Role of Education in Encouraging Youth Employment and Entrepreneurship

Brian Gozun
John Paolo Rivera

December 2016

pep. partnership for economic policy

PAGE

policy analysis on growth and employment

pep partnership for economic policy

IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international

Canada

UKaid
from the British people

Role of Education in Encouraging Youth Employment and Entrepreneurship

Brian C. Gozun
De La Salle University, Manila, Philippines
brian.gozun@dlsu.edu.ph

John Paolo R. Rivera
Asian Institute of Management, Makati City, Philippines
jrivera@aim.edu

Abstract

More than half of the Philippines' jobless sector is comprised of the youth. This warrants the need to identify the constructs and create policy frameworks that would facilitate employability and entrepreneurship among the Filipino youth. Using the data from Community Based Monitor System (CBMS) Accelerated Poverty Profiling conducted by De La Salle Philippines (DLSP) schools and their partner communities, we estimate a multinomial logistic regression that highlights how demographic characteristics and level of education influence a youth's likelihood to be employed or to be entrepreneurial. Our results provide a framework for policymakers in improving program design and policy implementation targeted towards youth employment and support for youth entrepreneurial undertakings.

Introduction

The aftermath of the global crises of the 2000s resulted to a weak and uneven economic recovery. The youth continue to be affected by the rate at which the economy recovers. Global youth unemployment in 2013 reported by the International Labor Organization [ILO] (2013) is at 74.5 million (a 3.8 million increase from 2007). The figure is equivalent to 13.1 percent—almost thrice as high as the adult unemployment rate.

The concept of youth is a fluid category rather than a fixed age group. For instance, youth in Singapore refers to persons 15 to 35 years old. In Ireland, youth are persons aged 10 to 25. In Bangladesh and Pakistan, youth refer to those who are 18 to 35 years old. Meanwhile, in Haiti, youth are persons aged 10 to 24. In the Philippines, it is defined as those persons with age ranging from 15 to 30 years old according to the Youth in Nation-Building Act of 1994. The United Nations (UN), on the other hand, defines youth as those who are 15 to 24 years old. In this study, youth unemployment refers to the share of the labor force whose ages fall from 15 to 30 without work but available for and seeking employment.

In the Philippines, according to the Department of Labor and Employment (DOLE), as cited by Corrales (2014), the number of unemployed Filipino youth accounts for more than half of the Philippines' jobless sector. According to the Labor Force Survey (LFS) conducted by the Philippine Statistical Authority (PSA) as reported by CNN Philippines (2016), the country's overall unemployment rate stood at 5.8 percent in January 2016, wherein 48.2 percent of which were from the 18-24 age group. While youth unemployment decreased to 15.7 percent in April 2014 (from 16.8% in April 2013), it still accounts for more than half of the 2.9 million unemployed Filipinos in the country. As such, it can be construed that half of unemployment is likely to go down if youth unemployment is addressed. To address youth unemployment, there is

a need to increase the employability of the youth by providing them access to technical and life skills training demanded by employers. Likewise, it is also imperative to harness the entrepreneurial propensity of the youth so that they too can contribute in creating job opportunities in the country.

This situation prompts the need to identify which constructs will make the Filipino youth employable and entrepreneurial. By knowing these facilitating factors to employment and entrepreneurship, policymakers can create strategies and interventions that can provide the youth with access to productive and meaningful income-generating opportunities. Currently, the DOLE's thrust is to provide the youth who are either currently not working, or have less than a year of work experience, and who are not enrolled in an educational or training program, or who have at least completed a high school education, with access to skills training and on-the-job opportunities that would improve their chances of getting a job. What needs to be emphasized in the Philippines, aside from youth employment, is the building and fostering of the entrepreneurial mindsets and skills of both the young and disadvantaged people. With the contemporary constraints in the labor market, entrepreneurship is considered a means to combat unemployment especially among the youth.

Given this backdrop, we explored how to alleviate youth unemployment through entrepreneurship. To meet this objective, the study had three major phases. First, an assessment of the extent of youth unemployment was conducted using the Community Based Monitoring System (CBMS) survey data. Second, an analysis of the demographics and other characteristics of youth entrepreneurs was undertaken. Lastly, policy recommendations culled from the second phase were provided to reduce unemployment among the youth through entrepreneurship.

For the first part of the study, the following research question was addressed: "What is the extent of employment and entrepreneurial activities of the Filipino youth?" The second part of the study had the following question: "How do demographic characteristics and level of education influence an individual's likelihood to be employed or to be entrepreneurial? To address this research question, we had the following research objectives:

- to estimate the likelihood that an individual will be employed;

- to estimate the likelihood that an individual will engage in entrepreneurship; and

- to provide recommendations on how to encourage the youth to be entrepreneurs.

The results of the first two sections provided a framework for policymakers in improving program design and policy implementation targeted towards youth employment and support for youth entrepreneurial undertakings.

