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Impact evaluation of the Philippine Special Program for Employment of Students

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Social Protection



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Impact evaluation of the Philippine Special Program for Employment of Students

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Summary

The World Development Report 2013 on jobs (World Bank 2012) identified youth unemployment as one of the key barriers to growth in developing countries. In the Philippines, young workers (aged 15–24 years old) account for half of the total number of unemployed people in the labour force (51.8%), with approximately 17 per cent of young people unemployed. The challenge of finding work is particularly pronounced for those without post-secondary schooling. A recent Asian Development Bank study found that, while 75 per cent of college graduates find work within a year of graduation, only 20 per cent of high school graduates do (ADB 2012).

Since 1993, the Philippines Department of Labor and Employment (DOLE) has attempted to increase graduation rates and facilitate employment through the Special Program for Employment of Students (SPES). SPES links low-income in-school youth, aged 15–25 years, who are enrolled in secondary, tertiary or tech-vocational school, and out-of-school youth who intend to enrol, to formal work opportunities lasting 20–52 days at decent wages during their school breaks by offering employers (public and private) a 40 per cent wage subsidy. DOLE collaborates with the provincial and municipal Public Employment Service Offices (PESOs) in implementing the programme.

The expected immediate benefits of enrolling in SPES are increased income and additional work experience gained. DOLE anticipates that this income will help students pay their school fees, raising enrolment and graduation rates. Additionally, the work experience obtained may increase ‘employability’, that is, whether students have the skills, attitude and experience to make them attractive to employers on leaving school.

Although regular monitoring is done in terms of total outputs, there has been no assessment of its effectiveness. DOLE partnered with the International Initiative for Impact Evaluation and Innovations for Poverty Action to conduct a large-scale oversubscription randomised controlled trial to assess the effectiveness of SPES, measuring how the programme affects academic outcomes, youth employability and labour market perceptions, and employment and job search efforts. The study targeted National Capital Region, Region III, Region VI, Region VII and Region XI. Within each region, we approached the 13 PESOs with the highest 2014 enrolment in SPES and requested their participation in the impact evaluation.

We coordinated with PESOs to collect application forms, including an Innovations for Poverty Action supplemental questionnaire, to generate applicant lists and to serve as our baseline. In municipalities where the number of new eligible applicants exceeded the number of available slots for the 2016 summer (March–May) SPES batch, we randomly chose individuals to fill the available slots. Applicants who were randomly chosen to receive SPES formed the treatment group (2,511) and the remainder, who were not invited to receive SPES, formed the control group (1,285). We then measured the causal impact of SPES in the medium run (8–12 months later) by conducting a phone survey and comparing those who were induced to enrol in SPES because of the random assignment with those who did not enrol.

In the medium run, while we find that overall SPES does not have an impact on education outcomes, including school enrolment, graduation and grades, we observe

that SPES increases enrolment for men, who are at a higher risk of dropping out of school. For employability, we find that SPES does not have an impact on life skills and self-esteem and, aside from answering phones, does not have an impact on office skills gained. It does, however, improve beneficiaries' confidence about their work prospects after graduation, but it does not affect their wage perceptions. We find the most promising impact of the programme to be on employment outcomes, specifically that SPES participation increases the likelihood of being currently employed with a private employer, local government unit or NGO compared with the control group (70% increase).¹ However, even with the positive impact on employment, the cost of SPES to DOLE is high (Php90,000 per job found).

In our specific findings for policy and practice, we recommend considering employment effectiveness in the programme objectives, exploring ways to help work experience provide meaningful skills, improving targeting to increase effectiveness, adding training to help students build life skills, resolving payment delays and strengthening programme monitoring and communication between regional and local PESOs. In addition to further research to explore the above programme considerations, we also suggest an additional follow-up to determine the longer-term impact of SPES on the same outcomes: education, employability and employment.

It is important to note the study limitations in understanding the results of the impact evaluation. Firstly, we had fewer participating municipalities and a reduced sample size due to challenges in gaining the support and cooperation of local chief executives to enrol their PESOs in the study and implement oversubscription and randomised assignment during an election year. Additionally, we saw high levels (28%) of non-compliance with randomisation. Secondly, it was not politically feasible to maintain the control group for longer than one year, instead of the two years initially conceived. Thirdly, the Philippines recently implemented K-12 education, adding grades 11 and 12 to high school, which resulted in no graduating high school class in 2017. Lastly, an amendment to the SPES law was passed in mid-2016, after completion of the sample selection, baseline data collection and SPES implementation for the study period. These changes are not reflected in the study.

¹ Respondents reporting employment are those who have completed studies or are working while enrolled in school.

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Acronyms and definitions

DOLE	Department of Labor and Employment
GWA	Grade weighted average
ILS	Institute for Labor Studies
IPA	Innovations for Poverty Action
LATE	Local average treatment effects
LCE	Local chief executive
LGU	Local government unit
NCR	National Capital Region
PESO	Public Employment Service Office
Php	Philippine Peso
RA	Republic Act
SPES	Special Program for Employment of Students
SPES babies	Previous SPES beneficiaries who enrol in the programme multiple times

1. Introduction

The World Development Report 2013 on jobs (World Bank 2012) identified youth unemployment as one of the key barriers to growth in developing countries. Policymakers in developing countries have pursued a range of policies to facilitate employment among young people, such as job training and wage subsidies. However, evidence of their effectiveness has been mixed and few employment and training programmes have demonstrated reasonable cost-effectiveness (McKenzie 2017).

For the past 24 years, the Department of Labor and Employment (DOLE) has attempted to increase graduation rates and facilitate employment through the Special Program for Employment of Students (SPES), which links low-income young people, aged 15–25 years, to formal work opportunities lasting 20–52 days at decent wages during their school breaks. The programme offers employers a 40 per cent wage subsidy and facilitates the application process. Since the programme began in 1993, the government has spent more than 5.7 billion pesos to link more than 2.6 million enrollees with employers through SPES. Although regular monitoring is done in terms of total outputs, there has been no assessment of its effectiveness.

DOLE partnered with the International Initiative for Impact Evaluation (3ie) and Innovations for Poverty Action (IPA) to conduct a research study measuring how SPES affects academic outcomes, youth employability and labour market perceptions. We conducted a large-scale randomised field experiment to assess the effectiveness of SPES. Specifically, we used an oversubscription randomised controlled trial. In municipalities where the number of eligible applicants exceeded the number of available slots, we randomly chose individuals to fill the available slots. Applicants who were randomly chosen to receive SPES formed the treatment group and were invited to enrol. The remainder, who were not invited to enrol in this SPES batch, formed the control group. We then measured the causal impact of SPES in the medium run (8–12 months later) by comparing those who were induced to enrol in SPES because of the random assignment with those who did not enrol.

Throughout this evaluation, we seek to answer the following three primary research questions:²

- **Research question 1:** What is the causal impact of the SPES on youths' academic outcomes, including school enrolment and grade repetition in the medium run (8–12 months)?
- **Research question 2:** What is the causal impact of SPES on youth employability, as measured by aspirations, self-empowerment, self-esteem and subjective labour market perceptions in the medium run (8–12 months)?
- **Research question 3:** What is the impact of SPES on youth job search effort, type of position, duration of job search, employment and income in the medium run (8–12 months)?

² We initially intended to answer a fourth research question: 'How does the type of job that applicants experience mediate the outcomes listed in the previous research questions?' However, only one Public Employment Service Office (PESO) in our experimental sample had the capacity to assign participants to specific job types. In other municipalities, the PESOs selected the participants and the employers later selected the particular work tasks.

2. Context and literature

The Philippines has been one of the most dynamic economies in Asia over the past decade, posting an annual growth rate of 6.9 per cent for 2016 (World Bank 2016). However, increases in gross domestic product have not translated into massive generation of quality employment, and inclusive growth remains elusive. Young workers (15–24 years old) account for half of the total unemployed people in the labour force (51.8%), with approximately 17 per cent of young people unemployed. The challenge of finding work is particularly pronounced for those without post-secondary schooling; a recent Asian Development Bank study found that, while 75 per cent of college graduates find work within a year of graduation, only 20 per cent of high school graduates do (ADB 2012).

2.1 Related literature

A growing body of literature assesses the impact of job training and employment programmes for youth in developing countries. Many of these evaluations typically focus on job training and find mixed results. In Colombia, Attanasio and colleagues (2011) studied the impact of a vocational training programme targeting low-income unemployed youth, which included in-classroom training and on-the-job training (unpaid) components. They found significant effects of offering the programme to women, with a 7 per cent increase in employment and a 20 per cent increase in earnings; however, no effect was seen on the same outcomes for men. For both men and women, they observed a significant effect on formal employment.

In the Dominican Republic, Card and colleagues (2011) also looked at a training programme that included technical skills and OJT/internship (government-subsidised) components. The programme targeted low-income youth who have not completed secondary school. While they found no effect of the training on employment outcomes, they reported a modest effect on earnings, conditional on being employed. The impact on formal employment, marked by the probability of having health insurance, was positive but not statistically significant.

Ibarrarán and colleagues (2014) explored labour market outcomes as well as labour market participation outcomes (non-cognitive and socio-economic skills) in a modified version of the same programme in the Dominican Republic, including an improved life skills training module. Like Card and colleagues, they found no effect of the training on employment in the short term. However, among the employed, they observed a positive statistically significant effect on monthly earnings. Unlike the earlier evaluation, they found statistically significant impacts on formal employment for men. In the analysis of long-term impacts of the programme, they again observed no effect on employment. However, the programme has persistent significant effects on formal employment for men and significant effects on urban earnings (Ibarrarán et al. 2018).

In Malawi, Cho and others (2013) explored a government vocational and entrepreneurial training programme targeting vulnerable youth, defined as orphans or school drop-outs. They found that the training resulted in large and significant impacts on self-reported skills for men and women, continued investment in human capital and improved well-being for men. However, they did not observe an impact on labour market outcomes in the short run.

A small body of literature on promoting youth employment through wage subsidies to employers also finds mixed results. In South Africa, researchers found that wage subsidies caused large (25%) and persistent increases in employment over two years, well after the end of the subsidy (Levinsohn et al. 2014). A study in Jordan measured the impacts of a programme that assigned recent female college graduates to receive a wage subsidy voucher as a means of gaining experience and entering a labour market that was reluctant to hire young women (Groh et al. 2016a). While they found an initial 38 percentage point increase in employment, this effect fell quickly and was not statistically significant within four months of the end of the subsidy. Additionally, despite genuine work experience gained, the study did not find any effect on employment or earnings.

In Yemen, McKenzie and colleagues (2016) examined an internship programme with a wage subsidy that had similar objectives to the programme in Jordan but was offered to men and women and to either college or vocational graduates. The programme in Yemen had significant effects on employment outcomes during the internship period, with a 3.4-month increase in the amount worked and a 73 per cent increase in earnings. Impacts on employment outcomes for internship recipients persisted five months after the programme.

In addition to job training and wage subsidies, some of these programmes have increasingly taken an interest in looking specifically at the impact of life skills or soft skills training on employment. These studies generally do not find any impact of these types of training on employment outcomes. However, it should be noted that related research on other included treatments (vocational or wage subsidy) has not found impacts on employment outcomes either. These studies have tended to focus on non-employment outcomes, including optimism/expectations for the future, self-esteem, well-being and pregnancy.

In the previously described study on female college graduates in Jordan, the researchers examined three treatments: wage subsidy, soft skills training and a combination of wage subsidy and soft skills training (Groh et al. 2016b). In their analysis on the effects of soft skills training on labour market outcomes, they found that the soft skills training had no significant impacts. On non-employment outcomes, they observed that, in the short term, those who received the soft skills training had significantly more optimism for the future compared with those who did not receive it.

Acevedo and others (2017) also looked at the impact of soft skills by modifying the Dominican Republic programme discussed above. In the modification, they examined two treatments: 1) vocational and soft skills training with internship; and 2) soft skills training with internship. In the short term, they found large and positive statistically significant impacts on employment outcomes, including employment, earnings and job satisfaction, for women in both treatment groups.

For men in the short term, they found a negative statistically significant effect on employment for those who received the combination of vocational and soft skills training and they found no impacts on earnings or job satisfaction for men in either treatment. However, these labour market outcomes effects dissipated three years after the programme for both men and women. On non-employment outcomes, men in the

treatment groups had lower levels of self-esteem in the long run, though the difference was not statistically significant. Women in the treatment groups had significantly higher levels of self-esteem and expectations for the future as well as lower levels of fertility.

Ibarrarán and colleagues (2014) also examined impacts on non-employment outcomes after improvements to the life skills training were made to the Dominican Republic programme. They found that the programme had positive statistically significant impacts on participants' expectations for the future, including health, educational level and aspirations. In using Rosenberg's self-esteem scale (Rosenberg 1965) for one measure of life skills, they did not observe an effect on the complete sample, but they found that the programme increased the Rosenberg score for men by 0.11 standard deviations. Lastly, for women, they found negative, statistically significant impacts on the probability of being pregnant.

While none of the studies above directly examine the impact of youth employment on educational outcomes, a few studies in the United States explore these effects, again with mixed results. A study of New York City's Summer Youth Employment Program targeting low-income youth found that the programme had a small, statistically significant increase in attendance of 1–2% on average (Leos-Urbel 2014). The impact was greater for students at greater risk of dropping out: those aged 16 years and older with low baseline attendance, with an increase in attendance of 3 per cent on average. For the same group, the programme increased the likelihood of attempting and passing state-wide maths and English exams, but it had no effect on exam scores. A separate study of the Summer Youth Employment Program found that the programme has no effect on college enrolment and a large negative effect on future earnings, but it observed a small increase in the probability of future employment and a significant decrease in incarceration and mortality rates (Gelber et al. 2016).

A national study of the United States' Job Corps Program, a training programme targeting disadvantaged youth, found that the programme increased education enrolment and attainment in high school equivalency and vocational programmes but has no impact on college enrolment or attainment (Schochet et al. 2008). Additionally, four years after randomisation, the study found that the programme significantly increased employment and earnings and significantly decreased conviction and incarceration rates. In a separate study, Heller (2014) examined the role of youth summer employment in reducing violence and crime in Chicago. The study observed that having summer employment had no effect on school attendance or other academic outcomes in the following school year.

Except for the few programmes in the United States, most of these programmes rarely examined the impact of work experience on in-school youth. In addition to facilitating employment opportunities on leaving school, a key feature of in-school work programmes is that they provide income to help youth remain in school. The context of SPES, targeting a wide range of low-income youth, will provide insight into the impact of work experience on enrolment and employment, in addition to the barriers that youth face in completing their studies and finding work.

Components of SPES

Under Republic Act 9547

SPES targets 'poor, but deserving' youth:

- 15–25 years of age;
- In school with an average passing grade in the past term or school year, or out of school intending to re-enrol in school and certified to be of 'good moral character' by their *barangay* (smallest administrative division in the Philippines); and
- From a family with a total income below the regional poverty line for a family of six, with the aim to keep them in school by augmenting income.

SPES employs beneficiaries:

- For 20–52 working days;
- With public or private employers;
- During school breaks for high school students or at any time of the year for vocational or college students.

SPES beneficiaries earn the prevailing minimum wage in the area, with the:

- Employer paying 60 per cent in cash; and
- DOLE paying 40 per cent in the form of an education voucher.

3. Intervention, theory of change and research hypotheses

3.1 Special Program for Employment of Students

SPES is one of DOLE's longest-running programmes. DOLE implemented SPES in 1993 by enacting Republic Act (RA) 7323 in 1992 to help poor but deserving students pursue their education by encouraging employment during summer (March to May) and/or Christmas vacations through incentives granted to employers. In 2009, RA 7323 was amended by RA 9547 to expand employers' participation and strengthen the programme with a fixed 20 per cent annual increase of budget. In 2016, another amendment was passed under RA 10917, described below. However, these changes did not go into effect until 2017, after implementation of this impact evaluation.

The objectives of SPES are to augment income to cover the costs of education and to increase school retention and graduation rate of the target beneficiaries. The programme targets poor but deserving youth aged 15–25 years, who are either in-school youth enrolled in secondary, tertiary or tech-vocational educational institutions or out-of-school youth intending to enrol, and links them to formal work opportunities with public or private employers, lasting 20–52 working days.

To participate in the programme, family income (including applicants') may not exceed the regional poverty threshold for a family of six. Applicants must have obtained an average passing grade during the previous term or school year attended; they must show good moral character, as certified by their local government unit chairman; and they must intend to enrol in any secondary, tertiary or tech-vocational educational institution. SPES partners are private employers with at least 10 employees who shall

pay 60 per cent of the salary/wage based on the prevailing minimum wage in the area. National government agencies and local government units (LGUs) may participate and will pay the 60 per cent of the salary/wage based on the applicable hiring rate. In both cases, DOLE shall pay the remaining 40 per cent of beneficiaries' salary/wage in the form of an education voucher.

