

# PAPUA NEW GUINEA URBAN YOUTH EMPLOYMENT PROJECT

## 2018 Impact Evaluation and Results



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## 2018 Impact Evaluation and Results

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## Acronyms

<b>ADB</b>	Asian Development Bank
<b>ALLT</b>	Alternative Literacy and Livelihood Training
<b>BLST</b>	Basic Life Skills Training
<b>BPNG</b>	Bank of Papua New Guinea
<b>CT</b>	Control Group
<b>FUS</b>	Follow Up Survey
<b>GBV</b>	Gender-based violence
<b>GDP</b>	Gross Domestic Product
<b>GII</b>	Gender Inequality Index
<b>HIES</b>	Household Income and Expenditure Survey
<b>ILO</b>	International Labour Organization
<b>LFPR</b>	Labour force participation rate
<b>LMIS</b>	Labour Market Information System
<b>NCD</b>	National Capital District
<b>NCDC</b>	National Capital District Commission
<b>NSO</b>	National Statistical Office
<b>OJT</b>	On-the-Job-Training
<b>PET</b>	Pre-Employment Training
<b>PMU</b>	Project Management Unit
<b>PNG</b>	Papua New Guinea
<b>SME</b>	Small and Medium Enterprise
<b>UYEP</b>	Urban Youth Employment Project
<b>YJC</b>	Youth Jobs Corp





## Executive Summary

**Youth unemployment is an increasingly pressing social and economic problem in Papua New Guinea (PNG). More than half of the population is 24 years old or younger, yet for at least the past decade, the labour market of PNG has not grown fast enough to absorb the increasing number of youth that are available to work, especially those with limited skills and experience.**

PNG is a fragile state with relatively low productivity and growth in formal sector employment. A large proportion of youth in PNG have either never had formal employment or have been out of work and education for protracted periods. While data demonstrating a correlation between crime and youth unemployment is not available, with limited avenues for employment or education and limited prospects for improving their economic situation, the accumulation of risk factors are on the rise and many of these young people have turned to crime. Available international evidence, while not uncontested, suggests that countries with a large youth demographic composition like PNG face risks related to social instability, particularly public, group violence involving young men. To some extent, this concern is already playing-out in various places across the country, with periodic, and highly destabilizing, street rioting having taken place in Lae, Port Moresby (the capital city) and Mt Hagen over the last decade. Robbery and assault are the most commonly reported crimes.

**In 2010, the Government of PNG requested the World Bank to establish the Urban Youth Employment Project (UYEP), a development project aimed at investing in PNG's marginalised youth.** Commencing implementation activities in September 2012, UYEP seeks to improve employment opportunities, earning potential, and living standards of urban youth between the ages of 16 and 35 years in Port Moresby by providing skills training and short-term placement into employment. Further additional financing was provided by the Government of Australia in 2016 to extend the project to mid-2019.

UYEP is now the Government of PNG's most significant public intervention addressing the economic and social marginalization of out-of-school and out-of-work (also referred to as "unattached") youth in the country. The injection of cash into the economy and operation of a social safety net for this under-served demographic group is significant in an environment where there is low economic growth and where the cost of living is significantly higher than in rural areas. UYEP plays a critical role in three areas:

- (i) the provision of training, job creation and employment opportunities for out-of-school and out-of-work youth between the ages of 16 and 35 years;
- (ii) the provision of an income transfer to youth; and
- (iii) the provision of secondary benefits, including small-scale infrastructure aligned with the local development priorities of cities.

**UYEP is a rare example of a truly comprehensive (or "full service" Active Labour Market Program that takes long-term unemployed youth through vocational training, job matching and fully subsidised work placements.** At the end of 2018, UYEP has screened more than 24,000 youth, engaged 18,500 youth in training and work placement activities, established about 18,000 new bank accounts and created approximately 815,000 labour days. Seventy percent of these youth reported never having a waged job before UYEP, 33% reported never having attended high school, 35% reported being involved in crime and 74% reported never having a bank account prior to UYEP. UYEP consists of two main program components. The first component is the Youth Job Corps (YJC), which targets less educated youth and provides soft skills training and short-term public works employment. The second component is known as On-the-Job Training (OJT), an internship program with a range of employers in various sectors who partner with the project. The wage subsidy provides youth with income while the skills training and work experience increases their human capital and employability.

**From 2015 to 2017, there were two impact evaluations of UYEP conducted to examine how well the project is meeting its development objectives, as well as other related impacts. The implementation of the impact evaluations is a significant achievement in itself because of the lack of availability of such impact evaluations operating at scale in PNG and the Pacific.** UYEP impact evaluations involved a baseline survey of 'treatments' (youth who participated in the UYEP study) and 'controls' (selected participants that do not fully participate in the program<sup>2</sup>), two major follow-up surveys of treatments in 2015 and 2017, an annual employer survey and an annual community survey. The collected data was then analysed to measure the following key indicators:

- Whether UYEP increases the employment and labour market engagement (including job and education seeking behaviour) of participant youth;
- If UYEP provides other benefits to participant youth beyond employment, particularly in relation to social behaviour, attitudes to gender and crime;
- If the project has had a positive impact on communities and business, more broadly; and
- Whether all three components of UYEP contribute to the increasing employment of participant youth.

The main results of the UYEP demonstrated in this working paper are: **(i) increased youth employment; (ii) increased youth employability; and (iii) increased perceptions of youth resiliency to crime and violence. In support of these reported achievements, this working paper presents the five major findings of the impact evaluations and supporting surveys.**

First, there are large employment impacts from UYEP. The data shows that participation in the UYEP significantly increases employment rates for both young men and women aged between 16 to 35 years by eight to eleven percentage points. The follow-up survey conducted in 2015 found that 14% of YJC participants and 21% of OJT participants were currently employed, while only 3% of control youth reported being employed. These results were statistically the same for men and women. The 2017 follow-up study also provides strong evidence of substantial employment gains due to the pre-employment training and

the work placement with a firm. In the 2017 follow-up survey, 41% of OJT participants reported having been employed in full-time or part-time work in the last six months. This was 28 percentage points higher than for a control group of participants, who did not receive training and who had no prospects of continuing employment. The UYEP employment results are also corroborated by surveyed community members, 68% of whom report an increase in employment opportunities for youth in their communities. **These results are particularly significant because none of the participants was employed in the six months prior to the project.**

**The UYEP's employment results are much stronger than for similar youth employment projects in other countries.**<sup>3</sup> There has been a significant number of impact evaluations of active labour market programs (ALMPs) in a variety of contexts and the clear majority have shown they tend to have limited effect ranging from no employment gains to increasing, at best, employment by seven to eleven percent. Other studies show that providing participants with technical and vocational training rarely generates jobs (unless a cash grant is provided) and almost always the costs outweigh the benefits.<sup>4</sup>

**Second, there is evidence of increased youth employability. While the main reason for employer participation in the OJT was to contribute to development, employers also confirmed the importance of all three components of UYEP training, job matching and fully subsidised work placements.** The wage subsidy helps to off-set financial risks for employers and provides youth with income while the skills training and work experience are designed to increase the human capital and employability of youth. Employers reported that youth are developing technical skills and that most of youth are "fairly" or "very qualified" for formal employment. 97% of employers also reported that participants were perceived to be qualified for a full-time job. **The main reported constraint for firms taking on more permanent employees were difficulties in finding staff with the "right skills", training costs being too high followed by poor economic conditions. Taken together with the high employment rates, particularly for OJT youth, these findings suggest the importance each of these three activities have on employment outcomes.**

<sup>2</sup> The 2015 'control' group consists of observably similar youth living in areas not serviced by the program, while the 2017 'control group' consists of participants who did not receive pre-employment training or OJT but were instead part of a Fédération Internationale de Football Association (FIFA) volunteer work program.

<sup>3</sup> McKenzie, David (2017) "How Effective Are Active Labor Market Policies in Developing Countries? A Critical Review of Recent Evidence" World Bank Research Observer, World Bank Group, vol. 32(2), pages 127-154

<sup>4</sup> Blattman, Christopher and Laura Ralston (2015) "Generating employment in poor and fragile states: Evidence from labor market and entrepreneurship programs", Mimeo. Chicago

**Third, youth who participated in UYEP were shown to be more engaged with the labour market than youth who did not participate in the project, as evidenced by increased job search behaviour and increased confidence in future employment.**

In the 2015 follow-up survey, the number of participant youth seeking wage employment in the last three months increased from 21% to 33%, reflecting their belief that they are more likely to be employed in the future, because of their newfound experience and skills (gained in CV writing, public speaking, work place experience). Similarly, 76% of OJT graduates and 64% of YJC graduates said that they felt participation in the project increased their employability. Youth participating in UYEP were also more likely to have bank accounts than controls. The evidence shows that UYEP youth are also more likely to want to enrol in education in the next six months compared with control groups: half of the participant youth reported increased interest in pursuing education and training following the project (46% of YJC youth and 50% of OJT youth, respectively), while four percent of YJC and six percent of OJT youth were already enrolled in education. Pre-UYEP, the majority (60%) of participants expressed interest in further education in the baseline survey and this fell to 27% for control youth and 47% for treatment youth. The effect of OJT is therefore a 21.7 percentage point increase relative to control youth, which is highly significant.

**Fourth, there is evidence that UYEP has improved the lives of youth participants and their communities in a few non-pecuniary ways beyond employment, including through increased happiness and well-being.**

85% of community members in project locations believed crime and violence reduced because of the project. The number of youth who reported having friends involved in violence or robbery fell by eight percent (from 24% pre-UYEP to 16% by the time of the 2017 follow-up survey). The results also show a significant decline in the reported incidence of “using threat or force with somebody” for participant youth (from 16% to eight percent), while this behaviour increased among control youth. The survey results are also corroborated by community members in project areas, 85% of whom believed UYEP had reduced crime in their community. Because of the training and work experience provided by the OJT program, the number of OJT participants who reported “feeling happy most of the time” in the past four weeks, rose by 15%.

**Fifth, there is evidence that UYEP has helped to empower women and improve attitudes to gender equality.**

A Gender and Labour Study for the UYEP<sup>5</sup> confirms that in most aspects of training, women have shown a higher propensity to complete the training offered, which suggests that the project has been successful at engaging young women. UYEP recruits both young men and women into both its programs, and it also provides gender training to all its participants. In providing these opportunities, UYEP has improved not only the status and economic opportunities available to these young women, but it is also transforming gender attitudes among its youth more broadly. For many women, the biggest incentive to participate was the fortnightly stipends paid by UYEP to supplement household expenses. Survey results show that the percentage of participant women who believed that women should be at home and not in waged work, fell from 13% before the project to two percent after the project (and from 16% to nine percent for men).

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<sup>5</sup> Voight-Graf, C. 2018. Gender and Labor Market Study, Port Moresby, Papua New Guinea. Other key challenges faced by females related to household and family obligations includes: not finding a babysitter and pregnancy. Most women were expected to tidy their houses before leaving in the morning and therefore often arrived late. For others, unsupportive husbands were a major obstacle. Previous studies reported that some female participants had to deal with aggressive resistance from husbands towards their participation in UYEP. Focus group participants also talked about incidents of jealous husbands turning up at worksites and forcing women to withdraw. Interviews for this study suggest that there are considerable costs for providing childcare for mothers in terms of energy, financial expenses, and missing training and work experience days.



