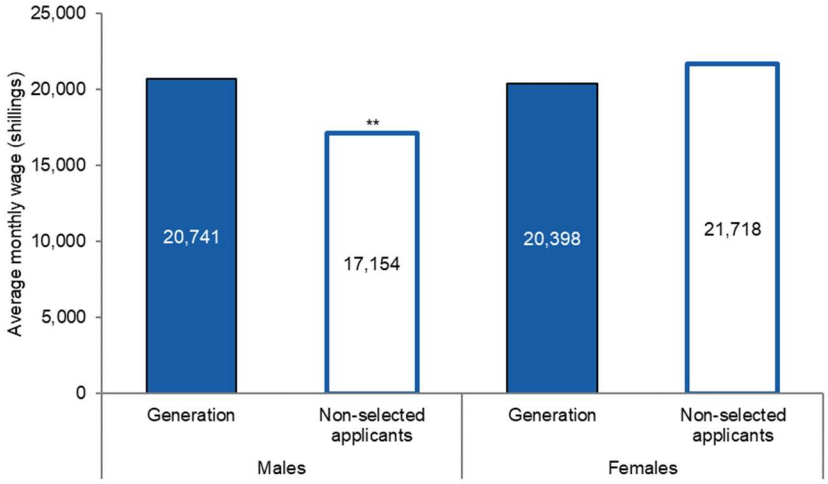
Figure IV.5. Average monthly wage in current or most recent job among those who found a job since program completion/application, overall and by program, Kenya



Notes: Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 50,000 shillings, which corresponds to the 95th percentile across both programs. For the overall sample, sample sizes are 243 for Generation learners and 126 for non-selected applicants. For the SMO program, sample sizes are 133 for Generation learners and 54 for non-selected applicants. For the DCS program, sample sizes are 110 for Generation learners and 72 for non-selected applicants.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Figure IV.6. Average monthly wage in current or most recent job among those who found a job since program completion/application, overall, by sex, Kenya

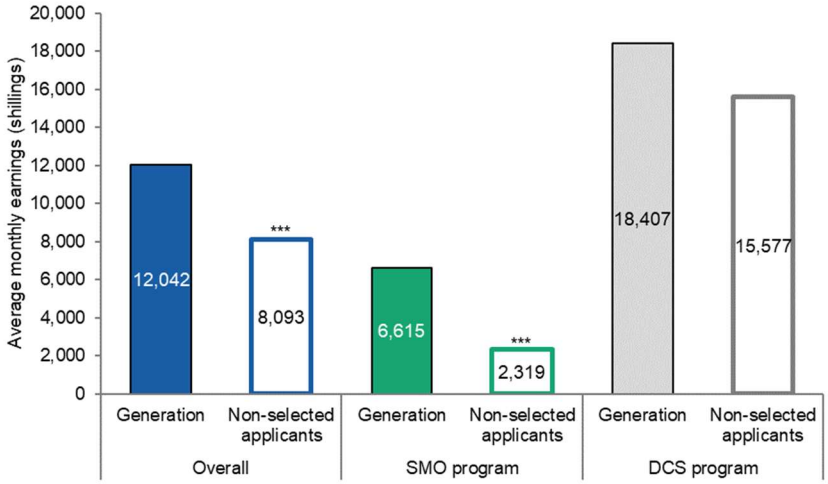


Notes: Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 50,000 shillings, which corresponds to the 95th percentile across both programs. For males, sample sizes are 78 for Generation learners and 60 for non-selected applicants. For females, sample sizes are 165 for Generation learners and 66 for non-selected applicants.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Average earnings for the full sample at the survey date, including zero earnings for those who were not employed, were 12,042 shillings (90 dollars) for Generation learners and 8,093 (61 dollars) for non-selected applicants (**Figure IV.7**). This difference is largest for the SMO program, although there is also a positive (but not statistically significant) difference for the DCS program. Although wages among those employed are similar for Generation learners and non-selected applicants, the higher employment rate for the former means that they are substantially better off in terms of earnings, on average.

Figure IV.7. Average monthly earnings at the survey date in the full sample, overall and by program, Kenya