DOLE's Bureau of Local Employment oversees SPES and coordinates with the PESOs within the provincial and municipal government units in implementing the programme. The PESOs facilitate the application, selection and matching processes, with many PESOs adopting unique practices. We learnt from our process evaluation that in programmes with multiple types of positions, PESO staff work to match students to the employer based on the students' skills (59%), residence (57%), work preferences (41%) and desired location (56%). Matching is more common in larger SPES programmes, those which have more than 200 enrollees on average.

However, for private employers PESO staff can only recommend certain applicants, since the private employers often have their own additional screening and selection criteria. Applicants not selected by private employers will be placed with the LGU. During the randomisation and selection process we found that, among our participating PESOs job matching was minimal, with the exception of one municipality. In most cases, the PESO submits the list of accepted SPES beneficiaries to the LGU/private employer. The LGU or private employer then assigns tasks at the start of the programme. The PESOs also determine the implementation schedule of SPES and the number of SPES batches in each year. While the law only permits in-school secondary students to be employed during school breaks, out-of-school youth or tertiary or tech-vocational students may be employed at any time throughout the year. Most SPES beneficiaries are hired during the summer period.

SPES beneficiaries participating for a minimum of two years are referred to as 'SPES babies'. Many PESOs will prioritise SPES babies in subsequent years until they graduate from college or tech-vocational institution. PESOs will also often prioritise eligible applicants from other groups, including people with disabilities and conditional cash transfer beneficiaries.

With the provision in RA 9547 for a fixed 20 per cent increase in the annual budget for SPES, the number of SPES beneficiaries increases each year. In 2016, SPES served 229,674 beneficiaries. That was a 10.47 per cent increase on the number of beneficiaries served in 2015 (207,898), which was a 14 per cent increase on the number of beneficiaries served in 2014 (182,347).

RA 10917, amending the SPES law, was passed in 2016. The Implementing Rules and Regulations of RA 10917 apply to programme implementation starting in 2017, after implementation of the impact evaluation. The amended law extends age eligibility up to 30 years and the number of working days to 78, with a limitation on days worked during the Christmas vacation. Additionally, the 40 per cent subsidy from DOLE is now paid in cash and no longer in the form of an education voucher. The law also permits DOLE to pay a larger subsidy share to poorer municipality employers who cannot afford the 60 per cent share for greater inclusion and participation. Lastly, beneficiaries are now eligible for social protection under the Government Service Insurance System for one year.

In June 2016, we conducted a process evaluation to gain more information about how SPES is implemented on the ground and to give more context to the challenges faced in implementing the impact evaluation. While the SPES law and its subsequent amendments outline the major features of the programme as described above, through a process evaluation we discovered a large diversity in how SPES programmes work across and within regions and how the goals of each programme depend on the local context and mandate. Variations in programme implementation include: how many batches are implemented per year; how applicants apply; use of additional screening mechanisms, such as qualifying exams; purpose of orientation sessions; additional documents required; and the level of involvement of the local chief executive (LCE) in the programme.

In our process evaluation, we noted that the main SPES enrolment period takes place during the summer break, though the exact timing of that main batch and the total number of batches (from 1 to 15) varies. Nineteen PESOs had at least one batch that targeted a specific group of applicants, most commonly out-of-school youth. We also note that the criteria for selection, beyond what is stated in the law, is not standardised and may be based on one or more of the following: course, grades, age, qualifying exams and/or referrals and background checks. Additionally, some PESOs ask for the submission of additional documentation such as resumes, parents' voter identification cards or certificates of *barangay* (smallest administrative division in the Philippines) residency.

We also noted in our process evaluation that many PESOs implement their own programme features to reflect their aims and the needs of their students. These innovations include efforts to further develop students' skills through life skills training, community service, extracurricular activities or employment skills training. Several PESOs incorporate additional activities to promote high engagement, such as talent shows or cultural presentations or by providing certificates of completion to students.

One of our other key findings, which directly affected our study, is that local government officials are highly involved in the selection and implementation process. While many prioritise SPES babies or out-of-school youth, a substantial number of PESOs targeted students for politically motivated reasons. Among officers we interviewed, political interference was reported as one of the top challenges they face.

3.2 Theory of change and research hypotheses

The expected immediate benefits of enrolling in SPES are increased income and additional work experience from working during school breaks. DOLE anticipates that this income will help students pay their school fees, raising enrolment and graduation rates. Additionally, the work experience obtained may increase 'employability', that is, whether students have the skills, attitude and experience to make them attractive to employers upon leaving school. We measure employability through students' aspirations, self-empowerment, self-esteem, workplace skills and information about the labour market. In the long run, DOLE anticipates that the work experience provided, along with improved educational outcomes and increased employability, will make SPES beneficiaries more attractive to employers, increasing their likelihood of employment, quality of positions and income. Although a longer-run study would be necessary to

achieve the full range of these impacts, we hypothesise that in the medium term, increased work skills, social connections made through SPES and updated labour market perceptions may affect employment, possibly by increasing the likelihood of job search or the effectiveness of such a search. While at the time of the study SPES was open to youth aged 15–25, we focused on the potential impacts of SPES on young people aged 15–20, since they made up 95 per cent of our sample.

We anticipate the following causal pathways in line with each of our planned evaluation questions.

Research question 1: What is the causal impact of the SPES on youths' academic outcomes, including school enrolment and grade repetition in the medium run (8–12 months)?

Impact on academic outcomes. We assume SPES will influence youths' academic outcomes through one primary channel and two secondary channels:

1. Primary: enrolling in SPES will lead to increased income during school break. Students can use this income towards their tuition and related school expenses during the school year.
2. Secondary: enrolling in SPES will provide students with work experience in the formal sector. Exposure to this work experience may provide students with additional information about their labour market prospects, which may influence student motivation to complete schooling.
3. Secondary: SPES will influence youth employability (research question 2) and this increase in aspirations, self-empowerment and self-esteem will also influence student effort and academic outcomes.

Research question 2: What is the causal impact of SPES on youth employability, as measured by aspirations, self-empowerment, self-esteem and subjective labour market perceptions in the medium run (8–12 months)?

Impact on 'employability' measured by aspirations, self-empowerment, self-esteem and subjective labour market perceptions. We assume that enrolling in SPES will provide students with hands-on work experience and income. For example, the process of receiving payment for one's labour will demonstrate to students their ability to earn income, possibly increasing feelings of empowerment and greater self-esteem. Similarly, exposure to older co-workers, with more responsibility, may increase aspirations and improve perceptions of the labour market.

Research question 3: What is the impact of SPES on youth job search effort, type of position, duration of job search, employment and income in the medium run (8–12 months)?

Impact on job search effort, position, employment and income. We assume that enrolling in SPES will provide students with hands-on work experience and additional income. We anticipate several channels through which these outcomes may influence job search effort, position, employment and income.

1. Additional work experience will make applicants more attractive to future employers, serving as a signal that they are a good worker. This may lead to more secure employment, shorter job search duration and higher income.
2. SPES may improve academic outcomes (Research question 1), which will increase students' human capital and make them more attractive to employers. This may lead to more secure employment, shorter job search duration and higher income.
3. SPES may increase students' employability via higher aspirations and increased self-empowerment and self-esteem (Research question 2). As a result, students may search harder for jobs (increased search effort) and obtain better positions more quickly, possibly with higher income.
4. Exposure to formal employment through SPES may help students build skills in looking for work. Through this exposure, they also may make new connections, which could lead to additional job opportunities.

Students may be aware that they are more attractive to employers, motivating them to search harder, so there is an increase in search effort. Additionally, they may hold out for better jobs, leading to reduced employment and increased job search duration, but higher wages, in the medium run.

4. Timeline

Figure 1 outlines the timeline of the evaluation and Table 1 provides additional detail. We began working with DOLE in August 2015 to finalise the research design and discuss strategies for encouraging PESO participation. In late February 2016, IPA field staff were deployed to invite the PESOs to participate and to coordinate with the PESOs in baseline data collection. Baseline data collection continued through May 2016. Since each PESO determines its own timeframe for SPES, the implementation period for all the PESOs spanned the months of March, April and May 2016; however, for each PESO the implementation period of the programme per batch was only 20 days on average. After baseline data collection, IPA field staff interviewed the staff at PESOs that had been invited to participate in the study to gather qualitative data for the process evaluation (May and June 2016).

The months following the completion of SPES we coordinated with the PESOs and DOLE regional offices to collect employer terminal reports and gather information on implementation schedules of other SPES batches for 2016 and to remind the PESOs to maintain the control group. Encoding of the baseline, process evaluation and terminal report data occurred during May to November 2016. In late January 2017, we launched the endline data collection through a phone survey. Endline data collection continued with intensive in-person follow-up efforts in Regions III, XI and National Capital Region (NCR) to locate hard-to-reach respondents in April and May 2017. It is important to note that national and local elections took place in May 2016, which made it difficult to obtain local support for the impact evaluation and also may have led to payment delays during post-election transitions in municipal offices.

Figure 1: Timeline of the evaluation

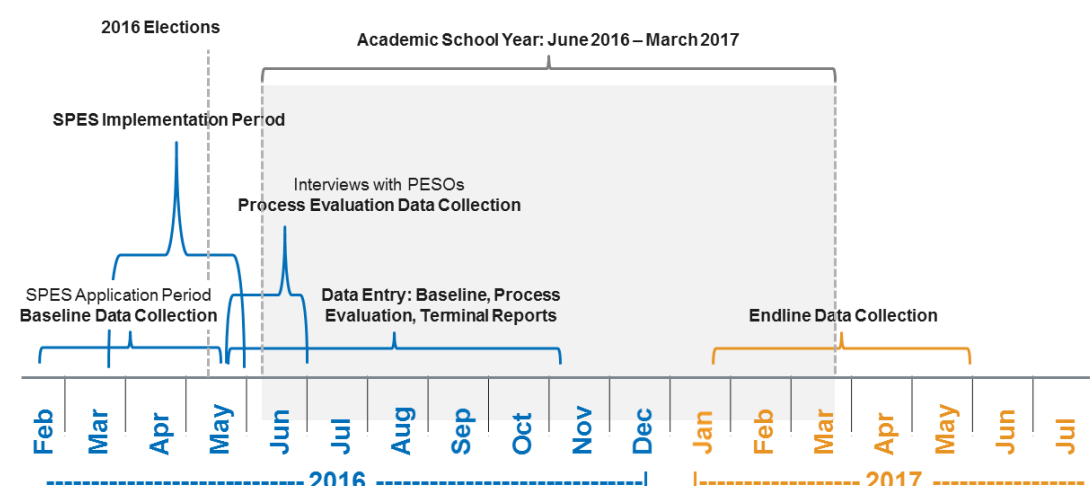


Table 1: Phases of the evaluation

Evaluation phase	Date
Baseline data collection	February–May 2016
SPES implementation	March–May 2016
Process evaluation	May–June 2016
Data encoding	May–November 2016
Admin. data collection and monitoring	June–November 2016
Endline data collection	January–May 2017
Other dates to note:	
National and local elections	May 2016
Academic school year	June 2016–March 2017

5. Evaluation: design, methods and implementation

5.1 Ethical review

The Human Subjects Committee for Innovations for Poverty Action provided oversight for this project, Youth and Student Employment (SPES), protocol #9935.

5.2 Sample size and power calculations

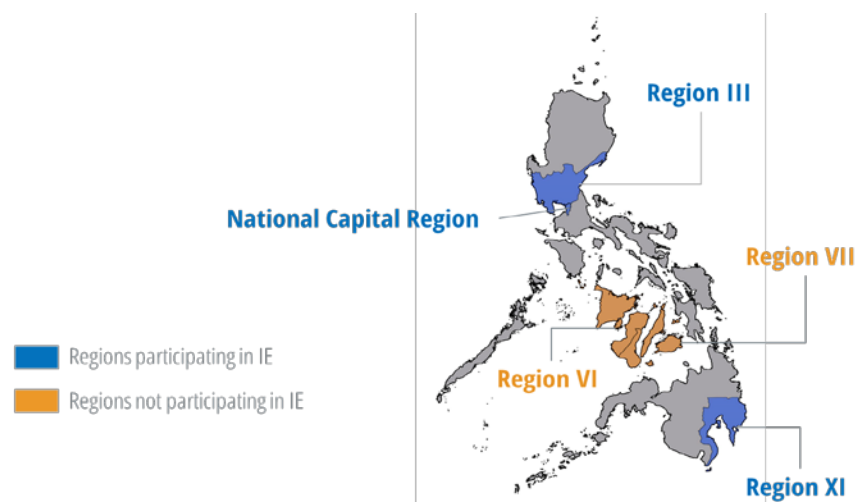
In our initial proposal, we anticipated a 70 per cent response rate for a baseline sample of 8,000. Although we achieved a far higher response rate at endline, of 86 per cent, our baseline consented sample was much smaller. After accounting for survey attrition, our treatment group is only moderately smaller than projected (2,206 realised versus 2,800 projected), but the control group is less than half as large (1,077 realised versus 2,800 projected). As a result, we experience some loss of power to detect statistically significant effects of SPES on our outcome variables. Specifically, we have 80 per cent power to detect a change in enrolment of 2.2 percentage points (using our intention-to-treat estimates). In the absence of these logistical difficulties, which reduced our sample size (but using realised control group enrolment rates), we would have had 80 per cent power to detect a change in enrolment of 1.7 percentage points.

5.3 Sample selection

5.3.1 Region and municipal selection

The impact evaluation targeted the following regions: NCR, Region III, Region VI, Region VII and Region XI (Figure 2). These regions were chosen to represent all three island groups and to include rural and urban areas. These regions are broadly representative of the range of economic and labour market conditions across the Philippines (Online Appendix A: Regional characteristics). These regions are diverse geographically as well as economically: regional unemployment rates average 8.2% and vary between 4.6% and 10.4% (versus a national average of 7.0%, with a range of 3.4–10.4%) (PSA 2014).

Figure 2: Map of participating regions



Within each region, we approached municipal- and provincial-level PESOs to request their participation in the impact evaluation. We selected the 13 PESOs from each region with the highest 2014 enrolment in SPES. We also formed a back-up list of additional PESOs within the region, as long as they had enrolled at least 100 applicants in the previous year.

IPA worked with the national and regional DOLE offices to approach each selected municipality. Some PESOs declined to participate, often because of concerns about randomisation or oversubscription, particularly during an election year or because the study timing fell after their SPES application and enrolment period. When a PESO declined to participate, we asked the next PESO on the back-up list to join the study. After contacting PESOs on the main and back-up lists, 30 per cent of contacted PESOs agreed to participate in the impact evaluation. However, we continued to partner with non-participating PESOs to learn about how they administer SPES and study the characteristics of their applicants and participants.

Table 2 shows the distribution of participating PESOs in the impact evaluation.³

³ Online Appendix B contains the list of PESOs.

Table 2: Distribution of participating PESOs

	# Invited	Enrollees represented	Participated in data collection		Agreed to participate in impact evaluation		Participation in impact evaluation	
NCR	18	4,422	6	33%	3	50%	3	17%
Region III*	13	5,321	26	200%	12	46%	9	69%
Region VI	22	2,421	21	95%	1	5%	0	0%
Region VII	15	3,802	13	87%	2	15%	0	0%
Region XI	16	2,461	14	88%	12	86%	10	63%
Total	84	18,427	80	95%	30	38%	22	26%

Notes: * The Province of Pampanga PESO conducted randomisation at the municipal level, thus the PESOs participating in the data collection exceed the number of PESOs invited in Region III.

In total, we invited 84 PESOs to participate in the impact evaluation and had 80 'units' of data (accounting for separate samples of data within one PESO). Participation rates were high in Region III and Region XI, where there was strong regional support for the impact evaluation and excellent coordination between the DOLE regional offices and the PESOs.

In Region VI and Region VII, none of the invited PESOs participated in the impact evaluation. The majority of refusals occurred because the PESO or LCE were unwilling to participate, because they objected to oversubscription and/or to randomisation. It was particularly challenging to get buy-in at local level because the impact evaluation occurred in an election year. In some cases, the LGU had a pre-selected list of applicants and was unwilling to use a randomly chosen list of beneficiaries instead. In the PESOs that refused initially, we did not collect baseline data.

