Mathematica
Progress Together

# Generation Evaluation in India and Kenya: Phase I Report

## An outcome evaluation of four Generation programs

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## List of Acronyms

| | |
|---|---|
| **CCE** | Customer Care Executive |
| **DCS** | Digital Customer Service |
| **GDA** | General Duty Assistant |
| **ILO** | International Labor Organization |
| **NSDC** | National Skill Development Corporation |
| **PMKVY** | *Pradhan Mantri Kaushal Vikas Yojana* |
| **RQ** | Research Question |
| **SMO** | Sewing Machine Operator |
| **TVET** | Technical and vocational education and training |

# 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 key 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 I of the evaluation, which focuses on short-term outcomes for learners in two Generation programs in India (General Duty Assistant [GDA] and Customer Care Executive [CCE]) and two programs in Kenya (Sewing Machine Operator [SMO] and Digital Customer Service [DCS]).

## A. Evaluation methodology

The Phase I evaluation has three main components:

- **Description and validation of short-term employment outcomes for Generation learners.** We independently measure the short-term labor market outcomes of Generation learners through a survey of 348 learners from 20 cohorts in India and 280 learners from 11 cohorts in Kenya. We also conduct a validation analysis that compares key outcomes in the survey data to those measured for the same cohorts in Generation's monitoring data.
- **Benchmarking of short-term employment outcomes with a comparison group (India only).** In addition to describing the short-term outcomes of Generation learners in India, we compare them to those of learners from cohorts of similar programs offered by other public providers across India under the *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY) scheme. Comparison outcomes are measured through a survey of 179 learners in 21 comparison cohorts. These benchmarking estimates provide valuable context by contrasting the labor market outcomes achieved by Generation programs against those of "business as usual" training programs in the public Indian training system.
- **Outcomes assessment for employers.** We assess short-term outcomes for employers and employers' perceptions of learner characteristics through semi-structured interviews with a purposefully selected sample of three employers of Generation learners in each of the GDA, SMO, and DCS programs.

## B. Validation findings

Table ES.1. summarizes the findings from the validation analysis in both countries. Overall, we were able to largely validate Generation's monitoring data in both India and Kenya.

**Table ES.1. Validation findings**

| Metric | India | Kenya |
|---|---|---|
| Job attainment | • **Means for 30-day attainment largely align** between survey and monitoring data, despite individual-level differences<br>• **Means for 60- and 90-day attainment are between 13 and 15 percentage points lower in the survey data relative to the monitoring data**, driven by individual-level differences<br>• Using documentary proof of employment to resolve these individual-level differences, **we can closely validate job attainment as reported in the monitoring data** | • **Means for 30-, 60-, and 90-day job attainment are between 12 and 13 percentage points lower in the survey data relative to the monitoring data** because of the composition of respondents in the survey data<br>• Because the monitoring data do not suffer from these compositional effects, we can **largely validate job attainment as reported in the monitoring data** |
| Job retention | • The survey data **confirm the high 30- and 60-day first job retention rates** reported in monitoring data<br>• We could not assess the alignment of 90-day retention because the sample size is too small | • **30-day job retention is similar in the survey data and monitoring data**<br>• **60-day job retention is 13 percentage points higher in the survey data**, but the reasons for this are unclear.<br>• We could not assess the alignment of 90-day retention because the sample size is too small |
| Monthly wages in first job (base wages) | • **Mean wages align** between survey and monitoring data | • **Mean wages align** between survey and monitoring data |

## C. Descriptive and benchmarking findings

### 1. India

About **one-third of Generation learners attained a job within 30 days of graduation and two-thirds attained one within 90 days.** Job attainment among Generation learners is **substantially higher than in the comparison group**, especially for the 60- and 90-day attainment measures (60 versus 23 percent, and 66 versus 21 percent, respectively). In terms of job retention, about **9 in 10 employed Generation learners retained their first job for at least 60 days**, similar to the rate in the comparison group.

Due to a reduction in the number of cohorts funded by the PMKVY scheme during the pandemic, we were limited in our ability to select comparison cohorts in similar geographies as the Generation cohorts and still meet our sample size targets. Specifically, there were not enough potential comparison cohorts to restrict to the same states as the Generation cohorts. There were also no comparison cohorts for either GDA or CCE in the South region, so we identified comparison cohorts from other regions. Additional analyses suggest that large differences in job attainment between Generation learners and the comparison group remain even after adjusting for regional imbalance between the two samples. Further, large differences in job attainment remain after imposing conservative assumptions about the extent of survey non-response bias, which is a potential concern given the low response rate of about 40 percent for comparison cohorts. This suggests that differences in regional labor market conditions and non-response bias are not driving the differences in job attainment, **improving our confidence that Generation meaningfully improved job attainment relative to "business as usual" programs**. However, we still

cannot fully attribute the differences in job attainment to Generation given the possibility of underlying differences in local labor market characteristics (especially for the CCE program), as well as learner and provider characteristics, between the Generation and comparison groups.

**Eighty-five percent of respondents' first jobs were related to their training**, a substantially higher rate than the comparison group**.** More than **two-thirds of Generation learners who found a job had been offered a permanent contract** for their first job; most of the remainder reported a fixed-term contract. Overall, about three-quarters of respondents who found a job were satisfied with their first job. **Job satisfaction was similar in the Generation and comparison cohorts**, despite the much lower job relevance in the latter.

Generation learners in the two programs earned similar mean monthly wages in their first job, at just over 10,000 rupees (135 dollars). (Almost all learners were unemployed and had zero earnings when they entered their program.) For both programs, **mean monthly wages in the first job are higher for Generation learners than the comparison group**, with a larger difference for the CCE program. However, given the difference in geographic location between the Generation and comparison groups, we cannot rule out that these wage differences reflect different labor market conditions rather than the effects of Generation.

### 2. Kenya

About **four in ten Generation learners attained a job within 30 days of graduation, and six in ten attained a job within 90 days of graduation.** There is a substantial difference in the pattern of job attainment across the two programs, with SMO learners finding jobs faster and achieving higher rates of 90-day attainment than DCS learners.

Overall, **85 percent of employed respondents retained their first job for at least 30 days and 67 percent retained it for at least 90 days.** Some who did not retain their jobs found alternative job opportunities; **83 percent retained some form of paid employment** 90 days after starting their first job.

**About three-quarters of respondents' first jobs were related to their training**, with higher rates for SMO than DCS. Although most first jobs were full time, **permanent contracts were relatively rare**—most jobs were fixed-term contracts or non-contract positions. **Just over half of respondents were satisfied with their first job**, with a similar rate of satisfaction by program.

Average **wages in the first job are about twice as high for DCS learners compared to SMO learners**. For the DCS program, respondents earned a mean monthly wage of 26,247 shillings (about 227 dollars) in their first job, compared to 11,754 shillings (about 101 dollars) for the SMO program. (Almost all SMO learners and about 8 in 10 DCS learners were unemployed and had zero earnings before entering their program.)

## D. Employer outcomes

### 1. India

Employers **have a strong relationship with their Generation point of contact**, who is highly responsive to their labor needs. This gives Generation an advantage in placement relative to other skilling organizations offering GDA programs. However, the benefits to employers of having access to

Generation candidates in terms of recruitment are typically limited, because **they already have access to a large pool of GDA candidates from these other organizations**.

All new GDA hires, including those from Generation, **require additional practical training to be job ready**. Employers had **mixed views** as to whether soft and technical skills, job performance, and retention for Generation candidates were better than or similar to other candidates. Employers also **did not identify any consistent difference in the profile of Generation candidates** relative to their job peers.

### 2. Kenya

For two of the three DCS employers we interviewed, 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.

For SMO employers, 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.

Across both Kenya programs, **Generation provides entry-level job opportunities for those with no relevant work experience**, whereas most other candidates have such experience**.** 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. Otherwise, socio-demographic differences in the profiles of Generation learners and their job peers varied across employers.

## E. Next steps

We anticipate that the Phase II evaluation will include the following components: (1) a longer-term outcome evaluation though a survey of Generation learners and a comparison group (both countries, possibly with different India programs than in Phase I); (2) an outcome assessment for learners and society through qualitative interviews with Generation learners (both countries); (3) a longer-term outcome assessment for employers (possibly in India only); and (4) a process evaluation through stakeholder interviews (India only). Most Phase II data collection activities are expected to occur between late-2022 and mid-2023, culminating in a report later in 2023.

# 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). As a result, youth are also more likely than older adults to become discouraged and stop seeking work altogether (ILO 2013). The COVID-19 pandemic has only exacerbated these disparities. Youth employment globally 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 seven-component methodology that includes intensive workforce training boot camps tailored to employers' needs as well as post-training job placement support. Generation has demonstrated success by placing more than 57,000 learners across 16 countries into new jobs.

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 will occur in two phases: Phase I will occur between September 2021 and September 2022, and Phase II will occur between October 2022 and December 2023.

This report presents findings from Phase I of the evaluation, which focuses on short-term outcomes for learners in two Generation programs in India and two programs in Kenya. The Phase I evaluation has three main components. First, in both India and Kenya, we describe and validate short-term employment outcomes for Generation learners by independently measuring these outcomes and comparing them to those measured by Generation. Second, in India only, we benchmark these learners' outcomes with a comparison group of learners from non-Generation cohorts of the same programs. Third, we qualitatively assess short-term outcomes for employers and employers' perceptions of learner characteristics in both countries. In the rest of this chapter, we provide context for the Phase I evaluation by discussing Generation's approach to youth training and the four programs being evaluated in Phase I in India and Kenya. 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

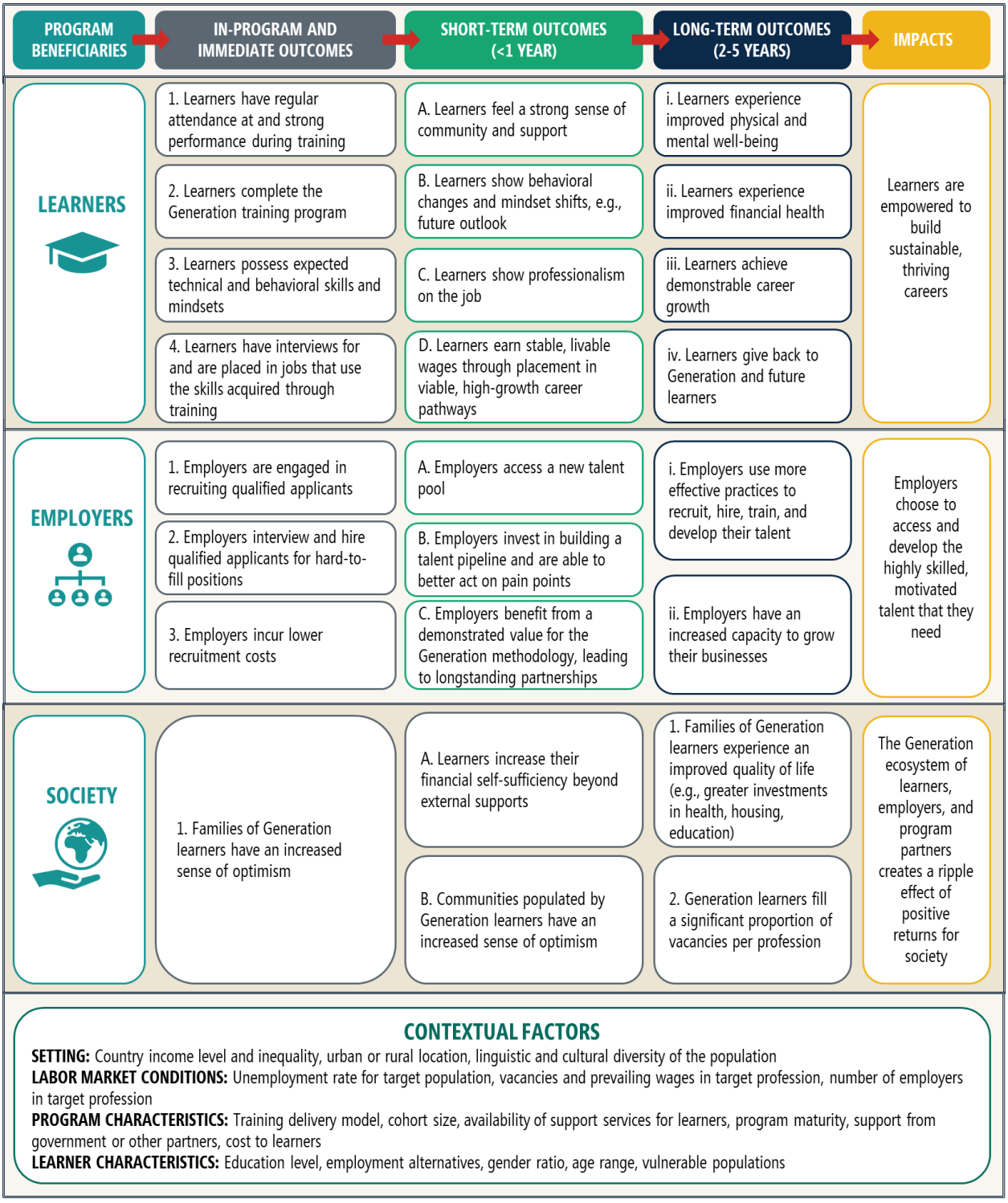
Globally, Generation provides training to young adults for jobs in four sectors: customer service and sales; digital and technology; healthcare; and skilled trades. (Generation is increasingly providing training to older adults too, but the programs in the Phase I evaluation cater mostly to youth.) The 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 from Generation alumni to help learners 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. For learners, Generation seeks to empower them 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 qualified applicants from their programs for hard-to-fill positions, lowering employers' 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 16 countries, this evaluation focuses specifically on four training programs: two in India and two in Kenya. In India, we assess outcomes for learners who graduated from the General Duty Assistant (GDA) and Customer Care Executive (CCE) programs. In Kenya, we assess outcomes for learners who graduated from the Sewing Machine Operator (SMO) and Digital Customer Service (DCS) programs. The GDA and SMO programs are "classic" Generation programs that have been offered for several years, whereas the CCE and DCS programs are relatively new programs (offered since 2021) and tend more towards an online delivery model. In both countries, the programs included in the evaluation account for a substantial fraction of Generation learners. In India, the GDA program alone accounts for more than 60 percent of all Generation India's learners to date, and the two programs together account for about 45 percent of 2022 learners (through mid-2022). In Kenya, the two programs together accounted for about 77 percent of all Generation Kenya's learners in 2021, and account for 85 percent of 2022 learners (through mid-2022). **Table I.1** summarizes the features of these programs for the cohorts of learners included in the Phase I evaluation. (In Chapter II we describe how we identified these cohorts.)

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

| Country | Program | Job function | Requirements | Duration | Modality | Location |
|---|---|---|---|---|---|---|
| India | GDA | Healthcare professionals who assist nurses | - Completed lower secondary school<br>- 18 to 29 years old | 13 to 20 weeks | Blended (online and in-person) | 14 cities across India |
| India | CCE | Call center operators | - Completed upper secondary school<br>- English proficiency<br>- 18 to 29 years old | 5 to 8 weeks | Blended or fully online | 6 cities in North, South, and East, India |
| Kenya | SMO | Sewing machine operators in the apparel industry | - Completed primary school<br>- 18 to 35 years old | 6 weeks | In-person | Mombasa and nearby towns |
| 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<br>- 22 to 35 years old | 4 to 6 weeks | Online or in-person | Nairobi and suburbs |

Note: 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, COVID cases among learners, trainer availability, or extensions to ensure learners completed all required modules.

GDA = General Duty Assistant; CCE = Customer Care Executive; SMO = Sewing Machine Operator; DCS = Digital Customer Service

Applicants to all four 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, and tests for learners' commitment to complete the training and find a job. 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 four programs have access to job placement and ongoing mentorship services to support them beyond the conclusion of the formal training period.

## B. Literature review

### Summary of Key Literature Findings

Considering 12 impact evaluations of vocational training programs reviewed by McKenzie (2017) and 3 impact evaluations published more recently (Borkum et al. 2017; Alzúa et al. 2019; Chakravarty et al. 2019), the impacts of most programs in low-income countries are modest or non-existent.

**Employment:** Only 3 out of 12 studies found a statistically significant impact on employment. On average the offer of training increased employment by 2.3 percentage points.

**Earnings:** Only 4 out of 12 studies found a statistically significant impact on earnings. Impacts were positive and the average increase in earnings was 44 percent; the median increase was 35 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 most vocational training programs in low-income countries are non-existent or modest (for example, an increase in employment rates of a few percentage points, at best), 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**).[1] 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, 2.3 percentage points higher than among those not offered training.[2] (The median follow-up period for these nine studies was between

[1] 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.

[2] 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.)

14 months after the end of training.) However, there is some evidence of larger impacts on formal employment. Formal employment rates were, on average, 3.6 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.[3] Only two of nine studies that examined earnings as an outcome found a statistically significant impact, although most estimates were positive, with an increase of 17 percent in mean earnings and 11 percent in median earnings.

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 (96 percent higher 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 a mean cost per trainee of 835 dollars and a median cost of 700 dollars per trainee.

The study from Kenya, conducted by Honorati (2015), evaluated a youth training and internship program called the Kenya Youth Empowerment Project. This public-private partnership provided vulnerable youth[4] with three months of technical and life-skills training and placed them in three-month internships with private sector employers in five formal sectors (energy, finance, information and communications technology, manufacturing, and tourism) and one informal sector (craftsmen or handymen). This randomized controlled trial found that the offer of the program had a statistically significant impact of six percentage points on the likelihood of employment 14 months after training. There was a large (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.[5] 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).

[3] 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.

[4] The program defined vulnerable youth as males and females between 15 and 29 years of age who had completed at least eight years of schooling and were unemployed at the time of program application.

[5] Estimated as a weighted average of the impacts for males and females, which are presented separately in the study.

**Table I.2. Experimental evaluations of vocational training programs in low- and middle-income countries**

| 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.

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 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 Corporate for vocational training in Namibia (Borkum et al. 2017) randomly assigned the offer of vocational training scholarships to applicants. The trainee 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 (3.5 percentage points higher for the treatment group than the control group) and higher monthly earnings (more than 20 percent higher for the treatment group than the control group) after 12 months, although it did not increase overall employment. However, 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) recently 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.

