



# **Impact Evaluation of the Philippine Department of Labor and Employment's Special Program for Employment of Students Final Report**

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## Summary

The 2013 World Bank Development Report on Jobs identified youth unemployment as one of the key barriers to growth among developing countries. In the Philippines, young workers (15-24 years old) account for half of the total unemployed persons in the labor force (51.8%), with approximately 17% of youth unemployed. The challenge of finding work is particularly pronounced for those without post-secondary schooling; a recent Asian Development Bank (ADB) study found that while 75% of college graduates find work within a year of graduation, only 20% 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 enrolled or out-of-school youth intending to enroll in secondary, tertiary or tech-vocational school, ages 15-25, to formal work opportunities lasting 20-52 days at decent wages during their school breaks by offering employers (public and private) a 40% wage subsidy. DOLE collaborates with the provincial and municipal Public Employment Service Offices (PESOs) in implementing the program. 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 enrollment 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.

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 (IPA) to conduct a large-scale oversubscription randomized controlled trial to assess the effectiveness of SPES study, measuring how SPES affects academic outcomes, youth employability and labor 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 thirteen (13) PESOs with the highest 2014 enrollment in SPES and requested their participation in the impact evaluation. We coordinated with PESOs to collect application forms, including an IPA 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 SPES batch, we randomly chose individuals to fill the available slots. Applicants who were randomly chosen to receive SPES form the treatment group (2,511), and the remainder, who were not invited to receive SPES, form 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 enroll in SPES because of the random assignment to those who did not enroll.

In the medium-run, while we find that overall SPES does not have an impact on education outcomes, including school enrollment, graduation, and grades; we do observe that SPES increases enrollment for men, who are at 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 gained office skills. It does however improve beneficiaries’ confidence about their work prospects after graduation, but it did not affect their wage perceptions. We find the most promising impact of the program on employment outcomes, specifically that SPES participation increases the likelihood of being currently employed with a private employer, LGU, or NGO compared to the control

group (70% increase)<sup>1</sup>. 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 the employment effectiveness in the program objectives, exploring ways to help work experience provide meaningful skills, improving targeting to improve effectiveness, adding training to help students build life skills, resolving payment delays, and strengthening program monitoring and communication between regional and local PESOs. In addition to further research to explore the above program considerations, we also suggest an additional follow-up to determine the longer-run 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 reduced sample size due to challenges in gaining the support and cooperation of the local chief executives (LCEs) to enroll their PESO in the study and implement oversubscription and randomized assignment during an election year. Additionally, we saw high levels (28%) of non-compliance with randomization. Secondly, it was not politically feasible to maintain the control group for longer than one year, instead of two years as 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, so these changes are not reflected in the study.

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

## Acronyms and Definitions

BLE	Bureau of Local Employment
DOLE	Department of Labor and Employment
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
OJT	On-the-job training
PESO	Public Employment Service Office
Php	Philippine Peso
RA	Republic Act
SPES	Special Program for the Employment of Students
SPES babies	Previous SPES beneficiaries who enroll in the program multiple times

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# 1 Introduction

The 2013 World Bank Development Report on Jobs identified youth unemployment as one of the key barriers to growth among developing countries. Policymakers in developing countries have pursued a range of policies to facilitate employment among youth, such as job training and wage subsidies, but evidence of their effectiveness has been mixed, and few employment and training programs 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 youth ages 15-25 to formal work opportunities lasting 20-52 days at decent wages during their school breaks by offering employers a 40% wage subsidy and facilitating the application process. Since the program began in 1993, more than 5.7 billion pesos have been spent 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 has partnered with the International Initiative for Impact Evaluation and Innovations for Poverty Action (IPA) to conduct a research study measuring how SPES affects academic outcomes, youth employability and labor market perceptions. We conduct a large-scale randomized field experiment to assess the effectiveness of SPES. Specifically, we use an oversubscription randomized control trial. In municipalities where the number of eligible applicants exceeds the number of available slots, we randomly chose individuals to fill the available slots. Applicants who were randomly chosen to receive SPES form the treatment group, and they were invited to enroll. The remainder, who were not invited to enroll in this SPES batch, form the control group. We then measure the causal impact of SPES in the medium run (8-12 months later) by comparing those who were induced to enroll in SPES because of the random assignment to those who did not enroll.

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

Research Question 1: What is the causal impact of the SPES on youths' academic outcomes, including school enrollment and grade repetition?

Research Question 2: What is the causal impact of SPES on youth employability, as measured by aspirations, self-empowerment, self-esteem, and subjective labor market perceptions?

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)?

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<sup>2</sup> 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 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% for 2016 (World Bank 2016). However, the 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 persons in the labor force (51.8%), with approximately 17% of youth unemployed. The challenge of finding work is particularly pronounced for those without post-secondary schooling; a recent Asian Development Bank (ADB) study found that while 75% of college graduates find work within a year of graduation, only 20% of high school graduates do (ADB 2012).

### 2.1 Related literature

A growing literature assesses the impact of job training and employment programs for youth in developing countries. Many of these evaluations typically focus on job training and find mixed results. In Columbia, Attanasio et al. (2011) study the impact of a vocational training program targeting low-income unemployed youth, which includes in-classroom training and on-the-job (OJT) training (unpaid) components. They find significant effects of offering the program to women, with a 7% increase in employment and a 20% increase in earnings; however, no effect is seen on the same outcomes for men. For both men and women, they observe a significant effect on formal employment.

In the Dominican Republic, Card et al. (2011) also look at a training program that includes both technical skills and OJT/internship (government subsidized) components. The program targets low-income youth who have not completed secondary school. While they find no effect of the training on employment outcomes, they do report a modest effect on earnings, conditional on being employed. The impact on formal employment, marked by the probability of having health insurance, is positive but not statistically significant. Ibarrarán et al. (2014), explore labor market outcomes as well as labor market participation outcomes (non-cognitive and socio-economic skills) in a modified version of the same program in the Dominican Republic, including an improved life skills training module. Like Card et al., they find no effect of the training on employment in the short-term. However, among the employed, they observe a positive statistically significant effect on monthly earnings. Unlike the earlier evaluation, they find statistically significant impacts on formal employment for men. In the analysis of long-term impacts of the program, they again observe no effect on employment; however, the program has persistent significant effects on formal employment for men and significant effects on urban earnings (Ibarrarán et al. 2015).

In Malawi, Cho et al. (2013) explore a government vocational and entrepreneurial training program targeting vulnerable youth, defined as orphaned or school dropouts. They find that the training resulted in large and significant impacts on self-reported skills for both men and women, continued investment in human capital, and improved well-being for men. However, they did not observe impact on labor market outcomes in the short-run.

A small literature on promoting youth employment through wage subsidies to employers also finds mixed results. In South Africa, researchers find that wage subsidies have a 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 measures the impacts of a program that assigned recent female college graduates to receive a wage subsidy voucher as a means to gaining experience and enter a labor market reluctant

to hiring young women (Groh et al. 2015). While they find 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 et al. (2016) examine an internship program with a wage subsidy that has similar objectives to the program in Jordan, but it was offered to both men and women and to either college or vocational graduates. The program 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% increase in earnings. Impacts on employment outcomes for internship recipients persisted five months after the program.

In addition to job training and wage subsidies, some of these programs have increasingly taken 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 the related research on other included treatments (vocational or wage subsidy) also did not find impacts on employment outcomes. These studies also tend 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. 2016). In their analysis on the effects of soft-skills training on labor market outcomes, they find that the soft skills training had no significant impacts. On non-employment outcomes, they observe that in the short-term, those who received the soft-skills training had significantly more optimism for the future compared to those who did not receive it.

Acevedo et al. (2017), also look at the impact of soft skills by modifying the Dominican Republic program discussed above. In the modification, they examine two treatments: 1) vocational and soft-skills training with internship and 2) soft-skills training with internship. In the short-term they find 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 find a negative statistically significant effect on employment for those who received the combination vocational and soft-skills training, and they find no impacts on earnings or job satisfaction for men in either treatment. However, these labor market outcomes effects dissipated three years after the program 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 is not statistically significant, and women in the treatment groups had significantly higher levels of self-esteem and expectations for the future as well as lower levels of fertility. Ibararán et al. (2014) also examine impacts on non-employment outcomes after improvements to the life-skills training were made to the Dominican Republic program. They find that the program had positive statistically significant impacts on participants' expectations for the future including health, educational level, and aspirations. In using Rosenberg's self-esteem scale for one measure of life skills, they did not observe an effect on the complete sample, but they do find that program increases the Rosenberg score for men by 0.11 standard deviations. Lastly, for women, they find negative, statistically significant impacts on the probability of being pregnant.

While none of the studies above have directly examined youth employment on educational outcomes, a few studies in the United States have explored these effects, again with mixed results. A study of New York City's Summer Youth Employment Program targeting low-income youth finds that the program has

a small, statistically significant increase in attendance of 1-2% on average (Leos-Urbel 2014). The impact is greater for students at greater risk of dropping out, those aged 16 and older with low baseline attendance, with an increase in attendance by 3% on average. For the same group, the program increased the likelihood of attempting and passing statewide math and English exams, but it had no effect on exam scores. While another study of Summer Youth Employment Program found that the program had no effect on college enrollment and a large negative effect on future earnings, they did observe a small increase in the probability of future employment as well as a significant decrease in incarceration and mortality rates (Gelber et al. 2016).