However, a number of PESOs initially agreed to participate but dropped out later when the LCE removed support for the evaluation. In these areas, we collected baseline and administrative data to understand the nature of SPES implementation in a broader range of municipalities. We randomly contacted a small portion of these applicants during endline data collection. While this non-experimental sample cannot be used to obtain causal estimates of the impact of SPES, we include some descriptive characteristics of this group in the report.

About one-fifth of PESOs agreed to participate but did not have enough applicants to fill their employment slots. Demand was sufficiently high in all NCR PESOs, but not in the provinces. During the application process, IPA and DOLE discussed implementing advertising campaigns to raise application rates, particularly for Regions VI and VII, which were experiencing especially low programme take-up. However, some PESOs in these regions were hesitant to pursue an advertising strategy, as they preferred to have unused slots rather than turn away applicants. In the future, gaining buy-in from local PESOs to broaden the pool of applicants, or pursuing publicity strategies at regional or national levels, would be important to expand the scope of these programmes.

5.3.2 Participant selection

We include in our sample all youth aged 15–25 years who applied for SPES and successfully passed the initial screening in our target municipalities. In practice, nearly all study participants were under the age of 20. To pass the initial screening as outlined in the SPES law and conducted by the PESO, applicants had to meet the following criteria:

1. Be 15–25 years of age;
2. Be in school, with an average passing grade in the past term or school year, or be an out-of-school youth intending to re-enrol in school and who is certified to be of ‘good moral character’ by their *barangay*; and
3. Come from a family with total income below the regional poverty line for a family of six.

These requirements are widely enforced across PESOs, though there is some variation in additional screening criteria, such as passing a home visit, providing additional documentation, passing a qualifying exam and so forth. Our sample consists of all applicants who were considered eligible according to their municipality’s criteria.

5.4 Randomisation

In municipalities that agreed to participate in the impact evaluation and had more applicants than slots, we coordinated with the PESOs to randomly select applicants to receive SPES. At each PESO, the officer in charge provided us with a list of screened, eligible applicants and the number of available slots. SPES ‘babies’ – returning SPES beneficiaries – were automatically granted slots, as were applicants who had been pre-selected as priority applicants by the PESO or LCE.

Among the remaining new applicants and slots, we used computer-generated random assignment to determine which applicants to invite to participate in SPES and which not to invite. We necessarily stratified at municipal level, as we randomised municipality by municipality. Within each municipality, we stratified by gender, school level⁴ (high school or college) and age.⁵

Invited applicants form the treatment group and the non-invited applicants form the control group. Treatment group members were invited to participate in SPES. Control group members were not invited but were permitted to apply again for the 2017 summer SPES batch, beginning 1 April. Applicants who were not part of the randomisation, either because their PESO did not participate, there was no oversubscription or because they were members of a priority group, form the ‘non-experimental group’.

Among those in the impact evaluation sample, 2,511 (66%) are treatment group members and 1,285 (34%) control group members. The distribution varies substantially by region; however, Region XI had high oversubscription to SPES, such that the control group actually exceeded the treatment group. In Regions III and NCR, however, oversubscription averaged 20 per cent, so the control groups were substantially smaller.

⁴ In cases of missing data on school level, we assume the following for stratification: high school if 15 years of age and college if greater than 15 years of age.

⁵ In municipalities with small sample sizes or missing data, we only stratified by one or two of these variables.

Table 3: Treatment and control distributions, impact evaluation sample

	Total enrollees	Invited to SPES	Control group	Oversubscription rate
NCR	487	384	103	21%
Region III	1,865	1,551	314	16%
Region VI	0	0	0	
Region VII	0	0	0	
Region XI	1,444	576	868	60%
Total	3,796	2,511	1,285	34%

5.5 Respondent characteristics

Table 4 reports the baseline characteristics of our experimental sample. Women are over-represented among applicants, making up nearly two-thirds of our sample. Although SPES is open to youth aged 15–25 years, most applicants are quite young, with a mean age of 17.2. In part, this is because our sample mostly consisted of first-time applicants, since the PESOs wanted to ensure SPES babies received priority for slots. However, among our non-experimental sample, which included new and returning applicants, the average age was only 17.8.

Table 4: Balance tests

	Control (1)	Treatment (2)	P-value (3)	N (4)
Female	66.8%	65.4%	-	3,777
Age (mean)	17.1	17.2	0.629	3,702
College	39.4%	55.7%	0.601	3,796
Any past work experience	19.4%	19.8%	0.074*	2,546
Formal work experience	7.0%	7.3%	0.449	2,546
Informal work experience	5.5%	4.3%	0.222	2,546
Lowest acceptable daily wage	287	297	0.569	2,155
Expected daily wage after graduation	476	496	0.526	2,205
Expected tuition next year	9,897	10,248	0.478	2,389
Expected other educ. exp. next year	8,361	8,437	0.132	2,389
Region III	67.5%	22.9%	-	3,796
Region VI	24.4%	61.8%	-	3,796
Region VII	0.0%	0.0%	-	3,796
Region XI	0.0%	0.0%	-	3,796
NCR	8.0%	15.3%	-	3,796
Joint significance of all covariates			0.216	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Notes: Experimental sample baseline respondents included. College includes 51 respondents enrolled at vocational level. Covariate-specific and joint balance tests include stratification cell fixed effects. P-values omitted for stratified covariates.

Figure 3 shows the distribution of applicant ages, including experimental and non-experimental applicants; nearly all (94%) were aged 20 years or younger. Most applicants did not have past work experience (less than 20%) and only 8 per cent had any formal work experience.

From our baseline information, we observe that 1,891 SPES applicants were identified as secondary students and 1,905 as tertiary/vocational. Although our baseline information is incomplete, we observe few out-of-school youth (2%, conditional on having information on baseline education level).⁶ It is important to note that our records are incomplete for some municipalities.⁷

Figure 3: Age distribution of SPES applicants

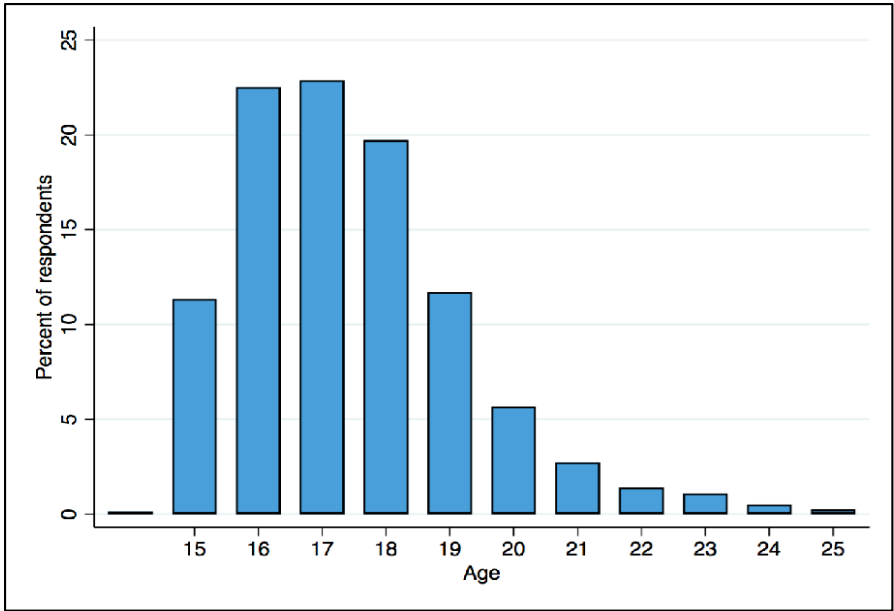
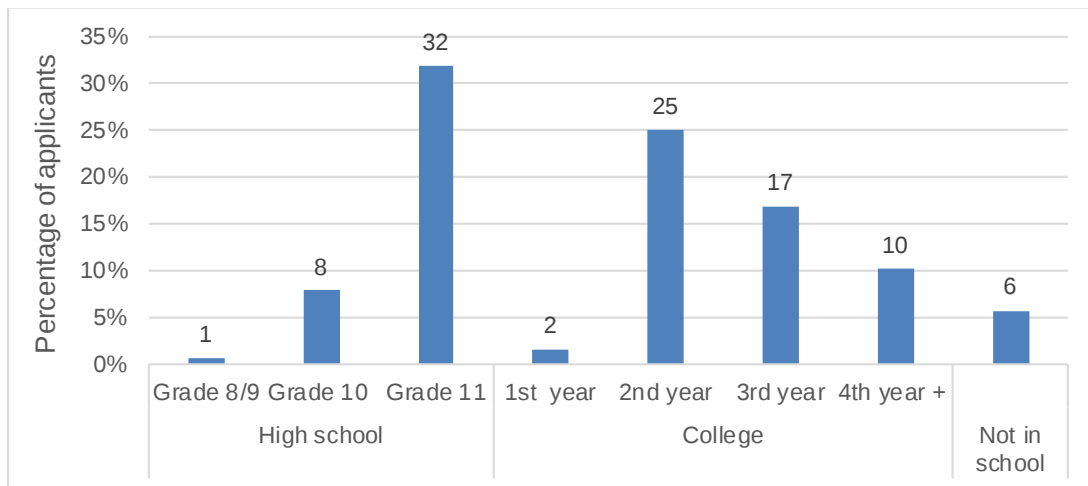


Figure 4 shows the endline distribution of grade levels among applicants. We use endline data rather than baseline data because the endline data have greater detail and fewer missing values. Because of K-12 implementation, there are virtually no grade 12 students (only 11, which we have merged with grade 11 for simplicity of presentation) and there are very few first-year college students. The bulk of applicants are in grade 11 high school or in the second year of college.

⁶ For simplification due to missing data, out-of-school youth are categorised with high school students.

⁷ Incomplete and missing records include randomisation lists sent by PESOs, SPES application Form 2 and the supplemental questionnaire. For those, we imputed status based on reported age. In cases of missing data on school level, we assume the following for stratification: high school younger than or 15 years of age, and college older than 15 years of age.

Figure 4: Grade distribution of SPES applicants, endline



Note: Sample includes all experimental and non-experimental endline respondents.

5.6 Balance tests

Since assignment to SPES was conducted randomly, we expect that, on average, the baseline characteristics of treatment and control group members should be equal (or balanced) within each randomisation cell; that is, within each PESO-by-gender-education level cell. We conduct balance tests to examine whether characteristics between treatment and control group members are equal. Because the size of the treatment relative to control group varies substantially among municipalities, we include stratification cell fixed effects in all balance tests.

These fixed effects, particularly the PESO-level effects, are important because otherwise PESO-level differences in baseline-covariates will be indistinguishable from covariate imbalance within PESOs. For example, if poorer municipalities have higher rates of oversubscription, then poorer municipalities will have more control group members. As a result, members of the control group overall will appear poorer on average. However, within a given municipality, the characteristics of treatment and control group members should be equal, on average.

On average, college graduates make up a larger share of the respondent sample in the treatment group (56%) than the control group (39%). However, this difference is driven at PESO level and there is no evidence of imbalance ($p = 0.60$). Our main covariates are balanced overall, although there is a slight difference in the likelihood of having past work experience ($p = 0.07$). We test the null hypothesis that these covariates are jointly zero, setting all missing values to zero and including missing variable flags, and we obtain a p-value of 0.22.

5.7 Data collection and data collection tools⁸

5.7.1 Baseline

The IPA team collected baseline data from February to May 2016. We collected baseline data across 80 PESOs (either municipal/provincial or educational institutions) in all five

⁸ Survey instruments are available in Online Appendices C through F.

target regions from municipalities that did and did not participate in the impact evaluation. We obtained baseline data information from several sources:

1. **SPES application form (Form 2):** This is the standard application form completed by all SPES applicants, which is implemented in all PESOs. In Regions III, VI, VII and NCR, these forms are filled out by hand. In Region XI, applicants fill these forms out online and bring a printed copy to their local PESO to finish the application process.
2. **Supplemental questionnaire:** IPA developed a supplemental questionnaire to be completed by applicants to collect additional information about their educational background, work experience and labour market perceptions and aspirations. This questionnaire was distributed with Form 2 and submitted together. In Region XI, this questionnaire was filled out when applicants reported to the PESO to submit a copy of their online form.
3. **PESO officer questionnaire:** After applicants submitted their complete materials, PESO officers used a short checklist to confirm all necessary items had been submitted, including a consent form, Form 2 and the supplemental questionnaire. Within that questionnaire, a short series of questions evaluated applicants' work readiness.

The IPA team collected baseline data information from a total of 23,166 applications from the PESOs we coordinated with to collect the data, regardless of their participation in the impact evaluation. We entered all questionnaires from PESOs that participated in the impact evaluation, but due to budget constraints, we entered an approximate 23 per cent sample of applications from PESOs not participating in the impact evaluation, which comprise the non-experimental sample. We scanned and retained the application forms for all applicants in case this additional data might later be of use to our analysis.

Other baseline data sources

We have merged two additional files with the baseline data set: 1) the randomisation list, which assigns each applicant to treatment or control groups within participating PESOs; and 2) the terminal reports each PESO submits to the DOLE regional office at the conclusion of SPES. These terminal reports list each SPES beneficiary, his or her position, days worked and earnings for the period:

1. **Randomisation lists:** These lists contain the names of all PESO applicants for each PESO and were submitted to IPA immediately after the closing of the application period.
2. **Terminal reports:** By law, each SPES employer must submit to the PESO a terminal report, which contains the names of SPES beneficiaries, number of days worked and wages earned, within one week of the conclusion of the SPES work period. The PESOs submit a full report to the DOLE regional office. IPA collected these terminal reports from each region and encoded and/or merged them into the remaining data set.

We use fuzzy string matching to merge these three sources to form our baseline data set. It is possible that our data set may include false positives (two different individuals labelled as a match) and false negatives (failure to match one individual who appears in two different data sets).

Compiling baseline data

Table 5 shows the distribution of applicants for which data were collected and successfully merged and for which we have signed consent forms. Our overall baseline sample includes 15,174 SPES applicants. Although we randomised 5,610 applicants, we could only match 4,099 with supplemental questionnaires, of which 3,796 consented to participate in the study.

Table 5: Data collected, by region

	SPES Form 2	Supplemental questionnaires (SQs)	Terminal reports	Randomised applicants	Matched SQs with randomisation	Matched, baseline consent	Endline, matched with baseline consent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NCR	1,346	2,639	2,276	1,249	628	487	370
Region III	5,617	7,414	10,285	2,859	2,015	1,865	1,692
Region VI	504	823	871	0	0	0	0
Region VII	525	970	2,275	0	0	0	0
Region XI	2,742	3,328	2,599	1,502	1,456	1,444	1,218
Total	10,734	15,174	18,306	5,610	4,099	3,796	3,280

Challenges in baseline data collection

We encountered the following challenges in collecting and compiling baseline data:

- **Variation in application timing:** Each PESO implements its own application schedule and several PESOs implement a very short application window early in the year. DOLE regional offices were not always informed of the PESOs' schedules. Some PESOs initiated their application window before the supplemental questionnaire was disseminated, so we do not have a full set of data for these early applicants.
- **Incomplete supplemental applications:** Although PESO officers were asked to verify each application and supplemental questionnaire with each SPES applicant for completeness, some applicants (7%) did not fully complete the informed consent form, which was intended for randomised PESOs. Additionally, many supplemental questionnaires were incomplete, particularly among PESOs that did not participate in the impact evaluation randomisation. Overall, 27 per cent of the supplemental questionnaires were mostly blank. Among randomised applicants who had consented to participate in the study, 37 per cent of questionnaires were mostly blank. While applicants with missing data can still be part of our follow-up survey and analysis, the missing data reduce our sample when analysing baseline data and reduce our precision.

5.7.2 Endline data

The IPA team collected endline data from January to May 2017. We attempted to contact a total of 4,886 respondents; of these, 3,793 form our experimental sample,⁹ who were randomised into treatment and control groups (chosen to receive or not to receive SPES). The remaining 1,093 respondents form the non-experimental group and were not randomised into treatment and control groups. We have restricted our impact analysis to the experimental sample, but we include these non-experimental respondents in the descriptive statistics tables to provide a more complete picture of SPES participants. The endline survey questionnaire included questions on education and enrolment status, employment and job search histories, respondents' experiences with SPES and measures of their employability.

The endline data collection was conducted over the phone, using tablets to collect the data electronically from the IPA Philippines office in Sorsogon City. Respondents received Php25 phone load for their participation. In the baseline questionnaire, we asked respondents for a primary phone number, secondary number and up to four alternative numbers of family members and friends, as well as email addresses. IPA staff were instructed to attempt to reach the respondent at each number provided up to four times (on different days and at different times). Staff also sent a text message before the call and in response to texts received. This approach yielded a response rate of 75 per cent. We also attempted to reach respondents by email but received no responses.