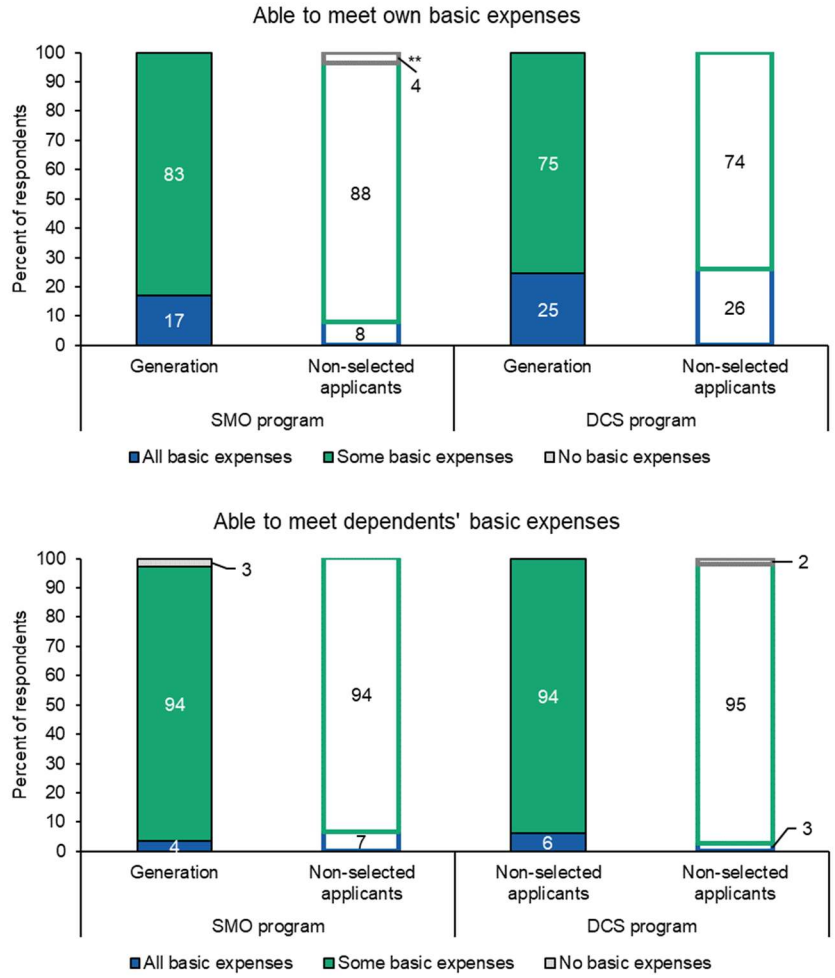


Notes: Earnings are zero for those not employed at the survey date. Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 53,000 shillings, which corresponds to the 95th percentile of non-zero earnings at the survey date across both programs. For the overall sample, sample sizes are 289 for Generation learners and 189 for non-selected applicants. For the SMO program, sample sizes are 156 for Generation learners and 97 for non-selected applicants. For the DCS program, sample sizes are 133 for Generation learners and 92 for non-selected applicants.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Across both programs, about 8 in 10 Generation learners who had found a job since program completion were able to meet some but not all of their basic expenses with their current or most recent job earnings and 6 in 10 were able to save; these rates are very similar for non-selected applicants who had found a job since application (Figure IV.8 and Figure IV.9). Further, across both programs, about 9 in 10 Generation learners who had found a job since program completion indicated being able to meet some but not all of the basic expenses of their dependents from their current or most recent job earnings, similar to the rate for non-selected applicants. (As we show later, Generation learners had an average of 3.5 people who depended at least in part on these earnings.) The lack of differences across these outcomes between employed Generation learners and non-selected applicants is consistent with the similarity in their average wages discussed earlier.

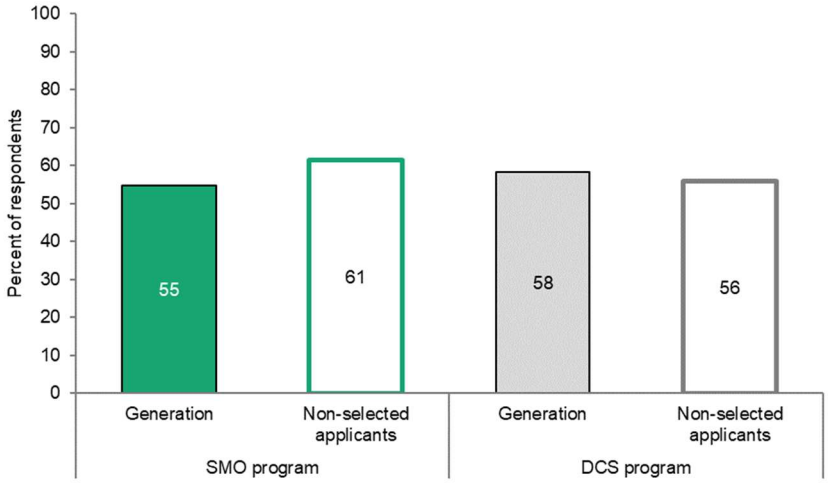
Figure IV.8. Ability to meet basic expenses from job earnings, by program, Kenya



Notes: For the SMO program, sample sizes for the able to meet own basic expenses measure are 136 for Generation learners and 55 for non-selected applicants. Sample sizes for the able to meet dependents' basic expenses measure are 110 for Generation learners and 38 for non-selected applicants. For the DCS program, sample sizes for the able to meet own basic expenses measure are 122 for Generation learners and 84 for non-selected applicants. Sample sizes for the able to meet dependents' basic expenses measure are 97 for Generation learners and 70 for non-selected applicants. For the SMO program, the overall difference in the distribution between Generation learners and non-selected applicants for the able to meet own basic expenses measure is statistically significant at the .05 level.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