FIFA U20 Women's World Cup. 1000 UYEP trainees assigned to major event to provide ticketing, logistics and first aid support

### Recommendations and moving forward

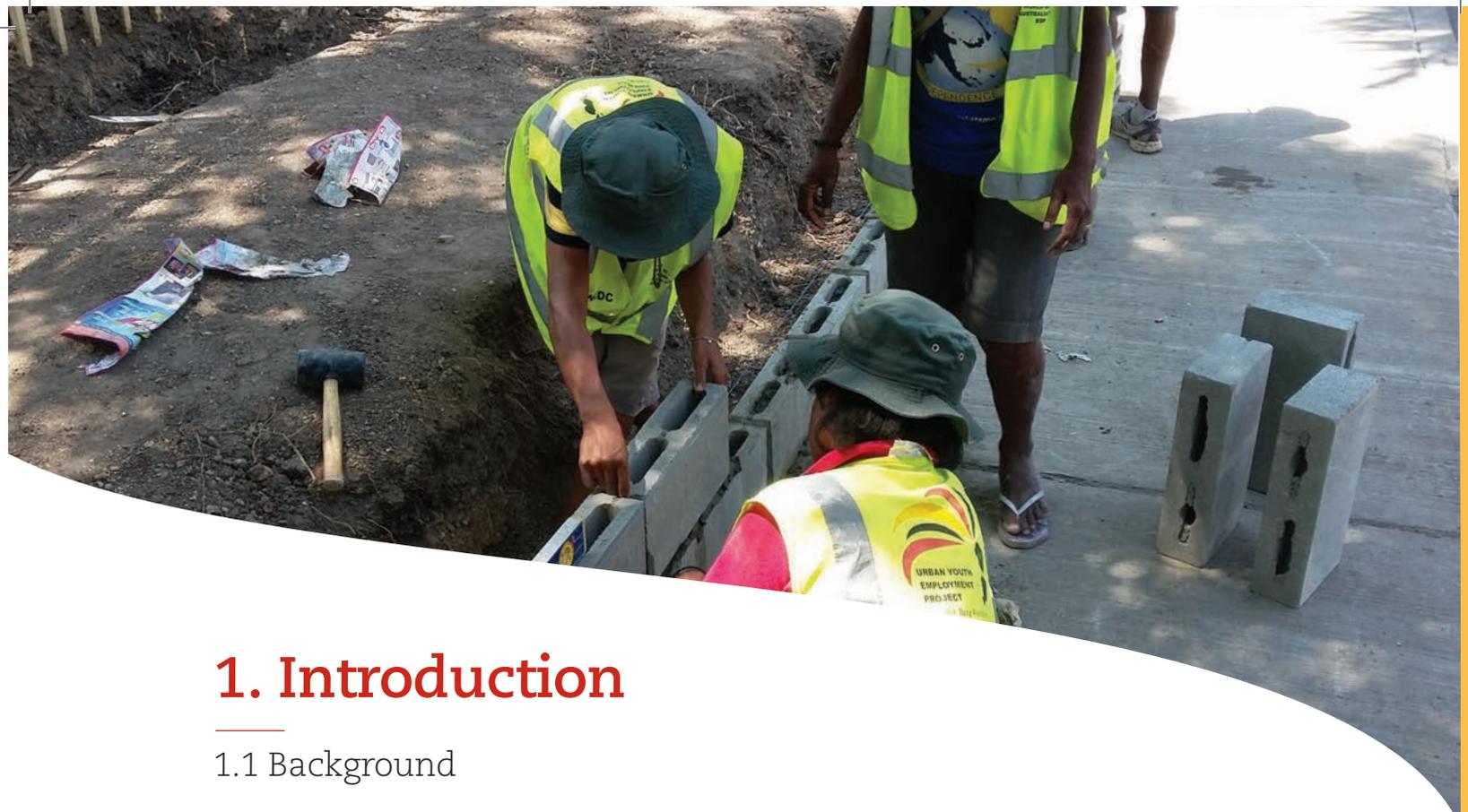
The results of the follow-up surveys and the impact evaluation suggest that UYEP has, to date, been successful in improving the economic situation and social welfare of participant youth. The evidence also suggests that these gains occur relatively quickly – within two years of youth graduating from UYEP, however the longevity of these impacts is yet to be determined. As such, the project's short to medium term impacts and trends will need to be verified over the longer term<sup>6</sup>, and with supplementary data and evidence to capture the value and effects of individual project interventions. While beyond the scope of the project, further collection and analysis of labour market data is also required to strengthen our understanding of the nature of youth unemployment and how it interacts with labour force participation in PNG, as well as the economy more generally. Finally, more focused research on UYEP's impacts on gender, crime and urban safety needs to be undertaken.

Lessons learned, and evidence gathered from the impact evaluation will be used as a guide for the design of the follow-on project. Some of these lessons learned include:

- (i) The importance of retaining all three programmatic components of UYEP – soft skills training, job-matching and fully subsidised work placements given their collective role in promoting positive employment outcomes for youth and other externalities;

- (ii) Targeting of unattached youth, many of whom were highly transient and reported to have prior experience with crime and violence, which made the implementation of the impact evaluation, including the screening and selection process particularly challenging. The project's experience highlighted the importance of consulting with a range of local level community stakeholders in advance of screening to raise awareness and disseminate project information regarding target groups and the application of the randomisation process as well as maintaining effective communication with youth on project participation selection. This includes potentially offering the program to the control group at a later stage so that they do not feel discriminated against;
- (iii) Problems acquiring and maintaining the quality and longevity of control groups with the re-contacting of participants proving to be difficult even after six months. This suggested the need to ensure that both control and treatment groups were oversubscribed to compensate for attrition; and
- (iv) Problems in the management and execution of monitoring and evaluation activities suggest the need for additional resourcing and enhanced implementation support to be provided by the World Bank and/or external partner with experience in implementing impact evaluations.

<sup>6</sup> Globally, there has been a significant number of impact evaluations of Active Labor Market Programs (ALMPs) in a variety of contexts and the clear majority have shown they tend to have limited effect on employment according to a recent World Bank working paper. See [http://ibread.org/bread/system/files/bread\\_wpapers/507.pdf](http://ibread.org/bread/system/files/bread_wpapers/507.pdf) The direct employment benefits from subsidized job placements, whereby participants complete 'internships' and their wage is subsidized, tend to only be short lived as the effect quickly diminishes once the program is completed.



# 1. Introduction

## 1.1 Background

### a) Formal Sector Employment in Papua New Guinea

**PNG's economy has tripled in size since it gained independence in 1972 and its Gross Domestic Product (GDP) growth has steadily averaged 3.4% per year, (not much higher than population growth) mostly due to a significant resources boom.** PNG's economy remains dominated by two main sectors: the agricultural, forestry, and fishing sector, which engages most of the labour force, and the minerals and energy extraction sector, which accounts for most of export earnings and GDP. The country has a small formal sector, focused mainly on the export of its natural resources and the private sector (two-thirds of all formal sector jobs are in the private sector, the remainder are in the public sector);<sup>7</sup> and an informal sector, employing most of the population. Agriculture provides a subsistence livelihood for 85% of the people. Despite its abundance of natural resources, PNG continues to fall short of the potential that its enormous natural wealth, strategic geographic location and young and diverse population imply.

Although there has been rapid economic growth over recent decades and significant increases in government expenditures, poverty remains persistent in some areas and progress in human development indicators are insufficient to support PNG's ambition of becoming an upper middle-income country by 2030. The 2010 Household Income and Expenditure Survey reveals that 38% of the population lived below the internationally recognized extreme poverty line of \$1.90 per day.<sup>8</sup> PNG's Human Development Index (HDI) rank, was 154 in 2015, the second lowest in the Pacific region. The country is also vulnerable to natural hazards.<sup>9</sup> These include floods, droughts, landslides and sea-level rise, which have affected the agriculture and fisheries sectors, leading to lower economic growth and negatively impacting the most vulnerable populations.

**There is generally a lack of reliable and up-to-date labour market data in PNG, which presents a significant barrier not only to evidence-based policy development but also**

**in quantifying the impact of UYEP on PNG's labour market.** The most recent data comes from Jones and McGavin's 2014 labour market study, which shows a working-age population of 4.6 million, two-thirds of which form part of the labour force. A large majority of the labour force is employed, although over 80% of them work in the informal or subsistence economy. If this is by choice, however, remains unclear, as does the extent to which youth specifically (as opposed to older segments of the population) are interacting with the informal economy. Most Papua New Guineans are engaged in agriculture, hunting and forestry (71% of men, 81% of women). The wholesale and retail trade sectors are in second place (10% of men, 12% of women).<sup>10</sup>

**Over the last decade, the strong performance of PNG's economy has seen formal employment grow by an average of six percent per year. However, due to an overall downturn in the economy, most youth have limited access to education and employment opportunities.** Formal employment in the private sector peaked in 2012 at the height of the PNG LNG construction phase.<sup>11</sup> With the end of the mining boom, however, the non-mining economy has suffered a significant downturn, with private sector employment falling by 20% in Port Moresby, mainly due to large declines in the construction, wholesale and trade industries.<sup>12</sup> Today, the formal labour market only provides livelihoods to about 10-15% of the working age population in PNG.<sup>13</sup> Compounding this problem is a rapidly growing population and education policy in a country that graduates approximately 80,000 young people from school a year. However, the formal labour force can only absorb less than 10,000 per year, mostly in jobs that require secondary education. Enrolment numbers in both universities and technical colleges in PNG are only at approximately 11,000 per year, and graduation rates are half that.<sup>14</sup> This leaves a vast number of youth without access to either further education or employment.

**Despite limitations in the job market, reports by employers suggest that there is an opportunity for creating and filling more jobs; and that incorporating a combination of soft and practical skills training in all stages of the work cycle is at least as important as building technical skills.** Employers in the formal sector face several challenges when recruiting new staff. A 2016 business survey found that businesses were hesitant to hire new staff mostly due to general economic conditions in PNG (88%), followed by difficulties in finding staff with the appropriate skill set (83%), and challenges associated with poor staff productivity, work ethic and staff attendance/punctuality (71%). In the wholesale, hospitality and retail sectors, skill shortages were rated as the number one factor affecting recruitment (93%).<sup>15</sup>

**There are also skills shortages across all sectors and trades in PNG, including carpentry, hospitality, retail and office administration.**<sup>16</sup> More generally, basic literacy and numeracy skills are low in PNG. The PNG National Labour Market Assessment Report showed that two-thirds (69%) of employees in the formal labour market had only basic education up to Grade 8 and only 16% had post-secondary qualifications.<sup>17</sup>

#### **b) Challenges for urban youth**

**In Port Moresby, youth between the ages of 15 and 29 represent 35% of the population, and this cohort is estimated to grow by at least another 13% in coming years due to natural population increases and internal migration.** Meanwhile, urbanization and a dearth of informal sector opportunities is contributing to the growth of an underclass of young urban poor, and coupled with rapid demographic growth, this creates tremendous pressures for employment generation for these young people. Specifically, three underlying issues pose significant challenges for the youth of Port Moresby:

- i) Their lack of equity in and access to the formal primary and secondary education;
- ii) Their lack of equity in and access to the labour market; and
- iii) Their increasing involvement in urban crime and violence, and risk exposure to other social pathologies.

**Although there are vast and unmet skills shortages in PNG, there are also few opportunities for youth to enter the formal sector labour market in Port Moresby.** In 2011, only eight percent of 15 to 24-year old youth had a wage-paying job (nine percent of men and six percent of women, respectively), and most young people secured their livelihoods from non-monetary activities.<sup>18</sup> The World Bank estimates that there are at least 40,000 unemployed youth currently in Port Moresby.<sup>19</sup>

**Each year more than 80,000 youth leave secondary school across the country; however, most are not provided with the training they need to transition into formal sector roles.** There are only limited places available at technical colleges and universities (just over 5000 across PNG). This restricts the options available for youth to be trained to fill skills shortages and creates an oversupply of low skilled labour. This issue is particularly acute in Port Moresby and other urban areas, where the creation of formal jobs and other livelihood opportunities have failed to match rapid population growth.