A national study of the United States' Job Corps Program, a training program targeting disadvantaged youth, finds that the program increased education enrollment and attainment in high school equivalency and vocational programs but has no impact on college enrollment or attainment (Schochet et al. 2008). Additionally, four years after randomization, the study finds that the program significantly increased employment and earnings and significantly decreased conviction and incarceration rates. In another study, Heller (2014) examines the role of youth summer employment in reducing violence and crime in Chicago. She observes that having summer employment has no effect on school attendance or other academic outcomes in the following school year.

Except for the few programs in the United States, most of these programs rarely examine the impact of work experience among in-school youth. In addition to facilitating employment opportunities upon school exit, a key feature of in-school work programs 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 enrollment and employment, as well to the barriers that youth face in completing their studies and finding work.

### **3 Intervention, theory of change and research hypotheses**

#### **3.1 Special Program for Employment of Students**

The Department of Labor and Employment (DOLE)'s Special Program for Employment of Students (SPES) is one of DOLE's longest running programs. 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 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 program with a fixed 20% 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 program targets poor but deserving youth ages 15-25, who are either in school youth enrolled or out-of-school youth intending to enroll in secondary, tertiary, or tech-vocational educational institutions, and links them to formal work opportunities with public or private employers lasting 20-52 working days.

To participate in the program, family income (including the applicant's) may not exceed the regional poverty threshold for a family of six (6); the applicant must have obtained an average passing grade during the previous term or school year attended; the applicant must show good moral character as certified by their local government unit chairman; and the applicant must intend to enroll in any secondary, tertiary or tech-vocational educational institution. SPES partners are private employers with at least ten (10) employees who shall pay 60% 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% of the salary/wage based on the applicable hiring rate. In both cases, DOLE shall pay the remaining 40% of the beneficiaries' salary/wage in the form of an education voucher.

DOLE's Bureau of Local Employment (BLE) oversees SPES and coordinates with the Public Employment Service Offices (PESO) within the provincial and municipal government units in implementing the program. The PESOs facilitate the application, selection, and matching processes, with many PESOs adopting unique practices. We learned from our process evaluation that programs with multiple types of positions, PESO staff work to match students based on their skills (59%), residence (57%), work preferences (41%) and desired location (56%) to the employer. Matching is more common in larger SPES programs, those that 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 randomization and selection process we found that among our participating PESOs that "job matching", with the exception of one municipality is minimal. In most cases, the PESO submits the list of accepted SPES beneficiaries to the LGU/private employer. The LGU or private employer then assigns the tasks upon the start of the program. The PESOs also determine the implementation schedule of SPES and the number of SPES batches in each year. While the law only permits 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 (March to May).

SPES beneficiaries participating for a minimum of two years are referred to as "SPES babies". Many PESOs will prioritize SPES babies in the subsequent years until they graduate from college or tech-

## Components of SPES

*Under RA 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 youth intending to re-enroll in school and certified to be of "good moral character" by their barangay; and
- from a family with 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 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% in cash and
- DOLE paying 40% in the form of an education voucher.

vocational institution. PESOs will also often prioritize eligible applicants from other groups including persons with disabilities and conditional cash transfer beneficiaries.

With the provision in RA 9547 for a fixed 20% increase in the annual budget for SPES, the number of SPES beneficiaries increases each year. In 2016, SPES served 229,674 beneficiaries. This is a 10.47% increase in the number of beneficiaries served in 2015 (207,898), which is a 14% increase in 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 applies to program implementation starting in 2017, after implementation of the impact evaluation. The amended law extends age eligibility until 30 years old and the number of working days to seventy-eight (78), with a limitation on days worked during the Christmas vacation. Additionally, the 40% 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% 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 program as described above, we discovered through a process evaluation that there is large diversity in how SPES programs work across and within regions, and the goals of each program depend on the local context and mandate. Variations in program implementation include how many batches are implemented per year, how applicants apply, the use of additional screening mechanisms such as qualifying exams, purpose of orientation sessions, additional required documents, and the level of involvement of the local chief executive in the program.

In our process evaluation, we noted that the main SPES enrollment 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 standardized and may be based on one or more of the following: course, grades, age, qualifying exams, and/or referrals/background checks. Additionally, some PESOs ask for the submission of additional documentation such as resumes, parents' voter identification cards, or certificates of barangay residency. We also note in our process evaluation that many PESOs are implementing their own program features to reflect their aims and 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 prioritize SPES babies or out-of-school youth, a substantial number of PESOs targeted students based on 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 enrollment 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 labor 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 realize the full range of these impacts, we hypothesize that in the medium run, increased work skills, social connections made through SPES, and updated labor market perceptions may affect employment, possibly by increasing the likelihood of job search or the effectiveness of such search. While at the time of the study SPES is open to youth ages 15-25, we focus on the potential impacts of SPES on youth ages 15-20, since they comprise 95% 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 enrollment 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 labor 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 labor market perceptions in the medium-run (8-12 months)?**

Impact on “employability,” measured by aspirations, self-empowerment, self-esteem, and subjective labor 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 labor 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 labor 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.

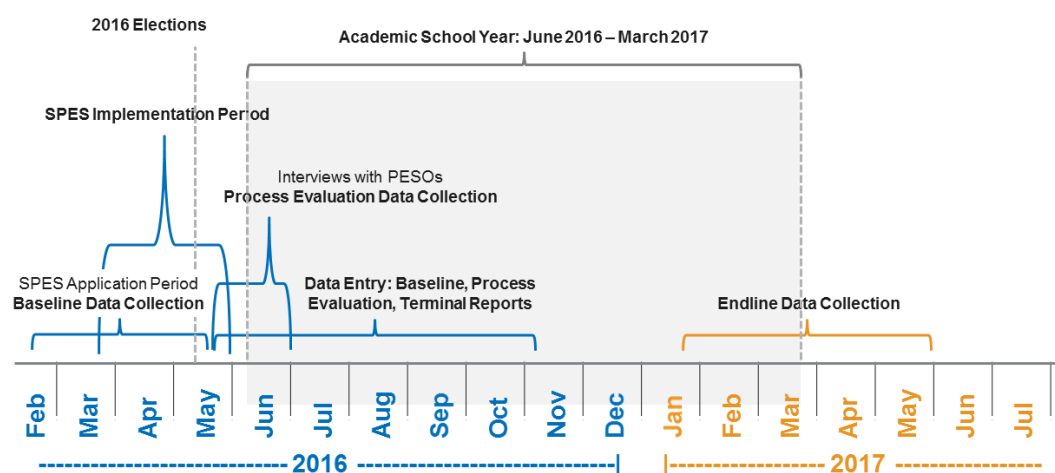
Students may be aware that they are more attractive to employers, motivating them to search harder, so there is an increase in search effort. Additionally, they may hold out for better jobs, leading to reduced employment and increased job-search duration, but higher wages, in the medium run.

## **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 finalize 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, per PESO the implementation period of the program 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 to 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 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 NCR to locate the hard to reach respondents through April and May 2017. It is important to note that the 2016 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 some payment delays during post-election transitions in municipal offices.



**Figure 1: Timeline**



**Table 1: Timeline of 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 & power calculations

In our initial proposal, we anticipated a 70% response rate for a baseline sample of 8,000. Although we achieved a far higher response rate in endline of 86%, our baseline consented sample was much

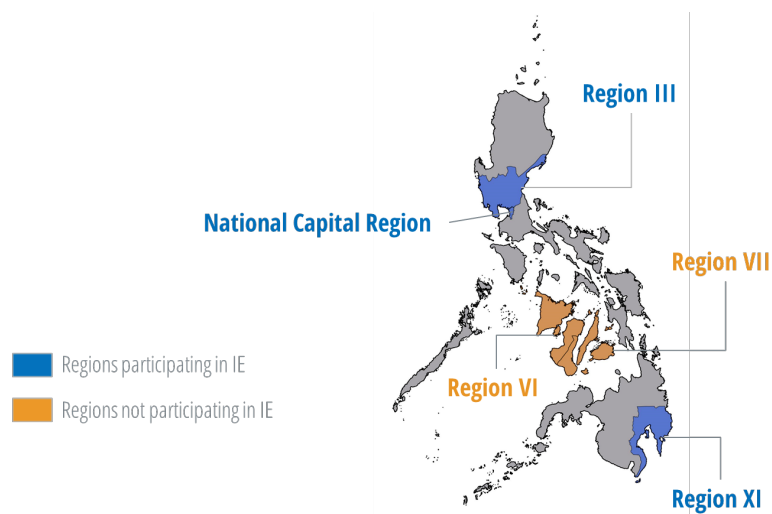
smaller. After accounting for survey attrition, our treatment group is only moderately smaller than projected (2,206 realized vs. 2,800 projected), but the control group is less than half as large (1,077 realized vs. 2,800 projected). As a result, we experience some loss of power to detect statistically significant effects of SPES on our outcome variables. Specifically, we have 80% power to detect a change in enrollment of 2.2 percentage points (using our intention-to-treat estimates). In the absence of these logistical difficulties that reduced our sample size (but using realized control-group enrollment rates), we would have had 80% power to detect a change in enrollment of 1.7 percentage points.

## 5.3 Sample selection

### 5.3.1 Region & municipal selection

The impact evaluation targeted the following regions: National Capital Region (NCR) Region III, Region VI, Region VII, and Region XI (see Figure 2). These regions were chosen to represent all three island groups and to include both rural and urban areas. These regions are broadly representative of the range of economic and labor market conditions across the Philippines (see the online appendix). 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-level and provincial-level PESOs to request their participation in the impact evaluation. We selected the thirteen (13) PESOs from each region with the highest 2014 enrollment in SPES. We also formed a back-up list of additional PESOs within the region, so long as they 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 randomizing or oversubscription, particularly during an election year, or because the study timing fell after their SPES application and enrollment 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% of contacted PESOs agreed to participate in the impact evaluation. However, we continued to partner with non-participating

PESO in order to learn about how they administer SPES and to study the characteristics of their applicants and participants.