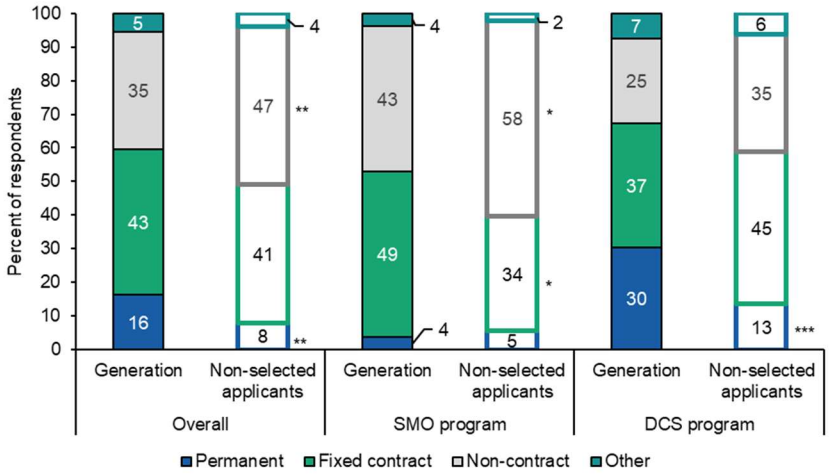
Figure IV.9. Able to save a little or a lot from job earnings, by program, Kenya



Notes: For the SMO program, sample sizes are 137 for Generation learners and 55 for non-selected applicants. For the DCS program, sample sizes are 120 for Generation learners and 84 for non-selected applicants. Differences between Generation learners and non-selected applicants are not statistically significant at the .10 level.

Permanent job contracts were only common for Generation learners from the DCS program, who were more likely to hold them than non-selected applicants (Figure IV.10). For the SMO program, few Generation learners or non-selected applicants had a permanent contract in their current or most recent job. In contrast, for the DCS program, Generation learners were substantially more likely than non-selected applicants to have a permanent contract, with about 3 in 10 learners and 1 in 10 non-selected applicants securing one. The remaining share of Generation learners and non-selected applicants had fixed contracts or no contracts (a similar proportion each), while other arrangements such as self-employment or paid internships were less common. The wider use of permanent contracts for the DCS program might help explain why the employment rate among Generation learners from this program at the time of the survey is higher than for the SMO program, although it is unclear why it does not translate into larger differences in employment rates for DCS Generation learners relative to non-selected applicants.

Figure IV.10. Job contract type for current or most recent job, overall and by program, Kenya



Notes: Other responses include self-employed, paid trainee/apprentice, and paid intern. For the overall sample, sample sizes are 258 for Generation learners and 139 for non-selected applicants. For the SMO program, sample sizes are 136 for Generation learners and 56 for non-selected applicants. For the DCS program, sample sizes are 122 for Generation learners and 84 for non-selected applicants. For the overall sample and the DCS program, the overall difference in the distribution between Generation learners and non-selected applicants is statistically significant at the .05 level.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Full-time employment and job satisfaction was higher for Generation learners than non-selected applicants, with about 9 in 10 Generation learners working full-time at their current or most recent job and 7 in 10 satisfied with that job (Table IV.2). Generation learners were more likely than non-selected applicants to have been employed full time in their current or most recent job, by 8 percentage points. Job satisfaction was 13 percentage points higher for Generation learners than for non-selected applicants. About two-thirds of employed Generation learners reported that their current or most recent job was very or somewhat related to their training and those in relevant jobs were more likely to be satisfied (not shown). Almost all employed Generation learners and non-selected applicants felt a sense of workplace belongingness and a sense of workplace support; thus, these conditions are not driving the higher job satisfaction among Generation learners. About 9 in 10 employed female Generation leaners and non-selected applicants said that they provided input into most or all decisions about how to spend earnings from their jobs, our definition of female economic empowerment. Finally, Generation learners report having an average of 3.5 dependents on the income from their current or most recent job, similar to the average among non-selected applicants. These dependents are additional potential beneficiaries of the higher earnings of Generation learners, especially if their earnings increase in the future as they advance in their careers.

Table IV.2. Job characteristics of current or most recent job among those who found a job since program completion/application, overall, Kenya

Outcome	Sample size		Average		Difference
	Generation learners	Non-selected applicants	Generation learners	Non-selected applicants	
Job is relevant to training (%)	259	n.a.	66	n.a.	n.a.
Full-time job (%)	259	139	92	84	8**
Satisfied with job (%)	259	138	66	53	13**
Feels a sense of workplace belongingness (%)[a]	259	137	93	91	2
Feels a sense of workplace support (%)[b]	259	138	95	90	5
Female economically empowered (%)[c]	178	72	92	93	-2
Number of dependents on income	266	158	3.5	3.3	0.1

Source: Phase II survey data

[a] Agrees or somewhat agrees that they felt welcomed by others in the workplace at the current or most recent job

[b] Agrees or somewhat agrees that they felt able to ask a manager or colleague for help at the current or most recent job

[c] Provides input into most or all decisions about how to spend earnings from current or most recent job (among females)

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

n.a. = not applicable.