This evaluation will help assess the extent to which Generation's unique approach to training contributes to positive outcomes for learners in the training programs included in the evaluation. However, due to the limitations of our Phase I evaluation design (which we describe in Chapter II), our evaluation provides less rigorous evidence on the impact of vocational training programs than the impact evaluations described above.

## C. Report roadmap

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

# II. Evaluation methodology

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

## A. Research questions

Mathematica's overall evaluation is guided by three key 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 I.

## B. Evaluation design for Phase I

The Phase I evaluation focuses on two programs in India, GDA and CCE, and two programs in Kenya, SMO and DCS.[6] The Phase I evaluation design for these programs includes the following components (**Table II.1**):

- **Description and validation of short-term employment outcomes for Generation learners.** We independently measure the short-term labor market outcomes of Generation learners and compare them to the outcomes measured in Generation's monitoring data. To the extent that these measures align, Generation can more confidently report short-term outcomes for learners from the selected programs.
- **Benchmarking of short-term employment outcomes with a comparison group (India only).** This component, which applies to the two programs in India only, involves comparing the short-term outcomes of Generation learners to those of learners from cohorts of equivalent programs at providers that are not offering Generation programs, which we refer to as comparison cohorts.[7] To select comparison cohorts, we identified—to the extent possible—cohorts that were undertaking the same programs and with similar graduation dates. We discuss the selection of comparison cohorts in more detail in the next section.

[6] At this stage, it is likely that the Phase II evaluation in Kenya will continue to focus on the SMO and DCS programs; it is less clear which programs will be the focus of the Phase II evaluation in India because Generation is in the process of adjusting its programming there.

[7] We do not implement this approach in Kenya because there are no equivalent programs offered by non-Generation providers.

- **Outcomes assessment for employers.** We qualitatively assess short-term outcomes for employers and employers' perceptions of learner characteristics. Short-term outcomes include employers' abilities to find skilled and motivated talent; perceptions of Generation learners' skills, mindsets, behaviors, and productivity; perceptions of recruitment and training costs for Generation learners relative to their job peers; and the effects of Generation on employers' pain points (for example, scarcity of good candidates for vacant positions, low retention rates, poor employee motivation, and so on). The qualitative assessment of learner characteristics focuses on how the profiles of Generation learners compare to those of their job peers.

**Table II.1. Phase I evaluation design**

| Design component | Objectives | India | Kenya |
|---|---|---|---|
| Description and validation of short-term employment outcomes for Generation learners | • Measure short-term employment outcomes among Generation learners<br>• Assess the degree to which Generation's monitoring data are aligned with survey data | ✓ | ✓ |
| Benchmarking of short-term employment outcomes with a comparison group | • Estimate the short-term effects of Generation by comparing employment outcomes among Generation learners to outcomes among learners from the equivalent non-Generation programs | ✓ | |
| Outcomes assessment for employers | • Identify potential short-term program benefits to employers<br>• Assess how Generation learners differ from their job peers | ✓ | ✓ |

## C. Data sources and sampling approach

The Phase I evaluation draws on four data sources: (a) program data on learner characteristics and contact information; (b) short-term learner outcome data collected through a phone survey; (c) short-term learner outcome data collected by Generation for program monitoring; and (d) semi-structured interviews with employers. **Table II.2** summarizes the different data sources and sample sizes, which we also discuss in more detail below.

### 1. Program data on learner characteristics and contact information

In both countries, Generation provided basic descriptive data—including start and end dates and the city where the training was held—for cohorts in the four training programs of interest. We used these data to identify Generation cohorts with graduation dates that were at least 30 but not much more than 120 days prior to March 26, 2022, when survey data collection was scheduled to begin. This approach allowed us to focus on Generation cohorts in the selected programs that (1) began training after mid-2021;[8] (2) would have reached at least 30 days after graduation by the time we collected outcomes data through the short-

[8] Phase I of the evaluation was delayed due to the COVID-19 pandemic. Generation programs were suspended during 2020 and early 2021 due to health and safety concerns. We therefore assess outcomes for learners who began their training after mid-2021—after programs were restarted, and in some cases redesigned, in response to changing labor markets following the pandemic-related pause.

term outcome survey;[9] and (3) would not be much beyond 120 days after graduation at that point in time, because of concerns about lower response rates and poorer recall for less recent learners. Using this approach, in India we identified 14 GDA cohorts and 6 CCE cohorts with graduation dates between November 15, 2021 and February 25, 2022. In Kenya, we identified 4 SMO cohorts and 7 DCS cohorts with graduation dates between November 19, 2021 and December 8, 2022.

**Table II.2. Data sources for Phase I evaluation**

| Source | Learners | Comparison | Source (approach) | Sample sizes |
|---|---|---|---|---|
| **India: GDA and CCE** | | | | |
| Program data on learner characteristics and contact information | ✓ | ✓ | Generation (leaner database, Generation learners) and NSDC (Skill India Portal, comparison learners) | • 338 Generation GDA learners<br>• 146 Generation CCE learners<br>• 384 comparison GDA learners<br>• 169 comparison CCE learners |
| Short-term outcome data (survey) | ✓ | ✓ | Vision Marketing (phone) | • 250 Generation GDA learners<br>• 98 Generation CCE learners<br>• 122 comparison GDA learners<br>• 75 comparison CCE learners |
| Short-term outcome data (monitoring) | ✓ | | Generation (existing databases) | • 338 Generation GDA learners<br>• 146 Generation CCE learners |
| Employer interviews | ✓ | | Mathematica (phone) | • 3 for Generation GDA |
| **Kenya: SMO and DCS** | | | | |
| Program data on learner characteristics and contact information | ✓ | | Generation (existing databases) | • 206 Generation SMO learners<br>• 301 Generation DCS learners |
| Short-term outcome data (survey) | ✓ | | EDI Global (phone) | • 81 Generation SMO learners<br>• 199 Generation DCS learners |
| Short-term outcome data (monitoring) | ✓ | | Generation (existing databases) | • 206 Generation SMO learners<br>• 301 Generation DCS learners |
| Employer interviews | ✓ | | Mathematica (phone) | • 3 for Generation SMO<br>• 3 for Generation DCS |

GDA = General Duty Assistant; CCE = Customer Care Executive; SMO = Sewing Machine Operator, DCS = Digital Customer Service, NSDC = National Skill Development Corporation

In India, Generation obtained similar descriptive information on cohorts in equivalent non-Generation GDA and CCE programs from the Skill India Portal managed by the National Skill Development Corporation (NSDC). To improve comparability, we limited our consideration of comparison cohorts to those who were trained in *Pradhan Mantri Kaushal Vikas Yojana* (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

[9] This restriction enables us to collect data on learner outcomes such as employment 30 days after graduation for all learners in the survey sample, the first key touchpoint for Generation's reporting. For learners who graduated earlier (all learners in Kenya and a subset in India), we are also able to report outcomes at 60 and 90 days after graduation, which are additional key touchpoints.

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).

For each Generation cohort we identified comparison cohort(s) of GDA or CCE programs from non-Generation PMKVY centers that (1) ended as close as possible to the Generation cohort (with a maximum of 120 days difference in end dates, although some were within 30 days or less); and (2) were in the same region of India (North, South, East, or West).[10] 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 14 comparison cohorts for the GDA program and 7 comparison cohorts for the CCE program, with graduation dates between September 11, 2021 and December 19, 2021.

In both India and Kenya, Generation provided information from their learner database for learners in the selected evaluation cohorts, comprising basic demographic details and contact information. In India, 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 short-term outcome survey.[11]

### 2. Short-term outcome data collected through a phone survey

For each program, we determined a target sample size for Generation learners (India and Kenya) and comparison learners (India only) for the short-term outcome survey, balancing the cost of a larger sample with the additional statistical power that it would yield. This led to the following sampling approach:

- In **India**, the number of Generation and comparison learners in each program was similar to our targeted sample size (after accounting for expected nonresponse). We therefore attempted to contact all learners in these cohorts for the survey—338 Generation GDA learners, 146 Generation CCE learners, 384 comparison GDA learners, and 169 comparison CCE learners.
- In **Kenya**, our target sample size for each program was 125 learners and there were 206 SMO learners and 301 DCS learners from the evaluation cohorts in the sample frame. Because the number of learners in the sample frame substantially exceeded the target sample sizes for both Kenya programs, we randomly ordered the learners for each program and intended to go down these lists in order until we achieved the targets. In practice, however, because the response rate for the first contact attempt was low, we ultimately attempted to contact all learners from both programs at least once (followed by additional attempts for some learners, according to the randomly ordered list).

Working with Generation's third-party data collection partner, Vision Marketing, in India and Mathematica's data collection partner, EDI Global, in Kenya,[12] we collected short-term outcomes data

[10] Due to a reduction in the number of cohorts funded by the PMKVY scheme during the pandemic, we were limited in our ability to select comparison cohorts in similar geographies as the Generation cohorts and still meet our sample size targets. Specifically, there were not enough potential comparison cohorts to restrict to the same states as the Generation cohorts. Further, there were no comparison cohorts for either GDA or CCE in the South, so we identified comparison cohorts from other regions.

[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.

[12] Generation hired Vision Marketing as a third-party data collection agency to validate outcomes for the AMBER project (separately from Mathematica's evaluation) and collect data for the evaluation. EDI Global provided technical assistance to Vision Marketing to ensure quality and consistency across the data collection efforts.

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 contents of the survey, which were identical for India and Kenya. The median survey duration in both countries was nine minutes.

**Table II.3. Short-term outcome survey contents**

| Survey module | Contents |
|---|---|
| Background information | • Confirm completion of specified Generation (or comparison) training to verify eligibility for the survey<br>• Update contact information and obtain additional contact information (to facilitate follow up during Phase II of the evaluation, if desired) |
| Employment status since graduation | • Current employment status (including paid work, seeking paid work, or further education/training)<br>• Number of jobs held since graduation |
| Job details for learners who were employed since graduation | For each job held since graduation (up to a maximum of 5):<br>• Start and end date of job<br>• Employer name<br>• Wages<br>• Contract type<br>• Number of hours worked per week<br>• Job title<br>• Job relevance to the training program<br>• Job satisfaction |

In India, Vision Marketing conducted the short-term outcome survey for both Generation learners and learners from comparison cohorts between April 1 and April 20, 2022. Phone interviews were conducted in English, Hindi, Tamil, Marathi, or Kannada, depending on the preference of the respondent. Vision Marketing attempted to contact every Generation and comparison cohort learner in the sample using all contact information available (primary phone number and up to two emergency contact phone numbers). If a learner was not reachable on the first attempt, Vision Marketing attempted to contact them up to two additional times on different days and at different times of day. Response rates were initially relatively low for learners from both Generation and comparison cohorts, with many learners not contactable on the phone numbers available for them. (Further, for comparison cohorts, a substantial fraction of those successfully contacted reported that they had not completed the training program and were therefore not eligible for the survey.) To increase response rates for Generation cohorts, Generation India staff reached out to learners of their programs informing them of the survey and encouraging them to respond, boosting the final response rates. (Generation was not able to reach out to learners from comparison cohorts in a similar fashion given that they did not have a relationship with them.) Vision Marketing ultimately completed 250 interviews with Generation GDA learners and 98 interviews with Generation CCE learners, for a combined response rate of 74 percent for Generation learners (**Table II.4**). Among comparison cohorts, Vision Marketing completed surveys with 122 comparison GDA learners and 75 comparison CCE learners, for a combined response rate of 41 percent.

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

| Program | Number of cohorts | Sample provided | Completed surveys | Ineligible respondents | Response rate[a] |
|---|---|---|---|---|---|
| India: Generation GDA | 14 | 338 | 250 | 9 | 76% |
| India: Generation CCE | 6 | 146 | 98 | 5 | 70% |
| **India Generation Total** | 20 | 484 | 348 | 14 | 74% |
| India: Comparison GDA | 14 | 384 | 122 | 52 | 37% |
| India: Comparison CCE | 7 | 169 | 75 | 20 | 50% |
| **India Comparison Total** | **21** | **553** | **197** | **72** | **41%** |
| Kenya: SMO | 4 | 206 | 81 | 17 | 43% |
| Kenya: DCS | 7 | 301 | 199 | 13 | 69% |
| **Kenya Total** | **11** | **507** | **280** | **30** | **59%** |

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

In Kenya, EDI Global conducted the short-term outcome survey between March 27 and March 31, 2022 for Generation learners.[13] Interviews were conducted in Swahili. As mentioned above, the sample of Generation learners for each program comprised a randomly ordered list of all learners with valid contact information from the selected cohorts. EDI encountered difficulties reaching learners of the SMO program to achieve the desired sample size—they found that many of the learners' phone numbers were not working or belonged to someone else who did not know the learner's contact information. For SMO learners who could not be reached on the first attempt, EDI attempted contacting them a second and third time, using their primary and emergency contact numbers (if available). After attempting to contact all SMO learners up to three times, EDI completed 81 surveys, a response rate of 43 percent that fell short of the target of 125 for this program (**Table II.4**). Given the challenges reaching SMO learners, we requested EDI to complete additional surveys with DCS learners to achieve the total target sample size for Kenya of at least 250, although this was not evenly distributed between the two programs as originally envisioned. Specifically, for DCS learners, EDI contacted all learners once and then went down the randomly ordered sample list making second contact attempts until they surpassed the target. Ultimately, EDI completed 200 DCS surveys, for a total Kenya response rate of 59 percent (**Table II.4**).[14]

### 3. Short-term learner outcome data collected for program monitoring

On an ongoing basis, Generation collects similar data to the data collected through the short-term outcome survey. Generation staff in India and Kenya are in regular contact with learners in the initial period after graduation, as they support the learners' placement. As learners are placed, Generation staff update information about these jobs—including, critically, the job start date—in the Generation monitoring database. If the learner is still not placed when they are contacted, staff update the date of the

[13] In Kenya, EDI also collected updated contact information from applicants to the SMO and DCS programs who were not selected for the programs. This will facilitate follow up with them in Phase II of the evaluation. Data collection for these non-selected applicants took place between April 1 and April 5, 2022. This data collection is discussed in further detail in Appendix A.

[14] EDI did not attempt to contact all graduates in the DCS sample at least three times (as was the case with learners from other programs in the evaluation), because they managed to exceed the targeted sample size with a second attempt for a subset of graduates. As a result, the DCS response rate does not reflect a full effort to reach each graduate and is lower than it may have been had data collection continued.

most recent contact in the database. This enables Generation to estimate job attainment at specific points after graduation. Post-placement contacts with learners—either during day-to-day interactions with them or at specific durations since their job start date (for example, 30 days after placement)—are used to update employment information in the database and estimate job retention outcomes. In Kenya, in addition to these touchpoints, Generation has started to conduct phone surveys with learners through a third-party at 30, 60, and 90 days post-graduation (and additional key touchpoints beyond 90 days). This effort started in February 2022 and would have applied to some outcomes for the evaluation cohorts.

For a handful of key outcomes identified with Generation, we use these monitoring data to conduct a validation exercise comparing outcomes as measured by Generation against those measured by the survey. Generation shared these outcomes with us from their database for all Generation learners in the evaluation cohorts (that is, for the full sample frame of Generation learners), although not all outcomes were available for all learners.

#### 4. Employer interviews

Mathematica conducted virtual semi-structured interviews with employers of Generation learners from the targeted programs in both countries between March 17 and May 10, 2022. Mathematica worked with Generation to identify a purposeful sample of employers for these interviews who were willing to be interviewed. These employers were typically medium or large companies, had been partnering with Generation for between one and four years, and had hired a substantial number of Generation learners (at least a few tens) over the previous year. Mathematica interviewed three employers of learners from the GDA program in India,[15] and three employers each from the SMO and DCS programs in Kenya.

Mathematica's interviews with employers of all three programs in both countries covered the following topics: the interviewee's role at the organization; organization profile; history of partnership with Generation; job responsibilities of Generation learners; recruitment and hiring process (for both Generation and non-Generation learners) including any challenges; plans to continue hiring from Generation; differences between Generation learners and their job peers (social and demographic profile, skills, and job performance); and areas of improvement for Generation learners. Interviews were conducted using videoconference software and each lasted between 30 and 60 minutes.

## D. Analytic approach

We use the learner characteristics and outcome data from Generation, the survey data, and employer interviews to conduct three types of analysis. First, in both India and Kenya, we describe the short-term outcomes of Generation learners based on the survey data and compare them to the outcomes for these same learners as recorded by Generation's monitoring data. Second, in India, we also use the survey data to compare the outcomes of Generation learners to those of comparison cohorts to benchmark Generation learners' outcomes against their peers in equivalent programs. Third, using the data collected from employer interviews, we qualitatively assess short-term outcomes for employers and employers' perceptions of learner characteristics. Below we discuss our analytic approach for each of these components of the Phase I evaluation.

[15] We also conducted interviews with two employers of graduates from the CCE program in India. However, as we note in Chapter III, respondents had limited experience with Generation and were unable to respond in detail to many of our questions. Therefore, we do not present findings from these interviews in this report and will gather more detailed information from CCE employers in Phase II.

### 1. Description and validation of short-term employment outcomes

We use the short-term outcome survey data from Generation learners to report the mean and 95-percent confidence intervals for these learners' employment outcomes, which we define in **Table II.5** below.[16] Key touchpoints for Generation's outcome measurement are 30, 60, and 90 days after graduation. All learners in Kenya were surveyed 90 days or more after graduation (between 105 and 131 days). In India, about 14 percent of Generation learners were surveyed between 30 and 59 days post-graduation, 32 percent between 60 and 89 days, and 54 percent 90 days or more. All learners in the comparison group in India were surveyed 90 days or more after graduation (between 104 and 208 days). For each country, we report average outcomes for the full sample and for subgroups defined by program and gender, where sample sizes allow. For outcomes reported for the full sample (both programs combined in each country), we reweight the data so that both programs contribute equally to the analysis despite the different sample sizes by program.[17]

We also compare a handful of key outcomes (identified jointly with Generation and marked with an asterisk in **Table II.5**) between the survey and Generation's monitoring data to assess the alignment of the outcomes reported in the monitoring data with independent measures. We use two different approaches for the comparisons: (1) we compare outcomes for all Generation learners for whom we have survey data to those of all Generation learners in the sample frame for whom we have data from Generation's monitoring data; and (2) we compare outcomes only for Generation learners for whom we have data on a given outcome from both the short-term outcome survey and Generation's monitoring data.[18] In this way, we seek to disentangle any differences in average outcomes reported by our survey and Generation's monitoring data for the cohorts included in the evaluation as being due to differences in measurement versus differences in the sample of respondents.