Table 2 shows the distribution of participating PESOs in the impact evaluation<sup>3</sup>. 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 plus excellent coordination between the DOLE regional offices and the PESOs. In Region VI and Region VII, no invited PESOs participated in the impact evaluation. The majority of refusals occurred because the PESO or local chief executive (LCE) was unwilling to participate, either because there were objections to oversubscription and/or to randomization. It was particularly challenging to get buy-in at the local level because the impact evaluation occurred in an election year. In some cases, the local government unit (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 in order 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.

**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	4422	6	33%	3	50%	3	17%
Region III*	13	5321	26	200%	12	46%	9	69%
Region VI	22	2421	21	95%	1	5%	0	0%
Region VII	15	3802	13	87%	2	15%	0	0%
Region XI	16	2461	14	88%	12	86%	10	63%
Total	84	18427	80	95%	30	38%	22	26%

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

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 program take-up.

<sup>3</sup> Online Appendix Table B contains the list of PESOs.

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 the regional or national level, would be important to expand the scope of these programs.

### **5.3.2 Participant Selection**

We include in our sample all youth ages 15-25 who apply for SPES and successfully pass the initial screening in our target municipalities. In practice, nearly all study participants are under the age of 20. To pass the initial screening as outlined in the SPES law and conducted by the PESO, applicants must 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-enroll 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, etc. Our sample consists of all applicants who are considered eligible according to their municipality’s criteria.

## **5.4 Randomization**

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 stratify at the municipal level, as we randomize municipality-by-municipality. Within each municipality, we stratify by gender, by school level<sup>4</sup> (high school or college), and by age.<sup>5</sup>

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 April 1. Applicants that were not part of the randomization, because their PESO did not participate, there was not oversubscription, or because they were members of a priority group, form the “non-experimental group.”

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<sup>4</sup> 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.

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

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

**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	1865	1551	314	16%
Region VI	0	0	0	
Region VII	0	0	0	
Region XI	1444	576	868	60%
Total	3796	2511	1285	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 ages 15-25, most applicants are quite young, with a mean age of 17.2. In part, this is because our sample mostly consists of first-time applicants, since the PESOs wanted to ensure returning “SPES babies” received priority for slots. However, among our non-experimental sample, which includes both new and returning applicants, the average age is only 17.8. Figure 3 shows the distribution of applicant ages, including both experimental and non-experimental applicants; nearly all (94%) are age 20 or younger. Most applicants did not have past work experience (less than 20%), and only 8% had any formal work experience.

From our baseline information, we observe that 1,891 SPES applicants are identified as secondary students, and 1,905 are identified 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)<sup>6</sup>. It is important to note that our records are incomplete in some municipalities.<sup>7</sup>

**Figure 3: Age distribution of SPES applicants**

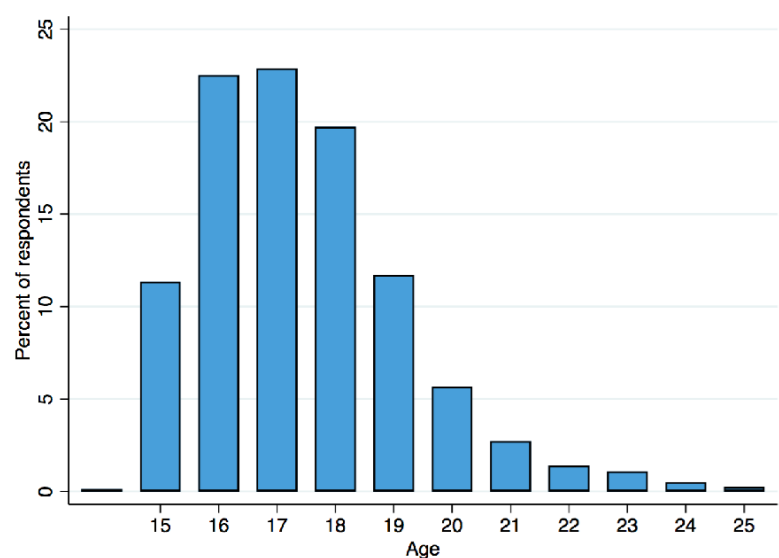
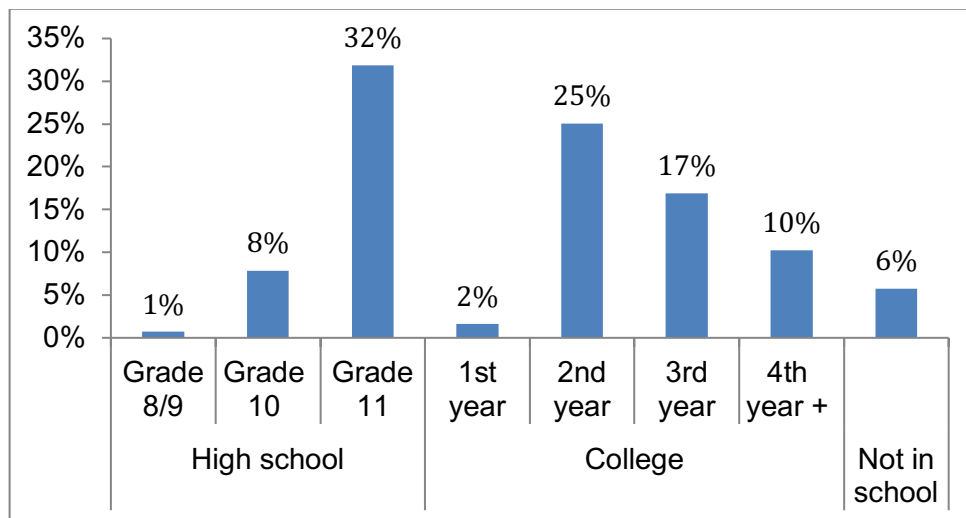


Figure 4 shows the endline distribution of grade levels among applicants. We use endline data rather than baseline data because we have greater detail and fewer missing values. Because of K-12 implementation, there are virtually no grade 12 students (only 11, which we merge with grade 11 for simplicity of presentation), and there are very few first-year college students. The bulk of applicants are in grade 11 high school or in the 2<sup>nd</sup> year of college.

6 For simplification due to missing data, out-of-school youth are categorized with high school students.  
 7 Incomplete and missing records include randomization 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  $\leq 15$  years of age and college  $> 15$  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 randomization cell (that is, within each PESO-by-gender-education level cell). We conducted 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 would have more control-group members. As a result, members of the control group overall would 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 the 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.

**Table 4: Balance tests**

	Control (1)	Treatment (2)	P-value (3)	N (4)
Female	66.8%	65.4%	.	37773794
Age (mean)	17.1	17.2	0.629	3702
College	39.4%	55.7%	0.601	3796
Any past work experience	19.4%	19.8%	0.074*	2546
Formal work experience	7.0%	7.3%	0.449	2546
Informal work experience	5.5%	4.3%	0.222	2546
Lowest acceptable daily wage	287	297	0.569	2389
Expected daily wage after graduation	476	496	0.526	2389
Expected tuition next year	9897	10248	0.478	2389
Expected other educ. expenses next year	8361	8437	0.132	2389
Region III	67.5%	22.9%	.	3796
Region VI	24.4%	61.8%	.	3796
Region VII	0.0%	0.0%	.	3796
Region XI	0.0%	0.0%	.	3796
NCR	8.0%	15.3%	.	3796
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 the vocational level. Covariate-specific and joint balance tests include stratification cell fixed effects. P-values omitted for stratified covariates.

## 5.7 Data collection and data collection tools<sup>8</sup>

### 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 target regions from

<sup>8</sup> Survey instruments are available in the online appendix.



municipalities that did and did not participate in the impact evaluation. We obtain 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 the applicant to collect additional information about applicants' educational background, work experience, and their labor market perceptions and aspirations. This questionnaire was distributed alongside 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 were submitted, including a consent form, Form 2, and the supplemental questionnaire. Within that questionnaire is a short series of questions evaluating the applicant's 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 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% sample of applications from PESOs not participating in the impact evaluation, those comprising the non-experimental sample. We scanned and retained the application forms for all applicants in case this additional data later becomes useful to our analysis.

#### *5.7.1.1 Other baseline data sources*

We merge two additional files to the baseline data set: 1) the randomization 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. **Randomization 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 in order to merge these three sources to form our baseline data set. It is possible that our data set may include both false positives (two different individuals labeled as a match) and false negatives (failure to match one individual who appears in two different data sets).

#### *5.7.1.2 Compiling baseline data*

Table 5 shows the distribution of applicants for which data was collected and successfully merged, and for which we have signed consent forms. Our overall baseline sample includes 15,174 SPES applicants.

Although we randomized 5,610 applicants, we were only able to match 4,099 with supplemental questionnaires, and of which we have consent to participate in the study from 3,796.