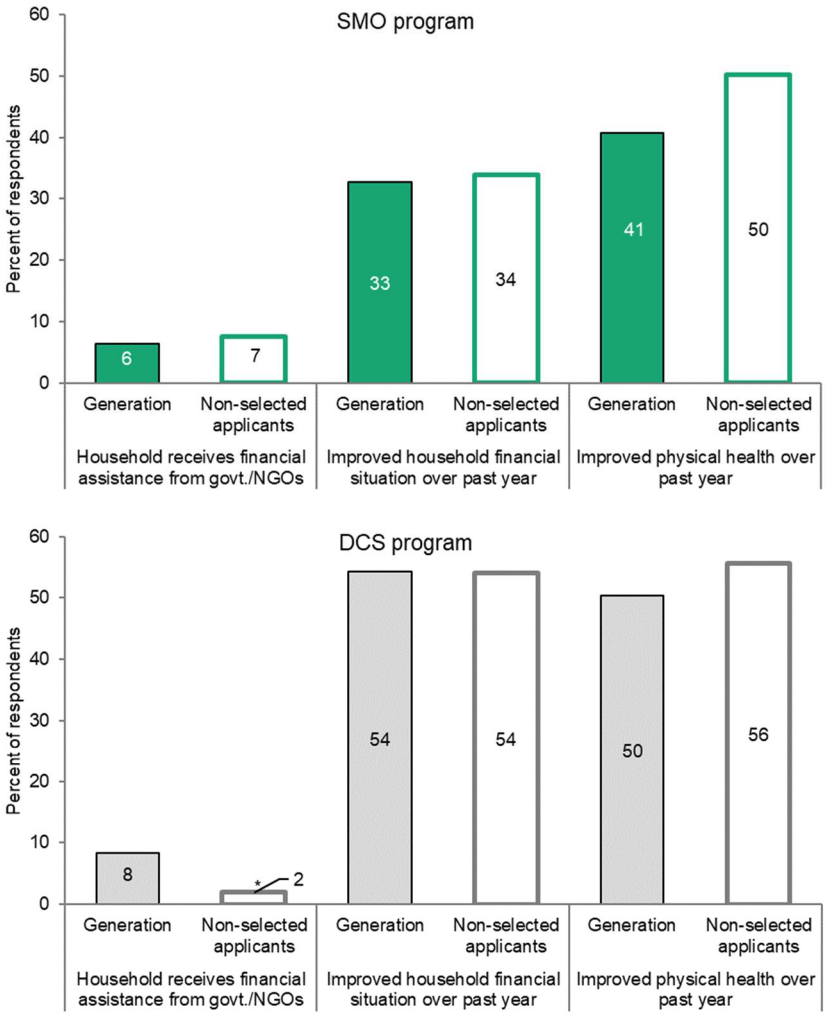
C. Well-being outcomes

Like in India, we used our survey data to assess whether completing Generation training had any early effects on learners' financial, physical, and mental well-being (including mindset shifts), although the program logic suggests that many of these effects are only expected to occur between two and five years after completing training.

About 4 in 10 Generation learners reported an improvement over the past year in their financial and physical well-being, similar to the improvement among non-selected applicants (Figure IV.11). About 3 in 10 of SMO learners and 5 in 10 of DCS learners reported having improved their financial well-being over the past year (that is, since soon after completing the Generation program) and about 4 in 10 SMO learners and 5 in 10 DCS learners reported having improved their physical well-being over this period. These fractions were very similar among non-selected applicants, although we showed earlier that average earnings in the full sample were higher for Generation learners than non-selected applicants. Across both programs, 7 percent of learners indicated that their household received financial assistance from the government or a non-governmental organization at the time of the survey and 11 percent said they received assistance in the previous year (not shown). These were similar to the shares among non-selected applicants, suggesting that dependence on this type of financial assistance was limited among this population, even in the absence of Generation. Overall, these findings provide little evidence that participation in Generation programs affected these aspects of financial and physical well-being about 15

months after program completion (on average), although it is possible that improvements in well-being might occur in the longer term.

Figure IV.11. Financial and physical well-being outcomes, by program, Kenya



Notes: For the SMO program, sample sizes across measures range from 156 to 157 for Generation learners and 98 for non-selected applicants. For the DCS program, sample sizes range from 142 to 143 for Generation learners and 103 for non-selected applicants.

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

Across both programs, almost all Generation learners and non-selected applicants had a strong sense of purpose, self-confidence, and optimism (Table IV.3). Like in India, these measures involved asking respondents about the extent to which they agreed with a statement about having clear life goals and acting to achieve them, being confident in their ability to meet their professional goals, and being optimistic about the future, respectively. Across both programs, more than 9 in 10 Generation learners and non-selected applicants agreed or strongly agreed with the relevant statements. For Generation learners and non-selected applicants, the average current position in the Cantril ladder of life scale, which asked respondents to evaluate their life from a scale of 0 to 10, was step 5. However, almost all learners

and non-selected applicants said that they expected an improvement in this life scale in the next 5 years; the average magnitude of the expected change was similar for both groups (not shown). Overall, the survey responses suggest that that there was little room for improvement in these measures among learners and non-selected applicants. This could reflect that Generation learners and non-selected applicants who advanced in the selection process were screened in part based on their motivation, which might be associated with strong mindsets; we also cannot rule out that respondents provided socially desirable responses.