[16] In India, we intended to report outcomes based on both Generation's definitions and NSDC's definitions where those definitions differed. The main difference is that NSDC does not include graduates who have not been certified (a process that involves undertaking an assessment after program completion) when reporting employment outcomes. However, the necessary data on certification status was not available to us; as a result, we only report outcomes using Generation's definitions.

[17] We chose to make this adjustment because the distribution of the survey sample across the two programs in each country reflects the size of the evaluation cohorts (which were purposefully selected and are not representative of the overall distribution of Generation's graduates across these programs), as well as program-specific response rates. Reweighting enables a more useful interpretation of the combined estimates as applying to the graduate from the average program.

[18] Generation provided monitoring data in early June, 2022, whereas we conducted the learner surveys between late March and late April, 2022. To improve comparability between the two data sources given these differences in timing, we made two changes to the monitoring data: (1) we did not count jobs that were attained after the survey date for each learner (or the median survey date if the learner did not complete a survey); and (2) we excluded learners who would not have reached the milestone for a particular outcome by the survey date (for example, we excluded learners who did not reach 90 days after graduation by April from the monitoring data sample for the 90-day attainment outcome).

**Table II.5. Definitions of short-term employment outcomes**

| Outcome | Definition |
|---|---|
| **Among all learners** | |
| Opted out | At time of survey, not engaged in paid work and not seeking paid work |
| Employed at 30/60/90 days | Was employed in a paid job exactly 30/60/90 days after graduation |
| **Among learners with at least one paid job since graduation** | |
| Attained employment by 30/60/90 days (*) | Obtained a job within 30/60/90 days after graduation |
| First job retained after 30/60/90 days[a] (*) | Still held the first job 30/60/90 days after it started |
| Employment retained after 30/60/90 days | Still held a job (not necessarily the same job) 30/60/90 days after the first job started |
| Monthly wage at first job (*) | Monthly wage in first job after graduation |
| First job is relevant to training | First job after graduation is in the role the learner was trained for or in another role that is very relevant to the training |
| First job is full-time | Worked at least 40 hours per week in first job after graduation[a] |
| First job is a permanent contract | Was hired as a permanent employee (with an open-ended contract) for first job after graduation |
| First job is a fixed contract | Was hired as a fixed-term employee (on a contract with a specific duration or pre-determined end date) for first job after graduation |
| First job is non-contract | Was hired as a short-term or casual employee, paid trainee or apprentice, paid intern, or was self-employed for first job after graduation |
| Satisfied with first job | Reports being satisfied or very satisfied with first job after graduation |

Note: For outcomes with an asterisk (*), we compare outcomes from the short-term outcome survey data to outcomes from Generation's monitoring data. For all other outcomes, we report results only using the survey data.

[a] 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 also 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 short-term employment outcomes

In India, we also benchmark the outcomes of Generation learners against those of learners from comparison cohorts. We originally intended to statistically match survey respondents in Generation cohorts to those in comparison cohorts, matching at the cohort level using weights. However, this approach could not address the substantial imbalance in region between the Generation and comparison groups resulting from having several Generation cohorts but no comparison cohorts in the South. (We included these Generation cohorts in the evaluation because there was a limited number of cohorts with the appropriate timing for Phase I, and because a substantial fraction of Generation' learners are in the South.)[19] Further, the findings were similar with or without this complex weighting scheme, or

[19] Later, we discuss an exploratory analysis that omitted Generation learners in the South region and reweighted the comparison group to achieve exact balance with the Generation group across the remaining regions.

alternative schemes that sought to improve regional balance to the extent possible. Therefore, for analytical simplicity, we directly compare the full pools of Generation and comparison cohorts, controlling for differences in learner demographic characteristics (gender, education, and age) using a regression framework.[20] For the benchmarking of outcomes for both programs combined, we again reweight the data so that both programs contribute equally to the analysis despite the different sample sizes by program.

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

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

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; and $\phi_p$ is a program fixed effect. Learner demographic characteristics that might be correlated with the outcomes of interest (gender, education categories, age, and age squared) are included as control variables, $\lambda_{ip}$. The coefficient of interest is the parameter $\beta_1$, which captures the average difference between the Generation and comparison learners for each outcome. Finally, $\varepsilon_{ip}$ is a learner-level error term.

### 3. Outcomes assessment for employers

We analyze the data collected from employer interviews to assess short-term outcomes for employers and employers' perceptions of learner characteristics. Immediately after each employer 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 develop 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 I evaluation is intended to provide Generation with a better understanding of short-term outcomes for learners and employers in India and Kenya. However, there are three main limitations of the Phase I evaluation:

- **Our ability to attribute outcomes to participation in the Generation program is limited.** In India, although we have a comparison group to benchmark the outcomes of Generation learners, limitations in the selection of comparison cohorts means that differences between Generation and comparison cohorts in learner characteristics (beyond those that we adjusted for), provider characteristics, and

[20] We did not attempt to match 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 (gender, age, and education) would not address the larger issue of a possible lack of comparability in terms of unobserved graduate characteristics, provider characteristics, and local labor markets, which limits the rigor of the design. Second, doing so would have resulted in result in sample loss because of unmatched observations and hence a loss in statistical power, which is already limited.

local labor markets might be contributing to differences in outcomes between the two groups.[21] In Chapter III, we consider three potential confounding factors that we have data to assess: (1) regional differences in labor markets (because there were no available comparison cohorts in the South, where several Generation cohorts were trained); (2) local differences in labor markets (because, even within regions, Generation and comparison cohorts were trained in different districts); and (3) non-response bias (because of the low response rate in the comparison group).[22] The findings from these analyses enable us to rule out that regional differences in labor markets and non-response bias are the primary drivers of Generation-comparison differences in outcomes. However, we still cannot rule out that differences in local labor markets—or in learner and provider characteristics—are contributing to these differences in outcomes, Therefore, although the benchmarking estimates provide valuable context by contrasting the labor market outcomes achieved by Generation programs against those of "business as usual" training programs in the public Indian training system, we cannot fully attribute them to the impact of Generation. In Kenya, we are unable to attribute short-term outcomes to Generation in Phase I of the evaluation because we lack a comparison group for these learners (due to a lack of comparable similar training programs in Kenya). However, in Phase II of the evaluation, we will benchmark outcomes for Generation learners in Kenya against those of non-selected applicants (see **Appendix A**). These non-selected applicants provide an indication of how the Generation learners might have fared without the Generation program and will improve our ability to attribute outcomes among learners to the program.

- **Low response rates for the short-term outcome survey limit statistical precision.** Response rates for the short-term outcome survey were lower than anticipated—particularly for learners from comparison cohorts in India and learners of the SMO program in Kenya. Mostly this was because we were unable to contact learners using the available contact information, although there were also many cases in which respondents reported that they had not completed the training program and were therefore ineligible for the survey (especially for comparison cohorts). Although we were able to achieve our overall target sample size for both programs combined in Kenya, the smaller than expected sample for Generation SMO learners limits the precision of the estimated outcomes for this program (and will similarly limit the precision of the Phase II comparison with non-selected SMO applicants). In India, the smaller than expected samples for comparison cohorts limit statistical power to identify differences between Generation and comparison cohorts. (This is in addition to the concern around non-response bias resulting from low response rates, which we discussed earlier.)

[21] We had earlier considered identifying comparison cohorts as those participating in non-Generation GDA and CCE programs at the same PMKVY centers in which Generation programs were offered. This approach would have offered a more rigorous comparison group that would have held provider characteristics and local labor market conditions constant. However, NSDC subsequently paused most of these programs, so this approach was no longer feasible because there would have been very few potential comparison cohorts. There was also a separate concern that this approach would dampen the estimated effects of Generation because of positive spillovers from Generation programs to regular programs in the same centers (for example, if providers adopted some Generation practices).
[22] Non-response bias could arise, for example, if learners in comparison cohorts who were employed were too busy to answer the phone for the survey. In that case, estimated job attainment outcomes for the comparison group would be biased downwards.

- **A small, purposively selected sample of employers might limit generalizability.** Our sample of employers of Generation learners was relatively small due to resource constraints and challenges in the availability and willingness of employers to participate in interviews. The experiences and opinions of these employers might not be representative of the full range of employers who hire Generation learners. However, the viewpoints of these employers are still valuable for understanding their short-term outcomes and perceptions of Generation learners, and we did see some variation in perceptions and experiences across employers from the same program despite the small sample size.

# III. Findings from India

In this chapter we present our Phase I findings for India. We use the survey we conducted with learners from the GDA and CCE programs to (1) validate Generation's internal monitoring data on key labor market outcomes, (2) describe the outcomes of Generation learners more broadly, and (3) compare these outcomes to those of learners in comparison cohorts. We also describe the qualitative insights from the interviews with employers of GDA learners.

## A. Quantitative findings from the learner survey

In this section we describe the findings from the survey we conducted with Generation learners in selected cohorts of the GDA and CCE programs in India.

### 1. Validation findings

We assess the alignment between Generation's monitoring data and the survey data, focusing on three key outcomes: (1) job attainment (30, 60, and 90 days after graduation); (2) first job retention (30, 60, and 90 days after the first job start date); and (3) wages in the first job (which Generation calls base wages). Attainment and first job retention are fundamental to Generation's reporting, and wages are important to understanding the economic benefits of employment for learners.

Generation's monitoring data and the survey data for each outcome are typically available for different, partly overlapping, subsamples of the learners in the evaluation cohorts who responded to each of these two data collection efforts. For each outcome, we compare the means in the monitoring data and the survey data for (1) the overlapping sample. for which we have measurements from both sources; and (2) the full sample for which the outcome is available, which differs across the two sources. This approach enables us to explore the effects of differences in measurement (which would contribute to differences in means for the overlapping sample) and of differences in the composition of respondents (which would contribute to differences in means for the full sample).

For the overlapping sample, we report and test for differences in means across the two data sources because we are ultimately focused on the alignment of mean outcomes. However, we also test for differences at the individual level, reporting the results of these individual-level tests in the relevant figure notes.[23] For example, if 30-day job attainment has a similar mean in the overlapping sample for the monitoring and survey data but this is largely driven by different individuals in each of the two data sources, the individual-level test might flag a statistically significant difference. We conduct these individual-level tests because substantial differences in measurement at the individual level might be of concern from a validation perspective even if these differences cancel out to some extent in terms of the means. Below, we describe the validation findings.

**The employment opt-out rate is similar in the survey data and monitoring data.** Opt-outs are defined as learners who are not searching for paid work for various reasons (for example, because of further studies, lack of documentation required for employment, lack of interest, and so on). Because opt-outs are excluded from the job attainment outcomes that we examine, following Generation's definitions, difference in opt-outs across the two data sources could lead to differences in these outcomes. Therefore, we compare opt-outs across the two data sources. The opt-out rate is only slightly higher in the survey

[23] Specifically, we use McNemar's test for binary measures (attainment and first job retention) and a paired sample t-test for continuous measures (wages).

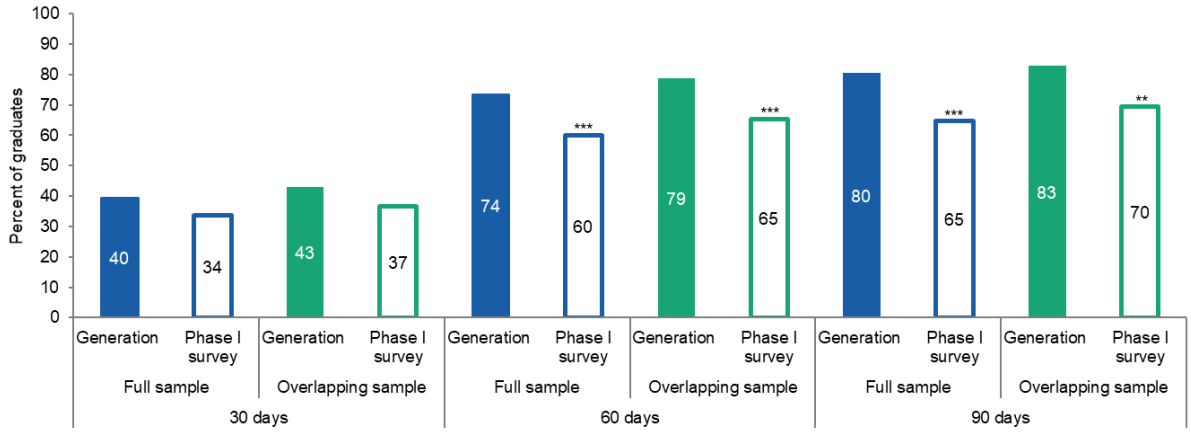
data compared to the monitoring data (18 percent versus 13 percent for the overlapping sample, and 18 percent versus 16 percent for the full sample). These small differences in opt-out rates between the two data sources are unlikely to drive the differences in job attainment outcomes that we describe below.

**The survey and monitoring data result in similar estimates of job attainment at 30 days, but job attainment at 60 and 90 days is higher in the monitoring data.** For both the overlapping sample and the full sample, job attainment after 30 days is slightly higher in the monitoring data than in the survey data (by about 6 percentage points), but the difference is not statistically significant (**Figure III.1**). However, there is a statistically significant difference between the two data sources at the individual level, with about one-fifth of the individual measurements disagreeing. This disagreement is due to differences either in reported job start dates or in employment status since graduation. Some of these differences favor attainment in the monitoring data and others attainment in the survey data, but on balance they lead to similar 30-day attainment rates in the two data sources. In contrast, the 60- and 90-day attainment measures are substantially higher in the monitoring data than in the survey data for both the overlapping samples and the full samples, by between 13 and 15 percentage points (all statistically significant). Similar to 30-day attainment, the proportion of individual measurements disagreeing is about one-fifth; however, for the 60- and 90-day these differences more heavily favor attainment in the monitoring data. The reasons for these individual-level disagreements are unclear, but might be related to the differences in data collection methodology and timing between the two data sources (for example, a longer recall period in the survey data, or differences in reporting error between the two data sources). These differences in individual-level measurements are driving the overall differences in these outcomes in the full sample.

**Using documentary proof of employment to resolve individual-level disagreements in job attainment between the survey data and monitoring data, we can closely replicate the attainment measures in the monitoring data.** Altogether, there are 87 unique learners for which differences in job dates or employment status or between the two data sources lead to individual-level disagreements for at least one of the three job attainment measures. We examined the employment history of these learners more closely using documentary proof of employment from Generation India. Typically, this proof is in the form of a job offer and acceptance letter signed by the employer and learner, that specifies that the leaner is to report for work on or before a certain date. Of these 87 learners, 66 have proof of employment that contradicts the survey data:[24] the survey data had categorized 28 of these as not employed and had recorded different job start dates for the other 38. After correcting these 66 cases in the survey data, all attainment measures are almost identical in the two data sources for the overlapping sample, and very similar for the full sample (the largest full sample difference, for 90-day attainment, is only 4 percentage points and not statistically significant). This suggests that the discrepancies in job attainment between the two data sources discussed above were due to misreporting in the survey data, and that after accounting for this we are able to closely validate the monitoring data.

[24] These 66 learners comprise the following: (1) 54 learners who have letters of employment (or, in one case, an employee identification card) with job start dates that are identical or close (within 5 days) to the dates reported in Generation's monitoring data; (2) 11 learners who were recontacted by Generation and confirmed the job start dates reported in the monitoring data (which differed from those in their letters of employment because the letters were issued after an on-the-job training period, or because they started their job earlier or later than expected because of personal reasons); and (3) 1 learner who has a first salary slip that is consistent with the job start date reported in the monitoring data.

**Figure III.1. Job attainment within 30, 60, and 90 days after graduation (validation), India**



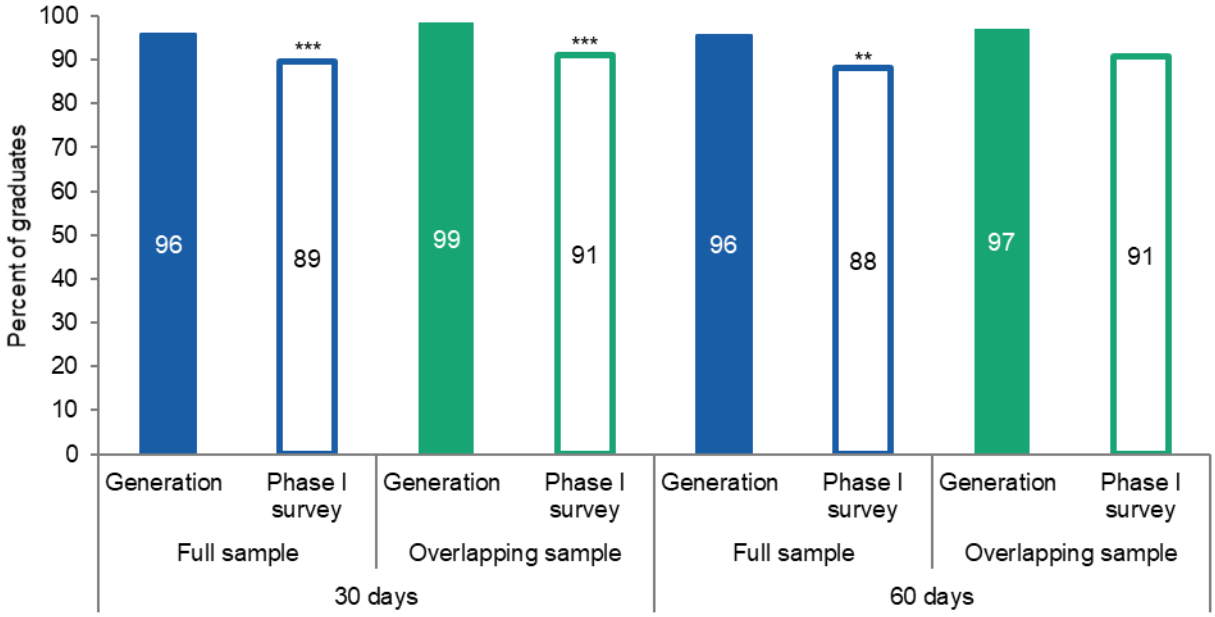

Source: Generation and Phase I survey data

Notes: Sample sizes for the 30-day measure are 397 for the full Generation data sample, 294 for the full phase I survey data sample, and 262 for the overlapping sample. Sample sizes for the 60-day measure are 310 for the full Generation data sample, 242 for the full phase I survey data sample, and 211 for the overlapping sample. Sample sizes for the 90-day attainment measure are: 169 for the full Generation data sample, 116 for the full phase I survey data sample, and 105 for the overlapping sample.