**Table 5: Data collected, by region**

	SPES Form 2	Supp. Questionnaires (SQ)	Terminal reports	Randomized applicants	Matched SQ w/ randomi- zation	Matched, baseline consent	Endline, matched with baseline consent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NCR	1346	2639	2276	1249	628	487	370
Region III	5617	7414	10285	2859	2015	1865	1692
Region VI	504	823	871	0	0	0	0
Region VII	525	970	2275	0	0	0	0
Region XI	2742	3328	2599	1502	1456	1444	1218
Total	10734	15174	18306	5610	4099	3796	3280

#### 5.7.1.3 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, and the 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 for completeness with each SPES applicant, some applicants (7%) did not fully complete the informed consent, which was intended in randomized PESOs. Additionally, many supplemental questionnaires were incomplete, particularly among PESOs that did not participate in the impact evaluation randomization. Overall, 27% of the supplemental questionnaires were mostly blank, and among randomized applicants who consented to participate in the study, 37% of questionnaires were mostly blank. While applicants with missing data can still be part of our follow-up survey and analysis, the missing data reduces our sample when analyzing baseline data and reduces 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. 3,793 of these respondents form our experimental sample,<sup>9</sup> those who were

<sup>9</sup> Our baseline sample consists of 3,796 respondents, but we lacked contact information for 3.

randomized 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 randomized into treatment and control groups. We restrict our impact analysis to the experimental sample, but we include these non-experimental respondents in some descriptive statistics to provide a more complete picture of SPES participants. The endline survey questionnaire includes questions on education and enrollment 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 P25 phone load for their participation. In the baseline questionnaire, we asked respondents for a primary 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 (different days and times). Staff also sent a text message prior to the call as well as in response to texts received. This approach yielded a response rate of 75%. We also attempted to reach the respondent by email, but we 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 by any of the phone numbers provided or through email) in the experimental group only. Respondents in this hard to reach group may have changed SIM cards, which happens frequently, or are in areas with 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%.

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 searching, 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 the respondent; and/or 3) inviting the respondent to the PESO for an in-person interview. Half of the IPA team was deployed into the field, while the other half remained in Sorsogon to call respondents with updated contact information and continue attempts. The IPA team deployed in the field attempted to first coordinate with the PESO to reach the respondents and then attempted to locate the respondents at their residences.

#### *5.7.2.1 Challenges in endline data collection*

##### *Hard-to-reach respondents*

There were a high number of hard-to-reach respondents. We assumed that the multiple numbers collected during baseline would be sufficient in contacting the respondents. Additionally, we assumed that cell phone signal would not be an issue; however, we found that there are municipalities, particularly in Region XI that have very poor cell phone signal.

### *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 into 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 prior to 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 due to some areas with security concerns. However, in Region XI they were not available to assist us until after May 1 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 learned that they would not be available until the last week of May.

### *Security concerns in Region XI*

There were security concerns in two municipalities in Region XI that limited the search efforts of the deployed IPA team. Additionally, martial law was declared in Mindanao a few days prior to the scheduled return of the IPA team and all field work was suspended.

### *5.7.3 Qualitative data*

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

## **5.8 Attrition**

By supplementing our phone surveys with intensive follow-up efforts, we obtain an experimental response rate of 86%. 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 provided numbers were invalid, no longer in service, or the subscribers were out of network coverage.

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 restrict our experimental sample to those for whom we have initial informed consent to participate, and therefore a completed supplemental questionnaire, we have 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 ( $p = 0.46$ ).

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 do predict attrition (we reject the null that the covariates do not predict attrition at the five-percent 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 6: Reasons for attrition**

	# respondents (1)	Share (2)	Cumul. share (3)
Respondent could not be reached	563	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	8	1.3%	100.0%
Total	665	100.0%	

**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
# 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.

**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 (,000s)	-0.016 [0.024]
Expected tuition next year (,000s)	0.00021 [0.00040]
Expected other educ. expenses next year (,000s)	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 the 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 labor market outcomes. School participation will include whether students are enrolled and whether they obtain passing grades. Labor 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 dropout, 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 businesses), share currently looking for work, duration of job search, and current earnings.
  - 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 will also measure the impact of SPES on employability, as assessed by subjective measures of individuals’ self-empowerment, self-esteem, aspirations, and labor 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 labor market perceptions.

## 6 SPES Program: Design, methods and implementation

### 6.1 Program 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% of control group members report that they did enroll in SPES in 2016. There are several possible reasons for this non-compliance.

1. We provided PESOs with a “back-up list” of respondents, comprised of control-group members, they could use if treatment group members did not enroll.
2. Control group members may have applied in other municipalities after learning they were not accepted into their home municipalities’ SPES program.
3. PESOs that held multiple batches throughout 2016 might have permitted control group members to enroll.
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 enrollment in Region III (47%), but much lower levels in Region XI (20%). Only 6 municipalities (20%) showed very high control group compliance (less than 10% enroll in SPES in 2016), while in 9 municipalities (31%), more than 75% of the control group enrolled.



Additionally, we see some non-compliance among treatment group members, 89% of those invited to SPES actually enroll, which is comparable to the enrollment 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 provided by IPA. A few PESO managers (17%) reported 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 original assigned beneficiary. One common complaint (3 PESOs) was that it was difficult to contact the assigned beneficiaries because of non-working cellphone numbers. 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 interviewed managers did provide several suggestions to improve adherence to randomization and study implementation. Specifically, they suggested more lead time on the study and accompanying protocols (2 PESOs, one recommending 2-3 months' notice) and to avoid holding the study during an election year. Some (7 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.

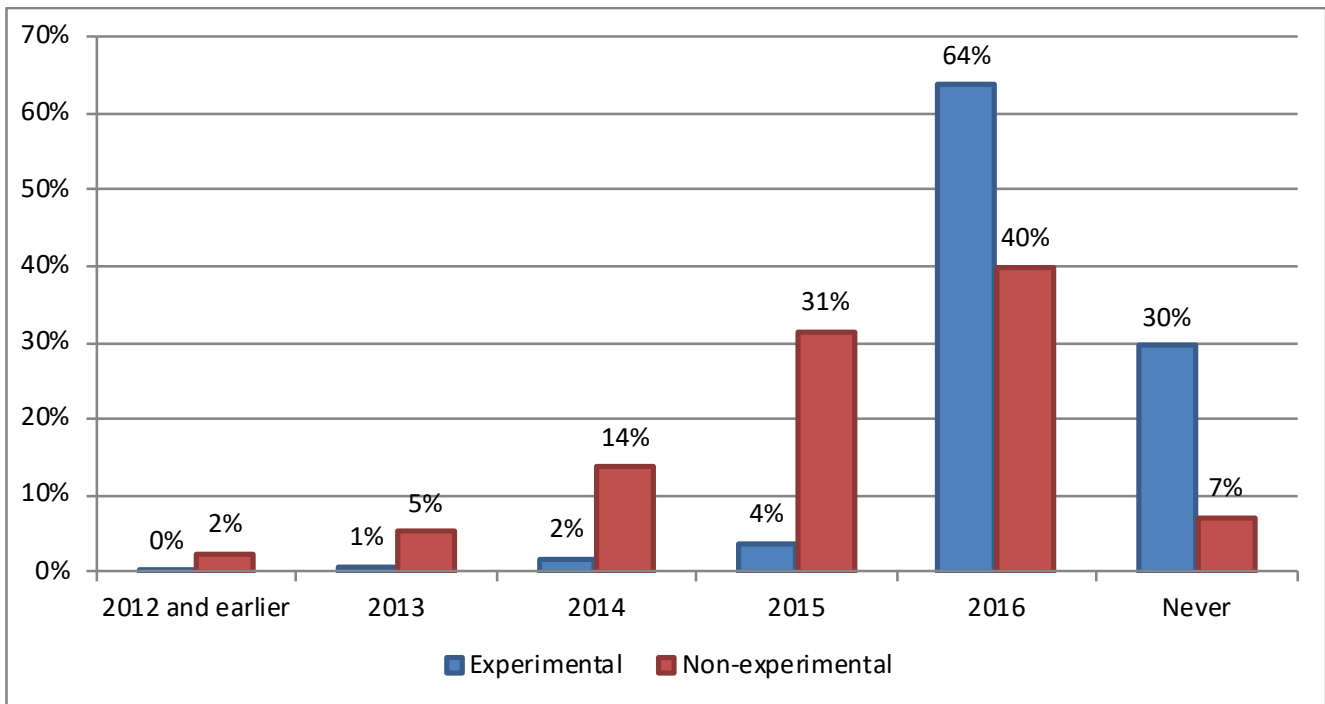
This non-compliance among control and treatment group members means that our estimates of the impact of assignment to SPES are not necessarily equal to the true impact of SPES, as the impact of SPES might be different for those who were actually induced to enroll versus those who would have enrolled (or not enrolled) regardless. After controlling for stratification fixed effects and covariates, we find that being assigned to SPES increases the probability of enrollment 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% of experimental group members participated in SPES prior to 2016, compared to 52% 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 randomization.

**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 organizing. Among 14% 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.