During April and May, we conducted an intensive follow-up with the hard-to-reach respondents (those who could not be contacted using any of the phone numbers provided or by email) in the experimental group only. Respondents in this hard-to-reach group may have changed SIM cards, which happens frequently, or may have been in areas with a weak cell phone signal. The intensive follow-up period included a Facebook search and then a deployment of staff into Regions III, XI and NCR. Through these intensive methods, we surveyed 542 additional respondents, bringing our overall response rate to 86 per cent:

- 1. Facebook search:** We provided a list of the hard-to-reach respondents to a staff member tasked with the online search. When a respondent was located on Facebook (using name, phone number, email address, city, school and/or other personal information to validate the respondent), we only asked the respondent for updated contact information (after providing an appropriate introduction). The respondents were then contacted at the new number provided for the phone survey.
- 2. Field deployment:** A few weeks after the Facebook search, we provided updated lists of the hard-to-reach respondents to the concerned PESOs and asked for their assistance in 1) updating contact information; 2) locating respondents; and/or 3) inviting the respondent to the PESO for an in-person interview. Half of the IPA team were deployed in the field, while the other half remained in Sorsogon to try to contact respondents using updated contact information. The IPA team deployed in the field first attempted to coordinate with the PESO to reach the respondents and then attempted to locate the respondents at their residences.

⁹ Our baseline sample consisted of 3,796 respondents, but we lacked contact information for 3.

5.7.3 Challenges in endline data collection

Hard-to-reach respondents

The number of hard-to-reach respondents was high. We had assumed that the multiple numbers collected during baseline would be sufficient to contact the respondents. We had also assumed that cell phone coverage would not be an issue, but we found that some municipalities, particularly in Region XI, had very poor coverage.

Timing and availability of PESOs to assist

The Easter holiday in the middle of April presented challenges in securing seats on transportation, which delayed deployment in the field. A preliminary deployment trip to Region III in the beginning of April was cut short due to the unavailability of transportation returning to Sorsogon before the holiday. Returning to Region III was delayed after the holiday, again due to the unavailability of transportation.

During the intensive follow-up period, we asked for the assistance of the DOLE regional offices and PESOs. This was particularly important for Region XI, because of security concerns in some areas. However, in Region XI they were not available to assist us until after 1 May due to several Labor Day events. In NCR, while initially we had assistance from one PESO in the beginning of April, when we later reached out to the PESOs, we learnt that they would not be available until the last week of May.

Security concerns in Region XI

Security concerns in two municipalities in Region XI limited the deployed IPA team's search efforts. Additionally, martial law was declared in Mindanao a few days before the team's scheduled return and all field work was suspended.

5.7.4 Qualitative data

We conducted a brief phone survey with the managers of PESO branches that had participated in the experimental sample during January and February 2018 to understand the reasons for payment delays and the challenges faced in implementing the randomisation. We interviewed 24 out of the 27 PESOs that we contacted, and the remainder could not be reached because we did not have current contact information.

5.8 Attrition

By supplementing our phone surveys with intensive follow-up efforts, we obtained an experimental response rate of 86 per cent. As Table 6 shows, we encountered very few direct refusals (6%) and the main reason for non-response was because we could not reach the respondent nor any family members, either because the numbers provided were invalid or no longer in service or the subscribers were out of network coverage.

Table 6: Reasons for attrition

	No. of respondents (1)	% share (2)	% cumul. share (3)
Respondent could not be reached	565	84.6	84.6
Partial interview only	55	8.2	92.8
Refused/hung up	39	5.8	98.7
Interview scheduled, never re-contacted	9	1.3	100.0
Total	668	100.0	

Table 7 reports the response rates for our experimental sample separately for the control group (column 2) and treatment group (column 3), plus for the non-experimental group (column 5). Because we have restricted our experimental sample to those who had consented to participate and therefore had completed a supplemental questionnaire, we had at least some contact information for nearly all treatment and control group members. Within the experimental group, we see no evidence of differential attrition by treatment status ($p = 0.46$).

Table 7: Endline sample attrition

	Overall	Experimental			Non-experimental
		Not assigned SPES	Assigned SPES	p-value	
	(1)	(2)	(3)	(4)	(5)
Baseline respondents	13,622	1,285	2,511		9,826
No. attempted to contact	4,886	1,284	2,509		1,093
Response rate	86%	84%	88%	0.46	86%

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Notes: Response rates conditional on attempting to contact for endline. Test for differential response rates by treatment status includes stratification cell fixed effects.

We also explore predictors of attrition in Table 8, using the key baseline covariates from Table 4, including flags for missing variables and stratification cell fixed effects. We find that baseline covariates predict attrition (we reject the null that the covariates do not predict attrition at the 5% level). Specifically, attrition is significantly higher among older respondents and for those who have been self-employed (that is, they have previous work experience but no formal or informal experience). We control for all these baseline characteristics in our specifications.

Table 8: Attrition by baseline characteristics

	Attrition (1)
Assigned to SPES	-0.0055 [0.014]
Female	0.027 [0.17]
Age	0.015*** [0.0054]
Out of school	-0.0092 [0.060]
College	0.032 [0.074]
Any past work experience	0.075** [0.035]
Formal work experience	-0.062 [0.040]
Informal work experience	-0.038 [0.043]
Lowest acceptable daily wage ('000)	0.043 [0.034]
Expected daily wage after graduation ('000)	-0.016 [0.024]
Expected tuition next year ('000)	0.00021 [0.00040]
Expected other educational expenses next year ('000)	0.00051 [0.00045]
Observations	3,793
F-test statistic, joint equality of covariates	1.82**

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample baseline respondents included. College includes 51 respondents enrolled at vocational level. Specification includes missing variable flags and stratification cell fixed effects.

5.9 Key outcomes

The primary focus of the evaluation is to assess the effects of SPES on students' school participation and labour market outcomes. School participation will include whether students are enrolled and whether they obtain passing grades. Labour market outcomes will include income, work hours and job search effort and duration.

In answering these questions, the primary outcomes of interest include the following:

- Education: share of applicants enrolled in school, share graduated (from high school and college), share expecting to graduate next year (from high school and college), share who drop out, grade repetition, time to degree and grades (general weighted average).
- Employment: share employed, share employed in formal sector, share employed in 'vulnerable employment' (informally employed, self-employed or working in an unpaid family business), share currently looking for work, duration of job search and current earnings.

- o The secondary outcomes of interest include the impact of SPES on students' incomes and expenditures, on students' earnings in the short run and on education spending. We also measure the impact of SPES on employability, as assessed by subjective measures of individuals' self-empowerment, self-esteem, aspirations and labour market perceptions.
- Income and consumption: SPES earnings, self-reported individual wages and education spending (tuition and other expenses).
- Employability: index measures of self-empowerment and self-esteem, aspirations and labour market perceptions.

6. SPES: design, methods and implementation

6.1 Programme take-up

We measure SPES take-up based on respondents' endline reports about whether they enrolled in SPES during 2016. We find substantial evidence of non-compliance within the treatment and control groups and we see a high, but not universal, level of participation within the non-experimental group.

Specifically, 28 per cent of control group members reported that they enrolled in SPES in 2016. There are several possible reasons for this non-compliance:

1. We provided PESOs with a 'back-up list' of respondents, comprising control group members, which they could use if treatment group members did not enrol.
2. Control group members may have applied in other municipalities after learning they had not been accepted on to their home municipalities' SPES programme.
3. PESOs that held multiple batches throughout 2016 might have permitted control group members to enrol.
4. PESOs may have reassigned control group members to the treatment group, perhaps because some members were SPES babies, belonged to other priority groups or were chosen by the LCE.

There is substantial variation in the level of control group non-compliance across and within regions. We see high levels of control group enrolment in Region III (47%), but much lower levels in Region XI (20%). Only six municipalities (20%) showed very high control group compliance (less than 10% enrolled in SPES in 2016), while in nine municipalities (31%), more than 75 per cent of the control group enrolled. Additionally, we see some non-compliance among treatment group members; 89 per cent of those invited to SPES actually enrolled, which is comparable with the enrolment rates among the non-experimental sample.

In early 2018, we interviewed PESOs (24 total surveyed out of 27 approached) about their ability to comply with the list IPA provided. A few PESO managers (17%) reported that they had no knowledge of the list because they were not involved with SPES in 2016. For managers who were involved in the 2016 selection process, most affirmed that they complied with the list, though many had to use the provided wait lists when they could not contact the originally assigned beneficiaries. One common complaint (three PESOs) was that it was difficult to contact the assigned beneficiaries because cell phone numbers did not work.

These explanations would explain why we see imperfect compliance across most municipalities, but they do not indicate why some municipalities appear to have ignored the list entirely. The managers interviewed provided several suggestions to improve adherence to randomisation and study implementation. Specifically, they suggested more lead time on the study and accompanying protocols (two PESOs, one recommending 2–3 months' notice) and to avoid holding the study during an election year. Some (seven PESOs) said that it was challenging to turn down non-selected applicants; additional efforts to manage applicant expectations may help reduce negative feedback from applicants and improve compliance.

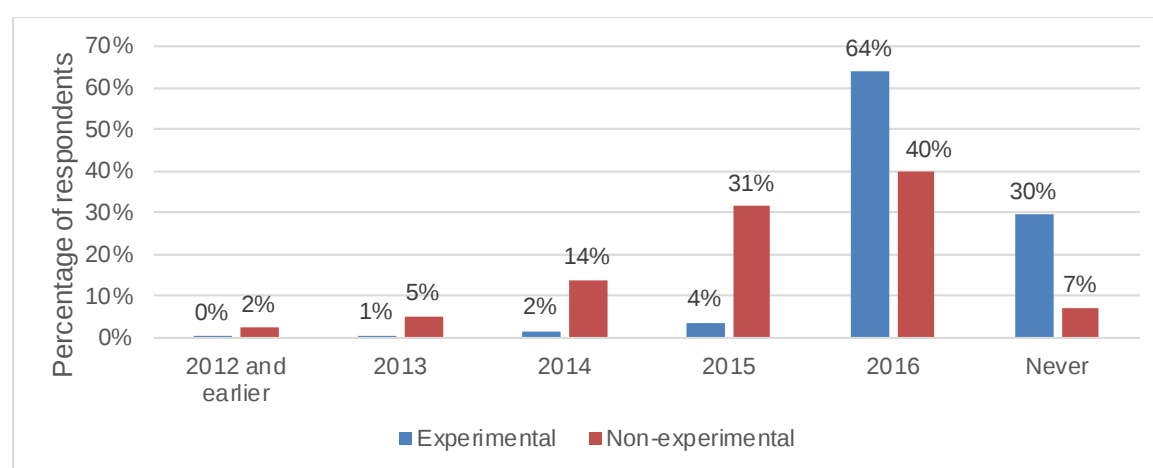
This non-compliance among control and treatment group members means that our estimates of the impact of assignment to SPES are not necessarily equal to the true impact of SPES, as the impact of SPES might be different for those who were actually induced to enrol versus those who would have enrolled (or not enrolled) regardless. After controlling for stratification fixed effects and covariates, we find that being assigned to SPES increases the probability of enrolment by 51 percentage points (F-stat = 650). However, because assignment to SPES remains random, non-compliance does not threaten the internal validity of our results.

Table 9: SPES take-up, by treatment status and region (%)

	Control (1)	Treatment (2)	Non-experimental (3)
Overall	28	89	90
Region III	47	92	95
Region VI/VII			100
Region XI	20	79	84
NCR	37	88	86

The majority of SPES participants in the experimental group were first-time participants, as Figure 5 shows. Just 7 per cent of experimental group members participated in SPES before 2016, compared with 52 per cent in the non-experimental group. The number of prior SPES participants in the experimental group is low because most PESOs identified their SPES babies in advance and excluded them from the randomisation.

Figure 5: First year of SPES participation



6.2 SPES experience

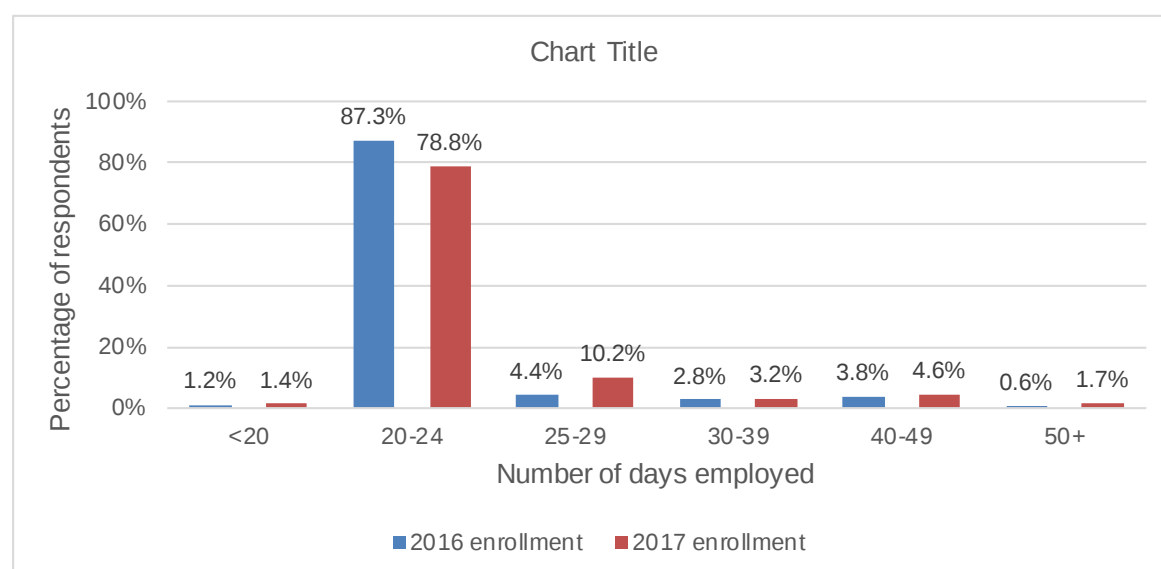
We next look at the duration and type of work participants did, their payment schedules, how they used funds and their satisfaction with SPES and their PESOs. Most participants' main responsibility is surveying (26%) or office work (49%), with the main office tasks consisting of data encoding and filing and organising. Among 14 per cent of respondents, their primary or secondary assignment was maintaining the cleanliness and orderliness of the office, which typically meant rearranging furniture, opening and closing windows or pursuing other, unproductive tasks in lieu of meaningful work.

Table 10: Distribution of SPES tasks

Rank	Assignment	Primary assignment			Primary or secondary assignment	
		No. of students	% share	% cumul. share	No. of students	% share
		(1)	(2)	(3)	(4)	(5)
1	Surveying (enumerator/census)	802	25.8	25.8	915	29.5
2	Encoding/updating records (data)	572	18.4	44.3	778	25.1
3	Filing and organising documents	466	15.0	59.3	730	23.5
4	Cleaning/sweeping/planting	281	9.1	68.3	513	16.5
5	Maintaining cleanliness/orderliness of office	178	5.7	74.1	420	13.5
6	Messenger/errands/distributing flyers	140	4.5	78.6	318	10.2
7	Processing and preparing forms	137	4.4	83.0	235	7.6
8	Customer service/sales/organising	122	3.9	86.9	183	5.9
9	Typing letters/documents	97	3.1	90.0	174	5.6
10	Care-giving/hospital assistance	81	2.6	92.7	109	3.5
11	Teaching/tutoring of children	68	2.2	94.8	76	2.4
12	Other, specify	60	1.9	96.8	128	4.1
13	Copying and scanning documents	47	1.5	98.3	100	3.2
14	Manual tasks	40	1.3	99.6	62	2.0
15	Surveying (agriculture/plants/animals)	8	0.3	99.8	8	0.3
16	Charity/neighbourhood work	5	0.2	100.0	8	0.3
Total		3,104	100.0		3104	

Although the law allowed students to work 20–52 days, we find that in practice, nearly all (78%) of students worked the minimum of 20 days in 2016 and only 0.5 per cent worked the maximum 52 days. Anecdotally, we learnt that mayors prefer to maximise the reach of the programme by spreading programme funds across the largest number of beneficiaries and that this may be worsened by electoral pressures in 2016. The leftmost blue bars for each age group in Figure 6 show the general distribution of days of work during 2016.