*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. Differences between individual measurements for the overlapping sample are statistically significant at the 0.05 level for the 30-day measure and at the 0.01 level for the 60- and 90-day measures.

**The survey data largely confirm the high 30- and 60-day first job retention rates reported in Generation's monitoring data.** For both the overlapping samples and the full sample, first job retention after 30 and 60 days is slightly higher in the monitoring data than in the survey data (**Figure III.2**). (We do not report the 90-day measure because the sample size is too small.) Most of these differences are statistically significant but they are only between 6 and 8 percentage points in magnitude. These modest differences do not alter the basic conclusion from the monitoring data that first job retention after 30 and 60 days is very high—about 90 percent or higher.

**Figure III.2. First job retention at 30 and 60 days, among those who found a job after graduation (validation), India**




Source: Generation and Phase I survey data

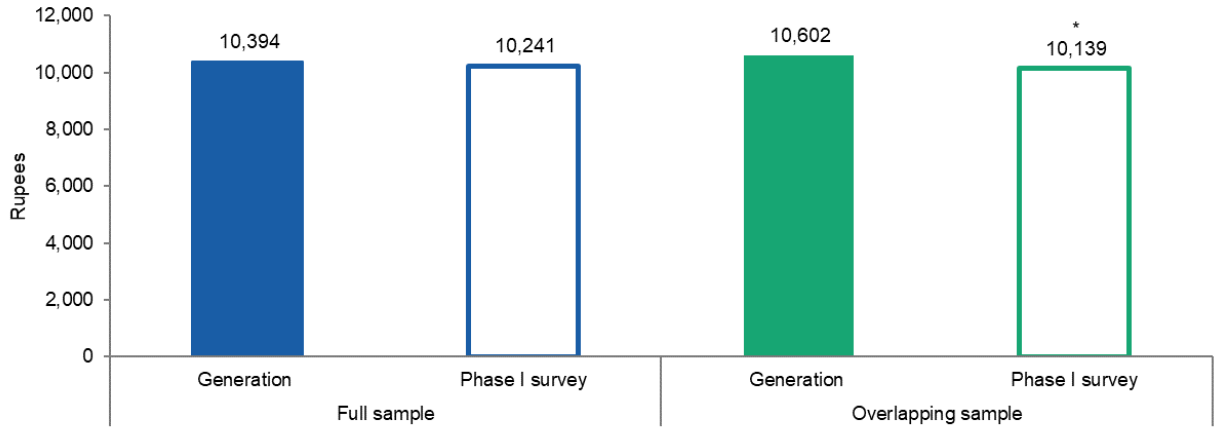
Notes: Sample sizes for the 30-day measure are 299 for the full Generation data sample, 152 for the full phase I survey data sample, and 136 for the overlapping sample. Sample sizes for the 60-day measure are 230 for the full Generation data sample, 76 for the full phase I survey data sample, and 66 for the overlapping sample.

*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. Differences between individual measurements for the overlapping sample are statistically significant at the 0.05 level for the 30-day measure and not statistically significant for the 60-day measure.

**Mean monthly wages in the first job are similar across both data sources.** For both the overlapping sample and the full sample, mean monthly wages in respondents' first jobs are very similar in the survey data and Generation's monitoring data (**Figure III.3**).[25] (The difference for the overlapping sample is marginally statistically significant but is only 464 rupees per month, or 6 dollars.) Mean wages and these validation findings are very similar by program (not shown).

[25] Based on the distribution of wages in the survey data, we top-coded a handful of outlier wages at 18,000 rupees, which corresponds to the 97th percentile across both programs.

**Figure III.3. Mean monthly wages in first job, among those who found a job after graduation (validation), India**




Source: Generation and Phase I survey data

Notes: Sample sizes are 295 for the full Generation data sample, 185 for the full phase I survey data sample, and 168 for the overlapping sample.

*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. The difference between individual measurements for the overlapping sample is statistically significant at the 0.05 level.

## 2. Descriptive and benchmarking findings

In this section we use the survey data to describe the outcomes of learners from the GDA and CCE programs. We present these outcomes for both programs combined (in some cases by gender) and separately by program.[26] In our analysis for both programs combined, we reweight the sample for each program so that the two programs contribute equally. With this weighting adjustment, the estimates can be interpreted as applying to the learner in the average program. We also benchmark the outcomes for Generation learners against those of learners from the comparison cohorts.

**Across both the GDA and CCE programs, about half of Generation learners are female, about 9 in 10 are below 25 years old, and more than 9 in 10 have at least a high school education (Tables III.1 and III.2).** Compared to the GDA program, education levels are higher for Generation learners from the CCE program: about 4 in 10 CCE learners have either a bachelor's or master's degree, whereas only 1 in 10 GDA learners has a bachelor's degree and very few have master's degrees. Both programs cater mostly to unemployed youth: only 13 percent of GDA respondents and 9 percent of CCE respondents were more than 24 years old at enrollment, and almost all respondents from both programs were unemployed before they enrolled. The mean duration of training was about 16 weeks for GDA and 6 weeks for CCE (not shown). These characteristics are similar across the survey sample and Generation's records for all learners in the evaluation cohorts, except for the percentage of learners from the South region in the CCE program. (These differences are assessed in the penultimate columns of Tables III.1

[26] We do not present findings separately by gender within program (for example, for female CCE graduates) because the resulting sample would be too small to provide precise estimates.

and III.2.) Considering the full range of characteristics we examined, the sample of Generation respondents is broadly representative of the full group of learners from the evaluation cohorts.

**Table III.1. Learner characteristics at the time of enrollment, India GDA program**

| | Sample size | | | Mean | | | Difference | |
|---|---|---|---|---|---|---|---|---|
| | All grads | Phase I survey sample | Comp. survey sample | All grads | Phase I survey sample | Comp. survey sample | All grads versus Phase I survey | Phase I survey versus comp. |
| Female (%) | 337 | 249 | 122 | 54 | 52 | 60 | 2 | -8 |
| Age (years) | 334 | 248 | 122 | 21 | 21 | 23 | 0 | -2*** |
| **Age categories (%)** | | | | | | | | |
| 18 to 24 years | 329 | 245 | 122 | 86 | 87 | 69 | -1 | 18*** |
| 25 to 29 years | 329 | 245 | 122 | 12 | 11 | 15 | 1 | -4 |
| 30 years and older | 329 | 245 | 122 | 1 | 1 | 15 | 0 | -14*** |
| **Education (%)** | | | | | | | | |
| None | 338 | 250 | 122 | 2 | 2 | 0 | 0 | 2** |
| Primary education | 338 | 250 | 122 | 2 | 2 | 2 | 0 | 0 |
| Lower secondary education | 338 | 250 | 122 | 6 | 6 | 32 | 0 | -26*** |
| Higher secondary education/high school | 338 | 250 | 122 | 74 | 74 | 50 | 0 | 24*** |
| Vocational education/certificate | 338 | 250 | 122 | 2 | 2 | 0 | 0 | 2** |
| Bachelors/undergraduate degree | 338 | 250 | 122 | 9 | 9 | 13 | 0 | -4 |
| Masters/graduate degree | 338 | 250 | 122 | 3 | 3 | 1 | 0 | 2 |
| Other | 338 | 250 | 122 | 3 | 2 | 0 | 1 | 2** |
| Unemployed when entering Generation | 338 | 250 | n.a. | 98 | 98 | n.a. | 0 | n.a. |
| Days since graduation at time of survey | n.a. | 250 | 122 | n.a. | 93 | 149 | n.a. | -56*** |
| **Region** | | | | | | | | |
| East | 338 | 250 | 122 | 28 | 22 | 64 | 6 | -42*** |
| North | 338 | 250 | 122 | 37 | 37 | 17 | 0 | 20*** |
| South | 338 | 250 | 122 | 31 | 36 | 0 | -5 | 36*** |
| West | 338 | 250 | 122 | 6 | 6 | 19 | 0 | -13*** |

Source: Generation's learner records and Phase I survey data

Notes: */**/*** Statistically significant difference at the .10/.05/.01 level.

n.a. = not applicable.

**Table III.2. Learner characteristics at the time of enrollment, India CCE program**

| | Sample size | | | Mean | | | Difference | |
|---|---|---|---|---|---|---|---|---|
| | All grads | Phase I survey sample | Comp. survey sample | All grads | Phase I survey sample | Comp. survey sample | All grads versus Phase I survey | Phase I survey versus comp. |
| Female (%) | 143 | 96 | 75 | 54 | 52 | 60 | 2 | -8 |
| Age (years) | 145 | 97 | 75 | 21 | 21 | 21 | 0 | 0 |
| **Age categories (%)** | | | | | | | | |
| 18 to 24 years | 145 | 97 | 74 | 91 | 92 | 93 | -1 | -1 |
| 25 to 29 years | 145 | 97 | 74 | 9 | 8 | 4 | 1 | 4 |
| 30 years and older | 145 | 97 | 74 | 0 | 0 | 3 | 0 | -3 |
| **Education (%)** | | | | | | | | |
| Lower secondary education | 146 | 98 | 75 | 0 | 0 | 1 | 0 | -1 |
| Higher secondary education/high school | 146 | 98 | 75 | 55 | 48 | 87 | 7 | -39*** |
| Vocational education/certificate | 146 | 98 | 75 | 1 | 1 | 0 | 0 | 1 |
| Bachelors/undergraduate degree | 146 | 98 | 75 | 28 | 34 | 11 | -6 | 23*** |
| Masters/graduate degree | 146 | 98 | 75 | 12 | 12 | 1 | 0 | 11*** |
| Other | 146 | 98 | 75 | 3 | 3 | 0 | 0 | 3* |
| Unemployed when entering Generation | 146 | 98 | n.a. | 97 | 98 | n.a. | -1 | n.a. |
| Days since graduation at time of survey | n.a. | 98 | 75 | n.a. | 66 | 173 | n.a. | -107*** |
| **Region** | | | | | | | | |
| East | 146 | 98 | 75 | 17 | 15 | 52 | 2 | -37*** |
| North | 146 | 98 | 75 | 27 | 18 | 48 | 9 | -30*** |
| South | 146 | 98 | 75 | 55 | 66 | 0 | -11* | 66*** |

Source: Generation's learner records and Phase I survey data

Notes: */**/*** Statistically significant difference at the .10/.05/.01 level.

n.a. = not applicable.

**There are several substantive differences in region and other characteristics between the Generation and comparison groups, which suggest caution in interpreting the benchmarking results.** As mentioned in Chapter II, we included several Generation cohorts in the South of India in the evaluation but could not identify any comparison cohorts in the South. Therefore, there is a substantial imbalance in region between the Generation and comparison cohorts that we are unable to correct for. (These differences are shown in the final column of Table III.1 and III.2.) There are also substantive differences between the two groups in other socio-demographic characteristics. For example, Generation learners in both programs tend to be more highly educated than those in the comparison group. Although we control for these characteristics through regression analysis, they point to the possibility of other

underlying differences that we cannot control for, and which might affect employment outcomes. Further, there is a difference in the timing of the survey relative to graduation because the comparison cohorts generally completed their training earlier than the Generation cohorts but were surveyed at the same time. Specifically, relative to comparison cohorts, the survey for Generation learners was conducted almost two months earlier for GDA and more than three months earlier for CCE (relative to when they completed the program), on average. This is likely one reason why response rates were much lower for the comparison cohorts and suggests a higher risk of bias due to non-response (if those who responded long after graduation were different from those who responded sooner) and recall error in the comparison group. Overall, these results suggest that, while the comparison group design might provide a useful benchmark for Generation learners' outcomes, it should not be viewed as providing rigorous estimates of the impacts of Generation.

**About one-third of Generation learners attained a job within 30 days of graduation and two-thirds attained one within 90 days; job attainment among Generation learners was substantially higher than in the comparison cohorts (Figure III.4).**[27,28] The difference between Generation and the comparison group is larger for longer-term attainment measures (the differences are 17 percentage points for 30-day attainment, 37 percentage points for 60-day attainment, and 45 percentage points for 90-day attainment). In contrast to the validation analysis, these differences in attainment are unlikely to be the result of opt-outs, because the opt-out rate was measured in the same way and is similar in the two groups (18 versus 21 percentage points).

**Differences in regional labor market conditions and non-response bias do not appear to be driving Generation-comparison differences in 60- and 90-day attainment; however, we cannot rule out that differences in local labor market conditions are playing a role.** To assess the extent to which the Generation-comparison differences in job attainment might be attributed to the Generation program, we considered three confounding factors that might be driving these differences and that we had data to assess:

- **Regional differences in labor markets.** As discussed earlier, because of limitations in the selection of comparison cohorts, there was a substantial regional imbalance between the Generation and comparison groups, with the latter including no cohorts in the South. We therefore conducted an exploratory analysis that omitted Generation learners in the South and reweighted the comparison sample to obtain balance across the North, West, and East regions. The pattern of differences between Generation and the comparison group was similar to before, although the magnitude of the differences was slightly smaller (11 percentage points for 30-day attainment, 33 percentage points for 60-day attainment, and 41 percentage points for 90-day attainment). This suggests that regional differences are not driving the attainment findings.
- **Local differences in labor markets.** We used data from Gartner's TalentNeuron platform, a labor market analytics tool that uses big data to collate information on online job advertisements, to assess labor demand for GDA and CCE positions between mid-2021 and mid-2022 in the districts in which trainings were conducted. (The platform did not include information about labor supply for these

[27] The estimates for attainment, first job retention, and wages for both programs combined differ slightly from those presented earlier for the validation analysis because that analysis did not use weights. Like the validation analysis, the estimates for attainment exclude respondents who are classified as "opt-outs" because they reported not searching for paid work at the time of the survey (about 18 percent of the weighted sample).
[28] The 60- and 90-day attainment measures exclude respondents for whom the interview date was less than 60 or 90 days, respectively, after graduation.

positions, so to adjust for differences in district populations we divided the district-level number of positions by the district population between the ages of 20 and 29 using census data.)[29] For GDA, the analysis is limited because GDA positions are typically not posted online and are not included in the TalentNeuron platform. Instead, we assessed demand for Registered Nurse positions, which might be correlated with GDA positions. The analysis did not reveal any substantial differences in district-level labor demand for these positions between the Generation and comparison groups (weighted averages of fewer than 0.1 jobs per 1,000 population between ages 20 and 29). However, the number of Registered Nurse positions was in the single digits in many districts, suggesting that many of these positions might also not be posted online and therefore be excluded from the platform.[30] For CCEs, technology-related positions that are more likely to be posted online, the analysis suggests that Generation learners participated in training in districts with higher labor demand for CCEs relative to comparison cohorts (a weighted average of 4.4 versus 0.6 jobs per 1,000 population between ages 20 and 29). Overall, this analysis provided no evidence of Generation-comparison differences in local labor market demand for GDAs, but given its limitations it does not enable us to rule out such differences. For CCEs, the analysis suggests that Generation programs were typically conducted in districts with higher labor demand for those positions, which might contribute to differences in job attainment outcomes.

- **Non-response bias.** As discussed in Chapter II, there was substantial survey non-response, especially in the comparison group. To assess the possible implications for outcomes, we imposed conservative assumptions about the nature of non-response bias that would be unfavorable to finding differences in outcomes between the Generation and comparison groups. Specifically, for Generation learners we assumed that job attainment among non-respondents was half that of respondents, and for the comparison group we assumed it was double.[31] Under these assumptions, the difference in 30-day attainment decreased from 17 to 5 percentage points, the difference in 60-day attainment from 37 to 18 percentage points, and the difference in 60-day attainment from 45 to 25 percentage points. This analysis suggests that, although non-response bias might explain part of the differences in outcomes, these differences remain large for 60- and 90-day attainment even under quite conservative assumptions.

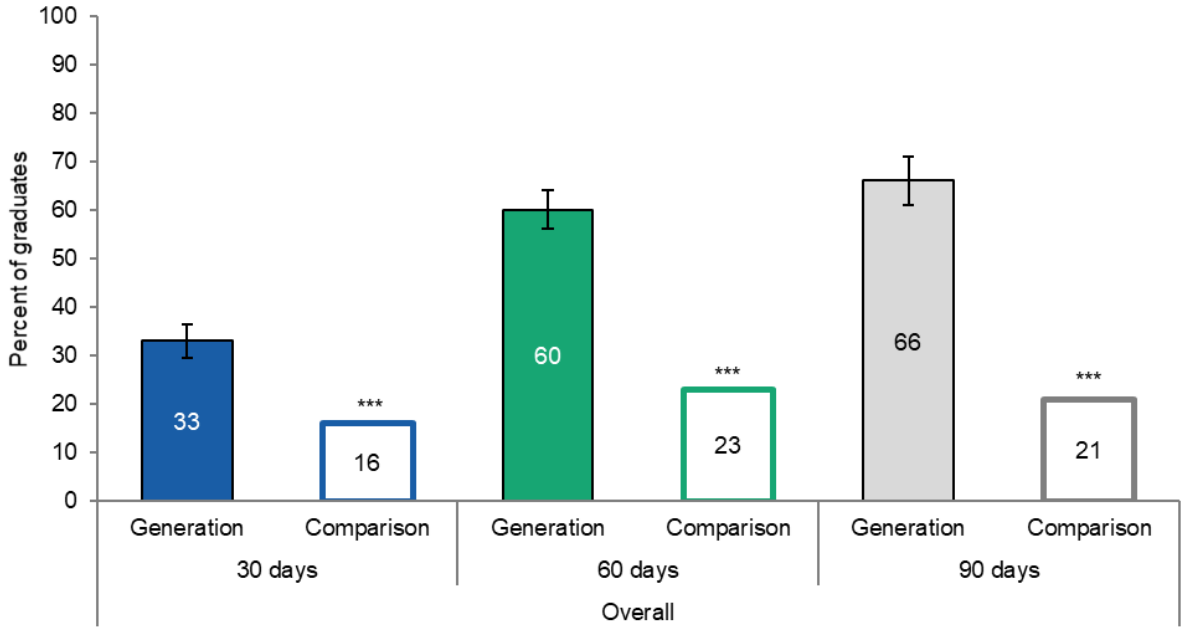
Overall, these analyses enable us to rule out two potentially important confounding factors—regional differences in labor markets and non-response bias—as driving the differences in job attainment outcomes between Generation learners and the comparison group. However, we still cannot fully attribute the differences in job attainment to the impact of Generation given other possible differences in local labor market conditions and other characteristics between the two groups.