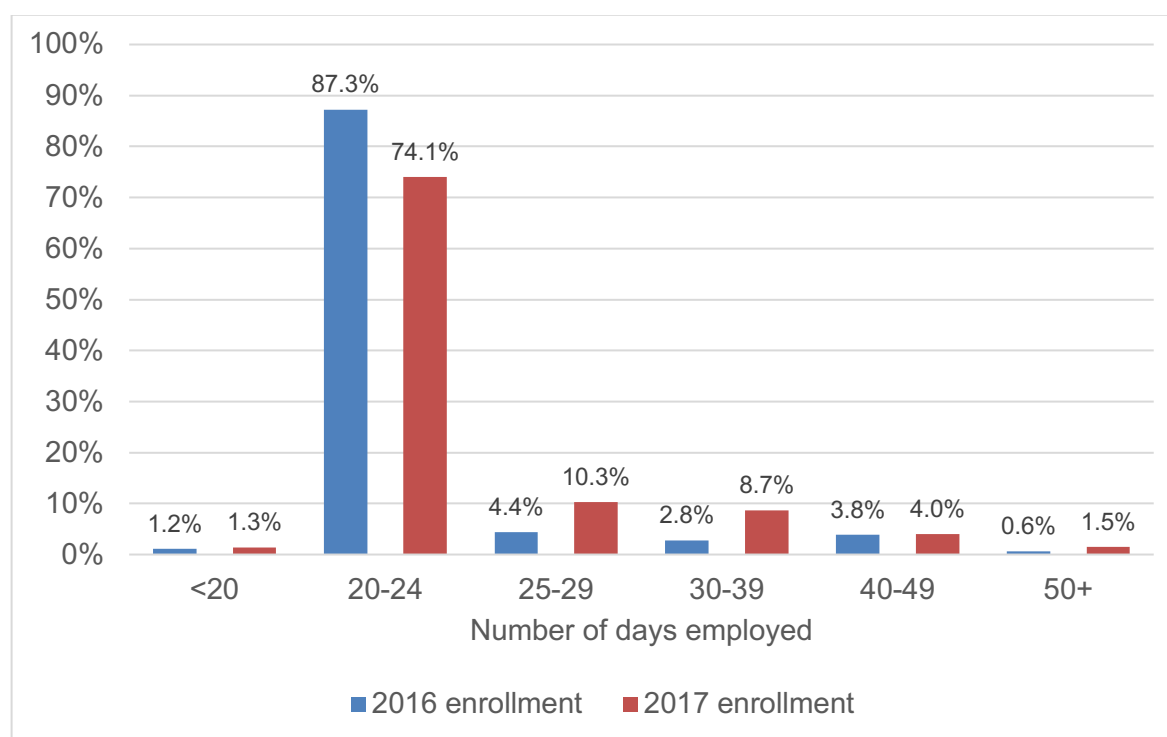
**Table 10: Distribution of SPES tasks**

Rank	Assignment	Primary assignment			Primary or secondary assignment	
		# of students	Share	Cumul. share	# 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 & organizing documents	466	15.0%	59.3%	730	23.5%
4	Cleaning/sweeping/planting	281	9.1%	68.3%	513	16.5%
5	Maintain 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	Process and prepare forms	137	4.4%	83.0%	235	7.6%
8	Customer service/sales/organizing	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 & 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/neighborhood work	5	0.2%	100.0%	8	0.3%
Total		3104	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% work the maximum 52 days. Anecdotally, we learned that mayors prefer to maximize the reach of the program by spreading program funds across the largest number of beneficiaries, and that this may be worsened by electoral pressures in 2016. The blue bars on the left in Figure 6 show the general distribution of days of work during 2016.

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 program, 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 does fall from 87% to 79%, the minimum of 20 days remains standard practice (82% working exactly 20 days in 2016 and 72% working exactly 20 days in 2017). In addition, only 0.4% take advantage of the new law and work more than 52 days, and only 0.07% work the full 78% allotted by law.

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



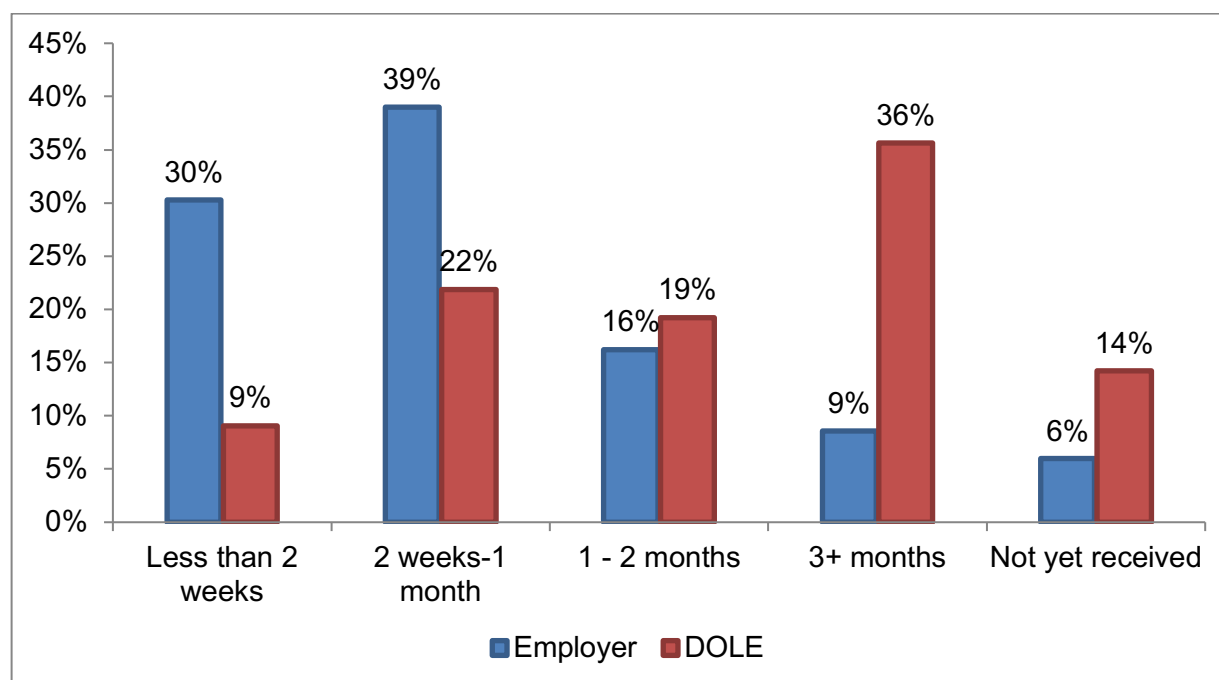
### 6.3 Payment schedules

Under RA 9547, SPES beneficiaries receive 60% of their salary/wage, based on the prevailing minimum wage in the area, in cash from their employer, while the remaining 40% from DOLE is paid in the form of an education voucher. Under the education voucher payment system, after the SPES beneficiary submits the required documents to DOLE after program completion, including a statement of account from their school, DOLE issues a check 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 thirty 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 check 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/check disbursement directly to the SPES beneficiary even prior to the recent amendment. For example, in Region XI the education voucher system was no longer used during the study implementation, however, in Region III the beneficiary was given an option of either voucher or cash/check payment. Under the cash/check 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 the payment through check either through a DOLE provincial office or the PESO. Even with the cash/check payment systems, we find, based on SPES beneficiary self-reports, that there are substantial delays in receiving the payment, and many respondents still had not received their DOLE payment by endline.

Figure 7 shows that while 69% of beneficiaries received payment from their employers within one month, only 31% had received payment from DOLE. By the time of the endline survey, between 8-12 months after completion of SPES, nearly all beneficiaries had received payment from their employers

(94%); however, 14% were still waiting for payment from DOLE. Based on our conversations with DOLE officials, some reasons for these delays may include the following: beneficiaries not having the necessary documentation, particularly proof of enrollment from their schools; difficulty finding beneficiaries; and challenges imposed as a result of changes in administration following the May 2016 elections. Table 11 shows that there are also substantial regional differences in payment timing. Payments in NCR were generally more delayed, as 65% received DOLE payments after 3 months or more, but they were much less likely to be still outstanding (7%). Payments were more prompt in Region III (34% within 1 month and only 28% took three months or more), but 15% of Region III students were still waiting for payments from DOLE at endline.

**Figure 7: Time to payment from employer and DOLE**



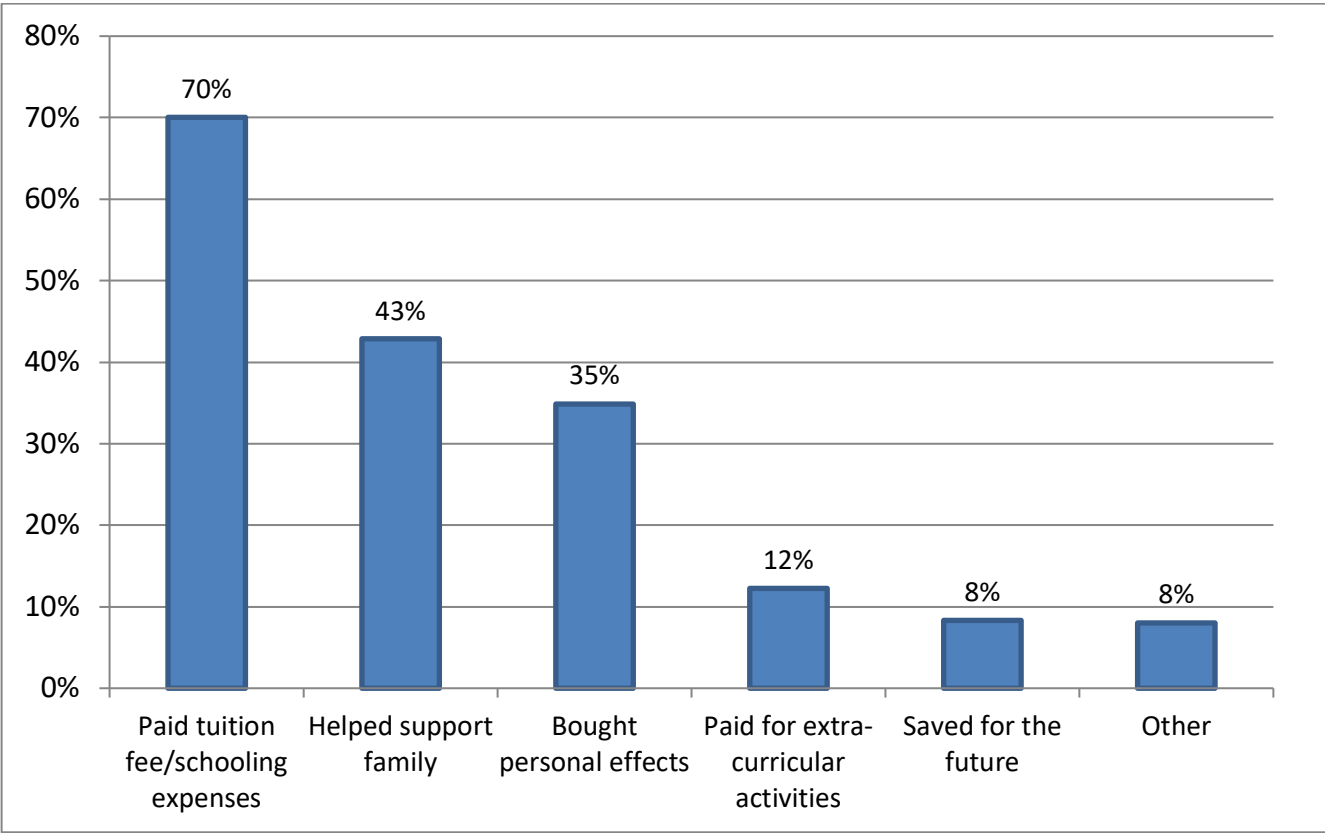
**Table 11: Time to SPES payment from employers and DOLE, by region**

	Region III		Region VI/VII		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	1873		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 end of the beneficiaries. 17 PESOs reported delays caused by students lacking the required paperwork, and specifically, there were often delays in obtaining the certificate of enrollment from the school (2 PESOs). Others (3) reported issues with verification of students' signatures, which took time to reconcile.