Figure 6: Distribution of SPES duration, 2016 and 2017 beneficiaries



In 2017, the SPES law was amended to permit up to 78 days of work. To see whether this change, alongside the absence of electoral pressures, substantially changed the duration of the programme, we compiled terminal report data from the 2017 batch across the set of PESOs originally contacted in 2016. The red bars on the right in Figure 6 show that, while share of students working only 20–24 days fell from 87 per cent to 79 per cent, the minimum of 20 days remained standard practice (82% working exactly 20 days in 2016 and 72% working exactly 20 days in 2017). In addition, only 0.4 per cent took advantage of the new law and worked more than 52 days and only 0.07 per cent worked the full 78 days allowed by law.

6.3 Payment schedules

Under RA 9547, SPES beneficiaries receive 60 per cent of their salary/wage, based on the prevailing minimum wage in the area, in cash from their employer, while the remaining 40 per cent from DOLE is paid in the form of an education voucher. Under the education voucher payment system, after SPES beneficiaries submit the required documents to DOLE after programme completion, including a statement of account from their school, DOLE issues a cheque directly to the school for all SPES beneficiaries enrolled in each educational institution.

The SPES law states that the school will receive the DOLE share of payment within 30 days of DOLE receiving the required documents of the SPES beneficiaries from the PESOs. If there is no payment due to the school, then a cheque will be issued directly to the SPES beneficiary. However, due to challenges with the payment processing under

the education voucher system, many regions changed to a cash/cheque disbursement directly to the SPES beneficiary even before the amendment. For example, in Region XI the education voucher system was no longer used during the study implementation, but in Region III beneficiaries were given an option of either voucher or cash/cheque payment.

Under the cash/cheque payment system, DOLE processes the payments when it receives the required documents from the SPES beneficiary. While Region XI distributes payments through bank transfers, Region III distributes payments by cheque either through a DOLE provincial office or the PESO. Even with the cash/cheque payment systems, based on SPES beneficiary self-reports we find substantial delays in receiving the payment. Many respondents still had not received their DOLE payment by endline.

Figure 7 shows that, while 69 per cent of beneficiaries received payment from their employers within one month, only 31 per cent had received payment from DOLE. By the time of the endline survey, 8–12 months after completion of SPES, nearly all beneficiaries had received payment from their employers (94%); however, 14 per cent were still waiting for payment from DOLE. Based on our conversations with DOLE officials, reasons for these delays included: beneficiaries not having the necessary documentation, particularly proof of enrolment from their schools; difficulty finding beneficiaries; and challenges imposed as a result of changes in administration following the May 2016 elections.

Figure 7: Time to payment from employer and DOLE

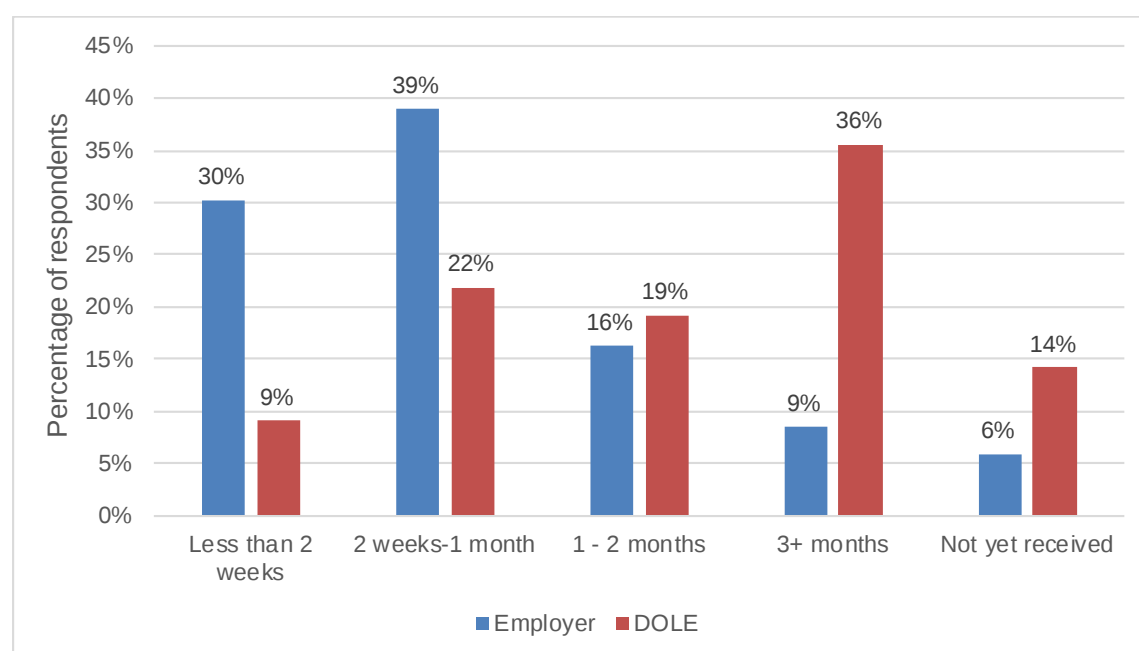


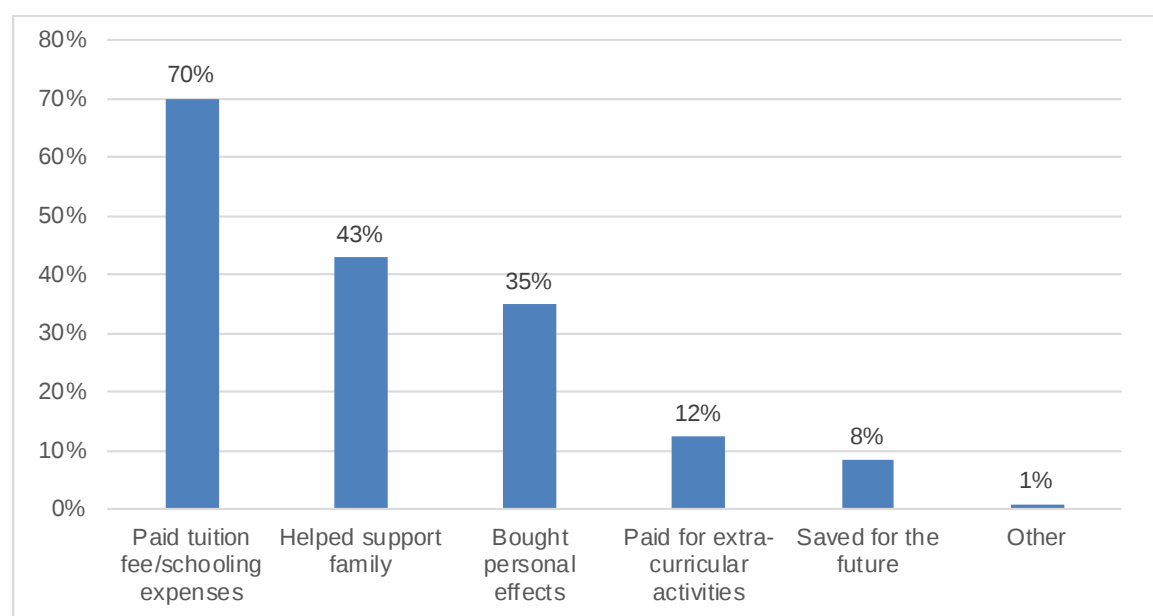
Table 11 shows that there are also substantial regional differences in payment timing. Payments in NCR were generally more delayed, as 65 per cent received DOLE payments after three months or more, but they were much less likely to be still outstanding (7%). Payments were more prompt in Region III (34% within one month and only 28% took three months or more), but 15 per cent of Region III students were still waiting for payments from DOLE at endline.

Table 11: Time to SPES payment from employers and DOLE, by region (%)

	Region III		Region VI/MI		Region XI		NCR	
	Employer	DOLE	Employer	DOLE	Employer	DOLE	Employer	DOLE
Less than 2 weeks	22	9	11	8	38	12	58	5
2 weeks–1 month	39	25	34	29	44	20	29	8
1–2 months	19	24	24	13	12	10	9	14
3+ months	10	28	32	37	5	40	4	65
Not yet received	10	15	0	3	0	16	0	7
Not directly received	1	0	0	11	0	1	0	1
Observations (no.)	1,873		38		825		367	

Among the 24 PESOs we surveyed in 2018, nearly all (84%) reported delays in ensuring students receive their payments, though the most common cause was problems on the beneficiaries' side. Some 17 PESOs reported delays caused by students lacking the required paperwork; and specifically, there were often delays in obtaining the certificate of enrolment from the school (two PESOs). Others (three PESOs) reported issues verifying students' signatures, which took time to reconcile.

Nearly all PESOs (83%) mentioned that they had taken steps to reduce the problems that students face, including making sure they are announced clearly and checking in frequently throughout the process; and even coordinating with the schools to facilitate the payment process. Efforts to simplify the proof of enrolment process may help students receive their payments on time. In addition, 21 per cent (six PESOs) reported delays on the side of the DOLE. Reasons varied, including delays in processing payments at regional level (three PESOs), lack of manpower (one PESO), budgetary issues at provincial level (one PESO) or problems with setting up ATM payments (one PESO).

Figure 8: How SPES beneficiaries used funds

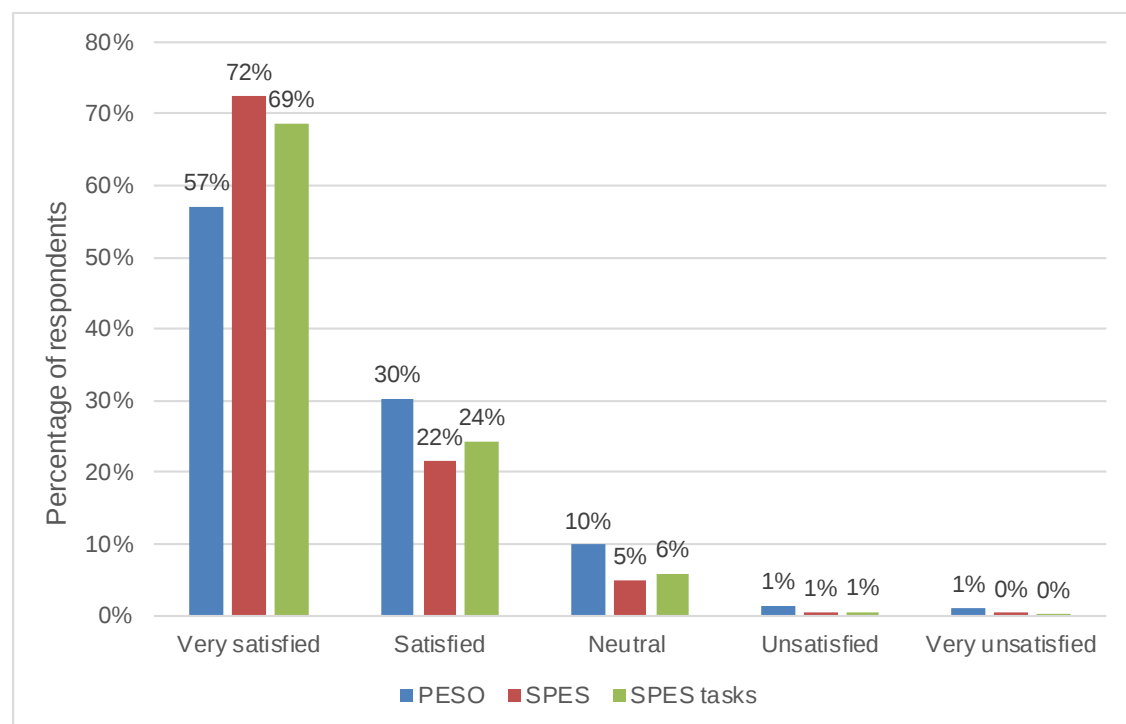
6.4 How SPES beneficiaries used SPES funds

The primary purpose of SPES is to help students earn money to help pay for their educational expenses. In this respect, SPES is largely successful: 70 per cent use their funds for tuition fees and schooling (Figure 8). However, beneficiaries also use their funds to help support their families and purchase personal effects. In addition to the 30 per cent of students who do not report using their earnings for education, 57 per cent of those who spend money on education also use some of their earnings for other purposes, namely to support their families (40% of those who spend on education) and buy personal effects (31% of those who spend on education).

6.5 Satisfaction with SPES and PESOs

We also assess respondents' satisfaction with SPES and their local PESO. In addition to getting an overall sense of satisfaction levels, we look at whether members of the control group, most of whom could not enrol in SPES despite applying, are less satisfied with their PESO. As Figure 9 shows, satisfaction with their PESO is uniformly high among respondents (leftmost blue column), as is SPES beneficiaries' satisfaction with SPES (middle red column) and with the tasks they did as a part of SPES (rightmost green column). We also find fairly uniform support across regions.

Figure 9: Overall satisfaction with local PESO and SPES



7. Impact analysis and results of the key evaluation questions

7.1 Empirical strategy

Because we have imperfect compliance, we estimate and report local average treatment effects (LATE) of SPES on our primary outcomes of interest. These estimates provide the causal impact of enrolling in SPES on our outcomes of interest for those applicants

who were induced to enrol as a result of random assignment (that is, for those who complied with their assignment). Randomly assigned treatment status is a strong predictor of whether a respondent ultimately enrolled in SPES (F-statistic = 650). We measure the LATE of SPES directly by instrumenting for enrolment with treatment status using two-stage least squares:

$$spes_{i,s} = \alpha_0 + \alpha_1 treatment_{i,s} + f_s + X'b + v_{i,s}$$

$$y_{i,s} = \beta_0 + \beta_1 \widehat{spes}_{i,s} + f_s + X'b + e_{i,s}$$

where $spes_{i,s}$ is a binary variable equal to one if the respondent reports enrolling in SPES in 2016. All specifications include stratification cell fixed effects (f_s) and a vector of individual-level baseline covariates (X) that are likely to be important to our outcome variables of interest: gender, age, whether a previous SPES beneficiary, whether ever worked, whether ever worked formally and the lowest amount respondents report they would be willing to work for (reservation wage). We code missing values as zero and include flags to avoid dropping respondents with incomplete baseline information. We report heteroscedasticity-robust standard errors in all specifications. For our estimates to identify the causal impact of SPES, we require that random assignment to SPES only affects our outcomes of interest directly through enrolment in SPES.

Given that the barriers to completing one's education and finding work are likely to differ based on gender, education level and socio-economic status, we report a set of regressions in which we interact binary indicators for being female, being in college and coming from a family in the top half of the sample's income distribution, determined by the Progress Out of Poverty Index. These binary indicators are also interacted with our individual covariate terms and missing value flags. These estimates should be interpreted with some caution, however, because we have not adjusted for the higher likelihood of falsely rejecting the null hypothesis – that is, finding a spurious result that appears statistically significant – because of multiple comparisons.

7.2 Effect of SPES on education

As the descriptive statistics and balance tests in Table 4 show, the majority of SPES applicants in the experimental sample were enrolled in high school. Table 12 and Table 13 describe the educational characteristics of the endline sample, including members of the experimental and non-experimental groups. Overall, enrolment was high (94%) and graduation rates from college virtually zero, as very few respondents were in their fourth year of college. Expected enrolment rates for the next school year (2017/18) fall substantially, though some of this drop was due to anticipated college graduation.

Although SPES beneficiaries are required by law to come from low-income families, a relatively high share, 27 per cent, were enrolled in private school. Disadvantaged families may receive tuition assistance or scholarships, but we find that, on average, families paid Php6,269 per year out of their own pocket. Non-tuition educational expenses, such as books, uniforms, supplies and meals, totalled even more, averaging Php20,443 per year. Slightly more than 30 per cent received financial assistance from extended family members, averaging Php8,844 per year (conditional on receiving any assistance) and more than half received a scholarship and/or stipend, averaging Php12,324 per year (again conditional on assistance).

Table 12: Endline educational characteristics, by sample type (%)

	All (1)	Experimental (2)	Non- experimental (3)
Currently enrolled	94.3%	94.6%	93.3%
Graduated college	0.8%	0.7%	0.9%
Graduated high school	59.9%	53.1%	80%
Grade weighted average, normalised	0.02	0.01	0.07
Expect to graduate college by 2017 (%)	11.1	9.4	17.4
Expect to graduate high school by 2017 (%)	59.9	54.1	80.4
Private school (%)	26.9	28.3	22.2
Tuition	11,656	11,651	11,670
Tuition, paid out of pocket	6,269	5,959	7,367
Other educational expenses	20,443	19,945	22,212
Receiving assistance from extended family (%)	30.7	30.1	32.9
Amount of family assistance (conditional)	8,844	8,705	9,294
Receiving scholarships/stipends (%)	53.2	54.3	49.5
Amount of scholarship/stipend (conditional)	12,324	12,277	12,506
Observations	4,221	3,282	939

Notes: Sample includes experimental and non-experimental respondents. High school and college-level reported at baseline. Number of observations based on number of endline respondents in each category. The sample size for each row varies slightly as a result of non-response. Grade weighted average normalised by endline grade level and grading scale among control group members.