Table IV.3. Mental well-being outcomes, overall, Kenya

Outcome	Sample size		Average		Difference
	Generation learners	Non-selected applicants	Generation learners	Non-selected applicants	
Has strong sense of purpose (%)[a]	299	200	97	95	2
Confident about ability to meet professional goals (%)[b]	297	200	99	98	1
Optimistic about the future (%)[c]	298	199	99	96	3*
Current position in ladder of life scale (Cantril scale 0-10)[d]	293	198	5.1	5.0	0.1
Expect improvement in ladder of life scale in next 5 years (%)[d]	288	193	97	97	-1

Source: Phase II survey data

[a] Agrees or somewhat agrees that they have clear life goals and are acting to achieve them

[b] Agrees or somewhat agrees that they are confident in their ability to meet their professional goals

[c] Agrees or somewhat agrees that they feel optimistic about the future

[d] The ladder of life scale (Cantril 1965), where the top of the ladder (step 10) represents the best possible life for the respondent and the bottom (step 0) represents the worst

*/**/*** Statistically significant difference between Generation learners and non-selected applicants at the .10/.05/.01 level

D. Employer outcomes

In this section we describe the findings from interviews with employers of Generation learners from the SMO and DCS programs, which we conducted in Phase I of the evaluation (Borkum et al. 2022). Most of the findings are related to the effects of Generation on employers. but we also examine whether and how Generation learners hired by these employers differ from those hired from other sources.

For SMO employers, the major benefit of access to Generation learners is the ability to obtain large volumes of workers. Limited availability of labor is a major challenge for several SMO employers, especially those located outside major urban centers. (As discussed below, two of the three employers we interviewed also described major challenges with retention of SMOs, so have ongoing demand for new SMOs even at their current scale of operations.) SMO employers source workers for the role through advertisements, social media, field visits, walk-ins, and referrals, but still find it challenging to source as much labor as they need. One employer located in a peri-urban area near Mombasa has even had to open a recruiting center in Nairobi and pay to transport workers from there to the factory. However, through their partnership with Generation, employers now have access to a bulk source of labor. In addition to lowering hiring costs, this has become critical to the ability of some SMO employers to expand their businesses and meet client requirements.

> *"Before we started engaging with Generation, it would take more time to fill up one line before we could start producing. But now it's easy for [Generation] to provide all those employees at once, which means that the line starts operating faster."*
>
> — Employer, SMO program

> *"Our factory is always running with a shortage of manpower. The partnership with Generation has made monthly targets for recruitment easier as I can now get over a hundred employees at once."*
>
> — Employer, SMO program

Some SMO employers reported that the technical skills and productivity of Generation learners fell short of their standards initially, although they improved over time. Employers reported that they work with Generation to align the skills taught in the program with their needs—for example, by communicating their specific skill needs, observing Generation trainings to provide feedback, and inviting Generation staff to observe their in-house training centers. However, two of the three SMO employers we interviewed reported that the technical skills of Generation learners lag those of their job peers when they are first hired. In large part this is because, unlike their job peers, most Generation learners have no relevant work experience, and it is challenging for a short training to cover the range of operations and machines required in the job. The work environment of a busy factory floor is also new to most Generation learners, and some take time to adapt to it. As a result, although they typically pass the basic assessments required to be hired, Generation learners tend to require more intense and longer in-house training initially relative to other hires—some of whom can enter the production line immediately without further training. Nevertheless, Generation learners are typically able to perform at the required level after a few weeks on the job, after in-house training (typically one or two weeks) and additional supervised practice on the production floor. This was less of an issue for the third

> *"Generation is filling our vacant positions but is not meeting exactly the skills that we need, although they are working on it."*
>
> — Employer, SMO program

> *"In my view, the Generation training for SMOs has not been very effective. After hiring we try to train the person for the exact skill that we want."*
>
> — Employer, SMO program

> *"The good thing is that once Generation SMOs start achieving [production targets] there is consistency on it and they keep growing on a daily basis."*
>
> — Employer, SMO program

employer we interviewed, who used Generation learners more narrowly in the specific skillsets in which they were trained. In contrast to technical skills, all employers agreed that Generation learners typically have better soft skills (such as communication and time management skills) than their job peers because these skills are part of Generation's curriculum. Overall, two employers suggested that the reduced time and costs of hiring from Generation had increased profitability (and justified the additional upskilling investment in Generation learners), while the third said that the additional training costs and lower productively of Generation had hampered profitability.

Access to Generation DCS learners has reduced employers' onerous hiring costs. Two of the three DCS employers we interviewed reported that the hiring process for non-Generation candidates—which they typically source from outsourcing firms, NGOs, or online advertisements—was onerous and costly. These costs can include time spent traveling to recruitment sites, screening candidates, and conducting large number of interviews. In contrast, when the employers communicate their needs to Generation, Generation provides a list of candidates that are already pre-screened based on the employers' criteria and arranges for shortlisted candidates to come in for interviews (which typically include skills assessments). Further, the candidates that Generation provides are much more likely to be successful in the interview, which reduces the volume of interviews required. In contrast, the third DCS employer reported that hiring costs for non-Generation candidates—whom they sourced from referrals and online platforms—were relatively low, and comparable to those for Generation candidates.

"Generation tailors the candidates to our needs based on the pool they have. For us it's a major benefit: we're getting the perfect fit for what we're looking for and are saving a lot."