Nearly all PESOs (83%) mentioned that they have 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 facilitating the payment process. Efforts to simplify the proof of enrollment process may help students receive their payments on time. In addition, 21% (6 PESOs) reported delays on the side of the DOLE. The reasons varied, including delays in processing payments at the regional level (3), lack of manpower (1), budgetary issues at the provincial level (1), or problems with setting up ATM payments (1).

**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% do use their funds for tuition fees and schooling. However, beneficiaries also use their funds to help support their families and purchase personal effects. In addition to the 30% of students who do not report using their earnings for education, 57% of those who spend money on education also use some of their earnings for other purposes, namely supporting

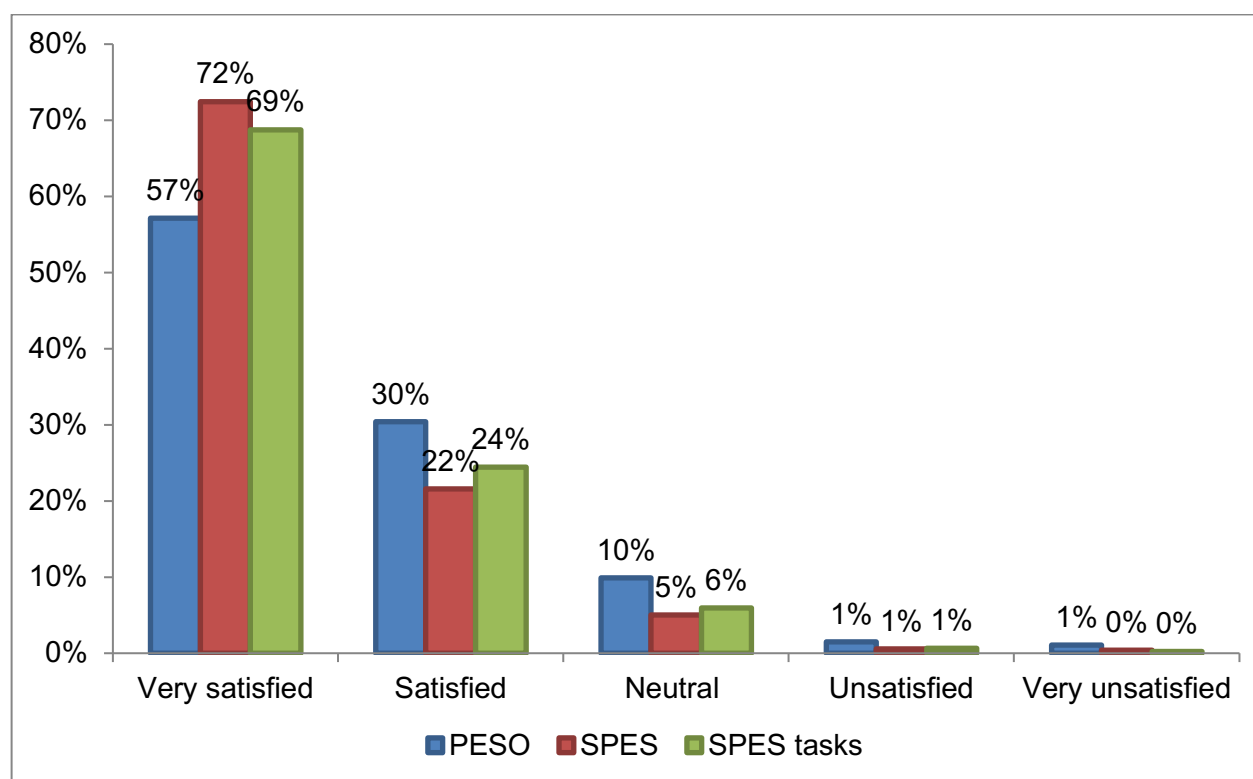
their families (40% of those who spend on education) and buying personal effects (31% of those who spend on education).

## 6.5 Satisfaction with SPES and PESOs

We also assess respondents' satisfaction with SPES and with 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 were not able to enroll 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 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 enroll 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 local average treatment effect of SPES directly by instrumenting for enrollment with treatment status using two-stage least squares:

$$\begin{aligned} spes_{i,s} &= \alpha_0 + \alpha_1 treatment_{i,s} + f_s + X'b + v_{i,s} \\ y_{i,s} &= \beta_0 + \beta_1 \widehat{spes}_{i,s} + f_s + X'b + e_{i,s} \end{aligned}$$

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 the respondent reports he/she 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 enrollment in SPES.

Because 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 (PPI)). 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



Table 4 descriptive statistics and balancing tests shows, 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 both members of the experimental and non-experimental groups. Overall, enrollment is high (94%), and graduation rates from college are virtually zero, as very few respondents were in year 4 of college. Expected enrollment rates for the next school year (2017-2018) fall substantially, though some of this drop is due to anticipated college graduation.

Although SPES beneficiaries are required by law to come from low-income families, a relatively high share, 27%, are enrolled in private school. Some disadvantaged families may receive tuition assistance or scholarship, but we find that on average, families pay Php6,269 per year out of pocket. Non-tuition educational expenses such as books, uniforms, supplies, and meals, total even more, averaging Php20,443 per year. Slightly more than 30% receive financial assistance from extended family members, averaging Php8,844 per year (conditional on receiving any assistance), and more than half receive 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 HS	59.9%	53.1%	80%
Grade weighted average, normalized	0.02	0.01	0.07
Expect to graduate college by 2017	11.1%	9.4%	17.4%
Expect to graduate HS by 2017	59.9%	54.1%	80.4%
% Private school	26.9%	28.3%	22.2%
Tuition	11656	11651	11670
Tuition, paid out-of-pocket	6269	5959	7367
Other educational expenses	20443	19945	22212
% received assistance from extended family	30.7%	30.1%	32.9%
Amount of family assistance (conditional)	8844	8705	9294
% received scholarships/stipends	53.2%	54.3%	49.5%
Amount of scholarship/stipend (conditional)	12324	12277	12506
Observations	4,221	3282	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 normalized 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 they have enrolled in SPES prior to 2016 (17%) and those who have not. Average tuition for high school students is Php8,517 per year, while for college students it is Php14,601. Because of financial need, scholarships, and senior-high school vouchers, what is most relevant, however, is the out-of-pocket tuition paid by students and their families: an average of Php1,539 for high school students and Php10,138 for college students. However, other educational expenses dwarf 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 HS	1.6%	100.0%	50.9%	83.6%
Grade weighted average, normalized	-.091	.099	.003	.08
Expect to graduate college by 2017	0.0%	17.9%	8.5%	21.8%
Expect to graduate HS by 2017	3.6%	100.0%	51.9%	84.5%
% Private school	31.4%	25.3%	28.9%	18.7%
Tuition	8517	14601	11646	11731
Tuition, paid out-of-pocket	1539	10138	5827	7846
Other educational expenses	14348	25239	19892	20706
% received assistance from family	26.2%	33.9%	29.7%	36.5%
Amount of family assistance (conditional)	5384	11141	8746	8231
% received 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 normalized 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 enrollment rates at endline, shown in Figure 10. Each bar shows the enrollment 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-percent confidence intervals. Consistent with Table 12, enrollment rates are consistently high, though they fall slightly as students advance in their studies. Visually, there are no clear patterns in enrollment between treatment and control group members; enrollment among the treatment group is slightly higher for students that 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.