#### **c) Social problems related to low employment and urban poverty**

**Youth unemployment is high in PNG, with young people in urban areas living 'day-to-day', facing difficulties in accessing state services and being far more likely to engage in opportunistic crime.** Crime and victimization rates are among the highest in the world. A recent World Bank report estimated that the homicide rate in the capital city of Port Moresby was 33 per 100,000 persons in 2010, which would rank among the top 50 cities in the world.<sup>20</sup> This is not surprising: among young people aged 15 to 24 in Port Moresby, 29% were estimated to live on less than \$3.10 per day in 2009/2010, and 31% were unemployed. The evidence shows that where there are few employment opportunities, youth idleness leads to high levels of crime. In a 2004 survey of youth aged 15 to 35 in Port Moresby, 36% of respondents admitted to having committed an offence for which they could have been arrested,<sup>21</sup> 24% of young men admitted to having taken part in a burglary, 20% in petty crimes, 18% in an assault, 19% in a carjacking, 10% in a rape and four percent in a murder.

<sup>7</sup> NSO 2013, Jones and McGavin 2015.

<sup>8</sup> NSO 2012, PNG Household Income and Expenditure Survey, 2009-2010.

<sup>9</sup> The University of Notre Dame's Global Adaptation Initiative ranks PNG 173 out of 181 countries for its vulnerability and readiness to the challenges of climate change.

<sup>10</sup> Jones and McGavin, 2015.

<sup>11</sup> Voigt-Graf, 2017.

<sup>12</sup> Jones and McGavin, 2015; BPNG 2018.

<sup>13</sup> Lowy Institute, 2016.

<sup>14</sup> Lowy Institute, 2016.

<sup>15</sup> Deloitte and UNDP, 2017.

<sup>16</sup> Imbun, 2015.

<sup>17</sup> OHE and DNPM, 2010a.

<sup>18</sup> Voigt-Graf, 2017.

<sup>19</sup> World Bank, 2018.

<sup>20</sup> The World Bank, 2014.

<sup>21</sup> UNHabitat, 2004.

### **Women are especially at risk of gender-based violence in PNG.**

The UN Special Rapporteur on Violence against Women recognized violence against women as a “pervasive phenomenon... in the home, the community and institutional settings” in Papua New Guinea.<sup>22</sup> As many as two in three women in PNG have experienced physical and/or sexual violence at some point in their life – twice the global average.<sup>23</sup> In addition, women face prohibitive gender stereotyping that constrain them from seeking employment and education opportunities. Relative to their numbers in society and relative to their overall involvement in economic activity, women are under-represented in formal sector activity – only 38% of women versus 68% of men are in waged employment.<sup>24</sup>

#### **d) The Urban Youth Employment Project**

The government of PNG, multilateral and bilateral aid donors have invested in a range of strategies to address the lack of opportunities in the formal sector for young people in PNG. One of the largest programs to date in Port Moresby is UYEP. Launched in 2010, UYEP aims to contribute to PNG’s National Youth Policy priorities to support livelihood promotion, poverty reduction, and socially unhealthy behaviour for youth, by assisting the growing segment of disadvantaged youth who have dropped out of school or university and lack the basic competencies required to compete in the labour market. The program provides unemployed, out of school youth in Port Moresby with human capital/training, work experience, and well as income from temporary employment opportunities, aimed at ultimately increasing their employability.

UYEP targets disadvantaged youth firstly with skills training (both life skills and some work skills) and then with short term subsidised employment in two streams. One stream is a public works program called the Youth Jobs Corp (YJC) and the other is an internship-style program with a range of employers who partner with UYEP in an ‘On the Job Training’ program (OJT). The wage subsidy in both streams provides youth with income while the skills training and work experience are designed to increase their human capital and employability. To be eligible, participants must be aged between 16 and 35 years, have been out of work and not in education for the last six months, and have been living in Port Moresby for the past six months. New intakes of

youth are enrolled every two to four months with over 20 intakes occurring since the program began in 2010. All youth begin the program with five days of basic life skills training.

About 75% of participants complete the YJC – a 40-day public works program, such as cleaning, landscaping, paving and maintaining roads. The other 25% of participants complete pre-employment training (PET) of 20 days followed by On-the-Job Training (OJT), which is five months with a private or public company. Generally, the YJC is more accessible to youth with a lower baseline skill set. However, it is shorter in duration and less skill-intensive than the OJT, and therefore likely to have a smaller impact on the future employability of participants. The structure of the project is described in Box 1, with additional information about OJT and PET.

## 1.2 Impact Evaluation Objectives, Data and Methods

### **a) Objectives**

**An impact evaluation of the UYEP was undertaken from 2015 to 2017 to determine whether the program is achieving its development objectives and/or having any secondary impacts.** The impact evaluation was designed to answer the following questions:

1. Are participants more likely to be employed after the project than controls (similar non-participant youth)? How is this different for OJT graduates compared to YJC graduates? Are the three components of UYEP (skills training, wage subsidy and matching) important? Do earnings and hours worked differ across participant groups and controls?
2. Are job search, employment expectations and education plans impacted by the project?
3. Are there other benefits for participating youth beyond employment, particularly in relation to social behaviour, gender attitudes, and crime? Does the project improve the well-being of participants?

<sup>22</sup> Fulu et al. 2013. Why do some men use violence against women and how can we prevent it? Quantitative Findings from the United Nations Multi-Country Study on Men and Violence in Asia and the Pacific. Bangkok: UNDP, UNFPA, UN Women and UNV; and, Ganster-Breidler 2010. Gender Based Violence and the Impact on Women’s Health and Well-being in Papua New Guinea. Contemporary PNG Studies: DWU Research Journal 13 (17).

<sup>23</sup> Haley, N and R. Muggah (2006), Jumping the Gun: Armed Violence in Papua New Guinea, in Small Arms Survey 2006. Unfinished Business, Geneva.

<sup>24</sup> Pacific women, 2016.

4. Has the project had a positive impact on communities and business? Do communities and business have positive views of the project and its impacts?

#### **b) Methodology**

The project's rigorous data collection system involves collecting extensive baseline data from all youth who apply for the UYEP. The same baseline data is then also collected from a "control group". The 2015 control group is comprised of similar youths in Port Moresby that did not participate in the project.<sup>25</sup> The 2017 "control group" consists of participants who did not receive pre-employment training or OJT but did complete the YJC and were engaged in the FIFA volunteer work program. Samples of both these participants and controls were then re-interviewed in follow-up surveys in 2015 and 2017. In addition, the impact evaluation also involves surveys of the OJT employers and of the community members where the project operates. This broad range of data provides different perspectives on the project and demonstrates where and how it is having an impact on participants and their communities. These surveys are outlined briefly below.

(A more detailed summary of the impact evaluation methodology and a summary of the annual data collection cycle is presented in Appendix A, and an analysis of the different surveys' limitations is provided in Appendix B.)

#### **c) The Screening and Baseline Surveys**

When youth apply for the UYEP program, they are required to fill out the Eligibility Screening Survey, which, in addition to verifying basic eligibility criteria (such as age and residency requirements), collects basic socio-economic characteristics of these youth. Those who are determined eligible to participate in the scheme are then required to fill out the Eligibility Baseline Survey (EBS), which collects a richer set of socio economic variables compared to ESS. It should be noted that from Intake 13 onwards, these surveys have been combined. The survey is given to all participants and in 2014 it was also administered to non-participants, who formed the basis of the 2015 control group.

#### **d) The follow-up Surveys**

The follow-up survey questionnaire mirrors the screening/baseline questionnaires. It is administered to samples of participating youth, six months to one and a half years after

UYEP participation. It is also administered to samples of non-participating youth, to compare any changes over time between the two groups. Outcomes that are measured include employment gains and income, job search behaviour, well-being, involvement in crime, social behaviour and optimism about the future.

The two major follow-up surveys were conducted in 2015 and 2017. The 2015 follow-up survey included non-participant controls from 2014. For the 2017 FUS, a group of participant controls was used in comparison to OJT youth. The participant controls had been through the YJC and entered a FIFA volunteering program that was not designed to build their occupational or industry-specific skills or connect them with a potential long-term employer. Thus, this group's employment outcomes could be compared to the regular OJT youth, since none of the participant controls completed OJT and with any difference being exclusively attributable to the OJT.

#### **e) Other surveys - Employer Survey, Community Survey and other qualitative data**

The main objective of the annual Employer Survey is to gather employer feedback on their OJT trainees as well as their general perceptions of the UYEP OJT program. The latest survey (2017), involved a sample of 65 employers, who provided information on OJT trainee's performance and post OJT employability. The key objective of the annual Community Survey is to measure community perceptions of UYEP and its impact. The 2017 community had a sample of 66 community members from 11 communities, who were asked the following questions:

- i.) Have the employment prospects of youth, as perceived by the community, improved because of UYEP?
- ii) Is youth involvement in crime perceived to have decreased by UYEP?
- iii) Is the program perceived as having any negative impacts on the community?

Finally, additional qualitative data was gathered through focused group discussions with UYEP participants and trainers, and with employers and contractors in Port Moresby collected to investigate their views on gender-related issues in the project.<sup>26</sup>

<sup>25</sup> The control group was defined during the 4th and 5th intakes of the Project, which took place in mid 2013. In the first and second intakes, the program was oversubscribed and randomly selected participants among a large pool of applicants with the intention of conducting a randomized control trial to evaluate the program. However, controls were not clearly informed that they had to reapply to the program in subsequent intakes, and reportedly expressed their displeasure with physical threats made in later intakes. As a result, the NCDC and the World Bank decided to evaluate the program against a control group selected from neighbouring villages.

<sup>26</sup> Voigt-Graf (2018)

## 2. UYEP Impact Evaluation Results

### 2.1 Employment Effects

The main questions addressed in analysing the employment effects of UYEP were:

- Are UYEP participants more likely to be employed after the project than other, similar youth who do not participate?
- How is this different for OJT graduates compared to YJC graduates?
- Do earnings and hours worked differ across participant groups and non-participants?

The results and analysis of this data is outlined below.

#### a) Evidence of increased employment rates for both OJT and YJC youth.

**Participation in the UYEP successfully boosts employment rates for both men and women.** The survey revealed that only three percent of non-participating youth reported being currently employed. In comparison, YJC youth had an employment rate of 14%, which is 11 percentage points higher than control youth, while OJT youth had an employment rate of 21%, which is 18 percentage points higher than control youth. This means YJC youth are more than four times as likely to be employed as controls and OJT youth are seven times more likely to be employed than controls. There are no significant differences in employment rates for men and women. These results demonstrate the positive impact that UYEP has in increasing employment for participating youth in Port Moresby, particularly when contrasted with the employment rates of controls – who are significantly less likely to be employed – and compared to international evidence, the most successful examples of which yield maximum increases in employment of 7-11 percentage points.

% Currently employed (All jobs and UYEP related jobs)

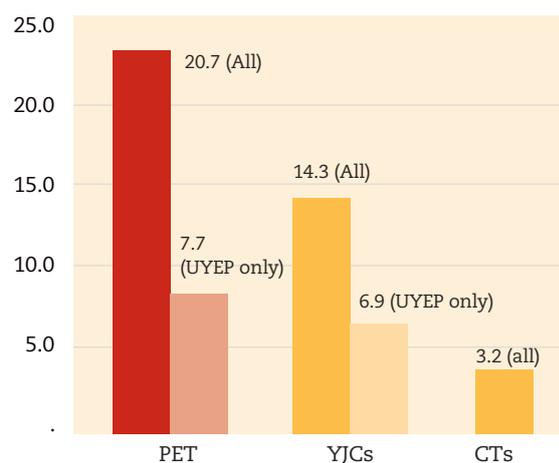


Figure 2-a: Evidence of Employment Impacts from the Community Survey

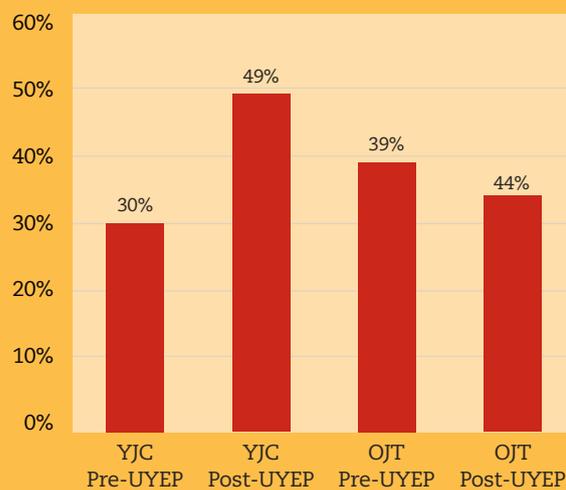
The data is mostly supported by the members of the communities in which UYEP operates, the majority of whom reported that they believed the project resulted in “an increase in employment opportunities” for their youth (68%). This means that public perception of the UYEP is held in reasonably high regard. On average, 63% of UYEP youth known to the community members are reported as working post-UYEP.<sup>27</sup> Furthermore, community members reported that over 50% the youth who were not currently working were “likely or very likely to find waged work in the next six months”.