— Employer, DCS program

"Generation candidates are better. They stand a better chance of succeeding because of the training they go through, which is custom made to fit the needs of our business. It's easy for them to perform well and to adapt faster to the system."

— Employer, DCS program

Generation DCS learners are more skilled and perform better on the job than their job peers, which has reduced training costs and increased firm profitability. All DCS employers we interviewed emphasized the excellent job-relevant technical and soft skills that Generation learners developed through the program, which are associated with strong job performance. Two of the three employers reported that hiring from Generation has reduced their training costs; although both provide some training to new hires, training time is shorter for Generation hires because they already have a strong grasp of the basic training material. In contrast, the third employer provides the same onboarding training to all new hires (focused on internal processes and specific client requirements rather than customer service skills, which are assessed at the interview stage), so its training costs are similar for Generation learners and other hires. All DCS employers also emphasized Generation learners' strong motivation,

"The caliber I got was the best of the best and they were able to do exceptionally well. In fact, Kenya was ranked first for customer service and customer experience [among our operations in several countries], which was driven by employees I hired from Generation."

— Employer, DCS program

"We really needed the agents to deliver, which they did! Based on their skills, they were able to convince customers to buy, so we sold and sold and sold until my boss was impressed."

— Employer, DCS program

commitment to the job, and willingness to go "above and beyond," which contributes to strong job performance. The two DCS employers who commented on firm profitability suggested that lower hiring costs, reduced internal training costs, and stronger performance of Generation learners has contributed to increased firm profitability.

DCS employers reported that job retention was higher among Generation learners relative to their job peers, but SMO employers did not report major differences in retention. Two of the three DCS employers we interviewed were able to comment on job retention and noted that it was higher for Generation learners. One suggested that this was because Generation learners had more realistic up-front expectations of what the job would entail. However, job retention might be limited in some DCS jobs by the temporary nature of these jobs. For example, one DCS employer who is engaged in online sales mostly offers temporary entry-level positions to Generation learners; this employer hires more during busy periods but cannot retain all these employees in slower periods despite their good performance. For SMO employers, two of the three we interviewed faced major challenges with job retention for SMOs, in part due to migration to cities in search of higher wages. These employers did not report improved retention for Generation learners relative to their job peers. The third SMO employer reported fewer challenges with retention and suggested that retention was slightly higher among Generation learners relative to their job peers. Overall, it seems likely that the factors affecting retention for SMOs—especially economic factors—apply similarly to Generation learners and others.

Generation provides job opportunities for those with no relevant work experience; socio-demographic differences in the profiles of Generation learners and their job peers varied. The two DCS employers who were able to comment on differences in the profiles of Generation learners and other hires did not report any major differences between Generation learners and their peers in terms of gender, age, or education (which is not a major focus of their recruitment requirements). However, two of the three DCS employers we interviewed partner with Generation specifically for "impact sourcing" of socio-economically disadvantaged candidates from marginalized communities, suggesting that Generation DCS learners are likely to be more disadvantaged than their non-impact sourced peers. For the SMO role, employers noted differences between Generation gradates and their job peers, but this was not consistent across employers. For example, some employers reported differences in terms of age (fewer older workers for Generation), education (lower education), and gender (a more equitable gender mix compared to relatively more women), although none reported any clear difference in terms of economic disadvantage. Across both DCS and SMO roles, Generation learners tended to have no relevant work experience, whereas most other candidates had such experience. This suggests that Generation provides access to entry-level opportunities for those with no relevant work experience (for example, those from an agricultural background or who lost jobs in the tourism sector during the pandemic), which they might not otherwise have.

E. Summary

The findings in this Chapter suggest that Generation learners were more successful than non-selected applicants at both finding employment and staying employed in the period since program completion or application. As a result, Generation learners were more than 60 percent more likely to be employed at the survey date relative to non-selected applicants. These differences are primarily driven by the SMO program: the employment rate at the survey date among Generation SMO learners was more than double that of non-selected applicants. For both programs. wages among those employed since program completion or application were similar for Generation learners and non-selected applicants. However, the higher employment rates for Generation learners implies that, once we consider that the unemployed have zero earnings, average earnings for the full sample of Generation learners at the survey dates were about 50 percent higher than for the full sample of non-selected applicants. Like in India, this suggests that Generation training was associated with improved welfare. However, we did not observe any differences between Generation learners and non-selected applicants in broader measures of financial, physical, and mental well-being. These changes might require more time, and for mental well-being, an alternative approach given that the standard measures we used were uniformly very high.

Employer interviews in Kenya in Phase I of the evaluation suggested that employers were very satisfied with access to and performance of learners from the DCS program. The nature of the benefits of Generation varied across employers: some pointed to savings in recruitment and training costs, as well as increased profitability. For the SMO program, employers appreciated that Generation enabled them to meet their needs more easily for large volumes of workers, but some noted poor initial productivity levels among their Generation hires. It might be challenging for the Generation program to fully address this given the short duration of the program and lack of industry experience among its learners. Continuing to engage employers in training (as Generation is already doing) to help align the training with their needs and guiding employers towards more realistic expectations for initial productivity might offer a path forward. In terms of the profile of Generation candidates relative to their job peers, there is variation across programs and employers. However, a common theme is that Generation facilitates access to entry-level positions for youth with no relevant work experience.