**Job attainment is similar across the GDA and CCE programs; there are small differences by gender, with male learners having higher long-term attainment rates.** The 30- and 60-day attainment measures are similar for the GDA and CCE programs (the sample size for 90-day attainment for CCE is too small to report those estimates) (**Figure III.5**). The pattern of differences in job attainment between the Generation and comparison groups discussed above is also qualitatively similar for both programs,

[29] Because we showed above that Generation-comparison differences are not sensitive to improving the regional balance between the two samples, we include all districts in the local labor market analysis. The results are very similar if we conduct the analysis after first correcting for regional imbalance.
[30] There were only a substantial number of positions (more than 0.1 per 1,000 population between ages 20 and 29) in 3 out of 14 districts: Delhi and Thiruvananthapuram in the Generation group, and Kolkata in the comparison group.
[31] To conduct these analyses, we first estimated the number of non-respondents who would have been eligible for the various attainment measures, given opt-out and eligibility rates for respondents, as well as survey timing.

although the Generation-comparison differences are larger for GDA and the difference in 30-day attainment is not statistically significant for CCE. Examining the results by gender suggests that male Generation learners typically take longer to find employment than female learners, but males have a higher rate of job attainment by 90 days after graduation (**Figure III.6**). Both male and female Generation learners have higher attainment rates relative to the comparison group, although the magnitude of the difference is higher for females and the difference in 30-day attainment is not statistically significant for males.[32] Because some of those who attained jobs might not have retained them, we also examined whether respondents were employed exactly 90 days after graduation, as a measure of relatively longer-term employment. For both programs combined, 56 percent of respondents were employed at this point, compared to 66 percent who had attained a job at any point within those 90 days (not shown). The similarity in these estimates suggest that employment retention was strong, which we discuss further below.

**Figure III.4. Job attainment within 30, 60, and 90 days after graduation, India**



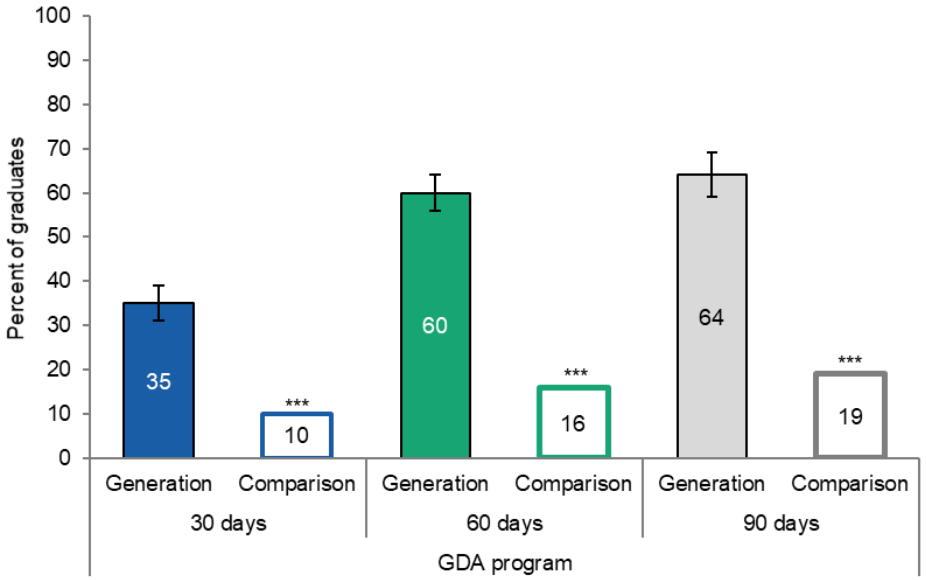

Source: Phase I survey data

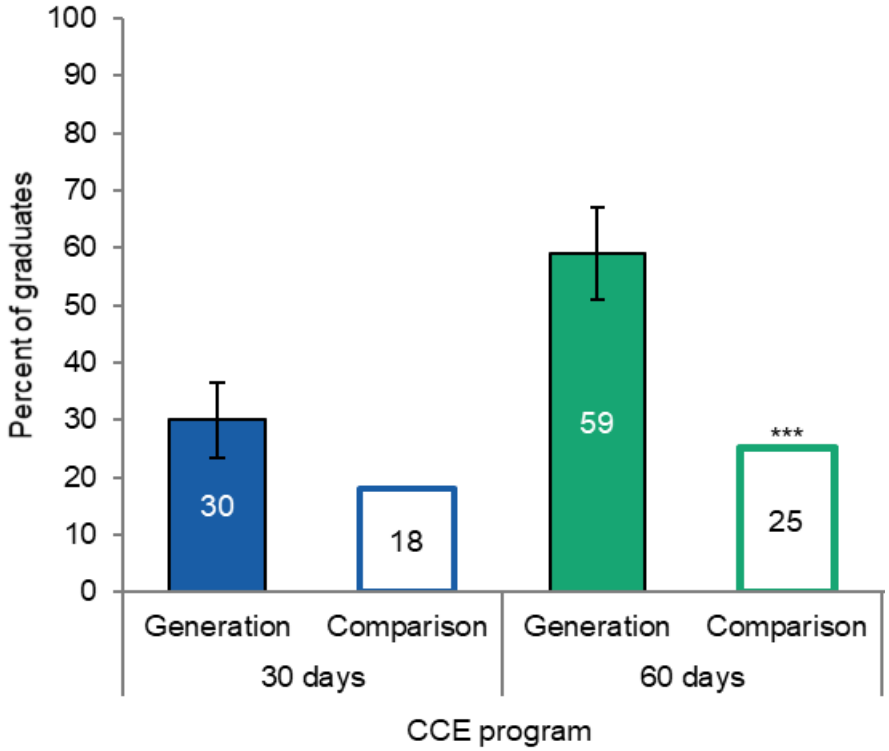
Notes: Sample sizes for Generation cohorts are 294 for the 30-day measure, 242 for the 60-day measure, and 116 for the 90-day measure. Sample sizes for comparison cohorts are 155 for all measures. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

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

[32] One would typically expect 60-day attainment to be equal to or greater than 30-day attainment, and 90-day attainment to be equal to or greater than 60-day attainment, but this is not always the case in Figure III.6. For Generation learners, this is because the sample is changing across attainment outcomes, with additional respondents for earlier outcomes. For the comparison group, this is because of the regression adjustment we applied, which differs across outcomes (even though the sample is consistent).

**Figure III.5. Job attainment within 30, 60, and 90 days after graduation, by program, India**

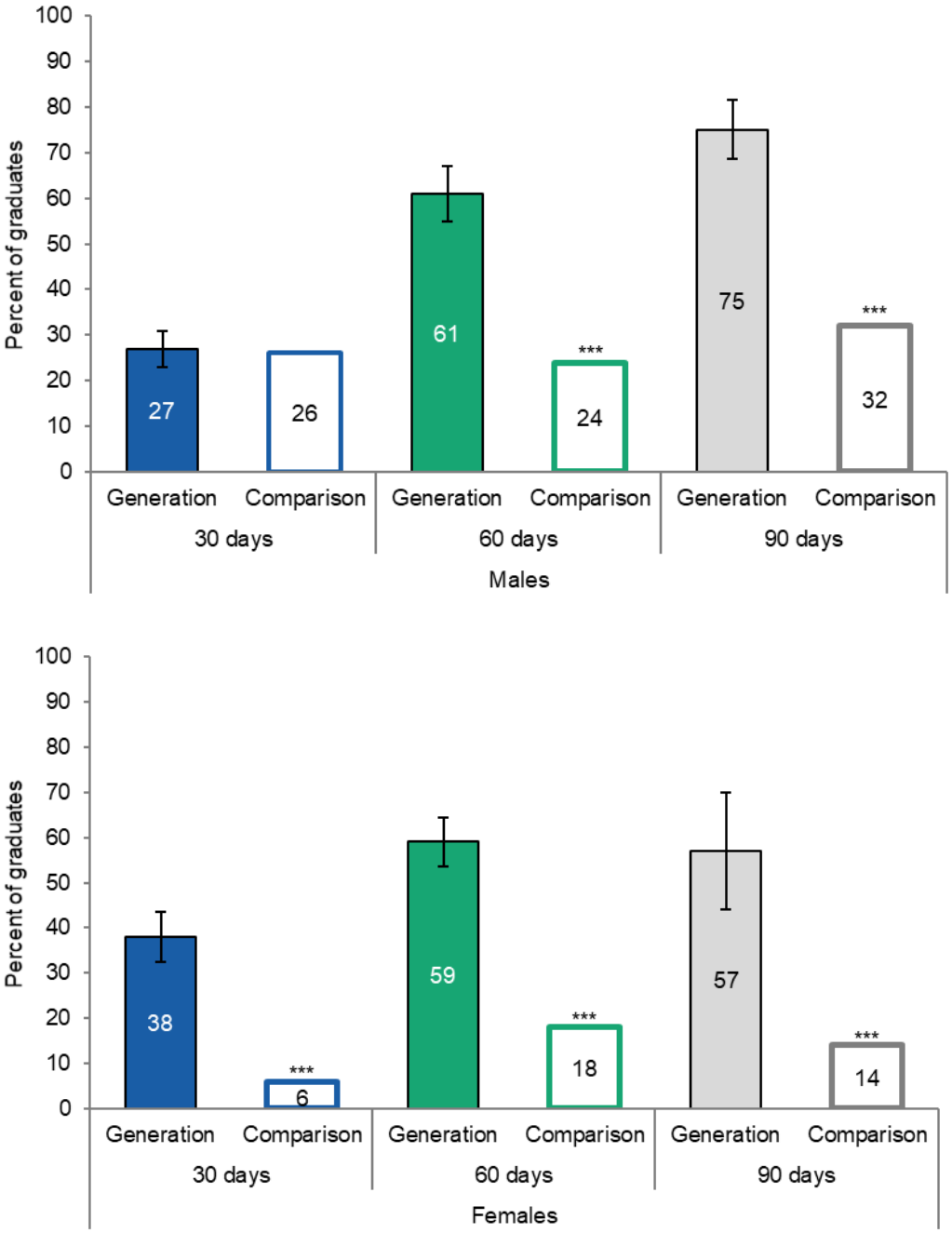



Source: Phase I survey data Notes: The 90-day measure for the CCE program is omitted due to low sample sizes. For the GDA program, sample sizes for Generation cohorts are 215 for the 30-day measure, 186 for the 60-day measure, and 114 for the 90-day measure. Sample sizes for comparison GDA cohorts are 103 for all measures. For the CCE program, sample sizes for Generation cohorts are 79 for the 30-day measure and 56 for the 60-day measure. Sample sizes for comparison CCE cohorts are 52 for both measures. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

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

**Figure III.6. Job attainment within 30, 60, and 90 days after graduation, by gender, India**



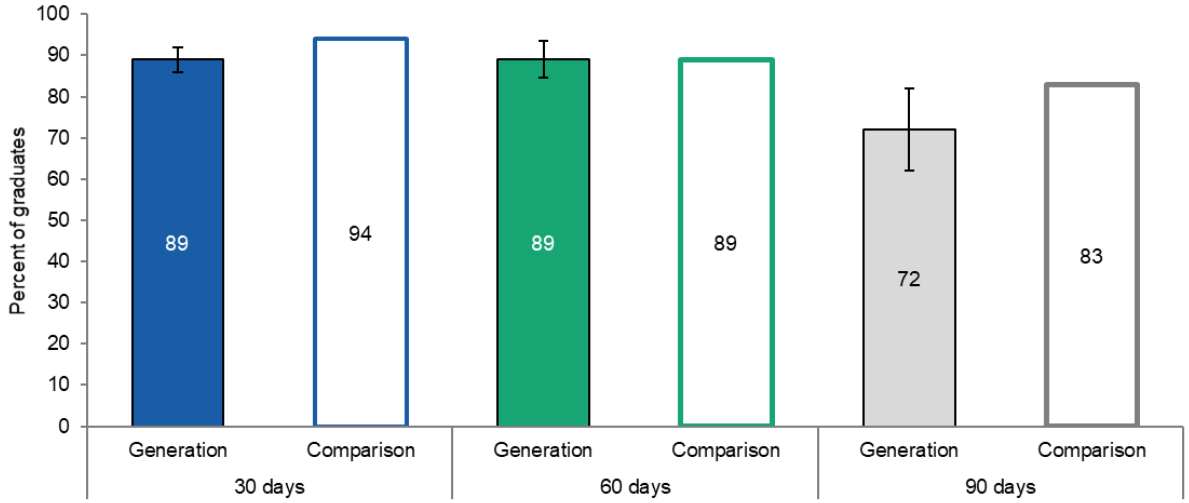

Source: Phase I survey data

Notes: For males, sample sizes for Generation cohorts are 147 for the 30-day measure, 115 for the 60-day measure, and 53 for the 90-day measure. Sample sizes for males in comparison cohorts are 68 for all measures. For females, sample sizes for Generation cohorts are 144 for the 30-day measure, 124 for the 60-day measure, and 61 for the 90-day measure. Sample sizes for females in comparison cohorts are 87 for all measures. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

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

**About 9 in 10 employed Generation learners retained their first job for at least 60 days, similar to the rate in the comparison group (Figure III.7).**[33] First job retention for at least 90 days was lower—about 7 in 10 respondents—but imprecisely estimated because of a small sample size (and not statistically distinguishable from the higher rate in the comparison group).[34] Because learners who leave their first job might find other employment opportunities, we also examined a measure of job retention that assesses whether employed learners were employed in *any* job 30, 60, or 90 days after starting their first job. However, this measure is very similar to first job retention given that very few survey respondents had more than one job since graduation (not shown). These job retention measures are similarly high by program and gender (not shown).

**Figure III.7. First job retention at 30, 60, and 90 days, among those who found a job after graduation, India**




Source: Phase I survey data

Notes: Sample sizes for the 30-day measure are 152 for Generation cohorts and 48 for comparison cohorts. Sample sizes for the 60-day measure are 76 for Generation cohorts and 41 for comparison cohorts. Sample sizes for the 90-day measure are 29 for Generation cohorts and 33 for comparison cohorts. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

Differences between Generation and comparison learners are not statistically significant.

**Eighty-five percent of respondents' first jobs were related to their training, 69 percent secured permanent contracts for their first job, and 76 percent were satisfied with their first job (Table III.3).** Because almost all respondents who were employed since graduation held only one job, we focus the remainder of our analysis on this first job. The vast majority of Generation learners who found a job reported that their first job was related to their training (either in the exact role that they trained for or another very relevant role), and almost all these first jobs were full-time roles. More than two-thirds of Generation learners who found a job had been offered a permanent contract for their first job; most of the remainder reported a fixed-term contract. Overall, about three-quarters of respondents who found a job

[33] These estimates exclude those who were surveyed before 30, 60, or 90 days after the start of their first job for the respective job retention measures.

[34] Specifically, the 95 percent confidence interval for 90-day first job retention shown in Figure III.7 goes from 62 percent to 82 percent.

were satisfied with their first job.[35] The largest difference relative to the comparison group is first job relevance, which is 34 percentage points higher for Generation learners; however, despite this difference, job satisfaction is similar between the Generation and comparison groups. Comparing the two programs, the largest difference in job characteristics is for first job satisfaction, which is 84 percent for GDA (slightly higher than the GDA comparison group) and 63 percent for CCE (much lower than the CCE comparison group). However, our ability to analyze differences in job characteristics relative to the comparison group for the CCE program is limited by small sample sizes, which lead to imprecise estimates.

**Average wages in the first job are higher for Generation learners than the comparison group; the difference is larger for the CCE program (Figure III.8)**. Generation learners in the two programs earned similar mean monthly wages in their first job, at just over 10,000 rupees (135 dollars). (We do not show median wages, but they are very similar to mean wages.) For both programs, wages are higher for Generation learners than in the comparison group, with mean wages 1,252 rupees (17 dollars) higher for GDA and 2,862 rupees (37 dollars) higher for CCE. Given the difference in geographic location between the Generation and comparison groups, we cannot rule out that these wages reflect different labor market conditions rather than the effects of Generation. There are no substantive differences in average wages or Generation-comparison differences by respondent gender (not shown).

**Table III.3. First job characteristics, India**

| Outcome | Sample size | | Mean | | |
|---|---|---|---|---|---|
| | Generation | Comparison | Generation | Comparison | Difference |
| **Overall** | | | | | |
| Job related to training (%) | 183 | 51 | 85 | 51 | 34*** |
| Full-time job (%) | 187 | 51 | 93 | 85 | 8 |
| Type of job contract (%) | | | | | |
| Permanent contract | 185 | 51 | 69 | 80 | -11 |
| Fixed-term contract | 185 | 51 | 28 | 10 | 18** |
| No-contract position | 185 | 51 | 3 | 10 | -7 |
| Satisfied with first job (%) | 185 | 51 | 76 | 82 | -6 |
| **GDA program** | | | | | |
| Job related to training (%) | 146 | 30 | 88 | 44 | 44*** |
| Full-time job (%) | 148 | 30 | 91 | 92 | -1 |
| Type of job contract (%) | | | | | |
| Permanent contract | 147 | 30 | 73 | 73 | 0 |
| Fixed-term contract | 147 | 30 | 25 | 18 | 7 |
| No-contract position | 147 | 30 | 2 | 9 | -7 |
| Satisfied with first job (%) | 147 | 30 | 84 | 75 | 9 |

[35] We asked respondents whether they were very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied with each job that they had held; our overall satisfaction measure includes those who selected very satisfied or satisfied.