**Figure 10: Enrollment rates, by completed grade level**

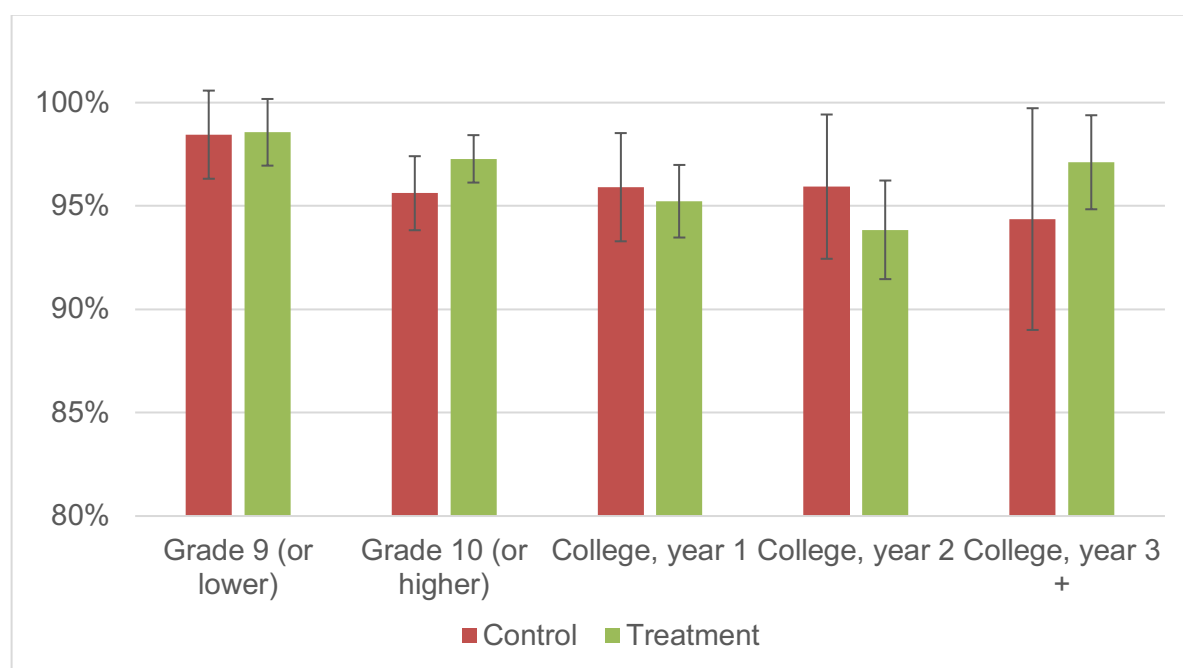


Table 14 translates these raw numbers to regression-adjusted estimates, specifically local average treatment effects, reporting the impact of enrolling in SPES on self-reported enrollment, graduation, and grades. SPES has no overall effect on enrollment. The LATE coefficient of 1.6 percentage points is statistically significant, with a 95-percent 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 high school by 3.2 percentage points, and it is statistically significant at the 10-percent 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 programs that 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.<sup>10</sup>

At endline, we ask all respondents about their grade weighted average of 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 easily converted. We normalize the grade weighted average 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.

<sup>10</sup> 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, (b) report they are out of school but their highest level completed is either high school (with diploma) or some college or some TVET.

**Table 14: Impact of SPES on current academic outcomes**

	Enrolled in school	Graduated college	Graduated high school	Grade weighted average*	Plan to graduate college, 2017	Plan to graduate high school, 2017	Will enroll, 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 normalized using education-level and scale-specific means and standard deviations of the control group. All specifications include controls included in Table 1 along with stratification cell fixed effects.

The timing of our study may be one reason we fail to see impacts of SPES on education. In order 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, enrollment rates are still very high, and the share of students who graduated college is very low, as the current school year had not ended for many. Additionally, the recent implementation of K-12 means that there is no high school graduating class at the end of the 2017 academic year.

For these, we also ask students whether they plan to graduate their current level at the end of the 2017 academic year and whether they plan to enroll next year. As columns 5 and 6 show, expected 2017 college graduation rate is much higher (7%), and the expected 2017 high school graduation rate is nearly the same as current high school graduation rate in column 3 (45% vs 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 local average treatment effects of SPES, including an interaction term between SPES enrollment and the covariate of interest. We find that SPES does have a marginally statistically significant impact on current and anticipated enrollment for men, increasing enrollment by 6.4 percentage points and anticipated enrollment by 7.4 percentage points, while it has almost no effect for women. This difference in impacts on enrollment between men and women is marginally statistically significant. We see suggestive evidence that the impact of enrollment 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 enrollment.

The 6% of the sample that was not enrolled in school at the time of the endline survey may include graduates who have finished their studies as well as students who 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 (57%) was financial problems, regardless of treatment or control status. Another 17% had completed their studies, while 5% needed to care for their families and 4% were not enrolled because of pregnancy. These results suggest that even with SPES, some students and their families still lack the funds needed for tuition and expenses.

**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, 2017	Plan to graduate high school, 2017	Will enroll, 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]	0.00019 [0.0068]	-0.038** [0.019]	0.061 [0.099]	0.035 [0.023]	-0.035 [0.022]	-0.029 [0.026]
SPES X Highest income	-0.015 [0.027]	-0.018 [0.012]	0.032 [0.023]	0.029 [0.12]	-0.089*** [0.032]	0.013 [0.026]	0.11*** [0.033]

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

Notes: Experimental sample endline respondents included. Grade weighted average normalized 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.

**Table 16: Reasons for not being enrolled in school**

	All		Treatment		Control	
	Obs.	Share	Obs.	Share	Obs.	Share
	(1)	(2)	(3)	(4)	(5)	(6)
Financial problems	145	57%	72	59%	37	54%
Completed studies	44	17%	23	19%	12	18%
Looking for job/work	19	7%	9	7%	7	10%
Care for family	14	5%	5	4%	4	6%
Pregnancy	10	4%	4	3%	3	4%
Hard to meet requirements	9	4%	6	5%	1	1%
Other	14	5%	4	3%	4	6%
Observations	241		117		61	

### 7.3 Effect on work readiness and aspirations

We next test the impact of SPES on work readiness, indicated with four index measures.

1. **Self-esteem index:** We measure self-esteem using five statements from the Rosenberg Self-Esteem Index (Rosenberg 1965). Respondents answered how much they agreed with each statement. In Table 18, we average the five normalized responses and then re-normalize this index for the experimental control group in order to interpret effects in standard deviation units.
2. **Work tasks index:** The work tasks index is the sum of tasks for which a respondent said she has “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 normalize 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 normalized responses, then renormalize across the experimental control group.
4. **Workplace skills index:** We ask individuals how much they agree or disagree with five statements in areas of communication, leadership, organization, 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 youth training program in the Dominican Republic (Brea 2011, Ibararán 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 normalized responses, then renormalize across the experimental control group.

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

- 1) whether the respondent says 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,
- 5) and whether s/he expects to enroll in SPES next year.

Overall, 70% 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/day. On average, respondents expect that they will earn Php561 per day upon graduation. Aspirations are nearly uniformly high, with 95% expecting to eventually finish college or higher. Finally, nearly 75% plan to enroll 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 on eleven 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.<sup>11</sup> Table 17 reports these results. Most of the included tasks are not new to respondents; for all tasks but answering phones and bookkeeping, more than 50% of respondents have at least some experience.

SPES increases the likelihood that respondents have experience answering phones by 16 percentage points, which is statistically significant at the 5-percent level. SPES also has a generally positive impact on whether respondents have experience with Microsoft Office, 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.

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<sup>11</sup> 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)	Excel (3)	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 e-mail (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 local average treatment effects of SPES enrollment. All specifications include controls included in Table 1 along with stratification cell fixed effects.

### 7.3.2 Work readiness indices

Table 18 shows the work readiness indices 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 normalized 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 Effect on aspirations and labor market perceptions

Table 19 shows the LATE estimates of the impact of SPES on three measures of labor market perceptions described previously. SPES increases optimism about job-search; enrolling in SPES increases the likelihood that respondents say they will likely find a job within six months of graduation by 9.2 percentage points, compared with a control group rate of 65%. On average, control group members are willing to accept a wage of Php345/day and expect to earn Php586/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 enroll in SPES in 2017. In the control group, 95% of respondents say they will eventually finish college, and SPES has no detectable effect. The impact of SPES on future enrollment in the program is ambiguous; a positive experience might encourage individuals to enroll 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% 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 6 months of graduation 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 do see that SPES differentially increased 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 labor-market perceptions and aspirations**

	Likely find job w/in 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 enroll in SPES, 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 normalized 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 enrollment (94%), most SPES applicants are unlikely to be working currently or recently. Only 6% of control-group members are working, although 22% are looking currently for work. During the 2016 summer, rates of employment (excluding SPES) rose to 18%. Although we see no change in work readiness, one result of SPES may be a change in employment if obtaining work experience led students to seek employment with their SPES or other employer. Table 20 shows that participation in SPES increased the probability of working at endline by 3.9 percentage points, nearly double the control group rate of 5.6%. The coefficient is statistically significant at the ten-percent 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]	-2,584 [2,844]
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 crowd out in the top rows of Table 21. We see that 18% of the control group had some sort of work besides SPES during the summer of 2016; 8% engaged in formal work with a private employer, non-profit, or LGU, and 6% engaged in informal or unpaid work.

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

Columns 4 through 6 of Table 21 examines whether SPES affected beneficiaries work behavior in the remainder of 2016. If, for example, SPES directly led to work connections, some respondents may have continued to work immediately after the program. Conversely, SPES may have substituted for work later in the school year, enabling students to focus on their studies. While 9.5% of control group members engaged 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/un paid work (3)	Any work (4)	Formal work (5)	Informal/un paid 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	3,281	3,281	3,281	3,281
Mean, control group	0.18	0.080	0.12	0.095	0.043	0.052

\*\*\* 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 with 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 hypothesized 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-percent level. This effect is highly concentrated in among private sector employers. While private employers comprise 6% of SPES jobs in our sample, they represent 60% 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 participated in SPES are more likely to have updated their CVs, walked into agencies, and obtained 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 made helped 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 find work.