We then consider differences between respondents who are in high school versus college at endline and between respondents who report at endline that they have enrolled in SPES before 2016 (17%) and those who have not. Average tuition for high school students was Php8,517 per year, while for college students it was Php14,601. Given financial need, scholarships and senior-high school vouchers, what is most relevant, however, is the out-of-pocket tuition that students and their families paid: an average of Php1,539 for high school students and Php10,138 for college students. However, other educational expenses dwarfed out-of-pocket tuition, with high school students reporting an average cost of Php14,348 per year and college students reporting Php25,239 per year.

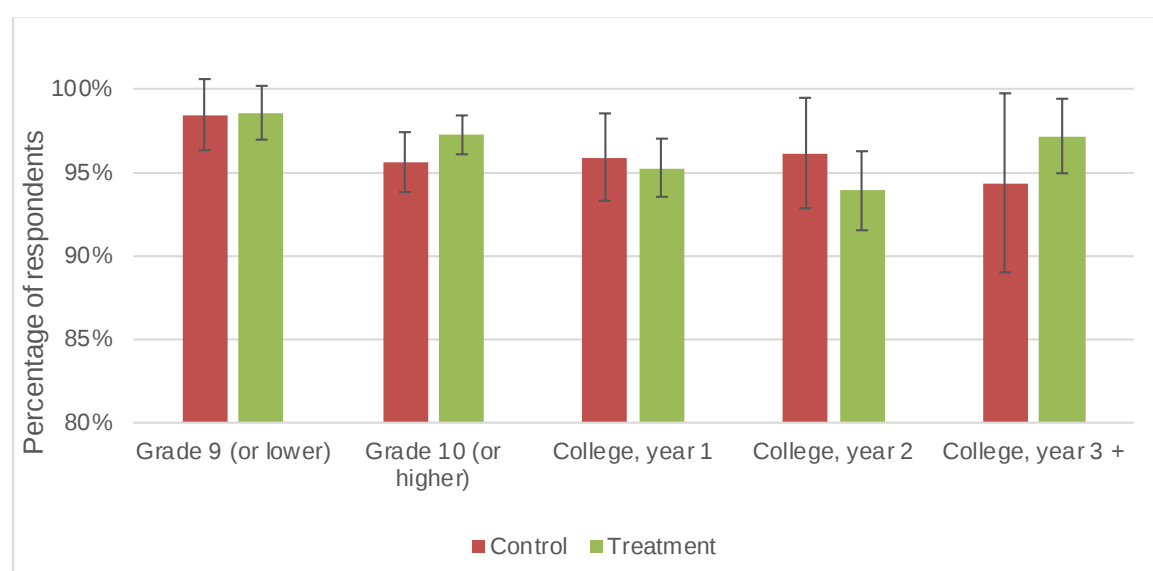
Table 13: Endline educational characteristics, by education level and SPES history

	High school (1)	College (2)	First- time/never enrolled (3)	SPES babies (4)
Currently enrolled (%)	96.5	92.8	94.7	92.3
Graduated college (%)	0.0	1.4	0.7	1.8
Graduated high school (%)	1.6	100.0	50.9	83.6
Grade weighted average, normalised	-.091	.099	.003	.08
Expect to graduate college by 2017 (%)	0.0	17.9	8.5	21.8
Expect to graduate high school by 2017 (%)	3.6	100.0	51.9	84.5
Private school (%)	31.4	25.3	28.9	18.7
Tuition	8,517	14,601	11,646	11,731
Tuition, paid out of pocket	1,539	10,138	5,827	7,846
Other educational expenses	14,348	25,239	19,892	20,706
Receiving assistance from family (%)	26.2	33.9	29.7	36.5
Amount of family assistance (conditional)	5,384	11,141	8,746	8,231
Receiving scholarships/stipends (%)	50.1	58.2	53.9	58.6
Amount of scholarship/stipend (conditional)	15,655	9,544	12,545	8,782
Observations	1,565	1,717	3,062	220

Notes: Sample restricted to experimental respondents. Education level and past SPES experience as reported at endline. Number of observations based on number of endline respondents in each category. The sample size for each row varies slightly as a result of non-response. Grade weighted average normalised by endline grade level and grading scale among control group members.

To answer Research question 1 (What is the causal impact of the SPES on youths' academic outcomes?), we first consider enrolment rates at endline, shown in Figure 10. Each bar shows the enrolment rates by last completed grade level separately for the control group (red bar on the left) and treatment group (green bar on the right). The standard error bars (the black vertical lines) indicate 95 per cent confidence intervals.

Figure 10: Enrolment rates, by completed grade level



Consistent with Table 12, enrolment rates are consistently high, though they fall slightly as students advance in their studies. Visually, there are no clear patterns in enrolment between treatment and control group members. Enrolment among the treatment group is slightly higher for students who completed grade 10 and for those that have completed at least three years of college, but it is slightly lower for those who have completed only one or two years of college.

Table 14 translates these raw numbers to regression-adjusted estimates, specifically LATE, reporting the impact of enrolling in SPES on self-reported enrolment, graduation and grades. SPES has no overall effect on enrolment. The LATE coefficient of 1.6 percentage points is statistically significant, with a 95 per cent confidence interval of [-0.023, 0.055].

Similarly, we see no increase in the likelihood of graduating from college or high school. Rather, we see a negative, statistically significant impact on the likelihood of having graduated high school at the time of endline. Enrolling in SPES reduces the likelihood of having graduated from high school by 3.2 percentage points and it is statistically significant at the 10 per cent level. However, we are hesitant to put much weight on this result. Because of the K-12 expansion launched in 2016/17, there was no graduating class in 2017 (possibly with rare exceptions, such as private schools or pilot senior high programmes that had already implemented K-12). As a result, SPES should not affect high school graduation rates because no one graduated and it is more likely that we are capturing a spurious result.¹⁰

At endline, we asked all respondents about their grade weighted average (GWA) in their last academic year. The most common scales were between 1 (high) and 5 (low) and between 0 (low) and 100 (high), though some respondents had scales that could not be

¹⁰ We measure graduation as the *stock* of graduates. We count someone as a high school graduate if they: (a) report they are currently enrolled in college; or (b) report they are out of school but their highest level completed is either high school (with diploma) or have some college or technical and vocational training.

easily converted. We normalise the GWA based on the mean and standard GWA at each education level and scale for members of the control group. SPES increases GWA by 0.060 standard deviations, a very small change that is not statistically significant.

Table 14: Impact of SPES on current academic outcomes

	Enrolled in school	Graduated college	Graduated high school average	Grade weighted*	Plan to graduate college in 2017	Plan to graduate high school, 2017	Will enrol in 2017/18
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Enrolled in SPES	0.016 [0.020]	-0.0064 [0.0075]	-0.032** [0.016]	0.060 [0.082]	-0.0092 [0.021]	-0.038** [0.018]	0.023 [0.023]
Observations	3,282	3,280	3,178	3,241	3,280	3,278	3,270
Mean, control group	0.94	0.0074	0.44	0.00	0.07	0.45	0.92

*** p < 0.01, ** p < 0.05, * p < 0.10

Note: Experimental sample endline respondents included. Grade weighted average normalised using education level and scale-specific means and standard deviations of the control group. All specifications include controls included in Table 1 and stratification cell fixed effects.

The timing of our study may be one reason we fail to see impacts of SPES on education. To complete endline surveys before the 2017/18 academic year began, we started surveying respondents in January 2017, before the end of the 2016/17 school year, which generally ends in March. As a result, enrolment rates were still very high and the share of students who graduated college was very low, as the current school year had not ended for many. Additionally, the recent implementation of K-12 meant that there was no high school graduating class at the end of the 2017 academic year.

For these, we also asked students whether they planned to graduate their current level at the end of the 2017 academic year and whether they planned to enrol next year. As columns 5 and 6 show, the expected 2017 college graduation rate is much higher (7%) and the expected 2017 high school graduation rate is nearly the same as the current high school graduation rate in column 3 (45% versus 44%). However, the results are roughly the same: there is no impact on college graduation and a negative, statistically significant effect on high school graduation.

We next test for heterogeneity in responses by three divisions: gender, baseline education level and relative family income level. Table 15 reports the LATE of SPES, including an interaction term between SPES enrolment and the covariate of interest.

Table 15: Impact of SPES on academic outcomes, heterogeneity, LATE

	Enrolled in school	Graduated college	Graduated high school	Grade weighted average	Plan to graduate college in 2017	Plan to graduate high school, 2017	Will enrol in 2017/18
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Enrolled in SPES	0.064* [0.037]	-0.010 [0.014]	-0.016 [0.026]	-0.070 [0.15]	-0.016 [0.030]	-0.022 [0.032]	0.074* [0.041]
SPES X female	-0.072* [0.044]	0.0061 [0.017]	-0.0075 [0.033]	0.22 [0.18]	0.012 [0.041]	-0.0080 [0.039]	-0.075 [0.050]
Enrolled in SPES	0.041* [0.021]	-0.0029 [0.0025]	-0.027* [0.015]	0.020 [0.091]	-0.0073 [0.0059]	-0.039* [0.021]	0.0075 [0.016]
SPES X college	-0.066 [0.043]	-0.0095 [0.019]	0.046** [0.018]	0.16 [0.17]	0.00011 [0.050]	0.059** [0.024]	0.042 [0.054]
Enrolled in SPES	0.025 [0.024] [0.027]	0.00019 [0.0068] [0.012]	-0.038** [0.019] [0.023]	0.061 [0.099] [0.12]	0.035 [0.023] [0.032]	-0.035 [0.022] [0.026]	-0.029 [0.026] [0.033]

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Notes: Experimental sample endline respondents included. Grade weighted average normalised using education-level and scale-specific means and standard deviations of the control group. All specifications include controls included in Table 1 plus the controls multiplied by with the binary interaction term, along with stratification cell fixed effects.

We find that SPES has a marginally statistically significant impact on current and anticipated enrolment for men, increasing enrolment by 6.4 percentage points and anticipated enrolment by 7.4 percentage points, while it has almost no effect for women. This difference in impacts on enrolment between men and women is marginally statistically significant. We see suggestive evidence that the impact of enrolment is concentrated among high school students and students from low-income households, though these coefficients are not statistically significant and they do not persist for anticipated 2017/18 school enrolment.

The 6 per cent of the sample who were not enrolled in school at the time of the endline survey may include graduates who had finished their studies and students who had dropped out. Table 16 shows the distribution of reported reasons for not being enrolled for the entire experimental sample and then separately by treatment and control. The main reason for not being enrolled (37%) was financial problems, regardless of treatment or control status. A further 16% had completed their studies, while 13% needed to care for their families and 8% were not enrolled because of pregnancy. These results suggest that, even with SPES, some students and their families still lacked the funds needed for tuition and expenses.

Table 16: Reasons for not being enrolled in school (%)

	All		Treatment		Control	
	Obs.	Share	Obs.	Share	Obs.	Share
	(1)	(2)	(3)	(4)	(5)	(6)
Could not afford to continue	44	37	16	33	11	37
Completed studies	19	16	9	19	4	13
Caring for family	16	13	7	15	4	13
Pregnancy	10	8	4	8	3	10
Looking for a job or working	10	8	4	8	4	13
Changing studies	7	6	1	2	2	7
Hard to meet requirements	6	5	4	8	0	0
Do not want to continue	5	4	1	2	2	7
Other	3	2	2	4	0	0
Observations (no.)	241		117		61	

7.3 Effect on work readiness and aspirations

We next test the impact of SPES on work readiness, indicated by four index measures:

- 1. Self-esteem index:** We measure self-esteem using five statements from the Rosenberg self-esteem scale (Rosenberg 1965). Respondents answered how much they agreed with each statement. In Table 18, we average the five normalised responses and then re-normalise this index for the experimental control group to interpret effects in standard deviation units.
- 2. Work tasks index:** The work tasks index is the sum of tasks for which respondents said they had ‘some’ or ‘a lot’ of experience, out of the 11 tasks discussed in more detail below. On average, respondents had experience with 7.5 out of 11 tasks, and college students and SPES babies had more experience (8.1 and 8.0 tasks, respectively) relative to high school students and non-SPES babies (6.7 and 7.4 tasks, respectively). In Table 18, we normalise the total score across the experimental control group.
- 3. Life skills index:** We measure basic life skills based on responses to a series of statements developed by the Bureau of Local Employment. We ask individuals how much they agree or disagree with seven life skills statements about time use, communication, budgeting, dressing appropriately in the workplace and determination. On average, respondents show agreement across all statements, and differences are relatively small by education level or past SPES status. In Table 18, we average normalised responses, then re-normalise across the experimental control group.
- 4. Workplace skills index:** We ask individuals how much they agree or disagree with five statements in the areas of communication, leadership organisation, conflict management and relating with others. These statements are taken from the Social and Personal Competencies Scale initially developed by experts at the World Bank to assess the impact of a youth training programme in the Dominican Republic (Brea 2011; Ibarrarán et al. 2014). After re-coding the statements, so that a higher number indicates greater skills and then averaging across all five

statements, we observe that respondents show a high level of agreement with workplace skills statements. In Table 18, we again average normalised responses, then re-normalise across the experimental control group.

We then consider five measures of labour market perceptions and aspirations:

- 1) Whether respondents say it is 'likely' or 'very likely' that s/he will find a job within six months of graduating;
- 2) The lowest daily wage s/he would be willing to accept;
- 3) The daily wage that s/he expects s/he would earn after finishing her/his current level of education;
- 4) Whether s/he expects to eventually finish college or higher; and
- 5) Whether s/he expects to enrol in SPES next year.

Overall, 70 per cent of respondents think it is likely that they will find a job within six months of graduating. Respondents are willing to accept wages as low as Php345 per day. On average, respondents expect that they will earn Php561 per day upon graduation. Aspirations are nearly uniformly high, with 95 per cent expecting to eventually finish college or higher. Finally, nearly 75 per cent plan to enrol in SPES in 2017.

7.3.1 Work tasks

We anticipate that SPES provided direct work experience to participants, increasing their experience with various relevant work tasks. To test this hypothesis, we first measure the impact of SPES on whether respondents report they have 'some' or 'a lot' of experience in 11 different work tasks. Because nearly all beneficiaries worked in office tasks with the LGUs, we focus on skills likely to be gained through office work.¹¹ Table 17 reports these results. Most of the included tasks are not new to respondents; for all tasks, apart from answering phones and bookkeeping, more than 50 per cent of respondents had at least some experience.

¹¹ Measuring only whether respondents report they have 'a lot' of experience with each task does not affect our results.

Table 17: Impact of SPES on work task experience, LATE

	Microsoft Word (1)	Encoding (2)	Microsoft Excel (3)	Microsoft PowerPoint (4)	Photocopying (5)	Scanning (6)
Enrolled in SPES	0.034 [0.032]	0.058 [0.039]	0.051 [0.043]	-0.070** [0.033]	-0.037 [0.034]	0.028 [0.043]
Observations	3,280	3,281	3,280	3,281	3,281	3,281
Mean, control group	0.83	0.72	0.56	0.84	0.83	0.61
	Sorting (7)	Answering phones (8)	Bookkeeping (9)	Online searches (10)	Using email (11)	
Enrolled in SPES	0.047 [0.040]	0.16*** [0.043]	0.0044 [0.042]	0.025 [0.022]	-0.037 [0.042]	
Observations	3,280	3,281	3,279	3,281	3,280	
Mean, control group	0.67	0.39	0.33	0.93	0.61	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Notes: Experimental sample endline respondents included. Coefficients indicate LATE of SPES enrolment. All specifications include controls included in Table 1, along with stratification cell fixed effects.

SPES increased the likelihood that respondents had experience answering phones by 16 percentage points, which is statistically significant at the 5 per cent level. SPES also had a generally positive impact on whether respondents had experience with Microsoft Office software, scanning, sorting and online searching, but none of these estimates are statistically significant. Somewhat puzzlingly, we see a negative, statistically significant impact on whether respondents say they have experience with Microsoft PowerPoint.