<sup>27</sup> These figures suggest higher employment rates than the follow-up survey results, but it must be reiterated that these views are just perceptions data. As a result, the NCDC and the World Bank decided to evaluate the program against a control group selected from neighbouring villages.

**b) No evidence of a decrease in informal work and no evidence of an impact on wage rates or hours worked**

**Participation in UYEP does not negatively affect rates of participation in informal employment.** In some comparable Latin American ALMPs, participation in a subsidized employment project led to a decrease in informal work following project completion. By contrast, there was no evidence that the number of YJC and OJT youth engaged in informal work decreased after UYEP participation. While it is difficult to attribute this increase directly to UYEP participation, it demonstrates that the positive effects of UYEP participation do not come at the expense of informal work, as the international evidence has suggested to date.

**FUS 2017: Involved in informal work during the past month**

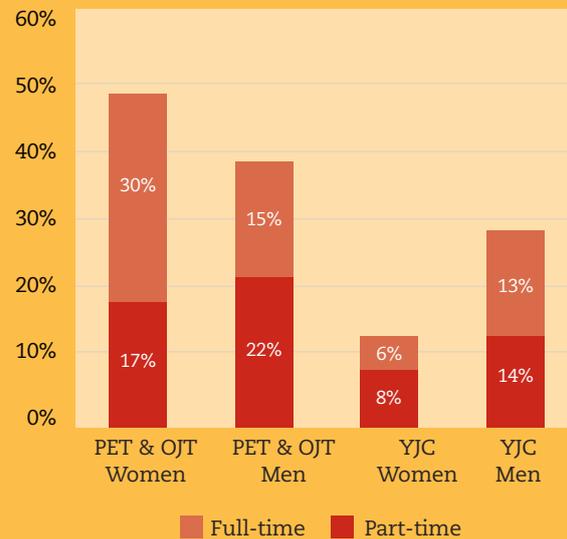


**Figure 2-b:** Youth involved in informal work in the past month

Although participants are more likely to be employed than non-participant youth, participants that are employed are not working longer hours than the non-participant youth sampled (43.6 and 44 hours, respectively).

In the 2017 FUS, the treatment and control groups were too small to estimate differences by gender, but figure 2b reports the percentages by work type and gender, for both YJC and OJT youth in the FUS sample (including youth not comparable to the control group). Based on these figures, women have a higher employment rate in OJT while men have a comparatively higher employment rate in YJC.

**FUS 2017: % of Youth Employed in the past 6 months, Full-time or Part-time, in regular or ongoing work.**



**Figure 2-c:** Youth who had some employment in the past 6 months

Finally, looking at employed men and women, there are no statistically significant differences in hours worked or wages. These results are reported in the Appendix C.

**c) Evidence of job satisfaction**

Participant youth in post UYEP employment report satisfaction with their employment. This applies for both OJT and YJC participants. Table 2-1 shows that when participant youth were asked in the 2017 FUS about job satisfaction, 35% of YJC youth and 37% of OJT youth reported being “very satisfied”, with a minority (less than 20%), reporting dissatisfaction with their post-UYEP employment. The results are not significantly different between YJC youth and OJT youth. Taken together with the similar wage levels of the two groups, these findings suggest the YJC employment is similarly beneficial to OJT employment (at least in terms of the contemporaneous benefits). However, as this data has no comparison to controls, there is no evidence as to whether the employment UYEP youth obtain is better in any way than the jobs controls find themselves in.

Table 2-1 Satisfaction with work

	Very satisfied	Fairly satisfied	Neither satisfied/dissatisfied	Fairly dissatisfied	Very dissatisfied	Total
<b>YJC</b>	35%	43%	10%	6%	7%	100%
<i>Observations</i>	31	38	9	5	6	89
<b>PET, OJT</b>	37%	33%	11%	7%	11%	100%
<i>Observations</i>	10	9	3	2	3	27

Source: FUS 2017

**d) Evidence of a participant's employment in a range of occupations and industries in firms of different sizes**

There are participant youth in post-UYEP employment across a range of industries (Table 2-2), and occupations (Table 2-3). The construction industry and wholesale and retail trade are the leading industry sectors. For YJC youth, elementary (unskilled) occupations dominate. In contrast for OJT youth, the most common occupation is service workers and shop and market sales, which accounts for almost half of OJT graduate employment (46%). The statistics for the

YJC youth are not surprising given the connection between the construction industry and YJC public works activities which are unskilled. In addition, the fact that wholesale and retail trade are typically large employers of low skilled workers, explains the large shares in that industry and in the occupation category of service workers/shop sales. Table 2-4, reports the firm size of employers, with no clear pattern emerging (a range of small and medium enterprises, with 25% or less of employers having 200 or more employees).





Table 2-1 Satisfaction with work

Industry	YJC	PET+ OJT
Agriculture, hunting and forestry	3%	0%
<i>observations</i>	3	
Manufacturing	2%	7%
<i>observations</i>	2	2
Construction	30%	11%
<i>observations</i>	27	3
Wholesale and retail trade, repair of vehicles and household goods	20%	21%
<i>observations</i>	18	6
Hotels and restaurants	7%	18%
<i>observations</i>	6	5
Transport, storage and communications	10%	14%
<i>observations</i>	9	4
Real estate, renting and business activities	2%	4%
<i>observations</i>	2	1
Public administration and defence; compulsory and social security	17%	14%
<i>observations</i>	15	4
Education	0%	4%
<i>observations</i>	-	1
Health and social work	0%	4%
<i>observations</i>	-	1
Other community/social /personal services	7%	4%
<i>observations</i>	6	1
Private households with employed persons	1%	0%
<i>observations</i>	1	-
<b>Total observations</b>	<b>89</b>	<b>28</b>

Table 2-3: Post-UYEP Employment, by type of industry

Occupation	YJC	PET+ OJT
Teaching and associate professionals	0%	4%
<i>observations</i>	0	1
Clerks	10%	21%
<i>observations</i>	9	6
Service workers and shop and market sales	26%	46%
<i>observations</i>	23	13
Craft and building trade workers	16%	11%
<i>observations</i>	14	3
Plant and machine operators and assemblers	1%	0%
<i>observations</i>	1	0
Elementary occupations (unskilled)	47%	18%
<i>observations</i>	42	5
<b>Total observations</b>	<b>89</b>	<b>28</b>

Table 2-4: Size of employer

	Table 2-1 Satisfaction with work						Total
	1 to 9 staff	10 to 24 staff	25 to 49 staff	50 to 99 staff	100 to 199 staff	200 or more staff	
<b>YJC</b>	18%	19%	17%	13%	18%	15%	100%
<i>Observations</i>	16	17	15	12	16	13	89
<b>PET, OJT</b>	11%	21%	14%	7%	21%	25%	100%
<i>Observations</i>	3	6	4	2	6	7	28

**e) Evidence for OJT specific employment impacts**

The 2017 follow-up study provides strong evidence that UYEP's OJT component has a significant effect on the wage employment of its participants, with a 41-percentage point increase in the share of participants in the treatment group who are currently working or who have worked in the last six months, compared to a 14-percentage point increase in the control group. This represents a difference of 28 percentage points, which is highly statistically significant, given that this is from a starting point of no wage employment in the last six months at the time of the baseline survey.

In the treatment group, the rate of full-time employment was 22% (compared to five percent in the control group), and the part-time employment rate was 19% (compared to eight percent in the control group). There were no significant differences in the results by gender. Like the 2015 follow-up survey, no significant differences were found for hours worked or the wage rate of employed youth. Table 2-4, reports the firm size of employers, with no clear pattern emerging (a range of small and medium enterprises, with 25% or less of employers having 200 or more employees).

#### **f) Supporting evidence from the 2017 Employer Survey**

**Almost one in five of OJT participants are successful in securing ongoing positions with their OJT employer beyond their six-month internship, and the majority are deemed to be more qualified than pre-placement.**

Nearly all (97%) employers reported that participants were perceived to be qualified for a full-time job. They also reported that more than three-quarters (78%) of the youth learnt a specific technical skill. Of the youth that were reported to have finished OJT, 19% were offered an ongoing job and accepted the offer. 55% of these jobs were full-time and 45% were part-time. Employers reported that of the youth offered a job, all were qualified “to at least a minimum degree” and 15% were “highly qualified”.

#### **g) The importance of the three components of UYEP: Training, Wage Subsidies and Work Placements**

**While the main reported reason for employer participation in the OJT is generally to contribute to development, participating OJT employers confirmed the importance of all three components of UYEP – training, job matching and fully subsidised work placements – as crucial factors in deciding to participate in the program and to employ OJT youth beyond their initial placement.** Essentially, it is not possible to single out the marginal effects of any one intervention, nor is any one component considered more attractive to employers than the others, which suggests that the synergistic relationship between all three elements is crucial to the success of UYEP overall. The wage subsidy helps to off-set financial risks for employers and provides youth with income, while the skills training, work experience and facilitation are designed to increase the human capital and employability of youth. Half (50%) of employers said it was the pre-employment training provided to the OJT youth that motivated their decision to participate in the program, with 20% citing the wage subsidy and 22% reporting “the experience gained in YJC” as motivating factors.

#### **h) The importance of targeted skills training**

**Despite limitations in the job market, reports by employers suggest that there is an opportunity for creating and filling more jobs; and consistent with global evidence,<sup>28</sup> that incorporating a combination**

**of soft and practical skills training in all stages of the work cycle is at least as important as building technical skills.**

This is seen to make a difference in increasing employment and social outcomes for poor uneducated youth, looking for work. The evidence shows that the three main constraints for firms in PNG taking on more permanent employees are difficulties in finding staff with appropriate skills, prohibitive training costs and poor economic conditions. More than half of all employers (52%) cite the cost of training as one of the most significant barriers to hiring more youth staff and that “staff with the right skills are difficult to find”. In addition, half of all employers (51%) reported that they valued the training provided to youth prior to OJT placements as the most important aspect of the program, with 49% reporting that they would like the amount of pre-placement training increased. The results from employers are corroborated by community members, more than half (55%) of whom felt that UYEP increases both the knowledge and skills of UYEP youth in their communities. The results are also consistent with existing literature.<sup>29</sup>

#### **i) Subsidized wages are attractive to employers**

**One of the essential components of the UYEP – the full subsidisation of wages for five months – is one of the most attractive elements of the program to employers.** Nearly half (47%) of employers reported that they planned to accept more than five OJT youth next year, compared to only 25% if there was no stipend. On average, only 30% of employers indicated that they would keep the same number of placements if they received half the subsidy and less than 15% of employers would keep the same number if there was no subsidy. Nearly half (45%) of employers indicated that they would like to increase the time-period of OJT beyond five months, assuming the full subsidy remained. Finally, the subsidy allowed some employers to reduce the total labour costs of their business as nearly one-third (28%) reported that they would need more staff in the absence of the UYEP (compared to 10% who say they would have less staff). However, this data is not conclusive, as there is no substantive evidence to consider any significant displacement effects caused by the project.<sup>30</sup>

<sup>28</sup> Fox, L & Kaul, U, 2017, *The evidence is in: How should youth employment programs in low income countries be designed?*

<sup>29</sup> Deloitte Touche Tomatsu & UNDP 2017, *Fulfilling the Land of Opportunity: How to Grow Employment in PNG*

<sup>30</sup> Importantly, even though we show large employment impacts for participant youth, we cannot rule out the possibility that the YJC and OJT components did not increase the total number of jobs in the labour market. A displacement effect could have occurred whereby employers would have hired more people from elsewhere in the absence of the program and as a result total employment could have remained unchanged. Few studies have been designed in a way allows them to be able to rigorously test whether these ‘general equilibrium’ effects exist (Groh et al, 2016).