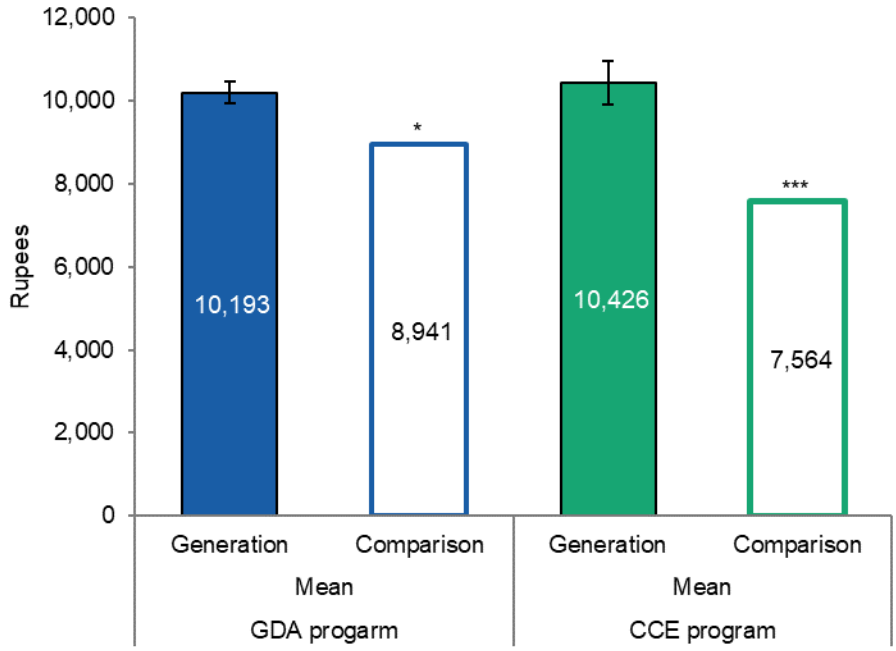
| Outcome | Sample size | | Mean | | |
|---|---|---|---|---|---|
| | Generation | Comparison | Generation | Comparison | Difference |
| **CCE program** | | | | | |
| Job related to training (%) | 37 | 21 | 81 | 60 | 21 |
| Full-time job (%) | 39 | 21 | 95 | 82 | 13 |
| **Type of job contract (%)[a]** | | | | | |
| Permanent contract | 38 | 21 | 63 | 91 | -28** |
| Fixed-term contract | 38 | 21 | 32 | -5 | 37*** |
| No-contract position | 38 | 21 | 5 | 13 | -8 |
| Satisfied with first job (%) | 38 | 21 | 63 | 89 | -26* |

Source: Phase I survey data

[a]For the comparison cohorts, we present regression-adjusted means that include control variables to account for differences in characteristics between Generation and comparison learners. Because we used a linear probability regression model, the regression adjustment can result in adjusted values that are less than zero or greater than 100 percent; in this case, resulting in a negative adjusted mean for the percentage of comparison learners with a fixed-term contract. The unadjusted means for comparison learners are 81 percent permanent contract, 10 percent fixed-term contract, and 9 percent no-contract position. In general, the estimated comparison means for individual programs (especially CCE) are more sensitive to the regression adjustment than those for both programs combined because of smaller sample sizes.

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

**Figure III.8. Mean monthly wages earned in first job, among those who found a job after graduation, by program, India**




Source: Phase I survey data

Notes: Sample sizes are 147 for Generation and 29 for comparison for the GDA program and 38 for Generation and 20 for comparison for the CCE program. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

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

## B. Qualitative findings from employer interviews

We focused our qualitative employer interviews in India on employers of learners from the GDA program.[36] GDAs provide patient services in hospitals or other care facilities as assistants to nursing staff; these services include delivering medication, maintaining patients' personal hygiene, assisting patients with mobility difficulties, and so on. Although GDAs are primarily employed in hospitals, many hospitals outsource hiring and supervision to a third-party managed service organization, which is responsible for recruitment, onboarding, upskilling, and supervision of the GDAs. Therefore, we interviewed representatives of three managed service organizations that recruit candidates from Generation. The key findings are as follows:

> *"Lots of institutes like Generation are giving manpower for GDAs, but people coming from these trainings lack practical knowledge about the job and what to expect on the job. We can't really say that they are fully job ready"*
>
> *—GDA managed service organization*

**Generation is one of many skilling organizations that provides GDA candidates to managed service organizations, but these organizations find their Generation point of contact to be especially responsive to their skills needs.** Besides Generation, there are several other skilling organizations that offer GDA training and work directly with the managed service organizations to place their learners. The recruitment process from all skilling organizations works in a similar way: the managed service organization informs them of vacant positions, they send candidates to be interviewed (assessing them on skills, subject knowledge, and general demeanor), and successful candidates are deployed to the hospital.

> *"Person to person communication [with the representative of the training institutes] really matters. We have a good relationship with our Generation contact; he picks up our calls and is available to us 24/7 to provide manpower"*
>
> *—GDA managed service organization*

In general, the managed service organizations do not have much difficulty finding candidates to fill vacancies quickly because they work with multiple skilling organizations, although one mentioned that this can occasionally be a challenge if there are no GDA programs with graduation dates that align with the timing of vacancies. Although they do not prioritize any particular skilling organization when hiring GDAs, all interviewees noted that their Generation point of contact is easy to communicate with and highly responsive to their requests for GDA candidates. This can give Generation an advantage in placing their learners compared to other skilling organizations. One managed service organization noted that Generation candidates were more likely to be locally based, which made it quicker and easier to arrange interviews relative to other skilling organizations, and that there tended to be fewer no-shows to interviews. However, the other two did not report any substantive difference in the hiring process for Generation relative to other skilling organizations.

**New GDA hires, whether from Generation or other sources, require additional training before they are job ready; evidence on the skills and motivation of Generation candidates relative to other candidates is limited.** Although most GDA training programs include similar technical content, all the managed service organizations we interviewed suggested that candidates from both Generation and other sources lack practical experience and are not job ready without this additional training. In terms of skills,

[36] We also conducted two interviews with employers of graduates from the CCE program. Although both respondents had very favorable impressions of the Generation training and the performance of Generation graduates so far, their experience with Generation was too limited for them to be able to respond in detail to many of our interview questions. We anticipate that employer interviews for the CCE program will be more informative in Phase II of the evaluation once employers deepen their experience with Generation.

interviewees mostly had positive perceptions about the soft skills (such as communication and teamwork), technical skills (such as equipment handling), and motivation of Generation candidates. However, they were unable to comment in more detail about these dimensions and how they compared to those of candidates from other sources because the interviewees were primarily in central human resources roles and not engaged in day-to-day supervision of GDAs.

**Interviewees had mixed views on the job retention of Generation candidates relative to those from other sources.** All the managed service organizations we interviewed suggested that there tended to be some initial attrition as new hires encountered the reality of the job for the first time and/or experienced personal problems, and that this was similar for Generation and other skilling organizations. In terms of longer-term retention, one interviewee thought it was higher for Generation because Generation staff follow up with and support their learners after they start the job, another thought it was similar, and the third was unable to comment.

*"Retention for Generation is higher because they are in touch with their graduates to support them after they are place; other organizations just deploy their staff and have no further communication with them"*

*—GDA managed service organization*

**Interviewees did not identify any systematic differences in the profiles of Generation candidates relative to those from other sources.** Two of the three interviewees did not identify any systematic difference in socio-demographic characteristics for Generation candidates versus others, although one of these noted that most candidates (from both Generation and other sources) tended to be economically disadvantaged. The third suggested that Generation candidates were somewhat more socioeconomically disadvantaged than those from other sources but could not quantify this.

# IV. Findings from Kenya

In this chapter we present our Phase I findings for Kenya. Like the Chapter III findings for India, we use data from the survey of Generation learners to validate Generation's internal monitoring data and describe the outcomes of Generation learners more broadly; we also describe the qualitative findings from employer interviews.

## A. Quantitative findings from the learner survey

In this section we describe the findings from the survey we conducted with Generation learners in selected cohorts of the SMO and DCS programs in Kenya.

### 1. Validation findings

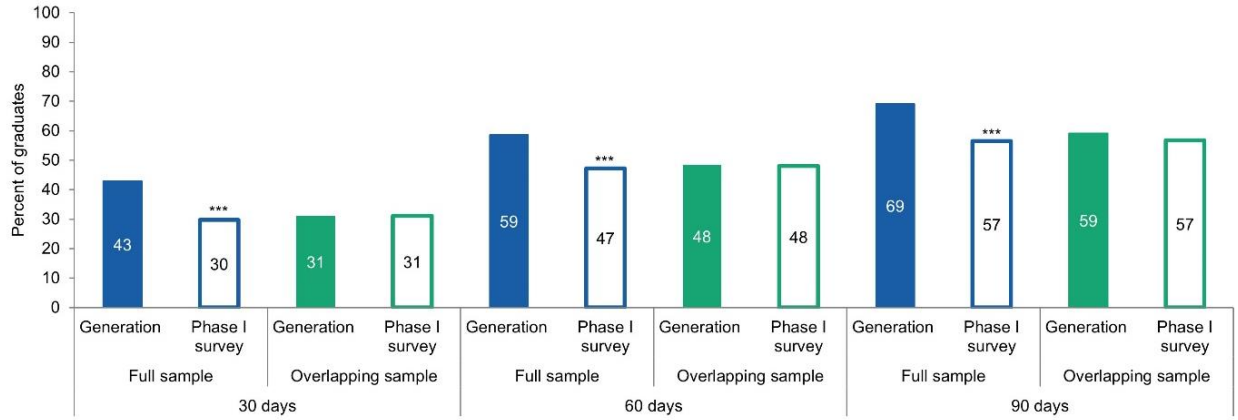
Like in India, we use the survey data to validate the key outcomes of job attainment, first job retention, and first job wages, as measured by Generation's monitoring data in Kenya. We also assess the extent to which differences in outcomes across these two data sources are likely due to differences in measurement versus differences in the composition of respondents.[37]

**The employment opt-out rate is very similar in the survey data and monitoring data.** In both data sources (and both the overlapping and full sample), the opt-out rate is about 5 percent (not shown). This suggests that any differences in job attainment outcomes between the two data sources described below are unlikely to be due to differences in opt-outs, which are excluded from the attainment measures following Generation's definition.

**The survey data and monitoring data produce similar estimates of job attainment in a common sample; differences in job attainment in the full sample are likely due to the composition of respondents in the survey data.** Job attainment after 30, 60, and 90 days is almost identical for the overlapping sample in the monitoring and survey data (**Figure IV.1**), with a very low level of disagreement at the individual level. However, there are substantive and statistically significant differences for the full sample: 30-day attainment is 13 percentage points lower in the survey data relative to the monitoring data, and both 60-day and 90-day attainment are 12 percentage points lower. This suggests that the estimates of job attainment are sensitive to the composition of the responding sample. Because response rates in the monitoring data were high—between 84 percent and 88 percent, depending on the attainment measure—there is limited scope for the composition of the sample to affect attainment in those data. Therefore, the differences in attainment between the two samples is likely the result of the survey being less likely than the monitoring data to capture information for learners who had attained a job. Overall, the similarity in job attainment for the overlapping sample and high response rates in the monitoring data imply that we are able to validate the measures reported in the monitoring data.

[37] One important difference in composition is that the ratio of SMO versus DCS respondents differs across the two data sources. In the spirit of validating average outcomes reported for Generation Kenya graduates in Generation's monitoring data, we did not apply weights to equalize this ratio. Instead, we explore the extent to which differences in this ratio can explain differences in the outcomes observed for the full sample across the two data sources.

**Figure IV.1. Job attainment within 30, 60, and 90 days after graduation (validation), Kenya**



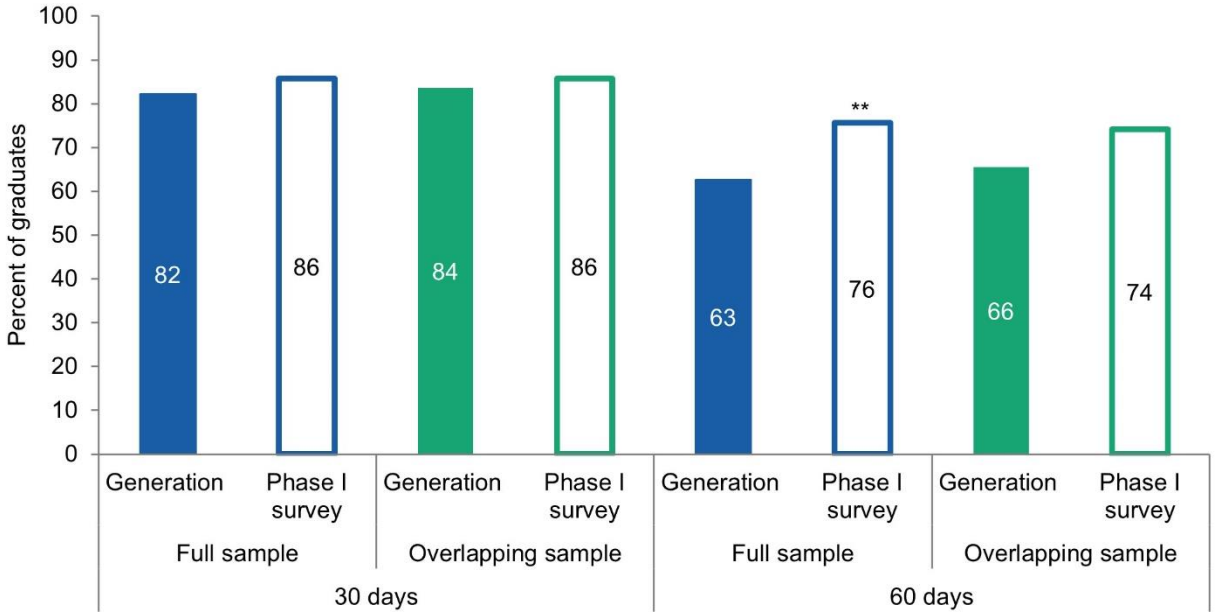

Source: Generation monitoring data and Phase I survey data

Notes: Sample sizes for the 30-day measure are 450 for the full Generation data sample, 269 for the full phase I survey data sample, and 254 for the overlapping sample. Sample sizes for the 60-day measure are 445 for the full Generation data sample, 269 for the full phase I survey data sample, and 254 for the overlapping sample. Sample sizes for the 90-day measure are 254 for the full Generation data sample, 269 for the full phase I survey data sample, and 250 for the overlapping sample.

*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. Differences between individual measurements for the overlapping sample are not statistically significant.

**The job retention rate after 30 days is similar in the survey data and monitoring data; 60-day retention is 13 percentage points higher in the survey relative to monitoring data, but the reasons for this are unclear.** For both the overlapping sample and the full sample, first job retention after 30 days is similar in the two data sources (**Figure IV.2**). We are therefore able to closely replicate Generation's measure of this outcome. First job retention after 60 days is 8 percentage points higher in the survey data for the overlapping sample, but because of the relatively small sample size for this analysis, this difference is not statistically significant (it is driven by just a handful of observations, which have different job start dates in the two data sources). Therefore, this does not amount to strong evidence either in favor or against replicability of this outcome for a consistent sample. In contrast, the difference in 60-day first job retention for the full sample (13 percentage points higher in the survey than in the monitoring data) relies on a larger sample size and is statistically significant at the 5 percent level. Given the limited evidence on replicability for the overlapping sample, it is difficult to assess the extent to which this difference is driven by differences in measurement versus differences in the composition of respondents. We do not conduct the validation exercise for 90-day first job retention because of small sample sizes.

**Figure IV.2. First job retention at 30 and 60 days, among those who found a job after graduation (validation), Kenya**




Source: Generation monitoring data and Phase I survey data

Notes: Sample sizes for the 30-day measure are 241 for the full Generation data sample, 154 for the full phase I survey data sample, and 98 for the overlapping sample. Sample sizes for the 60-day measure are 158 for the full Generation data sample, 123 for the full phase I survey data sample, and 58 for the overlapping sample.

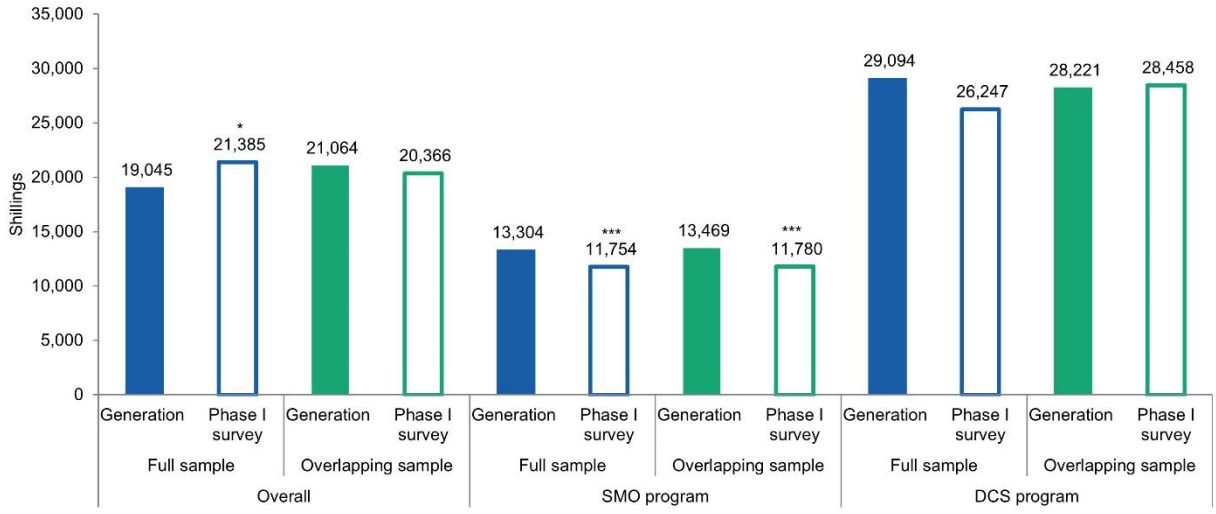
*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. Differences between individual measurements for the overlapping sample are not statistically significant.