7.3.2 Work readiness indexes

Table 18 shows the work readiness indexes we created on self-esteem, work tasks, life skills and workplace competencies based on questions as described earlier. We conduct tests for heterogeneity in responses by three divisions: gender, baseline education level and relative family income. We see no impact of SPES on any of these four index measures. The point estimates on all measures are close to zero and not statistically significant. We also find no evidence of differential treatment effects based on gender, education level or family income.

Table 18: Impact of SPES on work readiness

	Self-esteem index (1)	Work tasks index (2)	Life skills index (3)	Workplace skills index (4)
Enrolled in SPES	-0.036 [0.088]	0.099 [0.082]	0.048 [0.084]	-0.12 [0.086]
Observations	3,281	3,281	3,281	3,281
Mean, control group	0.00	0.00	0.00	0.00

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample endline respondents included. Each index normalised using mean and standard deviation of the control group. All specifications include controls included in Table 1, along with stratification cell fixed effects.

7.4 SPES effect on aspirations and labour market perceptions

Table 19 shows the LATE estimates of the impact of SPES on three measures of labour market perceptions described previously. SPES increases optimism about job search: enrolling in the programme increases the likelihood of respondents saying that they are likely to find a job within six months of graduation by 9.2 percentage points, compared with a control group rate of 65 per cent. On average, control group members are willing to accept a wage of Php345 per day and expect to earn Php586 per day after graduation. Enrolling in SPES has a negative, but not statistically significant, effect on these expectations.

We also measure whether respondents expect to eventually complete at least college and whether they plan to enrol in SPES in 2017. In the control group, 95 per cent of respondents say they will eventually finish college and SPES has no detectable effect. The impact of SPES on future enrolment in the programme is ambiguous. A positive experience might encourage individuals to enrol next year, while conversely, control group participants might be more motivated to apply for SPES because they were not accepted in 2016. Among control group members, 79 per cent anticipate enrolling in SPES in 2017 and SPES participation has no overall effect.

We find that the increase in the perceived likelihood of finding a job within six months of graduating is concentrated among college students (17 percentage points, p-value of the difference = 0.12) and students from higher-income families (11 percentage points, p-value of the difference = 0.44). There is no effect on perceptions about wages or the likelihood of finishing college among any of the subgroups. We see that SPES differentially increases the likelihood of enrolling in SPES next year for students from higher-income families (6.4 percentage point increase versus a 6.6 percentage point decrease), though only the difference between the two groups is statistically significant.

Table 19: Impact of SPES on labour market perceptions and aspirations

	Likely find job within 6 months of grad. (1)	Lowest wage willing to accept (2)	Expected wage after graduation (3)	Expect to finish college or higher (4)	Expect to enrol in SPES in 2017 (5)
Enrolled in SPES	0.092** [0.042]	-96.9 [99.3]	-206 [198]	0.011 [0.019]	-0.0073 [0.035]
Observations	3,102	3,098	3,098	3,282	3,235
Mean, control group	0.65	345	586	0.95	0.79

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample endline respondents included. Each index normalised based on experimental and non-experimental endline respondents. All specifications include controls included in Table 1, along with stratification cell fixed effects.

7.5 Effect on employment

Consistent with high levels of enrolment (94%), most SPES applicants are unlikely to be working currently or to have been working recently. Only 6 per cent of control group members are working, although 22 per cent are looking for work. During summer 2016, rates of employment (excluding SPES) rose to 18 per cent. Although we see no change in work readiness, one result of SPES may be a change in employment if obtaining work experience leads students to seek employment with their SPES or other employer. Table 20 shows that participation in SPES increases the probability of working at endline by 3.9 percentage points, nearly double the control group rate of 5.6 per cent. The coefficient is statistically significant at the 10 per cent level. We see no change in the likelihood of looking for work at endline or in earnings conditional on work.

Table 20: Impact of SPES on current employment

	Working (1)	Looking for work (2)	Earnings (3)
Enrolled in SPES	0.039* [0.020]	-0.031 [0.035]	-3,283 [2,586]
Observations	3,282	3,281	204
Mean, control group	0.056	0.22	4199

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample endline respondents included. All specifications include controls included in Table 1, along with stratification cell fixed effects.

We also consider the impact of SPES on employment during the summer of 2016. In the absence of SPES, some beneficiaries may have found work elsewhere and for them, SPES might have 'crowded out' some employment. We test for this crowding out in the

top rows of Table 21. We see that 18% of the control group have some sort of work besides SPES during the summer of 2016; 8% are engaged in formal work with a private employer, non-profit or LGU; and 6% in informal or unpaid work.

There is evidence of only modest crowding out. Enrolling in SPES reduces the likelihood of any work by 7 percentage points, of formal work by 5.3 percentage points and of informal or unpaid work by 4.4 percentage points.

Columns 4–6 in Table 21 examine whether SPES affects beneficiaries' work behaviour in the remainder of 2016. If, for example, SPES directly leads to work connections, some respondents may continue to work immediately after the programme. Conversely, SPES may substitute for work later in the school year, enabling students to focus on their studies. While 9.5 per cent of control group members engage in some work from July to December 2016, we see that SPES modestly increases the likelihood of working in the formal sector, but the effect is smaller than what we find in 2017 and not statistically significant.

Table 21: Impact of SPES on past employment

	During the summer of 2016			From July to December 2016		
	Any work (1)	Formal work (2)	Informal/unpaid work (3)	Any work (4)	Formal work (5)	Informal/unpaid work (6)
Enrolled in SPES	-0.070** [0.031]	-0.053** [0.021]	-0.044* [0.025]	0.020 [0.025]	0.021 [0.018]	0.015 [0.018]
Observations	3,281	3,281	3,106	3,281	3,281	3,183
Mean, control group	0.18	0.080	0.055	0.095	0.043	0.018

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample endline respondents included. All specifications include controls included in Table 1, along with stratification cell fixed effects.

Table 22 shows the differential impact of SPES on employment by gender, education level and relative family income level. SPES has the largest impact on current employment among men, college students and those from relatively lower-income families; however, only the difference in impact by education level is statistically significant. Additionally, college-level students are also more likely to look for work.

Table 22: Impact of SPES on employment, heterogeneity, LATE

	Currently working (1)	Currently looking for work (2)	Current earnings (3)
Enrolled in SPES	0.074* [0.039]	0.025 [0.062]	-3,465 [2,984]
SPES X female	-0.047 [0.046]	-0.090 [0.075]	4,853 [7,541]
Enrolled in SPES	-0.0012 [0.021]	-0.088** [0.042]	-4,494 [4,150]
SPES X college	0.11** [0.042]	0.14** [0.069]	2,182 [4,491]
Enrolled in SPES	0.058** [0.025]	-0.045 [0.043]	-1,395 [3,327]
SPES X highest income	-0.042 [0.029]	0.023 [0.049]	-3,700 [3,009]

*** p < 0.01, ** p < 0.05, * p < 0.10

Notes: Experimental sample endline respondents included. All specifications include controls included in Table 1 plus the controls multiplied by the binary interaction term, along with stratification cell fixed effects. Column 3 conditional on any work.

The increase in employment generated by SPES is particularly surprising, given that the main hypothesised causal channels – that SPES improves employment prospects by improving educational outcomes or building work skills – do not seem to be influenced. Through a descriptive look at the data we collected from those who report being employed at endline, we find that a large share of the employment effects reflects beneficiaries transitioning to longer-term employment, particularly in private sector jobs.

Specifically, we find that approximately half of the increase in employment is attributed to those who report finding their job through SPES and the increase in the likelihood of being employed at a job found through SPES (1.9 percentage points) is significant at the 5 per cent level. This effect is highly concentrated among private sector employers. While private employers comprise 6 per cent of SPES jobs in our sample, they represent 60 per cent of those who continue working at jobs found through SPES.

We explore information on job search and we see that while there is no change in job search, those who participate in SPES are more likely to update their CVs, walk into agencies and obtain official referrals. Additionally, they are less likely to say that a lack of contacts prevents them from obtaining jobs. For this reason, we believe that the connections they make help them find work more effectively. However, we are very underpowered, because the rates of job search are fairly low (19%), so these estimates are only suggestive.

8. Discussion

8.1 Review and discussion of outcomes

In summary, in the medium run, we find no evidence that SPES impacts academic outcomes or work readiness, but we do find that SPES helps beneficiaries into work:

- **With or without SPES, SPES applicants will enrol in school.** In the medium run, SPES participation does not increase school enrolment. School enrolment is roughly 95 per cent regardless of whether applicants were chosen to receive SPES. However, we have some evidence that SPES increases enrolment for those most at risk of dropping out, namely men (6.2 percentage points, $p = 0.098$) and students from relatively poorer families (3.2 percentage points, $p = 0.230$). There is evidence of a small reduction in high school graduation rates, but because there are extremely few new graduates during the study period, we interpret this with caution.
- **SPES increases the likelihood of being currently employed** with a private employer, LGU or NGO by 3.9 percentage points, a 70 per cent increase compared with a control group rate of 5.6 percentage points. We see larger effects for those enrolled at college level.
- **Without SPES, very few applicants would have worked during the summer.** SPES participation reduces the likelihood of summer work; only 18 per cent of those not chosen for SPES report either formal or informal summer work.
- **SPES beneficiaries engaged in a variety of office tasks**, primarily surveying (30%), encoding (25%) and organising and filing (24%). Approximately 14 per cent reported that maintaining the orderliness of the office – essentially, passing time in the office without being productive – was their primary or secondary task.
- SPES participation **does not affect students' self-esteem or self-reported life skills.**
- **SPES improves students' confidence about their work prospects** after graduation **but does not affect their wage perceptions.**

8.2 Study limitations and next steps

- **Resistance to randomisation and oversubscription:** Gaining the support and cooperation of the LCEs to enrol PESOs in the study and implement randomised assignment was the biggest challenge for this study. The number of refusals by PESOs and LCEs drastically reduced our sample size. We excluded additional PESOs because there was no oversubscription, in some cases because the enrolment process was earlier than was communicated to the DOLE regional offices and study team; and in others because of logistical challenges and a lack of political will to advertise SPES more broadly. Anecdotally, this resistance was particularly high because of the election year, though these political considerations are likely to persist even in off-cycle years. As a result, we completely lost two out of our five study regions from the impact evaluation. These high refusal rates mean that those PESO offices that were both willing to participate and able to achieve oversubscription may not be representative of the overall population of SPES programmes. Additionally, we saw high levels (28%)

of non-compliance with randomisation, which additionally reduced our power to detect statistically significant impacts.

- **The study period occurred before DOLE's issuance of Department Order No. 175-17 Implementing Rules and Regulations of Republic Act 10917:** The updated implementing guidelines went into effect for SPES in 2017, after completion of the sample selection, baseline data collection and SPES implementation for the study period. As a result, the extension of age eligibility up to 30 years of age, increased cost-sharing arrangements with lower-class municipalities and other changes are not reflected in the results of this study.
- **Shortened study duration and K-12 implementation:** As the study was initially conceived, control group members would be denied SPES for two full SPES cycles (2016 and 2017), such that we could measure the impact of SPES over a longer period of time. Feedback from the DOLE regional offices and PESOs indicated that maintaining the control group for that long would not be feasible. As a result, we implemented the endline survey at the beginning of 2017, before the end of the 2016/17 school year. While this shorter timeline should not affect our ability to detect impacts on work readiness or work behaviour, it does make it challenging to measure the impact of SPES on graduation and other education outcomes. Only respondents surveyed at the very end of our follow-up period would have been able to graduate. Moreover, there was no graduating high school class that year because of the implementation of K-12. Additionally, because there are very few new SPES applicants in the fourth year of college, it is unlikely we would have sufficient power to detect impacts on graduation in this timeframe. As a result, it was nearly impossible by design to detect impacts of SPES on graduation at either high school or college levels.

To fully understand the impacts of SPES on education decisions, we recommend the following:

1. **Track study participants in 2018 or later through a second follow-up wave and/or school-level administrative records:** Collecting the names of enrolled students and graduates in study areas and linking them to the SPES applicants in both treatment and control groups would enable measurement of longer-term impacts of SPES on educational outcomes.
2. **Evaluate programme changes to maximise effectiveness:** Another amendment to the SPES law was passed in 2016 with new implementing rules and regulations affecting SPES implementation in 2017. The amended law extends the maximum work period to 78 days and the maximum age to 30. However, few beneficiaries work more than 20 days, even in non-election years and, so far, very few employers appear to have taken advantage of the extension beyond 52 days. For now, the impact of additional workdays, while promising, is still unknown.

8.3 Targeting

At the national level, SPES targets 'poor, but deserving' students and out-of-school youth. Our process evaluation found that locally, PESOs use other characteristics to select students, including recommendations from the LCE, grades and other measures of 'deservingness'. We see evidence of treatment heterogeneity, indicating that there are

groups, particularly men, high school students and the lowest-income students, who may benefit more from SPES. Our results suggest that there may be potential for SPES to improve its effectiveness by targeting those who are most likely to benefit from the programme.

One open question is exactly ‘how poor’ SPES applicants are. By law, applicants must present their parents’ tax return showing that they are below the regional poverty threshold level for a family of six, a Bureau of Internal Revenue exemption certificate (for minimum wage earners) or a certificate of indigency from the *barangay*. However, while this specification is made in the law, classifying and monitoring the relative income levels of the applicants is a challenge, since data on applicants’ family income are not collected. Without this information available, DOLE cannot understand the financial challenges that beneficiaries face or monitor adherence to the selection criteria. Furthermore, the lack of data makes it difficult to evaluate the general socio-economic status of SPES beneficiaries in a rigorous way.

To ascertain respondents’ parents’ socio-economic status, we ask a series of questions from the Progress Out of Poverty Index, described in section 5.7.2.¹² As Table 23 shows, these SPES applicants are not the poorest of the poor – very few are likely to fall below the 2009 Philippine poverty line of Php47.53 per person per day (4%). However, they are still relatively poor, with the majority (63%) being likely to come from families that earn less than double the Philippine poverty line. Consistent with this, we see that 26% of applicants are beneficiaries of the Philippines’ conditional cash transfer programme (4Ps)¹³.

Table 23: Income and other descriptive statistics, by sample type

	All (1)	Experimental (2)	Non- experimental (3)
Enrolled in 4Ps (%)	25.8	25.9	25.4
Average Progress Out of Poverty Index score	50.45	50.31	50.94
> 50% chance below 100% poverty line (%)	4	4	4
> 50% chance below 150% poverty line (%)	30	31	28
> 50% chance below 200% poverty line (%)	63	64	61
Pregnant (%)	2.3	2.3	2.5
Required to show voter ID (%)	32.3	30.2	39.6
Observations (no.)	4,221	3,282	939

Notes: Sample includes experimental and non-experimental respondents. The sample size for each row varies slightly as a result of non-response. Poverty line reflects 2009 Philippine poverty line of Php47.53 per person.

¹² See <<http://www.progressoutofpoverty.org/country/philippines>> for more information.

¹³ 4Ps (Pantawid Pamilyang Pilipino Program) is the Philippines’ conditional cash transfer programme.

What we also see, in terms of targeting, is that PESOs routinely request SPES applicants to show their own or their parents' voter identification cards. Conversations with DOLE regional and PESO staff indicated that this ID may be used to verify residency. However, if lower-income families are less likely to have such IDs, perhaps because of difficulties obtaining the necessary documents, this may be a barrier for families who might benefit most from SPES.

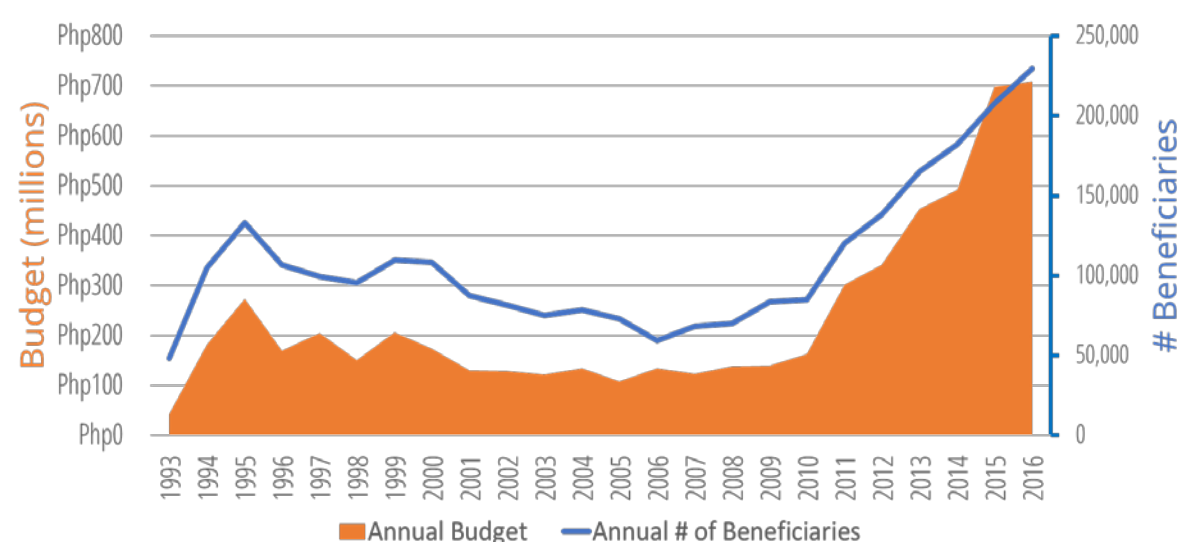
Additionally, process evaluation indicated that in some PESOs applications are not always widely available, and the distribution is sometimes even dependent upon selection by local officials. Even if the applications are widely available, there are also PESOs that require applicants to receive an endorsement from their local officials. Furthermore, most PESOs practise a 'first-come, first-served' policy with regards to the application process. This practice may limit the exposure of the programme to those who have connections to the local government unit as they will be the first to be informed of the application period. These additional restrictions may impede the targeting process.