**j) Work placements and job matches are important to employers**

Most employers (57%) reported that they offered ongoing jobs to OJT participants due to a positive internship performance, as opposed to any need for additional staff (37%). Employers also reported that UYEP is the third most common way employers recruit new staff, after newspaper advertisements and job agencies. Feedback from the survey shows that employers use the OJT placements as a low-cost way to screen youth prior to deciding whether to offer them a job.

**to be seek further education than controls.** The 2015 follow-up survey showed that, among those jobless youth who had participated in UYEP, the number seeking paid employment in the last three months increased by more than ten percentage points (from 21% at the start of the program, to 32% by the follow-up survey). OJT also appears to encourage participants to seek a job in the formal sector, increases their confidence about finding a job in the formal sector and motivates them to seek further education. Results from the 2017 follow-up survey indicate that OJT youth are far more likely to report seeking a job in the formal sector over the last three months (a statistically significant increase of 19 percentage points) compared to youth in the control group (who reported no significant change).

## 2.2 Employment prospects and labour market engagement

Generally, international evidence shows that in addition to an increase in reported employment rates, participation in an ALMP may lead to greater engagement with the labour market, as well as an increase in the confidence and wellbeing of participating youth. UYEP participants were surveyed specifically about their job search behaviour, employment expectations and education plans, post-UYEP. A greater level of job searching, and subjective well-being might suggest that youth are more confident about their chances of finding work.

**b) Increased optimism about employment**

**UYEP may increase participants' optimism about future employment.** The increased job search activity among unemployed graduates reflects their own belief that the skills attained in the program make them more employable. Prior to participating in the program, only 22% of YJC youth felt optimistic about finding work in the next six months while after participating in UYEP this increased to almost 37%. Similarly, while around half of the participants felt optimistic to be working by 35 years of age pre-YJC, three-quarters felt confident they would be working by age 35 years because of participating in the program. For OJT youth, prior to participating in the program, only one quarter felt optimistic about finding work in the next six months (26%). This increased to 53% (with most of this increase being driven by the program).<sup>31</sup>

**a) Increase in job search behaviour and seeking further education**

Youth who participate in UYEP are more likely to be searching for work than youth who did not participate in the program, with OJT youth also being more likely

FUS 2017, Optimism about future Employment

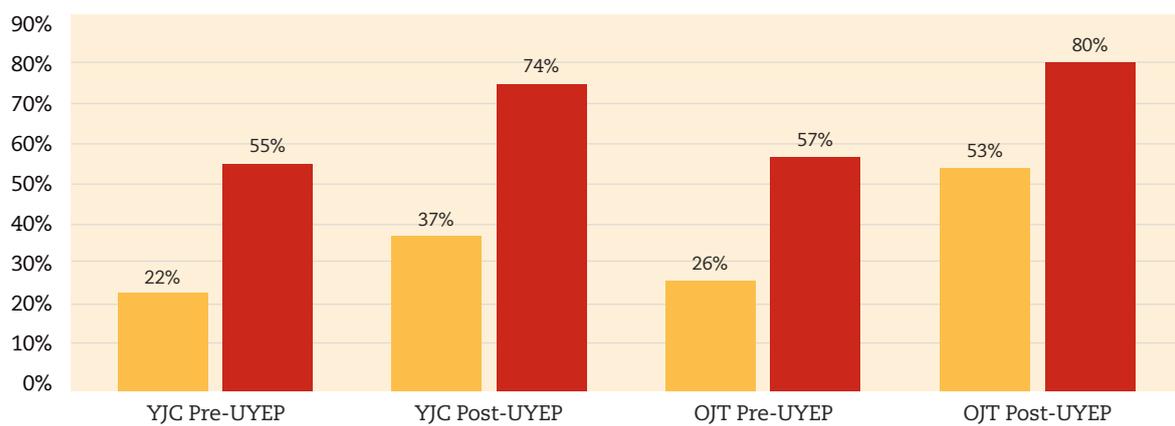


Figure 2-b: Youth involved in informal work in the past month

<sup>31</sup> The causal impact of OJT is estimated to be 18.3 percentage points, significant at a p-value below 0.01. Like the case for seeking a job, the effect is largely driven by youth in the treatment group who had not worked in the formal sector for at least 6 months at the time of the follow up survey. Among these youths, the effect of OJT is a 24.2 percentage point change in the share of participants who believed they would work in the formal sector within six months.

### c) Access to formal financing but with limited sustainability

**Although the provision of bank accounts in UYEP is a by-product of participating in the project, participant youth are more likely than control youth to have bank accounts.** For young people, having a bank account may be an advantage when it comes to future employment, as some employers prefer their workers to already have their own bank accounts. While both treatment and control youth started out with similar levels of bank account ownership (on average almost three-quarters of participant youth reported to have never had a bank account prior to joining the project), results from the 2015 follow-up survey reveal that nearly three quarters (71%) of treatments had retained a bank account, while less than one quarter (23%) of control youth had a bank account. During the program, access to bank accounts was almost universal among participating youth, though some closed accounts because of the account fees.

### d) Some connections to increased educational opportunities

**Large proportions of UYEP participants reported that they want to pursue education in the next six months (46% for YJC youth and 50% of OJT youth, respectively).**

A further four percent of YJC youth and six percent of OJT youth indicated having already enrolled in education at the time of the 2017 follow-up study. There is also evidence that OJT participants are more likely to seek formal educational than control youth. Pre-UYEP, the majority (60%) of participants expressed interest in further education in the baseline survey and this fell to 27% for control youth and 47% for treatment youth. The effect of OJT is therefore a 21.7 percentage point increase relative to control youth, which is highly significant.

## 2.3 UYEP in the Context of Active Labour Market Programs Elsewhere

Active labour market programs (ALMPs) aim to increase the employment, employability and income of participants. Most of the evidence on ALMPs suggests that they struggle to substantially increase employment in nearly all contexts, including those with limited formal sector opportunities and limited youth capabilities. Most subsidised employment programs (about 60% according to Kluge et al.),<sup>32</sup> including comprehensive ALMPs, have had no positive employment effects.<sup>33</sup>

<sup>32</sup> Kluge et al, 2016.

<sup>33</sup> McKenzie, 2017.

<sup>34</sup> Aluza et al., 2016; Attanasio et al., 2015; Dias and Rosas, 2016).

<sup>35</sup> Alfonsi et al, 2017.



OJT hospitality trainees serving the Prime Minister's table at fundraising event

While there are some examples of Latin American ALMPs that combine vocational training with subsidised work placements, in these contexts, the positive effects on formal employment have come at the expense of informal employment.<sup>34</sup> To date, the most successful ALMP has been a Ugandan project which combined vocational training or subsidised work placements with job matching, resulting in an employment benefit of between seven to 11 percentage points, which lasted four years after the program.<sup>35</sup>

UYEP is a rare example of a comprehensive ALMP in a fragile developing state, that takes disadvantaged youth through vocational training, job matching and fully subsidised work placements. The evidence shows that UYEP substantially increases employment rates by 11-18 percentage points. While perhaps not directly comparable given the different in country context, economic structure, and time frame of the impact evaluation, the UYEP is four to seven percentage points higher than the most successful ALMP to date (in Uganda).<sup>36</sup> Since UYEP is the first rigorously evaluated labour market program in PNG, evidence of such substantial employment gains would be particularly noteworthy for policy-makers in PNG addressing the economic and social marginalization of unemployed youth. The results could also significantly contribute to the international research on ALMPs, more broadly.

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## 2.4 Secondary impacts

In addition to employment impacts, recent studies of ALMPs in contexts where unemployment and crime are both high have also examined other, non-pecuniary impacts for young participants, such as a reduction in risky behaviour and criminal activity. To date however, little evidence exists regarding the impacts of ALMPs on social indicators such as crime, especially in fragile contexts.<sup>37</sup> In this regard, the UYEP impact evaluation sought to examine the following:<sup>38</sup>

### a) Some positive social impacts of UYEP

**UYEP has strong and lasting effects on participants' social behaviour, by encouraging them to interact with different people.** While more than two-thirds (36%) of participants reported having friends involved in fights or robbery in the past three months prior to the program, by the time of the 2015 follow-up study this had decreased to under one-quarter (23%), while for control youth the number increased from 35% to 39% over the same period. This finding could either result from both participants' direct friendships made through the program itself, or it could be the indirect result of higher aspirations due to exposure to work. Consistent with this finding is the fact that UYEP participation leads to a strong increase in the probability of employment, which both raises the opportunity cost of anti-social behaviour and may alter participants' shared sense of mission with gangs that interact at night and engage in criminal activity.

**Participants are also less likely to want to threaten others after participating in the program.** The number of participants who reported using threat or force with somebody halved (from 16% to 7%) because of participating in UYEP, while for control youth, the number increased over the same period.

**Evidence of the program's impact on participants' engagement in or exposure to other types of more serious crime, such as assault, robberies and trespassing, is inconclusive.** One hypothesis is that the program has had weaker effects on the type of youth that are likely to engage in crime, and more investigation is necessary to better understand the relative importance of economic and social factors on this type of criminal activity.<sup>39</sup>

### b) Perceived social impacts and perceived impact on crime

**There is a general perception among community members that UYEP reduces crime in their communities.**

Of respondents in the community survey, 85% reported a reduction in crime/antisocial behaviour. 77% of respondents also reported that UYEP youth they know are less likely to be involved in crime. The second most widely reported positive impact is positive character and behavioural changes in participant youth (increasing respect, responsibility, attitudes toward women etc.), which was reported by 82% of respondents. However, 29% of men and 36% women also reported negative impacts of UYEP. The most concerning negative impacts include "domestic violence increase" and "too much public disturbance by male youth". This implication that some types of anti-social behaviour may become more likely because of UYEP requires further investigation to better understand the nature of the results.

### c) Attitudinal changes on gender and increase in confidence among women

**By involving women in a range of different work tasks, including roles traditionally dominated by men, and through the inclusion of gender-equality training in the 'Basic Life Skills Training', UYEP has improved the social status and the economic opportunities of its female participants.** Based on the 2017 follow-up survey, the percentage of female participants who believed that women should be at home and not in waged work, fell from 13% before the program to two percent after the program (and fell from 16% to nine percent for men.) A Gender and Labour Study for the UYEP<sup>40</sup> confirms that in most aspects of training, women have shown a higher propensity to complete the training offered, which suggests that the project has been successful at engaging young women.

Apart from skills development and work experience, receiving a certificate and reference from UYEP were major reported factors facilitating the search for employment among young women. However, the study also reveals that women encountered several challenges with respect to completing the training, which resulted in them dropping out of the project, including gender-based and domestic violence, difficulty accessing safe transport, cultural

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<sup>36</sup> Such as Alfonsi et al., 2017, which can be used as a benchmark.

<sup>37</sup> Ralston and Blattman, 2015.

<sup>38</sup> Research for this section involved conducting additional focus group discussions to understand and verify the findings of the impact evaluation. See Voigt-Graf, 2018.