**Mean monthly wages in the first job are similar whether measured using the survey data or the monitoring data.** For the overlapping sample for both programs combined, mean monthly wages in respondents' first jobs are only slightly lower in the survey data compared to the monitoring data (a difference of 698 shillings, or 6 dollars) (**Figure IV.3**).[38] In contrast, for the full sample the difference is in the opposite direction, with mean monthly wages 2,339 shillings (20 dollars) higher in the survey data relative to the monitoring data, equivalent to about 12 percent of mean wages in the monitoring data. This marginally statistically significant full sample difference might be driven in part by different SMO versus DCS ratios for the two data sources: the survey sample has relatively more DCS respondents than the monitoring data, and DCS wages are typically higher than SMO wages. To account for this, we also examine the full sample results by program. This analysis shows that mean monthly wages in the full sample are somewhat *lower* in the survey data for both programs. The difference for SMO is statistically

[38] Mean monthly wages might not be fully comparable across the two data sources because Generation collects wages in categories whereas the survey collects an open-ended response. Generation's highest category is 50,001 shillings per month or higher, although in practice the highest wages reported are in the second-highest category of 25,001 to 50,000 shillings per month. In our analysis, these wages are coded as the midpoint of this second-highest category, which is 37,500 shillings per month. In contrast, the survey respondents reported a handful of wage observations above 50,000 shillings per month, which we top-coded at the 99th percentile of 80,000 shillings per month. However, top-coding these few observations at 50,000 shillings instead—to match Generation's highest category—does not substantively affect the conclusions here.

significant but only amounts to 1,550 shillings (13 dollars). For DCS it is a more substantial 2,847 shillings (24 dollars)—equivalent to about 10 percent of mean wages in the monitoring data—but is not statistically significant. Overall, the differences in wages between the two data sources are fairly modest, suggesting that we are substantively able to replicate Generation's first job monthly wage measure.

**Figure IV.3. Mean monthly wages in first job, among those who found a job after graduation (validation), Kenya**




Source: Generation monitoring data and Phase I survey data

Notes: Sample sizes for the overall sample are 264 for the full Generation data sample, 155 for the full phase I survey data sample, and 101 for the overlapping sample. Sample sizes for the SMO program are 168 for the full Generation data sample, 52 for the full phase I survey data sample, and 49 for the overlapping sample. Sample sizes for the DCS program are 96 for the full Generation data sample, 103 for the full phase I survey data sample, and 52 for the overlapping sample.

*/**/*** Statistically significant difference between the Generation monitoring data and Phase I survey data means at the .10/.05/.01 level. Differences between individual measurements for the overlapping sample are not statistically significant overall or for the DCS program, but significant at the 0.01 level for the SMO program.

## 2. Descriptive findings

In this section we use our survey data to describe the outcomes of learners from the SMO and DCS programs, following a similar approach to that for the India programs except without the comparison group. Again, we reweight the sample so that the two programs contribute equally to the combined analysis, enabling us to interpret these findings as applying to the learner in the average program.

**Across both the DCS and SMO programs, the typical learner is female, is in her mid-20's, and has undergone about six weeks of Generation training; on average, DCS learners have a higher level of education than SMO learners (Table IV.1).** About 7 in 10 learners of the DCS program and 6 in 10 learners of the SMO program are female. Education levels are higher for the DCS program: almost 9 in 10 learners have either a bachelor's degree or post-school technical training, whereas only 1 in 10 SMO learners has any post-secondary school training (and 3 in 10 learners have only a primary school education). Both programs cater mostly to unemployed youth: only 15 percent of DCS learners and 13 percent of SMO learners were 30 years or older at enrollment, and 82 percent of DCS learners and almost all SMO learners were unemployed before they enrolled. The mean duration of training was about 6

weeks for both programs (not shown). All these characteristics are similar across the survey sample and Generation's records for all learners in the evaluation cohorts; this suggests that, along this limited set of characteristics, the sample of survey respondents is representative of the population of learners in those cohorts.

**Across both programs, about four in ten learners attained a job within 30 days of graduation, and six in ten attained a job within 90 days of graduation (Figure IV.4)**.[39] These overall estimates mask a substantial difference in the pattern of job attainment across the two programs. For the SMO program, 62 percent of respondents attained a job within 30 days of graduation and 71 percent within 90 days. This suggests that SMO learners tend to find a job immediately after graduation or not at all (within three months after graduation). In contrast, attainment for the DCS program starts at a lower level but increases more rapidly—only 18 percent of DCS learners attained a job within 30 days after graduation, but 51 percent attained one within 90 days. This suggests that the job placement process typically takes longer for the DCS program. For both programs combined, job attainment rates are slightly higher for males than for females (differences of 8 percentage points or less) (**Figure IV.5**). We also examined whether respondents were employed exactly 90 days after graduation, as a measure of relatively longer-term employment, given that some jobs attained soon after graduation might have been lost. For both programs combined, 52 percent of respondents were employed 90 days after graduation, compared to 61 percent who had attained a job at any point within those 90 days (not shown). Below, we confirm the implication that employment retention was strong.

[39] Like in India, the estimates for attainment, first job retention, and wages for both programs combined differ slightly from those presented earlier for the validation analysis because that analysis did not use weights.

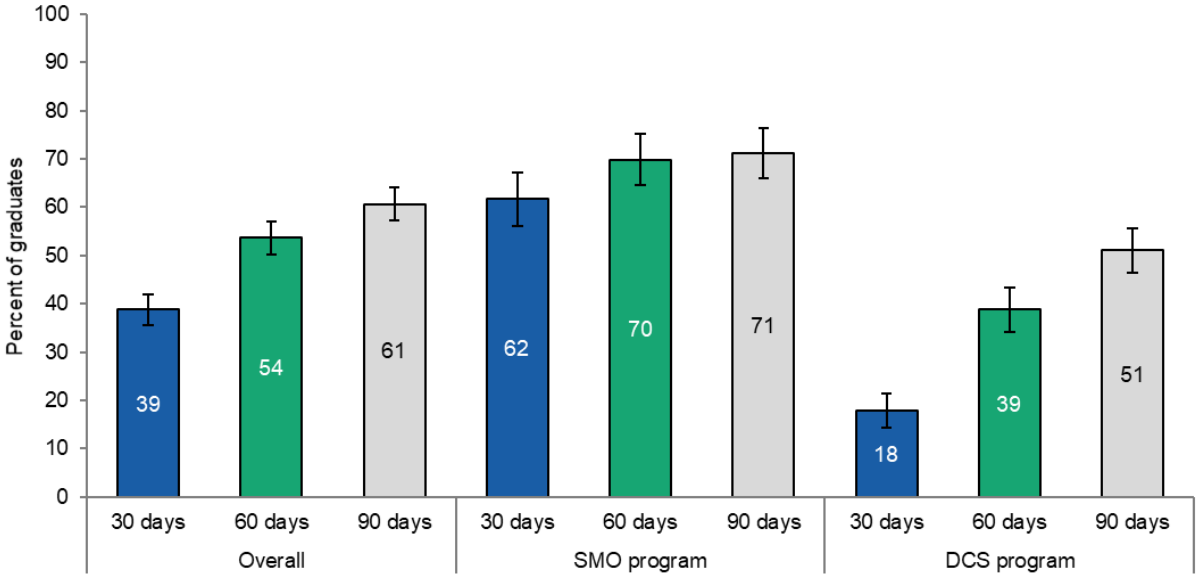
**Table IV.1. Learner characteristics at the time of enrollment, Kenya**

| | Sample size | | Mean | | |
|---|---|---|---|---|---|
| | All learners | Phase I survey full sample | All learners | Phase I survey full sample | Difference |
| **SMO program** | | | | | |
| Female (%) | 206 | 81 | 68 | 63 | 5 |
| Age (years) | 204 | 80 | 24 | 24 | 0 |
| **Age categories (%)** | | | | | |
| 18 to 24 years | 204 | 80 | 58 | 56 | 2 |
| 25 to 29 years | 204 | 80 | 28 | 31 | -3 |
| 30 years and older | 204 | 80 | 14 | 13 | 1 |
| **Education completed (%)** | | | | | |
| Primary education | 206 | 81 | 37 | 28 | 8 |
| Lower secondary education | 206 | 81 | 0 | 0 | 0 |
| Higher secondary education/high school | 206 | 81 | 55 | 60 | -5 |
| Vocational education/certificate | 206 | 81 | 8 | 11 | -3 |
| Other | 206 | 81 | 0 | 0 | 0 |
| Unemployed when entering Generation | 206 | 81 | 99 | 99 | 0 |
| **DCS program** | | | | | |
| Female (%) | 301 | 199 | 73 | 71 | 2 |
| Age (years) | 299 | 198 | 26 | 26 | 0 |
| Age categories (%) | | | | | |
| 18 to 24 years | 299 | 198 | 42 | 45 | -3 |
| 25 to 29 years | 299 | 198 | 43 | 39 | 4 |
| 30 years and older | 299 | 198 | 14 | 15 | -1 |
| Education completed (%) | | | | | |
| Higher secondary education/high school | 301 | 199 | 15 | 14 | 2 |
| Vocational education/certificate | 301 | 199 | 33 | 37 | -3 |
| Bachelor/undergraduate degree | 301 | 199 | 51 | 50 | 2 |
| Other | 301 | 199 | 0 | 0 | 0 |
| Unemployed when entering Generation | 296 | 197 | 82 | 82 | 0 |

Source: Generation's learner records and Phase I survey data

Notes: None of the differences in the final column are statistically significant at the 0.10 level or better.

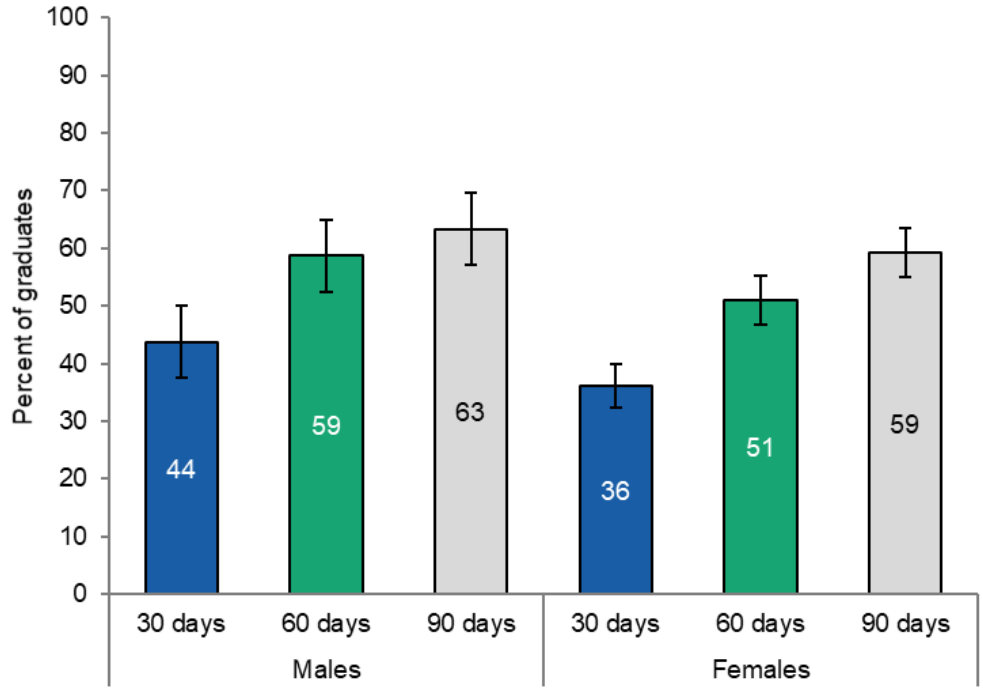
**Figure IV.4. Job attainment within 30, 60, and 90 days after graduation, Kenya**




Source: Phase I survey data

Notes: Sample sizes are 269 for the overall sample, 73 for the SMO program, and 196 for the DCS program. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

**Figure IV.5. Job attainment within 30, 60, and 90 days after graduation, by gender, Kenya**




Source: Phase I survey data

Notes: Sample sizes are 86 for males and 183 for females. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

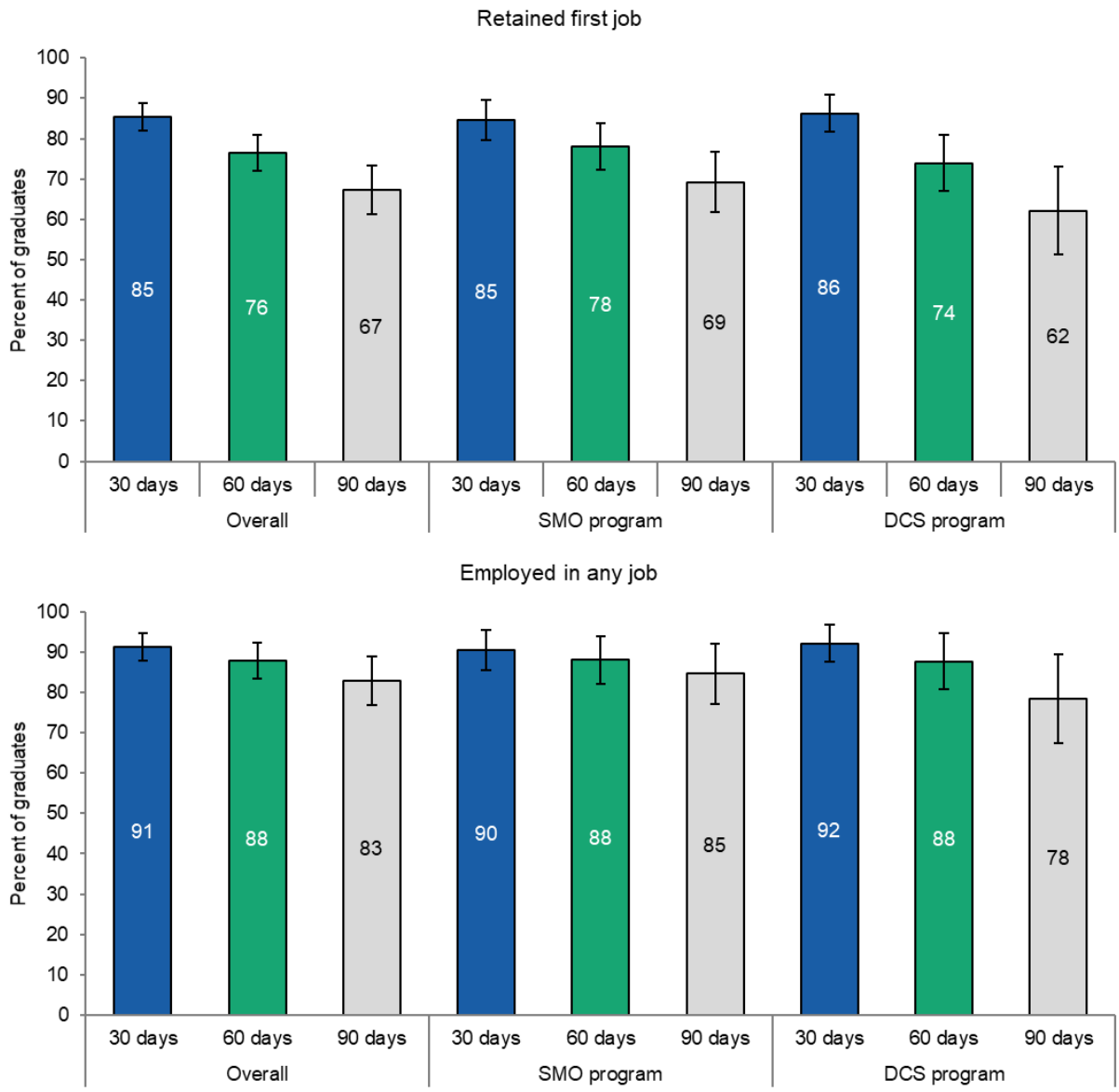
**Overall, 85 percent of employed respondents retained their first job for at least 30 days; 67 percent retained it for at least 90 days, but some who did not retain their jobs found alternative job opportunities (Figure IV.6).** This pattern of first job retention was broadly similar across the SMO and DCS programs. A broader measure of employment retention that examines whether employed learners were employed in *any* job 60 or 90 days after starting their first job is substantially higher than the respective first job retention measures. For example, 90-day employment retention for both programs is 16 percentage points higher than the 90-day first job retention. This suggests that a substantial minority of those who left their first job within the first 90 days moved on to other opportunities.[40] Therefore, focusing on the first job retention measure alone might provide an incomplete picture of employment for the Kenya programs. The first job retention measures are higher for women than for men, by between 10 and 12 percentage points; the equivalent employment retention measures are also higher for women, but the magnitude of the gender differences is smaller (**Figure IV.7**).

**About three-quarters of respondents' first jobs were related to their training, permanent contracts for the first job were relatively rare, and just over half of respondents were satisfied with their first job (Table IV.2).** Because 86 percent of those who were employed since graduation held only one job, we focused the remainder of our descriptive analysis on this first job. Most respondents who found a job reported that their first job was related to their training, and most of these first jobs were full-time roles. Only 14 percent of all respondents who found a job had been offered a permanent contract for their first job; a further 40 percent reported a fixed-term contract, and the remaining 46 percent reported a non-contract position (mostly short-term or casual employees). Overall, 56 percent of respondents who found a job were satisfied with their first job. Comparing the two programs, SMO learners were substantially more likely than DCS learners to report that their first job was relevant to training (by 14 percentage points) and be full time (by 9 percentage points), and substantially less likely to be a non-contract position (by 9 percentage points).

**Average wages in the first job are about twice as high for DCS learners compared to SMO learners (Figure IV.8).** For the DCS program, respondents earned a mean monthly wage of 26,247 shillings (about 227 dollars) in their first job, or a median of 23,000 shillings (about 199 dollars). For the SMO program, respondents earned a mean monthly wage of 11,754 shillings (about 101 dollars), or a median of 13,000 shillings (about 112 dollars). Mean and median wages are very similar by gender (not shown).