Finally, we note that 2.3 per cent of female SPES applicants were pregnant at the time of endline. The enrolment rate for this group is much lower (63%) and may fall further once they give birth. Unlike the programme in the Dominican Republic (Ibarrarán et al. 2014; Acevedo et al. 2017), SPES does not reduce pregnancy rates. In fact, among college students, there is suggestive evidence that SPES may *increase* pregnancy. This result suggests that SPES may provide a unique opportunity for policymakers to provide sexual education to youth at a critical juncture in their lives.

8.4 Cost-effectiveness

While DOLE has implemented SPES since 1993, the budget allocation for SPES has steadily risen since 2009 when the SPES law amendment included the provision for a fixed annual increase to the budget of 20 per cent (Figure 11).

Figure 11: SPES budget and beneficiaries, by year



In the 2016 fiscal year DOLE received a national budget allocation of Php817,962,900 to implement SPES, which served 229,674 students; a cost to DOLE of Php3,561 per

beneficiary. There are substantial variations in the overall cost per region. However, the cost per NCR beneficiary was Php8,533, while the cost per Region III beneficiary was Php3,004. It is important to note that cost-effectiveness analysis calculates the programme's effectiveness using only the DOLE cost to the programme and does not include the costs to employers or additional administrative costs to the PESOs or DOLE regional offices due to variations in programme implementation. As DOLE contributes only 40 per cent of beneficiary salaries, the overall programme cost is likely more than double the DOLE budget for the programme.

We consider the cost-effectiveness per additional student enrolled and additional student working at endline. We make two main assumptions in this calculation. First, we assume that the impact of SPES is the same as the impact identified in our sample municipalities. Second, we assume that the amount allocated to SPES equals the amount actually spent on the programme. Although the impact on enrolment is not statistically significant, we calculate that SPES reduces drop-outs by 1.6 percentage points. Assuming a constant treatment effect nationally, SPES reduces the number of drop-outs by 3,675 or a prohibitively high cost of Php222,588 per drop-out.

In terms of employment, SPES increased the likelihood of being currently employed by 3.9 percentage points, significant at the 10 per cent level. Extrapolating nationally, SPES increases the number of employed students by 8,957 or a cost of Php91,318 per eventual job found.

Focusing on those who benefit most from SPES, however, reveals slightly more promising calculations. For men, the 6.2 percentage point reduction in drop-out rates means that, for them, the cost per drop-out avoided or person employed is much lower; Php57,442 per drop-out avoided and Php49,464 per student employed. For students in the lowest half of the income distribution of SPES beneficiaries, the cost of SPES is Php111,294 per drop-out avoided and Php58,384 per student employed.

9. Specific findings for policy and practice

9.1 Lessons learnt from implementation of evaluation

- 1. Obtaining buy-in from the local chief executives is essential but challenging:** Our biggest challenge in implementing the research study was gaining the support of the local chief executives. The LCEs have substantial power in affecting SPES implementation because the local PESO managers are appointed by them, rather than by the regional DOLE offices. Additionally, because they contribute 60 per cent of salaries for SPES and employ the vast majority of beneficiaries, their willingness to participate in SPES is essential. Many LCEs are highly invested in SPES and some use it as a way to build political support. As a result, it was difficult to gain the support of LCEs to participate in the impact evaluation and adhere to the randomisation. Although we strategised with the Technical Working Group and PESO officers, participation rates were lower than anticipated. Conducting an orientation by region for the LCEs may have helped in their understanding of the study, but we are doubtful that this would have changed participation rates due to the highly politicised nature of the programme. To build local buy-in would have required an

incentive for the LCEs to agree to participate (that was not a direct cost to DOLE), perhaps through public recognition or public accountability.

2. **National directives may not always reach local offices:** In decentralised programmes such as SPES, the head office and the regional offices might not be fully aware of what is actually happening on the ground. Communication between national and regional offices was fairly straightforward and clear. However, there were substantial communication delays between the regional and local levels. This highlighted:

- a. The importance of bringing in the lowest level early in the planning stages and engaging them throughout the study. While we did not bring in the PESOs fully during the planning stages, we did learn, albeit quite late, to engage directly with the PESOs in gathering needed information. This was only done after following protocols in informing the national and regional offices of our intentions to communicate with the PESOs directly and what we would be communicating.
- b. The usefulness of a process evaluation for the planning stages. Unfortunately, due to time constraints and misinformation from the head office about timing of SPES batches, we could not conduct our initially planned pilot. However, while the pilot would have provided useful insights about randomisation implementation and adherence, it would not have captured the diversity of the programme implementation. With the time and resources to conduct a process evaluation *before* the baseline/randomisation, we would have been better able to respond to potential challenges in advance and would have collected additional information at baseline.

3. **Make a clear difference between the impact evaluation and performance monitoring at the local level and highlight the potential for specific programme improvements to increase buy-in:** Early, PESO-level resistance came from officers who felt that the study was intended to monitor their performance, rather than to learn about programme impacts. Emphasising the objectives of the study helped alleviate these concerns, but doing so required direct local coordination. In our 2018 interviews with PESOs that participated in the experiment, managers reported a high willingness to participate in future studies with IPA (67% said it would be 'likely' or 'certain') and they thought obtaining support from their mayors would also be likely (74% saying it would be 'likely' or 'certain' the mayor would be willing to participate). Because these responses come from municipalities that were already willing to participate in 2016, this favourable response indicates that support remained high after participating in the study, rather than indicating the ease of recruiting new municipalities for future studies. PESO managers supported the study as a way to measure the programme's impact, but they particularly valued the study as a means to improve programme implementation and effectiveness. These responses highlight ways to increase local buy-in: first, by clearly communicating how the study could lead to programme improvements; and second, by sharing the results of the study in terms of measured impacts and policy recommendations, particularly recommendations at the municipal/PESO level.
4. **Regional-level advertising may be easier to coordinate than local advertising:** We initially intended to use advertising to increase oversubscription rates. In addition to difficulties convincing PESOs to allow oversubscription, we

encountered strong doubt at the local level about pursuing an advertising strategy, consistent with a distaste for turning people away from SPES. Had we pursued advertising at a higher level of government earlier in the initiative, we may have had more success.

5. **Establishing the Technical Working Group was extremely beneficial:** DOLE convened the Technical Working Group that provided feedback to the research team on the design, implementation strategies and questionnaires and in understanding some of the results. As a result, we obtained useful feedback from a range of perspectives throughout the process. Additionally, the group's active participation facilitated its collaboration in the research rather than just acting as a receiver of information.
6. **Strong regional coordinators/leaders from DOLE made a difference in participation:** Regions III, XI and NCR had either SPES focal persons and/or regional directors who had strong relationships with their PESOs and/or saw value in the impact evaluation and championed it within their regions. They were also the most active during Technical Working Group meetings.
7. **Administrative data can be highly unreliable:** Additionally, the self-administered questionnaires were not always complete, despite asking the PESOs to review each one for completeness. More resources to hire more staff to provide greater support to the PESOs and oversight to the supplemental questionnaires would have improved our baseline data.
8. **It is important to collect several contact numbers and residential addresses:** Phone numbers in the Philippines change frequently. Although we attempted to collect up to six numbers per applicant, we could not reach some respondents through any of the contact numbers provided. In addition to invalid numbers, we frequently could not reach participants because they were outside of network coverage, meaning the cell phone signal was weak in their area. Having the time and resources to follow up with missing respondents in person, either by coordinating the PESOs or tracking the individuals, was essential to obtaining our response rate of 80 per cent. We had modest success searching for applicants via Facebook and we had no success through email, receiving zero responses. One possibility we discussed but did not pursue was working with the PESOs and DOLE to create a Facebook page to better stay in touch with participants.

9.2 Policy recommendations

- **In the medium run, SPES may be more effective as a work programme than an education programme:** Even within a year of completion, SPES increased the likelihood of employment by 3.9 percentage points, at a cost of Php91,318 per job found. Based on the estimated coefficients, SPES costs Php222,588 per drop-out avoided in that academic year. Because graduation is a long-term outcome, enrolment is an important intermediate programme outcome to consider when gauging programme effectiveness. Given the positive effect of SPES on employment, including employment as a programme outcome may open new policy options to maximise the impact of SPES on labour-market outcomes.

- **Although RA 9547 requires payment within one month, substantial payment delays persist:** It is difficult for beneficiaries to use their funds to stay in school if they do not receive these funds in a timely fashion. Despite regulations mandating prompt payment of SPES beneficiaries, 50 per cent had not been paid three months after completing their work and submitting, reportedly, the required documents; 14 per cent still had not been paid by endline.
- **Explore ways to make work experience more meaningful:** Nearly all beneficiaries are engaged in office work in the LGU, yet there is no statistically significant evidence that SPES actually improved students' experience with specific office tasks, nor changed their general attitudes or motivation to work. In some PESOs, students are employed in ways targeted to benefit the community, working as tutors, helping in *barangay* health units and undertaking other forms of service. Such work could have the potential to yield a double dividend, producing public goods for students' local communities while also generating meaningful work experience for the participants. These concerns may be less relevant in PESOs that have private sector partners, in which beneficiaries are directly engaging in real-world jobs. However, only one municipality in our experimental sample had a large share of beneficiaries enrolled with private sector employers, making it difficult to infer causal impacts.
- **Directly help students build life skills:** Participating in SPES alone does not appear to be sufficient to improve students' self-esteem or increase their work readiness. The process evaluation revealed that some PESOs implement some form of life skills or values formation training. Developing programmes to directly provide students with training in the areas that DOLE seeks to promote may be relatively low cost and more successful. Research in other contexts has found mixed success in directly providing soft skills training to young people. See, for example, Ibarrarán and others (2014) for a successful programme, and Groh and others (2016) for a programme without effects.
- **Improved targeting may maximise programme effectiveness:** Our analysis reveals substantial heterogeneity in programme impacts. Men, students from relatively lower-income families and high school students receive the greatest educational benefits from SPES, while men, lower-income students and college students receive the greatest employment benefits. While most applicants come from families that are likely to live below double the 2009 Philippine poverty line (about Php95 per person per day), very few are from families that are likely to live below the poverty line. Given high enrolment rates in the medium term (94%), SPES does not reach those most at risk of dropping out of school. Revising selection methods may help SPES reach those who would benefit the most: male students (who are under-represented among SPES beneficiaries), students from relatively lower-income families and high school students. However, the programme impacts for these groups, while larger, are still modest and we only see statistically significant differences in outcomes in the employment domain, specifically only when comparing high school-level students with college-level students. Improved targeting may increase programme effectiveness, but the cost per beneficiary enrolled or employed would still remain high. In section 8.4, we calculate that the cost per drop-out avoided is Php57,442 for men and Php111,294 for lower-income beneficiaries. The cost per student employed is

Php49,464 for men and Php58,384 for lower-income students. A more effective approach may be to instead adjust screening criteria or develop guidelines and initiatives to reach a broader population that is more 'marginal' in terms of education outcomes. Specifically, DOLE can define more concretely what 'deserving' means and broaden outreach accordingly, such as through publicity strategies at the regional or national levels or to students in the Alternative Learning System.

- **Strengthen programme monitoring and communication between DOLE regional offices and PESOs:** Our process evaluation revealed that there is substantial heterogeneity in how SPES is implemented among PESOs. Such flexibility helps PESOs test out new innovations and respond to local contexts, such as the implementation of online applications in Region XI. However, the decentralisation of programme implementation and the strong influence of LCEs in some areas make it difficult to ensure that SPES is carried out in accordance with the national implementing rules and guidelines and monitoring data is very limited. We encountered several challenges in implementing the impact evaluation because of poor communication between the local and regional levels; these problems are likely to also hinder the DOLE national and regional offices' efforts to implement programme changes. Timely data collection about the characteristics of SPES beneficiaries – such as age, gender, school level/status and parents' income – is essential to understand the population served by SPES and whether programme eligibility guidelines are being followed. Collecting data on school enrolment and graduation outcomes by surveying a subset of past applicants or coordinating with local schools, the Department of Education or the Commission on Higher Education is important to track progress towards the key outcomes of raising enrolment and graduation rates.

9.3 Suggestions for future research

In answering our primary research questions, new questions arose that we could not answer within our experimental framework. We encourage DOLE to consider these questions in its future research:

- **What is the optimal length of SPES?** Although the law establishing SPES permits beneficiaries to work 20–52 days per year, the terminal reports indicate that nearly all students (78%) worked only 20 days and fewer than 5 per cent reached the 52-day maximum. For a student earning minimum wage, a 20-day programme caps their earnings at Php9,820 in NCR, Php7,600 in Region III and Php6,800 in Region XI.¹⁴ These amounts are far less than the tuition and school expenses of many SPES beneficiaries. Among high school students, average out-of-pocket tuition was Php9,522 per year and it was Php14,084 per year among college students. Other educational expenses averaged Php20,142 per year (Php16,655 for high school students and Php23,897 for college students). A longer programme may also improve work readiness and employability, though that also depends on the nature of the work and employers' perceptions.

¹⁴ Calculations based on 2017 minimum wages of Php491 per day in NCR, Php380 per day in Region III (assuming non-agricultural establishments with assets of at least Php30 million outside of Aurora) and Php340 per day in Region XI (NWPC 2017).

- **What is the optimal target population?** In principle, SPES should target those students who are on the margin of staying in school, those who need the extra income to make it through the current academic year and eventually graduate. There is a balance between targeting students who are advantaged enough that they *can* afford to pursue post-secondary education and students who are not so advantaged that they will graduate regardless of the assistance they receive from SPES. Based on our findings, it seems that high school students, men and students from lower-income families benefit the most from SPES. Under the most recent implementing guidelines, cost-sharing adjustments have helped SPES expand in lower-class municipalities, where higher poverty rates may prevent a greater share of students from completing their studies. What is unknown is whether this revision will improve targeting and what the best way is to reach these students on the margin of staying in school.
- **What type of work experience is most effective?** This original research question was set aside because of logistical challenges, but the lack of evidence of impact on experience with tasks and work skills suggests that the opportunities SPES beneficiaries receive may not maximise their on-the-job learning. Exploring the impact of assignment to specific types of jobs and types of employers would be essential in learning how to improve the effectiveness of SPES.

Online appendixes

Note to the readers: These appendixes are available online only and can be accessed using the links below.

Online Appendix A: Regional characteristics

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-a.pdf>

Online Appendix B: List of participating PESOs

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-b.pdf>

Online Appendix C: Supplemental questionnaire

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-c.pdf>

Online Appendix D: PESO officer questionnaire

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-d.pdf>

Online Appendix E: Endline questionnaire

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-e.pdf>

Online Appendix F: Qualitative survey for PESO officers

<http://www.3ieimpact.org/sites/default/files/2019-01/pwp01-spes-ie-endline-report-appendix-f.pdf>

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In the Philippines, young workers between the ages of 15 and 24 account for half of the total number of unemployed people in the labour force. The challenge of finding work is particularly pronounced for those without post-secondary schooling. To increase graduation rates and facilitate employment, the Philippine Department of Labor and Employment has been implementing the Special Program for Employment of Students targeting low-income youth. The impact evaluation found that participation in the programme increased the likelihood of being currently employed with a private employer, local government unit or NGO. In the medium-term, the programme did not have an impact on education outcomes, although it did increase enrolment for men, who were at a higher risk of dropping out of school. The programme did not have an impact on life skills and self-esteem.

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