V. Conclusion

In this concluding chapter we briefly summarize the findings from the Phase II evaluation, organized by research question, and then reflect on some lessons for Generation's future work.

A. Summary of key findings

The key findings for each research question from the Phase II evaluation are as follows:

RQ.1 *What outcomes do we find, corresponding to metrics outlined in Generation's logic model (with a specific focus on learners)? What other metrics might augment our view of impact, especially related to employers and society?*

Key findings: In terms of key labor market outcomes related to employment and earnings, in India we find that about 69 percent of Generation learners in non-technology programs and a similar percentage in technology programs found a job since completing the program. Employment rates at the survey date, which might be more indicative of learners' long-term prospects for stable employment, were 44 percent for non-technology programs and 66 percent for technology programs. In Kenya, 86 percent of Generation learners found a job since completing the program and 55 percent were employed at the survey date, with a much higher employment rate at the survey date for the DCS program compared to the SMO program. Except for the technology programs in India, entry-level wages were typically too low to enable most learners to cover all their basic needs or to save, but their wages should increase in the future as learners advance in their careers. Overall, these outcomes suggest that a substantial fraction of Generation learners were on a positive early career path, as envisaged by the program logic, although a substantial fraction were not.

We also assessed several other outcomes in the program logic. Among Generation learners who found a job, survey measures of workplace belongingness and support were very high in both countries. According to employers in India, Generation learners typically performed with a high degree of professionalism on the job, although we were unable to quantify this. Standard survey measures of Generation learners' mindsets, including confidence, sense of purpose, and optimism about the future, were also very high in both countries. However, the same was true for comparison learners (India) and non-selected applications (Kenya)—suggesting that changes in these outcomes might best be measured using other approaches.

Overall, these findings suggest that focusing on standard labor market outcomes is sufficient to capture the effects of Generation training on learners in a one-to-two-year post-training evaluation, which is a typical timeframe for a long-term evaluation of workforce development programs in the literature. For the same reasons, a longer timeframe would be required to measure broader effects on society, if any.

In terms of effects on employers, Generation's employer partners in India perceive better candidate quality as the main advantage of working with Generation, although CCE employers also perceive the ability to hire in bulk from Generation as an advantage given their ongoing need for entry-level staff. However, quantifying candidate quality might be challenging, as it would require working with individual employer partners to understand or develop firm-specific measures of employee productivity and compare them between Generation and other hires—which is not currently the employers' standard practice. In Kenya, employer interviews in Kenya in Phase I of the evaluation suggested that the nature of the benefits of Generation varied across employers: some DCS employers pointed to savings in recruitment and

training costs, as well as strong employee productivity, whereas SMO employers valued Generation's ability to meet their needs for large volumes of workers.

RQ.2 *To what extent does Generation provide employers with talent with alternative profiles (marginalized and/or non-traditional backgrounds versus their job peers)?*

Key findings: In India, interviews with employers and other stakeholders suggested that there was no systematic difference in the socio-economic profile of entry-level hires for non-technology programs like RSA and CCE. This is likely because similar non-Generation programs implemented under various government schemes mobilize learners from communities that are similarly disadvantaged, on average. In contrast, for technology programs like AWS and JFSJD, the much lower cost of Generation's program relative to those offered by other private skilling organizations, in addition to the admission of graduates from less selective colleges into the program, is likely to have increased access to this type of training for more disadvantaged groups. However, employers did not always perceive this difference. In Kenya, interviews with employers in Phase I of the evaluation suggested that Generation facilitates improved access to entry-level positions for youth with no relevant work experience.

RQ.3 *How do the labor market outcomes of Generation learners compare to those of applicants who were not selected for the Generation program?*

Key findings: In both India and Kenya, Generation learners substantially outperformed the comparison group in key labor market outcomes related to employment and earnings, which were measured about 15 months after program completion, on average. In India, Generation learners in non-technology programs were more than twice as likely as comparison learners to have found a job since program completion, and more than 50 percent more likely to be employed at the survey date. Among the sample of those employed, average wages were similar for Generation and comparison learners. However, in the full sample, Generation learners earned an average of about 75 percent more at the survey date because a smaller percentage were unemployed (and hence had zero earnings). We can conclude with reasonable confidence that these positive results are attributable to Generation's methodology relative to the business-as-usual methodology, including its efforts to select highly motivated and committed learners, provide high-quality instruction, and proactively seek out job placements.

In Kenya, Generation learners were almost 30 percent more likely to have found a job since program completion than non-selected applicants, and more than 60 percent more likely to be employed at the survey date. These differences in Kenya are primarily driven by the SMO program, for which the employment rate at the survey date for Generation learners was more than double that of non-selected applicants. In the full sample, Generation learners in Kenya earned an average of 50 percent more than non-selected applicants at the survey date, again driven by higher employment rates (and hence fewer respondents with zero earnings). Differences between Generation learners and non-selected applicants in unobserved characteristics like motivation and innate skills, which reflect Generation's approach to learner selection, might be contributing to these differences in labor market outcomes.