[40] There is little evidence in the data that those who left their first job and found a new job earned higher wages or had higher job satisfaction in the new job, although sample sizes are too small to accurately assess this. More generally, the survey did not capture the reasons for changing jobs, which could include not just more attractive opportunities, but poor performance, personal reasons, and so on.

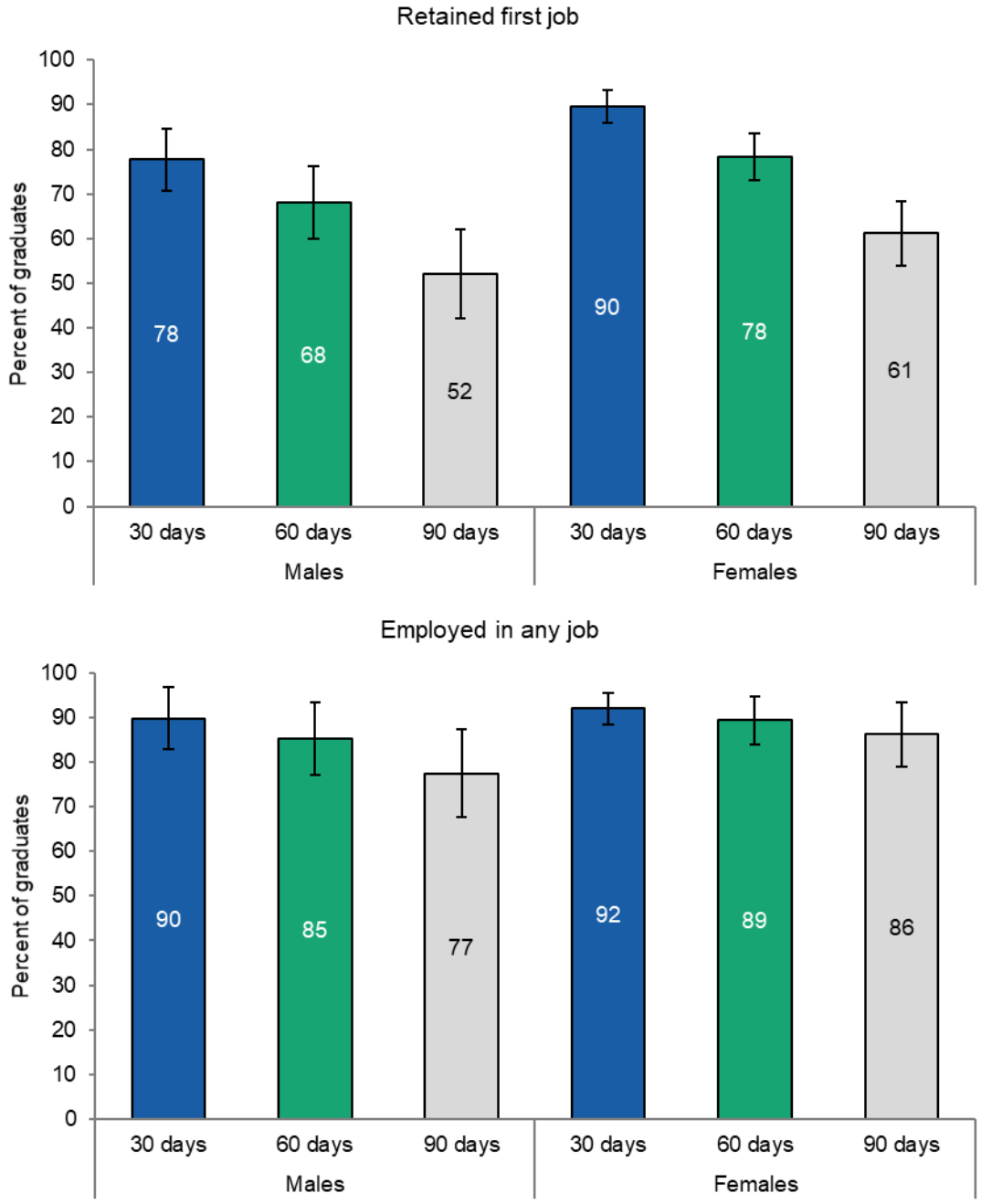
**Figure IV.6. Job retention at 30, 60, and 90 days, among those who found a job after graduation, Kenya**




Source: Phase I survey data

Notes: Sample sizes for first job retention at 30 days are 154 for the overall sample, 52 for the SMO program, and 102 for the DCS program. Sample sizes for first job retention at 60 days are 123 for the overall sample, 50 for the SMO program, and 73 for the DCS program. Sample sizes for first job retention at 90 days are 76 for the overall sample, 39 for the SMO program, and 37 for the DCS program. Sample sizes for employment retention at 30 days are 154 for the overall sample, 52 for the SMO program, and 102 for the DCS program. Sample sizes for employment retention at 60 days are 123 for the overall sample, 50 for the SMO program, and 73 for the DCS program. Sample sizes for employment retention at 90 days are 76 for the overall sample, 39 for the SMO program, and 37 for the DCS program. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

**Figure IV.7. Job retention at 30, 60, and 90 days, among those who found a job after graduation, by gender, Kenya**




Source: Phase I survey data

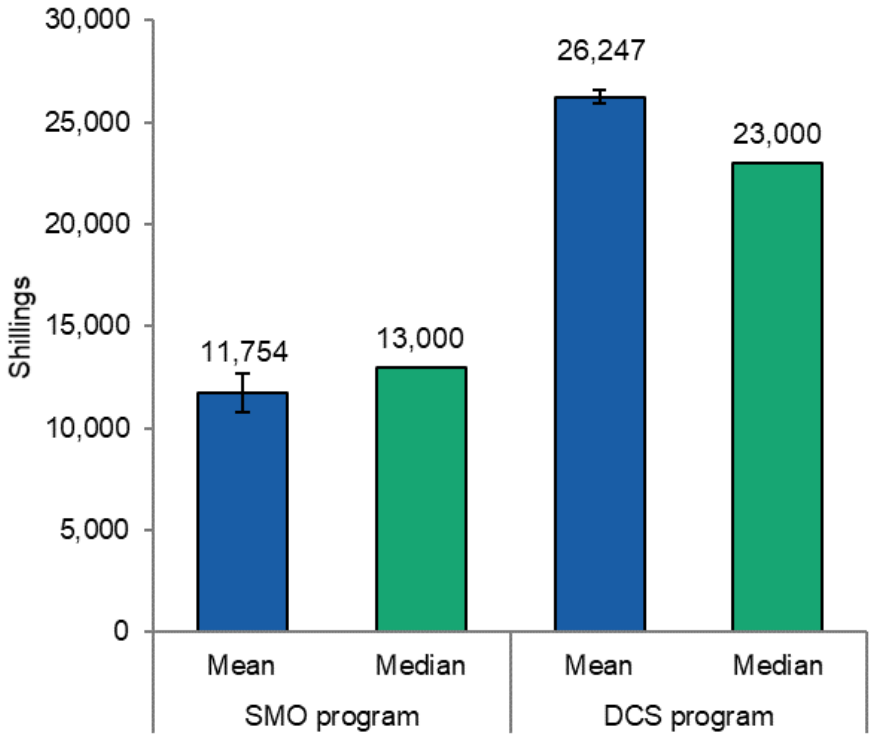
Notes: Sample sizes for first job retention at 30 days are 53 for males and 101 for females. Sample sizes for first job retention at 60 days are 43 for males and 80 for females. Sample sizes for first job retention at 90 days are 30 for males and 46 for females. Sample sizes for employment retention at 30 days are 53 for males and 101 for females. Sample sizes for employment retention at 60 days are 43 for males and 80 for females. Sample sizes for employment retention at 90 days are 30 for males and 46 for females. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

**Table IV.2. First job characteristics, Kenya**

| Outcome | Sample size | Mean |
|---|---|---|
| **Overall** | | |
| Job related to training (%) | 160 | 77 |
| Full-time job (%) | 160 | 92 |
| Type of job contract (%) | | |
| Permanent contract | 160 | 14 |
| Fixed-term contract | 160 | 40 |
| No-contract position | 160 | 46 |
| Satisfied with first job (%) | 160 | 56 |
| **SMO program** | | |
| Job related to training (%) | 53 | 83 |
| Full-time job (%) | 53 | 96 |
| Type of job contract (%) | | |
| Permanent contract | 53 | 15 |
| Fixed-term contract | 53 | 43 |
| No-contract position | 53 | 42 |
| Satisfied with first job (%) | 53 | 55 |
| **DCS program** | | |
| Job related to training (%) | 107 | 69 |
| Full-time job (%) | 107 | 87 |
| Type of job contract (%) | | |
| Permanent contract | 107 | 13 |
| Fixed-term contract | 107 | 36 |
| No-contract position | 107 | 51 |
| Satisfied with first job (%) | 107 | 57 |

Source: Phase I survey data

**Figure IV.8. Monthly wages earned in first job, among those who found a job after graduation, by program, Kenya**




Source: Phase I survey data

Notes: Sample sizes are 52 for the SMO program and 103 for the DCS program. The upper and lower lines are the upper and lower bounds of a 95-percent confidence interval.

## B. Qualitative findings from employer interviews

In this section we describe the findings from interviews with employers of Generation learners from the SMO and DCS programs. Most of the findings are related to RQ1, which addresses the effects of Generation on employers. but we also address RQ3, which examines whether and how Generation learners hired by these employers differ from those hired from other sources.

*"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."*

*—DCS employer*

*"With Generation, our company has saved time especially assisting with the shortlisting part because they filter by our requirements."*

*—DCS employer*

**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 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."*
>
> *—DCS employer*

**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, 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.

> *"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."*
>
> *—DCS employer*

> *"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."*
>
> *— DCS employer*

**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

> *"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."*
>
> *—SMO employer*

> *"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."*
>
> *—SMO employer*

lowering hiring costs, this has become critical to the ability of some SMO employers to expand their businesses and meet client requirements.

**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 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.

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

> *"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."*
>
> *—SMO employer*

> *"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."*
>
> *—SMO employer*

**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.

# V. Conclusion

In this concluding chapter we briefly summarize the findings from the Phase I evaluation, reflect on some lessons for both Generation's measurement of outcomes and the Phase II evaluation, and describe the next steps for the evaluation.

## A. Summary of key findings

In India, we are able to directly validate the 30- day job attainment measure, as well as the first job retention and base wage measures, in Generation's monitoring data using survey data. The 60- and 90-day attainment measures are higher in the monitoring data, driven by individual-level differences in measurement across the two data sources. However, after resolving these individual-level differences using documentary proof of employment, we are able to validate these measures too. In Kenya, all attainment measures are higher in the monitoring data relative to the survey data, but in this case driven by the composition of respondents in the survey data rather than by individual-level differences. We are therefore able to validate the attainment measures reported in the monitoring data, which have high response rates and do not suffer from these compositional effects. In terms of first job retention in Kenya, the 30-day retention measure is aligned across the two data sources but the 60-day retention measure is not. However, like in India, base wages in Kenya are similar in the survey and monitoring data.

By 90 days after graduation, about 6 or 7 out of every 10 learners across both countries had found a job. In India, this rate was substantially higher than in the comparison group, and we were able to rule out that the difference was driven by regional labor market conditions or survey non-response bias; however, possible differences in local labor market conditions, as well as provider and learner characteristics, prevent us from fully attributing differences in attainment to the Generation program. Short-term job retention was high in both countries, especially after allowing for changes in jobs in Kenya, but similarly high in the comparison group in India. In Kenya, 77 percent of first jobs were relevant to learners' training, and in India this was 85 percent—much higher than among the comparison group. Permanent contracts were common for first jobs in India but relatively rare in Kenya. Overall, about three-quarters of respondents in India who found a job were satisfied with their first job and just over half of respondents in Kenya were satisfied.

Interviews with employers of learners from the GDA program in India suggested that these employers have a strong relationship with their Generation point of contact, who is highly responsive to their labor needs. This gives Generation an advantage in placement relative to other skilling organizations offering GDA programs. However, the benefits to employers of having access to Generation candidates in terms of recruitment are typically limited, because they already have access to a large pool of GDA candidates from these other organizations. All new GDA hires—regardless of their source—require additional practical training to be job ready, and there were mixed views on whether soft and technical skills, job performance, and retention for Generation candidates were better than or similar to other candidates. Employers also did not identify any consistent difference in the profile of Generation candidates relative to their job peers.

Employer interviews in Kenya 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. However, 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.

## B. Lessons

The Phase I findings suggest the following lessons for future data monitoring and evaluation efforts of Generation's programs in India and Kenya:

- **Obtaining high response rates is important to limit the effects of respondent composition on outcomes.** A good example is job attainment in Kenya, which we found was substantially lower in the survey data relative to the monitoring data, even though individual-level measures for a consistent sample were closely aligned. Given high response rates in the monitoring data, this difference is likely the result of the survey being less likely than the monitoring data to capture information for learners who had attained a job. To avoid this situation, it is important for data collection efforts to achieve high response rates. In India, having Generation India staff reach out to learners to encourage them to respond helped boost the final Phase I response rates; if feasible. we will work with Generation Kenya staff to implement a similar approach in Kenya in Phase II (while continuing to implement it in India too).
- **It is important to consider employment retention along with first job retention, especially for longer-term measures.** In Kenya, 90-day employment retention was 16 percentage points higher than 90-day first job retention because some learners changed jobs even in that relatively short timeframe. In the longer-term, changes in jobs are likely to be more common, suggesting that both retention measures are important to accurately describe retention.
- **For the Phase II evaluation, it will likely be most productive to focus on current employment at the time of the Phase II survey.** Capturing a job history retrospectively in a survey posed some challenges even for the short-term Phase I evaluation. For example, we identified substantial individual-level differences in 60- and 90-day job attainment between the monitoring data and survey data in India. Examining documentary proof of employment suggested that most of these individual-level differences were due to misreporting in the retrospective survey data. For the Phase II evaluation, rather than attempting to capture a full job history (and associated dates) since graduation, we recommend focusing on the following simple measures: (1) current employment status; (2) if not currently employed, attainment since graduation; and (3) current job characteristics (including time in current job). For comparability across cohorts with different graduation dates, we would ideally conduct the survey for all cohorts with the same timing relative to graduation (one year, which is a typical follow-up period in the literature). We should explore the feasibility of a rolling survey to accomplish that. Current employment status captures both job attainment and employment retention and is straightforward to report with minimal error because it does not require recall of specific job dates.

- **To the extent possible, the Phase II evaluation should seek to improve on the Phase I comparison group approach in India.** Benchmarking in India using a comparison group in Phase I was challenging to implement and interpret given limitations in the availability of comparison cohorts. The database of learners in comparison programs included many who were not eligible for the survey because they had not completed the training program, and many learners could not be reached on the phone numbers recorded for them. These issues decreased the sample size for the analysis and raised concerns about sample selection bias. Further, the underlying lack of comparability between Generation and comparison cohorts limited attribution of differences to Generation, although we were able to rule out that the differences were driven by two important confounding factors, namely regional labor market differences and non-response bias. The Phase II evaluation for India has not yet been finalized and might include other programs. If a similar design is to be implemented for other programs in Phase II, we would at a minimum recommend an earlier effort to contact learners in comparison cohorts to confirm their graduation status and contact details (and potentially provide additional contact details) before implementing the survey. That would enable us more accurately to anticipate the final sample sizes and select additional comparison cohorts (if available) to boost them. We will also consider whether it is possible to better align the geographies of the Generation and comparison cohorts for new programs to improve face validity, which was not possible in Phase I.

## C. Next steps

We will discuss the lessons above and their implications further with Generation as we prepare for the Phase II evaluation. We anticipate that the Phase II evaluation will include the following components: (1) a longer-term outcomes evaluation though a survey of Generation learners and a comparison group (both countries, possibly with different India programs than in Phase I); (2) an outcomes assessment for learners and society through qualitative interviews with Generation learners (both countries); (3) a longer-term outcomes assessment for employers (possibly in India only); and (4) a process evaluation through stakeholder interviews (India only). Most Phase II data collection activities are expected to occur between late-2022 and mid-2023, culminating in a report later in 2023.

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# Appendix A:

# Preparing for Phase II benchmarking in Kenya

## Preparing for Phase II benchmarking in Kenya

In Phase II of the evaluation, we plan to compare the long-term outcomes of Generation learners in the SMO and DCS programs in Kenya to those of applicants to the same cohorts who were not selected for these programs. To facilitate surveying these non-selected applicants in Phase II, we contacted a sample of them during data collection for Phase I to update their contact information and obtain additional contact information. Generation provided baseline program intake data for non-selected applicants to the SMO and DCS cohorts included in our Phase I evaluation sample of Generation learners. We used these data to create a sample frame that included all non-selected applicants with contact information who advanced to the later stages of the application process but were ultimately not accepted into the program.[41] The resulting sample frame comprised 95 non-selected applicants to the SMO cohorts and 767 non-selected applicants to the DCS cohorts. (There were much fewer non-selected applicants for SMO than for DCS because most SMO applicants were accepted into the program.)

From April 1 to 5, 2022, EDI collected contact information from the non-selected applicants by phone using the sample frame provided. EDI had troubling reaching many of the SMO non-selected applicants, resulting in a low response rate even after attempting to contact all those in the sample frame at least three times if necessary. For the DCS program. we randomly ordered the list of non-selected applicants and EDI proceeded down this list until they reached the overall target sample size. In the end, EDI successfully reached 43 applicants to the SMO program and 261 applicants to the DCS program, for a total sample size of 304. surpassing the target of 300.[42] As mentioned above, we plan to recontact these non-selected applicants in Phase II of the evaluation to measure their long-term outcomes and benchmark the outcomes of Generation learners in Kenya. However, our ability to assess outcomes of SMO learners separately will be quite limited due to the relatively small number of SMO learners and non-selected applicants that we contacted in Phase I and will be able to follow into Phase II. We will discuss potential mitigation strategies with Generation and describe the agreed-upon approach in the Phase II evaluation plan.

[41] 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 onto 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 advance 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.

[42] The target sample size of 300 for this Phase I data collection provides a cushion for non-response in Phase II; the target for Phase II is 150 completed surveys with non-selected applicants across both programs.

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