<sup>39</sup> Ivaschenko et al. 2017

<sup>40</sup> Voight-Graf, C. 2018.

expectations and discrimination, among others.<sup>41</sup> To mitigate gender disparities, UYEP I promoted gender equity in its communications strategy, to reassure families about the nature of the training and work women were being offered, it sensitized trainees, contractors and PMU personnel through training, and arranged for contractors to provide transport to ensure safe passage in some areas. UYEP also provided all participants with care responsibilities additional days to complete the training and work activities or offers to make-up times. Incorporating an electronic banking component proved to be popular among women, to help protect their income and savings.<sup>42</sup> In addition, through its Gender Committee, the project developed a *Sexual Harassment and GBV Policy and Maternity Leave Statement* in 2016<sup>43</sup> in accordance with the NCDC's *Family and Sexual Violence Action Committee (FSVAC) Strategy 2016–2018*, and the *PNG National Strategy to Prevent and Respond to Gender-Based Violence 2016-2025*. UYEP is using NCDC's Gender and FSVAC Desks to refer and provide transport for GBV survivors.

The Gender and Labour Study also found that, prior to participating in the program, few participants had any prior knowledge of gender disparities between men and women. Women stressed that due to UYEP training, they had gained more confidence when dealing with men, including their

own husbands. Receiving a stipend and becoming financially more independent and able to contribute to the household budget has raised the status of women at home, and some women report feeling more empowered to “overcome difficult issues”. They also reported a greater sense of awareness of gender issues and of their rights, leading to an increase in their status and sense of security.

% that agree with the statement

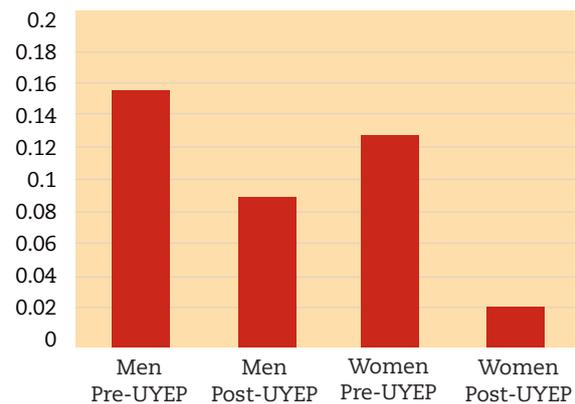


Figure 2-e: Percentage of those who agree with the statement that “Women should stay at home to do housework and should not get a wage job.”



Community leaders from Motu Koita villages mapping out the consultation arrangements

<sup>41</sup> Other key challenges faced by females related to their vulnerability to becoming victims of crime, difficulties accessing market opportunities, financial exclusion, legal factors (such as inheritance and ownership laws), household and family obligations, not finding a babysitter and pregnancy. For others, unsupportive husbands were a major obstacle. Previous studies reported that some female participants had to deal with aggressive resistance from husbands towards their participation in UYEP. Focus group participants also talked about incidents of jealous husbands turning up at worksites and forcing women to withdraw. Interviews for this study suggest that there are considerable costs for providing

<sup>42</sup> According to the end March 2018 Quarterly Progress report, 41% of women had never had a bank account prior to the UYEP.

<sup>43</sup> The Policy establishes a comprehensive set of workplace strategies to address the impact of GBV in the workplace and guide UYEP responses to employees and trainees whose work life is affected by GBV. The Gender Committee is responsible for implementing and monitoring the GBV Policy and UYEP's response protocol. It also has responsibility for GBV focal points which provide support and referral. According to UYEP's Maternity Leave Statement for Youth Trainees of April 2016, women trainees will be entitled to unpaid maternity leave in line with the Public Services General Order. Women will not lose their place in the YJC, PET and OJT when they withdraw due to pregnancy. While the Statement is not yet being implemented, UYEP I currently deals with the issue of pregnant women by advising them to start UYEP later while their places are guaranteed.

**Participating in UYEP has also changed how men and women relate to each other.** During focus group discussions,<sup>44</sup> most of the UYEP participants commented that male-female relations during training and at work had improved, a development which they supported. Both men and women said that they had benefitted from the inclusion of gender as a topic in the BLST curriculum. During the early training days, many male and female participants felt shy with each other, but there are reports of this gradually reducing as participants mixed with each other socially. Trainers and participants agree that UYEP had also led to changes in male participants' attitudes, who generally have become more respectful in their dealings with women. These results are somewhat in contrast with the reported results obtained through the community survey and may therefore require further investigation.

#### **d) Impact of the OJT program on subjective well-being**

**The OJT program appears to increase the sense of well-being of its participants.** At the time of the baseline survey and prior to partaking in OJT, around half of the participants reported "feeling happy most of the time over the past four weeks". By the 2017 follow-up survey, the number of youth who felt "happy most of the time over the past four weeks" had increased by 16 percentage points for participants, while it decreased by 22 percentage points for control youth. This represents a difference of 38 percentage points, which is statistically significant.



<sup>44</sup> Voigt-Graf, 2018.



is PET trainee in metal workshop at Port Moresby Technical College



PET business and computer training  
at Port Moresby Business College

## 3. Conclusions and Recommendations

### 3.1 Five key conclusions

**(i) There is a substantial increase in UYEP participants' employment compared to control youth, both for men and women.** YJC youth report employment gains of 11 percentage points while OJT youth report gains of 18 percentage points - which is significantly higher than any other comparable ALMP to date. These impacts are sizeable considering that none of the participants had any formal employment at baseline. Most community members also believe that UYEP has increased youth employment opportunities. Furthermore, for OJT youth, the evidence is also supported by reports from UYEP employers, who verify offering ongoing employment to a significant percentage of UYEP youth beyond their OJT placement. OJT participants report being more likely (by 28 percentage points) to have had work in the six months prior to the 2017 follow-up survey than control youth.

**(ii) UYEP promotes employability of participants through a combination of the three components of ALMPs (training, wage subsidisation, and matching through work placements).** The range of mechanisms by which UYEP increases employability include:

- I. Firstly, through increased labour market engagement (e.g. job search) of out-of-work youth, which in turn, increases their employment prospects. For many youth, UYEP is also their first source of formal employment, removing any barriers that they (or employers) see between themselves and the labour market.
- II. Secondly, the program increases the human capital among its participants (albeit to varying degrees depending on the training received and amount of work undertaken) and increases their skill and capability to perform well in the jobs they are hired for.

III. Lastly, the program has provided links to formal employers who are active in the labour market and "real" work, increasing the connection between youth and the labour market. For OJT youth, the subsidised job placements help provide a low-cost option to screen candidates and terminate poorly performing youth.

**(iii) For the youth that are not working, UYEP leads to improved labour market engagement, such as greater job searching, and increased confidence in securing future employment.** UYEP participants are more optimistic about future employment prospects and are more likely to be actively searching for work. They are also more likely to want to enrol in education and study. These are all signs that UYEP has been motivating, encouraging and building confidence in its young participants.

**(i) UYEP provides the marginalized, urban youth of PNG with much more than just work. There is evidence that the program leads to improved well-being and potentially healthier social behaviour for participants.** This is echoed by the community members in project areas, who report that UYEP reduces crime and leads to improved behaviour of the youth who participate, consistent with the broad public support for UYEP.

**(ii) UYEP has shown to empower women and help improve attitudes to gender equality.** Through its inclusion of women in a range of work and training opportunities, and through its gender training, UYEP has improved the status and economic opportunities of its female participants.

## 3.2 Areas for further research and evaluation

Several questions remain for the future research and evaluation of UYEP and its impacts: **Firstly, there is strong evidence of employment gains and positive social impacts in the short to medium term, however the longevity of these impacts has not been determined.** The follow-up survey gathers data for a period between a few months after project participation, to no more than two years after project participation. This means that the project's short to medium term impacts and trends need to be verified over the longer term, for example, to three to five years after project participation. This could be achieved by conducting a third follow-up-survey of participants who have already completed either the 2015 follow-up survey or the 2017 follow-up-survey. Alternatively, the future project based on UYEP could design an impact evaluation with follow-up-surveys planned for appropriate times.

**Secondly, the causal impacts of individual project interventions are not well understood and more**



**data and evidence is needed to capture the value and effects of them exclusively.** There is currently limited data available to assess whether participants are learning work relevant skills that are transferrable (and what those skills are), or to determine what proportion of youth are proficient in what they have been taught. There is also inadequate data to separate and compare the impact of UYEP training from the impact of the work experience and wage subsidy components. While the OJT employers are a source of information about the fitness of OJT participants for employment in the areas they have received training in, there is no such equivalent information for YJC youth to assess the incentives and value of the program with the City Authority and/or to civil works contractors.

**More labour market data is also required to understand the PNG labour force more generally.** The project needs to explore how well the labour market is functioning. It is beyond the scope of this impact evaluation to determine if UYEP creates new jobs or fills jobs that would have existed anyway with disadvantaged youth. While answering this question is not easy, the lack of data on the labour market of PNG makes this virtually impossible. There is currently no robust or up-to-date data on levels of youth unemployment in PNG – one of the most basic labour market statistics, and it is sorely needed, not only to facilitate a greater understanding of UYEP's impact, but also to inform education and training policy in PNG more broadly.

**UYEP participants report feeling empowered by their training and optimistic about the future, however these long-term impacts are not easy to quantify.** As such, the project may benefit from more in-depth qualitative data on participants' personal journeys from unemployment, through training, experience and long-term employment. More research on the project's impacts on crime and urban safety would also be valuable, to better understand the nature of the results as well as some inconsistencies in findings.

**Finally, the evidence and lessons described in this paper should be used as a guide for the design of the Program Evaluation of the follow-on project, UYEP II.** The next evaluation could be designed to have annual participant (treatment) and non-participant (control) groups and/or variations in project participation to enable estimation of component effects. It could also involve a longer-term follow-up survey (a second survey for participants one or two years after they complete the first follow-up survey, and three to five years after concluding participation in OJT or YJC).

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## APPENDIX - A OJT Impact Evaluation Methodology

To determine the impact of the OJT component of this program (beyond just the YJC component) we conduct a difference in difference analysis and exploit a one off, unexpected change in the implementation of the program. Specifically, during intake 13 there was an unanticipated intervention in the program and the standard OJT component was removed part way through the YJC component. Instead participants were offered the opportunity to be paid to be a volunteer at the 2016 Under 23 Women's FIFA World Cup. This volunteer placement involved basic manual labour and there was no potential for ongoing employment with the employer as this was a one-off event. As such program participants in intake 13 who were eligible to complete OJT because of their academic performance in the screening test and satisfactory completion of BLST did not complete OJT. Following intake 13, the usual program resumed whereby people who were eligible due to their academic performance completed OJT as was the case in earlier intakes.