- **With or without SPES, SPES applicants will enroll in school:** In the medium-run, SPES participation does not increase school enrollment – school enrollment is roughly 95% regardless of whether applicants were chosen to receive SPES. However, we have some evidence that SPES increases enrollment 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, though 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-percent increase compared with a control group rate of 5.6%. We see larger effects for those enrolled at the college level.
- **Without SPES, very few applicants would have worked during the summer.** SPES participation reduces the likelihood of summer work; only 18% 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 organizing and filing (24%). Approximately 14% 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 it **did not affect their wage perceptions**.

### 8.2 Study limitations and next steps

**Resistance to randomization and oversubscription** Gaining the support and cooperation of the LCEs in order to enroll PESOs in the study and implement randomized assignment was the biggest threat to this study. The number of refusals by PESOs and LCEs drastically reduced our sample size. We had to exclude additional PESOs because there was no oversubscription, in some cases because the enrollment 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 lose 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 programs. Additionally, we saw high levels (28%) of non-compliance with randomization, which additionally reduced our power to detect statistically significant impacts.

**Study period occurred prior to 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 implementation 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 age 30, 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, and as a result, we implemented the endline survey at the beginning of 2017, before the end of the 2016-2017 school year. While this shorter timeline should not affect our ability to detect impacts on work readiness or work behavior, 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, and, 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 4<sup>th</sup> year college, it is unlikely we would have sufficient power to detect impacts on graduation in this time frame. As a result, it was nearly impossible by design to detect impacts of SPES on graduation at either the high school or college level.

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

*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.

*Evaluate program changes to maximize 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 past 52 days. For now, the impact of additional workdays, while promising, is still unknown.

### **8.3 Targeting**

At a 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 lowest income students, that may benefit more from SPES. Our results suggest that there may be potential for SPES to improve its effectiveness by targeting those most likely to benefit from the program



One open question is exactly “how poor” are SPES applicants. 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 presents a challenge since data on applicants’ family income is not collected. Without this information available, DOLE is not able to understand the financial challenges that beneficiaries face or to 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.

In order to ascertain respondents’ parents’ socio-economic status, we ask a series of questions from the Progress out of Poverty Index (PPI), described in section 5.7.2<sup>12</sup>. 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 conditional cash transfer – “4Ps”<sup>13</sup> – beneficiaries.

**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 PPI 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	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.

What we also see, in terms of targeting, that PESOs routinely request SPES applicants to show their own or their parents’ voters identification cards. Conversations with DOLE regional and PESO staff

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

<sup>13</sup> 4Ps (Pantawid Pamilyang Pilipino Program) is the Philippine’s conditional cash transfer program.

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 by their local officials. Furthermore, most PESOs practice a first-come first-serve policy with regards to the application process. This practice may limit the exposure of the program 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.

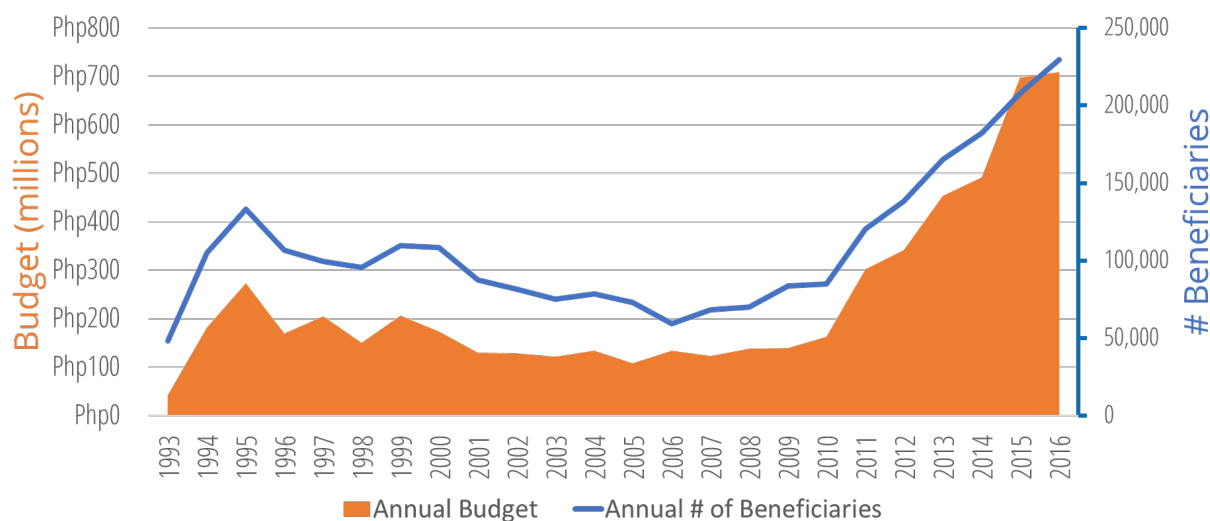
Finally, we note that 2.3% of female SPES applicants were pregnant at the time of endline. The enrollment rate for this group is much lower (63%) and may fall further once they give birth. Unlike the program in the Dominican Republic (Ibarrarán et al. 2014 and Acevedo et al. 2017), SPES does not reduce pregnancy rates and 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 policy-makers 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% (see Figure 11). 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 program's effectiveness using only the DOLE cost to the program and does not include the costs to the employers or additional administrative costs to the PESOs or DOLE regional offices due to variations in program implementation. As DOLE contributes only 40% of beneficiary salaries, the overall program cost is likely more than double the DOLE budget for the program.

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 program. Although the impact on enrollment is not statistically significant, we calculate that SPES reduced 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.

**Figure 11: SPES budget and beneficiaries, by year**



In terms of employment, SPES increased by 3.9 percentage points the likelihood of being currently employed, significant at the 10-percent level. Extrapolating nationally, SPES increases the number of employed students by 8,957 students, 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 learned 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% 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 the LCE to participate in the impact evaluation and adhere to the randomization. Although we strategized with the technical working group members and some PESO officers, our participation rates were lower than anticipated. Conducting an orientation per 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 high politicization of the program. To build local buy-in, it would have required some incentive for the LCE to agree to

participate (that is not a direct cost to DOLE), perhaps through public recognition or public accountability.

2. *National directives may not always reach local offices.* In decentralized programs like 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.
  - a. Importance of bringing in lowest level early on 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 a bit 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 (and what will be communicated) with the PESOs directly.

- b. 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 were not able to conduct our initially planned pilot. However, while the pilot would have provided some useful insights about randomization implementation and adherence, the large diversity of program implementation would not have been captured. With the time and resources to conduct a process evaluation *prior* to the baseline/randomization, we would have been better able to respond to potential challenges in advance, and we would have collected additional information at baseline.

3. *Make clear difference between impact evaluation and performance monitoring at local level and highlight the potential for specific program improvements to increase buy-in:* Some early resistance at the PESO levels came from officers who felt that the study was intended to monitor their performance, rather than learn about program impacts. Emphasizing 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 favorable 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 impact of the program, but they particularly valued the study as a means to improve program implementation and effectiveness. These responses highlight ways to increase local buy-in: first, by clearly communicating how the study could lead to program improvements, and second, by sharing the results of the study in terms of both 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 hesitation 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 a technical working group was extremely beneficial.* DOLE convened a technical working group that provided feedback to the research team on the design, implementation strategies, questionnaires and in understanding some of the results. As a result, we obtained helpful feedback from a range of perspectives throughout the process. Additionally, their active participation facilitated collaboration on their part in the research rather than just acting as a receiver of the 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 that had strong relationships with their PESOs and/or saw value in the impact evaluation to champion for it within their regions. They were also the most active during the TWG 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. *Importance of collecting 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 still encountered respondents that could not be reached through any of the contact numbers provided. In addition to invalid numbers, we frequently could not reach participants because they were out of network, meaning the cellular 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%. We had modest success searching for applicants via Facebook, and we had no success through e-mail, 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 program than an education program:**

Even within a year of completion, SPES increases 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-run outcome, enrollment is an important intermediate program outcome to consider when gauging program effectiveness. Given the positive effect of SPES on employment, including employment as a program outcome may open new policy options to maximize the impact of SPES on labor-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% had not been paid

3 months after completing their work and submitting, reportedly, required documents, and 14% 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 for 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 do implement some form of life skills or values formation training. Developing programs 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 youth (See Ibararán et al. (2014) for a successful program, and Groh et al. 2016 for a program without effects).

**Improved targeting may maximize program effectiveness:** Our analysis reveals substantial heterogeneity in program 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 enrollment 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 benefit the most: male students (who are underrepresented among SPES beneficiaries, students from relatively lower-income families, and high school students. However, the program 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 to college-level students. Improved targeting may increase program effectiveness, but the cost per beneficiary enrolled or employed would still remain high. In section 8, 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 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 level or to students in the Alternative Learning System.

### **Strengthen program 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 decentralization of program implementation, alongside the strong influence of the LCE 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 level; these problems are likely to also hinder the DOLE national and regional offices' efforts to implement program 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 program eligibility guidelines are being followed. Collecting data on school enrollment and graduation outcomes by surveying a subset of past applicants or coordinating with local schools, DepEd, or CHED is important to track progress toward the key outcomes of raising enrollment and graduation rates.

## **9.3 Suggestions for future research**

In answering our primary research questions, new questions arose that could not be answered 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 to 52 days per year, the terminal reports indicate that nearly all students (78%) worked only 20 days, and fewer than 5% reached the 52-day maximum. For a student earning minimum wage, a 20-day program caps their earnings at Php9,820 in NCR, Php7,600 in Region III, and Php6,800 in Region XI <sup>14</sup> 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 program may also improve work readiness and employability, though that also depends on the nature of the work and employers' perceptions.
- **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

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

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 is the best way 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 maximize their on-the-job learning. Exploring the impact of assignment to specific types of jobs and types of employers would be essential to learning how to improve the effectiveness of SPES.



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