B. Lessons

The Phase II findings suggest the following lessons for Generation's future work:

Tailored, context-specific strategies will be needed to further improve long-term employment outcomes. In both India and Kenya, the long-term employment outcomes of Generation learners were superior to those of the comparison group. However, there is still substantial room for improvement given

that about half of Generation learners in both countries were not employed at the survey date, about 15 months after program completion. To generate these improvements, different factors will have to be addressed in each context. For example, in Kenya, the vast majority of Generation learners found employment after completing their program, but many became unemployed by the survey date—most commonly because their job had a short-term contract. Identifying opportunities for longer-term employment arrangements such as renewable short-term contracts, if feasible, could help to address this. In India, there was more of a challenge with initial placements, driven primarily by a lack of convenient job opportunities. This suggests that further efforts to encourage and smooth the migration of amenable learners to locations where jobs are more plentiful might help boost employment rates. Further, a large fraction of those who found employment after program completion but were unemployed at the follow-up survey reported that this was because they were unhappy with their work conditions, suggesting a need to further communicate the realities of the job role to prospective learners.

To measure long-term learner outcomes more accurately, it will be important to improve response rates for long term surveys. Although short-term placement and retention outcomes are critical to assess whether Generation learners have created a foundation in their chosen careers, stable long-term employment is required for the long-term learner outcomes in the program logic to manifest. Assessments of long-term labor market outcomes like the Phase II evaluation will be critical to measuring Generation's future progress in this regard. However, obtaining high response rates for long-term surveys can be challenging, both for Generation's internal monitoring efforts and for external evaluations. In terms of monitoring efforts, Generation already has a process of contacting learners at 3-6-month intervals to collect information on long-term outcomes. Response rates for these long-term surveys could be improved by contacting respondents by phone and/or WhatsApp in between survey rounds to update contact information, maintain rapport, and remind respondents of the upcoming survey round, which can increase the likelihood that they can be contacted for and respond to it. Collecting more extensive secondary contact information—phone numbers of relatives or friends—can also help find respondents who become uncontactable between survey rounds. In terms of external evaluations, the Phase II evaluation would have been strengthened by higher survey response rates, which would have reduced the scope for non-response bias in the estimated outcomes. A relatively small fraction of the non-respondents refused to participate in the survey—for the most part, they did not answer our local data collection partners' calls, or their phone numbers were disconnected or incorrect. Ideally, a tracking process like that discussed above for monitoring efforts would be implemented regularly (for example, every three months) from program completion up to when the final evaluation survey is conducted. In this study, such an approach was not feasible because a large fraction of the sample in Kenya and almost all the sample in India changed since Phase I and the relevant Phase II cohorts were only identified relatively close to the time of the survey. However, for future long-term evaluations, identifying the Generation cohorts and comparison group earlier and tracking them would likely improve response rates and thereby reduce the potential for non-response bias.

In India, a formal long-term cost-benefit analysis would be valuable to help NSDC and state governments make better informed decisions about funding training programs in the future. In India, the Phase II evaluation found that the long-term employment rate of Generation learners was almost double that of comparison learners from similar business-as-usual programs. This drove a large difference in average earnings at the survey date for the full sample (considering zero earnings for the unemployed), which were about 75 percent higher for Generation learners. Calculations based on the Ministry of Skill Development and Entrepreneurship's common norms for skill development schemes suggest that the cost per learner for the broad category of business-as-usual NSDC programs that includes

RSA and CCE was about 17,600 rupees (214 dollars) in 2022.[38] In comparison, Generation India's estimated cost per learner was about 21,000 rupees (255 dollars) in 2022, which includes several additional elements such as instructor coaching, mentorship and extended placement support for learners, long term data tracking, and so on. Although these data are not specific to the programs in the evaluation, they suggest that Generation's approach is likely to be cost effective. Specifically, combining these cost data with the evaluation findings for employment rates (44 percent for Generation and 25 percent for the comparison group) and average learner earnings (5,571 rupees for Generation and 3,181 rupees for the comparison group) suggests that the costs per percentage point of long-term employment achieved and per rupee of average learner earnings generated are both about 30 percent lower for Generation programs than business-as-usual programs. For Generation, the cost per percentage point of employment achieved is 478 rupees compared to 704 rupees for the comparison group, and the cost per rupee of average earnings generated is 3.8 rupees compared to 5.5 rupees for the comparison group. A formal cost-benefit analysis would enable stakeholders to better quantify the net monetary value of investing in Generation's approach relative to the business-as-usual approach, generating metrics such as the internal rate of return, net present value, and benefit-cost ratio. This would enable NSDC and state governments to make better-informed budgetary decisions about their investments in training programs in the future. In addition to the relative economic benefits, which can be estimated based on the findings in this report, this analysis would require updated cost information for Generation and comparison programs at the program level, as well as the expected number of learners to be trained in each period.

[38] This comprises a training cost of 14,700 rupees (42 rupees per hour for an average of about 350 hours), an assessment fee of about 1,000 rupees on average, a fee for using the Skill India portal (6 percent of the training cost, or 882 rupees), and an inflationary adjustment (7 percent) because the cost norms were published in 2021.

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