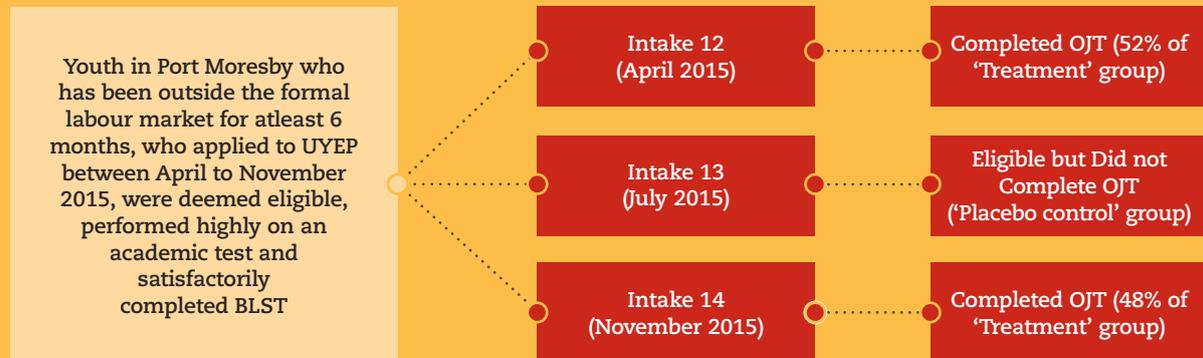
The youth who were eligible for OJT in intake 13 but missed out due to the temporary change to the program ('placebo control group') are comparable to the youth in the intake just before and just after (12 and 14) who completed OJT ('treatment group') for at least five reasons (Figure 1). Firstly, all youth in each of the three intakes had not worked in the formal sector in the last 6 months and on average between 75-80% of the youth had never worked in the formal sector throughout their life. Secondly, intakes 12, 13 and 14 occurred at a relative similar time (the screening interviews occurred in April, July and November 2015 respectively) and the timeframe when OJT took place is similar across intakes. Thirdly, the youth are sourced from the same areas in Port Moresby and expressed interest in the program through the same channels. Fourthly, the removal of OJT from the program during intake 13 was not known by participants at

the time the intake started, and they were only informed of this change part way through the YJC component.

Finally, statistical balance calculations show that there were almost no statistically significant differences between the demographic characteristics of groups at the time they participated in the screening interviews. Table i) below shows the only statistically significant differences between these groups is those in the treatment group were slightly older than those in the 'placebo' control group at the time of the baseline survey.



Figure A-1 – Process of selecting treatment and ‘placebo’ control groups



**Box A-1:** Annual data collection cycle

1. Communication and awareness building campaign in selected districts inviting youth that meet the described eligibility criteria to apply. This process usually takes 2-4 days.
2. Interested applicants show up at a screening site on a given date to undertake the Eligibility Screening Survey (ESS). Intakes occur on a rolling basis every 2-3 months. In early rounds the ESS was administered by an independent survey firm, and since mid-2016, administered by the PMU. The ESS collects basic information, including the socio-economic characteristics of youth.
3. The ESS data is processed by the PMU to establish eligibility. To balance the interests of competing groups, each neighbourhood group is allocated a certain number of places, with a target of 50% women in each location. Participants are selected randomly from the pool of eligible applicants in rounds when the pool of applicants exceeded available places in the projects. This randomisation is conducted separately by neighbourhood group and gender. Eligible applicants are given the Eligibility Baseline Survey (EBS) that collects a richer set of information compared to ESS. This includes some eligible applicants who will not be admitted to the program (controls).
4. During the BLST training, each BLST participant takes a literacy and numeracy test, which is used to determine the quarter of each intake that is then streamed into the OJT component. Usually, more than a quarter of the participants are literate, so only those with top scores and strong participation in the BLST may proceed to the next stage of the OJT component.
5. Participants are enrolled in either Component 1 (YJC) or Component 2 (OJT) of the Project.
6. All work days are tracked through the project management information system (MIS) that records the stipend payments for each individual youth. As youths need to have their work participation confirmed by their manager, the stipend payment record should be an accurate reflection of the level of participation in the project. The MIS also allows the tracking of individual youth across project components, including when a youth participates in two different OJT placements, or both the YJC and OJT programs.
7. For selected intakes up to once a year, a follow-up survey (FUS) is administered to a sample of youth 6 to 12 months after participation in the program. Where possible, a matching control group that was interviewed with the baseline survey at the same time as the participants, is also interviewed with the FUS.
8. In the second half of the year, an Employer survey is conducted for employers of youth in the OJT program, who participated in the program in the past 12 months. Similarly, a survey of community members of project communities from the past 12 months is conducted.



## APPENDIX - B Data collection - Further information

### **Limitations of the Screening and Baseline Surveys:**

In later rounds, the strategy for recruiting controls changed due to operational difficulties with maintaining a pure control group. This involved offering controls the opportunity to re-apply to the program 6 months later, with the promise of an increased chance of being accepted then. The project had mixed success in maintaining these youth as controls as there was nothing to stop them from applying to the program earlier or later than 6 months, and there were problems identifying and keeping track of youth when they returned to the program if they did so. This was a major limitation, of the baseline after rounds 4 and 5- the difficulty in obtaining controls that could be re-interviewed.

**Limitations of the Follow Up Surveys:** The sample for both the 2015 and 2017 FUS were relatively small, meaning that only effects of a substantial size are likely to be detected. The control group from 2015 was from a different location to the participant youth. Also, the question asked of controls and participants regarding employment in the past 6 months was not comparable. The control group in the 2017 FUS could only be compared to OJT youth, not YJC youth.

For example, let us consider the case of employment outcomes, which in addition to being impacted by the project, could also be impacted by changing labour market conditions. Suppose that we observe that no treatment youth are employed at the time of the baseline, but 10% of youth are employed at the time of the FUS. How do we know that it was the project that led to this increase in employment? Some of youth may have found jobs regardless of involvement in the project. We then check the trends for a similar group of youth (controls). We observe that the controls had no employment at time of baseline and 6% had employment at the time the FUS. Thus 6% of employment is due to something else-perhaps a buoyant labour market but certainly not project participation

as the youth were not participants. Based on an assumption of equal trends in the absence of the project, we deduce that the real impact of the project can be estimated to be 4% (that is 10%-6%). This method of measuring impacts is known as difference-in-difference estimation and is the basis for the causal estimates in the next section of the paper. Ivaschenko et al (2017) provide a more detailed explanation of the "equal trends" assumption and the difference in difference approach to estimating program effects.

It is important to consider the treatment and controls groups in the two FUS, to understand the basis of causal estimates, described in box 3. For both the 2015 and 2017 FUS survey samples, the analysis of the treatment and control groups demonstrates that they are comparable at the time of the baseline survey. This is presented in Appendix C. Given that these groups are similar enough, we can assume that their outcomes at the time of the FUS would have been similar in the absence of the project. That is, whatever trends would occur in the outcomes of interest for both groups (for example employment and involvement in crime), would move in the same direction over time. Lastly, these estimates of causal impacts are then supplemented by data on employer and community perceptions.

### **Characteristics of UYEP youth in the Impact Evaluation Samples for 2015 and 2017**

Before considering the impacts of the project, we briefly consider the baseline characteristics of the samples of youth used in the impact evaluations, for the 2015 and 2017 FUS sample, for which there is comparable baseline and FUS data. This gives us an idea of the comparability of the participant and control youth in the evaluations. In addition to sample comparability, using the FUS 2017 data, we investigate the extent to which UYEP has been targeting the disadvantaged.



### 2015 FUS sample

It is useful to compare the baseline characteristics of the re-interviewed treatment and re-interviewed control groups, since these are the two groups that are used to estimate the effects of the program. The full results of this analysis for the 2015 report are reported in Table i) in the appendix (taken from Ivaschenko et al, 2017). In terms of individual characteristics, the treatment group is on average 1.67 years older, has 0.75 extra years of education, and is less likely to report having a formal job in the past. These differences are significant at a 1% level. The treatment group youth also seem to be coming from somewhat larger (by about one person) households. We do not find significant differences in other characteristics, including gender, marital status and propensity to have earnings from informal jobs. The treatment group is somewhat more likely to look for a paid job over the past month, with a difference in this indicator between groups being significant at a 5% level. Overall, the differences in baseline characteristics due to attrition appear to be relatively minor. This implies that the groups are likely to be appropriate for comparison to determine program impacts. One limiting factor is the sample size of both groups, which is relatively low, meaning only effects with a substantial effect size can be detected. Further information on sample balance can be found in Ivaschenko et al (2017).

### 2017 FUS sample

Statistical balance calculations for the 2017 FUS sample show that there were almost no statistically significant differences between the demographic characteristics of treatment and control youth at baseline. Table i) and Table ii) shows the only statistically significant differences between these groups is those in the treatment group were slightly older than those in the 'placebo' control group at the time of the baseline survey. Furthermore, the treatment and control groups are comparable for four other reasons. Firstly, all youth in each of the three intakes had not worked in the formal sector in the last 6 months and on average between 75-80% of the youth had never worked in the formal sector

throughout their life. Secondly, intakes 12, 13 and 14 occurred at a relative similar time (the screening interviews occurred in April, July and November 2015 respectively) and the timeframe when OJT took place is similar across intakes. Thirdly, the youth are sourced from the same areas in Port Moresby and expressed interest in the program through the same channels. Fourthly, the removal of OJT from the program during intake 13 was not known by participants at the time the intake started, and they were only informed of this change part way through the YJC component.

Due to the need to ensure comparability, the sample size for treatment and placebo control groups included in both the baseline and follow up surveys is quite low (293 in total). This means that for the 2017 impact evaluation sample, even more so than the for 2015, it is only possible to detect effects with a large effect size. Attrition was around 38% in the treatment group and the only major difference was that youth who were re-interviewed were more likely to have lower levels of education at baseline. To put the sample size into perspective, it is lower than any study in a 2017 World Bank literature review on ALMPs in developing countries (the lowest is 407 and average is around 3500) (McKenzie, 2017). In addition, the sample size in each of the groups is not equal (191 in control and 102 in treatment), which means that there is even less chance to detect a statistically significant effect. As such the statistically significant effects reported in this study are due to the large effect size as opposed to having a large sample.

**Box B-1:** Treatments and Controls in the FUS

The 2015 FUS- Following the participation of the 4th and 5th intakes in the Project, a follow up survey (FUS) was conducted on the samples of “treatment” and “control” groups in mid-2015 (about a year to a year and a half after these intakes participated in the Project). The treatment group consisted of 338 re-interviewed participants out of a possible 743 participants. This included a mix of youth that participated in YJC and those that participated in OJT. The control group consisted of 250 re-interviewed non-participants, out of a possible 569 non-participants. Analysis of the baseline data for treatments and controls establishes that the two groups are very similar (reported in the next section of this paper). More detailed information can be found in Ivaschenko et al (2017) and the appendix.

The 2017 FUS- During intake 13 there was an unanticipated intervention in the program and the standard OJT component was removed part way through the YJC component. Instead participants were offered the opportunity to be paid to be a volunteer at the 2016 Under 23 Women’s FIFA World Cup. This volunteer placement involved basic manual labour and there was no potential for ongoing employment with the employer as this was a one-off event. They also did not receive pre-employment training. As such program participants in intake 13 who were eligible to complete OJT because of their academic performance in the screening test and satisfactory completion of BLST did not complete OJT. These youth are used to construct a ‘placebo control group’. That is, they are youth that may benefit from being involved in the project, but not from its full suite of training and employment services. These youth can be compared to the youth in the intakes just before and after (12 and 14) who completed PET and OJT. This second group is the ‘treatment group’. By comparing the placebo control group and the treatment group, the impact of OJT can be estimated. (beyond youth simply being involved in the project).



Table B-1: Balance between treatments that were re-interviewed and controls that were re-interviewed in 2015 FUS.

Variable of interest	Re-interviewed Controls (mean/sd)	Re-interviewed Treatments (mean/sd)	Difference (mean/se)
<i>Individual's basic characteristics:</i>	1	2	3
<b>Age</b>	23.45 (4.81)	25.11 (4.77)	-1.66 (0.40)
<b>Male (1 if male, 0 if female)</b>	0.65 (0.48)	0.62 (0.49)	0.04 (0.04)
<b>Married</b>	0.39 (0.49)	0.39 (0.49)	-0.01 (0.04)
<b>Years (grades) of education completed</b>	8.44 (3.06)	9.18 (2.81)	-0.74 (0.25)
<i>Individual's household characteristics:</i>			
<b>Household size</b>	8.13 (4.06)	9.34 (4.53)	-1.21 0.3615181
<b>N of females in a household</b>	3.66 (2.23)	4.18 (2.63)	-0.52 (0.21)
<b>N of males (16+) in paid work</b>	1.06 (1.02)	1.15 (1.07)	-0.10 (0.09)
<b>Dwelling has floors made of concrete</b>	0.04 (0.19)	0.06 (0.23)	0.02 (0.02)
<b>Dwelling has floors made of wood</b>	0.93 (0.26)	0.91 (0.28)	0.01 (0.02)
<i>Individual's employment characteristics:</i>			
<b>Never had a wage (formal) job</b>	0.64 (0.48)	0.78 (0.42)	-0.14 (0.04)
<b>If earned money through informal job/self-employment last month</b>	0.32 (0.47)	0.39 (0.49)	-0.06 (0.04)
<b>If searched for a paid job last month</b>	0.25 (0.43)	0.33 (0.47)	-0.09 (0.04)
<b>Number of observations</b>	250	338	

Source: Ivaschenko et al (p16, 2017)

**Table B-2: Statistical balance across treatment and control youth for OJT impact evaluation for background characteristics**

		(1)		(2)	t-test
		Control		Treatment	(1)-(2)
Variable	N	Mean/SE	N	Mean/SE	Difference
Age	191	24.361 [0.341]	102	25.706 [0.444]	-1.345**
Share that are male	191	0.592 [0.036]	102	0.647 [0.048]	-0.055
Share that are married	191	0.366 [0.035]	102	0.412 [0.049]	-0.045
Household members	191	8.607 [0.317]	102	8.392 [0.448]	0.215
Female household members	191	3.916 [0.164]	102	3.892 [0.265]	0.024
Male working household members	191	1.120 [0.082]	102	1.029 [0.115]	0.091
Share with concrete floor	191	0.084 [0.020]	102	0.078 [0.027]	0.005
Share with wood floor	191	0.859 [0.025]	102	0.882 [0.032]	-0.024

The value displayed for t-tests are the differences in the means across the groups.  
 \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level.



Table B-3: Statistical balance across treatment and control youth for OJT impact evaluation, employment, job seeking and education histories

Variable	N	Mean/SE	(1)	(2)	t-test
			Control	Treatment	(1)-(2)
			N	Mean/SE	Difference
<b>EMPLOYMENT</b>					
Share that have never worked in formal sector	191	0.770 [0.031]	102	0.794 [0.040]	-0.024
Number of formal sector jobs in lifetime	191	0.340 [0.044]	102	0.343 [0.065]	-0.003
Earn any money over last 6 months	191	0.450 [0.036]	102	0.510 [0.050]	-0.060
<b>JOB SEEKING</b>					
Sought after a formal sector job in last 3 months	191	0.168 [0.027]	102	0.147 [0.035]	0.020
Sought after any job last month	191	0.152 [0.026]	102	0.225 [0.042]	-0.074
Sought after any job last week	191	0.084 [0.020]	102	0.069 [0.025]	0.084 [0.020]
<b>EDUCATION</b>					
Years of education	189 <sup>^</sup>	9.296 [0.153]	102	9.461 [0.198]	-0.164
Total score in numeracy and literacy test	191	90.696 [0.325]	73	88.863 [1.877]	1.833
Intend to receive further education in next 6 months	191	0.592 [0.036]	102	0.578 [0.049]	0.013

The value displayed for t-tests are the differences in the means across the groups.

\*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level.

<sup>^</sup>Two people in the placebo control group did not provide an answer to this question

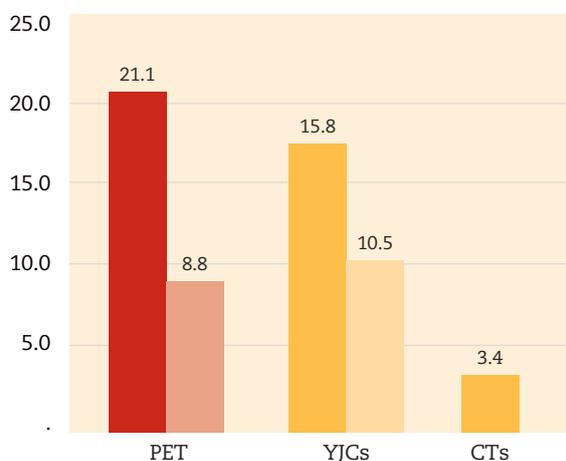
<sup>`</sup>Unfortunately there was a large amount of missing data regarding some student's test score



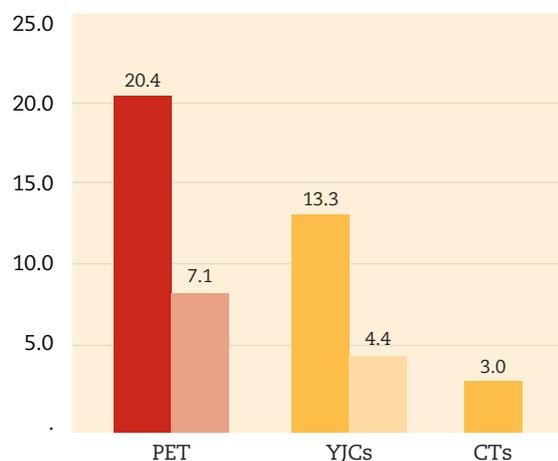
## APPENDIX - C Gender Disaggregated Data

Figure C-1 and Figure C-2 report the equivalent percentages for women and men, respectively, as was reported in Figure 2-a.

**Figure C-1**  
% Women Currently employed (All jobs and UYEP related jobs)



**Figure C-1**  
% Men Currently employed (All jobs and UYEP related jobs) since of Employment Impacts from the Community Survey



In the Follow-up Survey for 2015, the treatment group was asked if they had a wage employment after the program participation. We find that 43.6% of program participants report having a formal sector job after the program participation, with 49% and 39.2% for OJT participants and YJC (public works) participants, respectively. Unfortunately, the same question could not be asked for the control group. However, the control group was asked about having wage

employment in the last 6 months, and we find that only 15.1% report to have been employed. This provides some indication that the rate of wage employment in the treatment group is substantially higher. Interestingly, 40.8% of employed OJT participants and 32.4% of employed YJC participants report staying with the same employer after graduation from the program.

Table B-3: : UYEP participants who were employed after UYEP in the 6 months prior to the FUS 2017:  
Average hours worked and average wages.

	YJC			PET+OJT		
	Women	Men	All	Women	Men	All
<b>Hours worked</b>	50.2	44.3	45.9	42.5	50.6	47.4
standard deviation	16.2	16.1	16.3	17.4	23.3	21.2
<b>Wages</b>	165.3	190.8	183.9	155.5	163.7	160.5
standard deviation	44.4	74.0	68.0	47.5	70.3	61.5
<b>Observations</b>	24	65	89	11	17	28

Source: FUS 2017



## APPENDIX - D

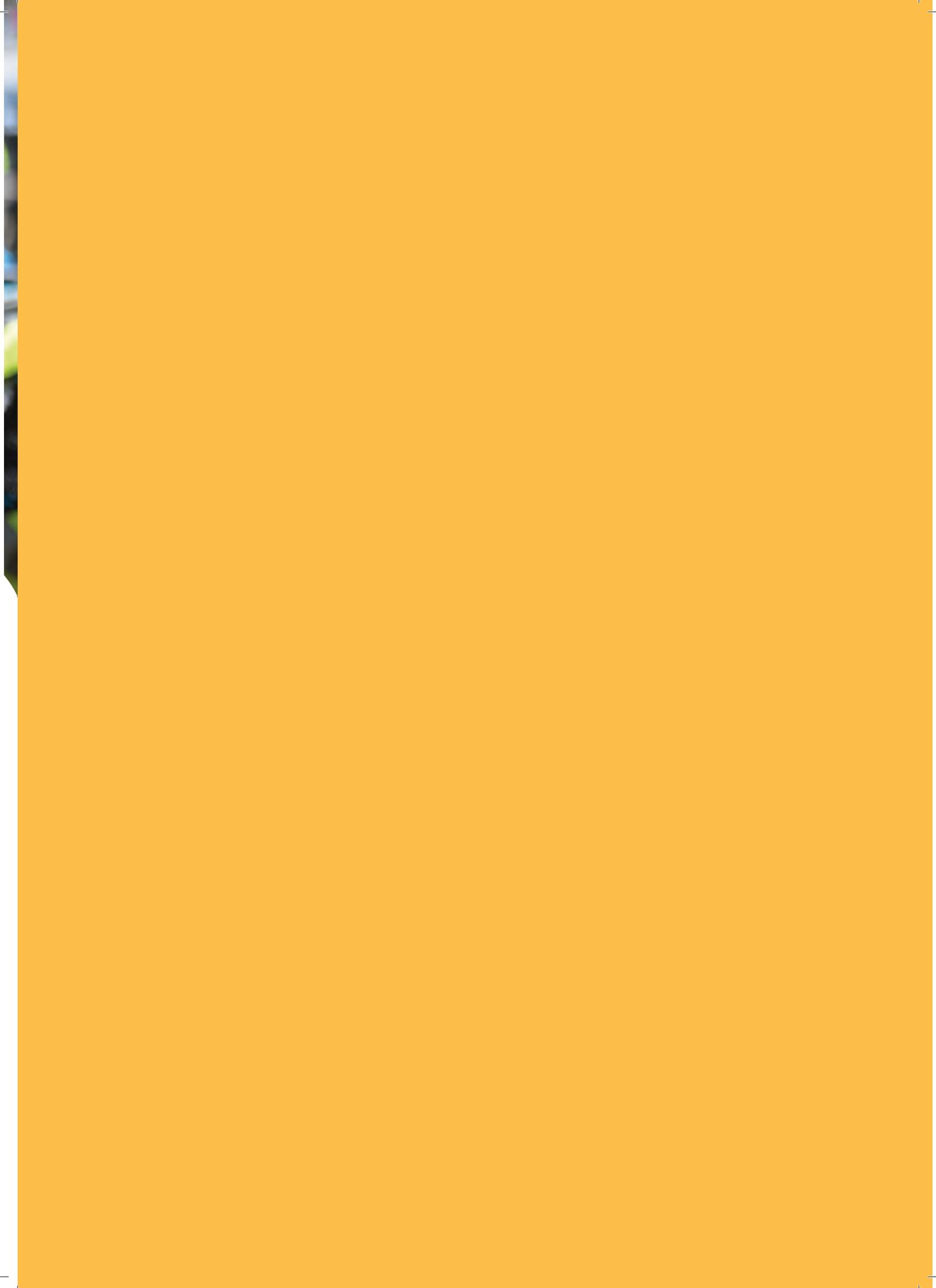
### Estimation of Impacts in the OJT

### Impact Evaluation Using 2017 FUS Data

We test the difference in outcomes between the treatment and 'placebo' control groups using an OLS regression of the difference in outcomes measured in the baseline and follow up surveys between the two groups. The follow up survey was conducted 6 to 12 months after the youth had graduated from UYEP (in July 2017). We create a dummy variable for the treatment group, which takes on the value one if the respondent belongs to the treatment group and the value zero if the respondent belongs to the 'placebo' control group. We estimate the following OLS regression:

$$Y_j = B_{0j} + B_{1j}T1 + \varepsilon,$$

where  $Y_j$  is the difference in answers to question  $j$  between the baseline and follow up survey.  $T1$  is an indicator variable that takes on the value one for members of the treatment group and zero for members of the 'placebo' control group.  $\varepsilon$  is the model error term. Our parameter of interest is the OLS coefficient  $B_{1j}$ , which captures differences in differences in the response to question  $j$  between treatment and 'placebo' control groups over time (between the baseline and follow up surveys). In the case whereby  $Y_j$  is a continuous variable,  $B_{1j}$  shows the difference between the groups overtime in terms of the units the variable is measured in. In the case whereby  $Y_j$  is a binary variable,  $B_{1j}$  represents the percentage point difference between the groups overtime. These estimates of the OLS regression (known as a linear probability model) were compared to those obtained from a binary logit model and they were shown to be qualitatively similar.





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