Entrepreneurship as a Construct

Identifying the Entrepreneur

Various definitions exist on what constitutes *entrepreneurship* and who can be categorized as an *entrepreneur*. The field of entrepreneurship is the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited (Shane & Venkataraman, 2000). On the other hand, *entrepreneuring* refers to efforts to bring about new economic, social, institutional, and cultural environments through the actions of an individual or group of individuals (Rindova, Barry & Ketchen, 2009). Trofin (2012) asserted that the elements of entrepreneurship are the entrepreneurs who are creating new businesses at risk pressure to obtain the expected profit. These terminologies are apparently interlinked wherein one can view as the set of traits as

entrepreneurship and the one who possesses and acts on them is the entrepreneur. Ahmad and Hoffman (2007) defined *entrepreneurial activity* as the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes, or markets. While the entrepreneur can be the one who establishes the business as owners, entrepreneurs are also more involved and immersed in the activity.

In the Philippines, the Philippine Statistical Authority (PSA) operationalized entrepreneurial activity or a family-operated activity as any economic activity, business, or enterprise whether agricultural or non-agricultural, engaged in by any member of the household as an operator or as self-employed. This includes family-operated activities or those operated as single proprietorship or partnership. Thus, partnerships, corporations, associations, and so forth, which are formally organized and registered with the Securities and Exchange Commission (SEC), are excluded. A lawyer, dentist, physician, accountant, midwife, or any person in private practice of his profession with or without a regular helper is considered operating an enterprise as a business. A fisherman, farmer, carpenter, watch repairer, and so forth, working on his own account is also operating as an enterprise. This is also being adopted by the CBMS census in the Philippines.

A more encompassing definition of entrepreneurship is from the Global Entrepreneurship Monitor (GEM, n. d.). According to GEM, while entrepreneurship is a multifaceted phenomenon with many different meanings and definitions, GEM defined entrepreneurship as: "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (http://www.gemconsortium.org/wiki/1149). From this definition, it can be construed

that the GEM takes a broad view of what it recognizes a business activity to be – whether new or not. Thus, GEM's definition is not restricted to newly registered businesses because it adapts the occupational perspective of entrepreneurship, even though it looks further than individuals officially registered as self-employed.

Moreover, GEM (n. d.) also emphasized that entrepreneurship can be viewed from the behavioral perspective by identifying employees within organizations who behave entrepreneurially—"intrapreneurship or corporate entrepreneurship." Furthermore, GEM has zoomed in on the phase that combines the stage before the start of a new firm (nascent entrepreneurship) and the stage directly after the start of a new firm (owning-managing a new firm). This combination is called the "early-stage entrepreneurial activity."

Furthermore, individuals with entrepreneurial attitudes—potentially leading to entrepreneurial activity, and individuals involved as owner-managers in established firms—are identified. These categories, which discern the different phases of entrepreneurship, are derived from the GEM questionnaire.

Driving Factors of Entrepreneurial Propensity

Inquiries as to why some individuals more than others are inclined to become entrepreneurs (Turker & Selcuk, 2009); why do some individuals foresee the profitable opportunities to introduce new products to the market (Pruett, Shinnar, Toney, Llopis, & Fox, 2009); and why are some entrepreneurs more successful than others (Remeikiene, Startiene, & Dumciuviene, 2013) have been pervasive in contemporary literature. These questions lead to the scrutiny of the role of education for individuals planning to establish a business (Edwards & Muir, 2012).

These studies on the factors of entrepreneurial intention indicate that entrepreneurship is increasingly becoming important to policymakers and social scientists who aim to strengthen the disposition of the youth to business start-up, through education.

One of the recent studies on entrepreneurial intention was done by Fini, Grimaldi, Marzocchi, and Sobrero (2009). By appealing to the intentional paradigm and the theory of planned behavior (Ajzen, 1991) and employing a sample of 200 entrepreneurs, they tested a theoretical model of the micro-foundation of entrepreneurial intention. Results showed that entrepreneurial intention is influenced by psychological characteristics, individual skills, and environmental influences.

Additionally, based on a survey of 2,010 senior university students from nine universities in Xi'an, China, it was found that perceived subjective norms of university students have positive and statistically significant influence on entrepreneurial attitude and entrepreneurial self-efficacy (Peng, Lu, & Kang, 2012). Likewise, other factors such as individual and psychological factors, family background, social, and environment factors are also determinants of entrepreneurial intentions.

Similarly, according to the findings of Remeikiene et al. (2013), the main factors of entrepreneurial intention are personality traits (self-efficacy, risk-taking, need for achievement, proactiveness, attitude towards entrepreneurship, behavioral control, and internal locus of control). These traits were deemed to be developed through a process. Moreover, it was also found that young people studying in higher education institutions are inclined to engage in entrepreneurship after completion of their studies. It is also interesting to note that the degree program young individuals take impacts their intentions to engage in entrepreneurship.

Specific findings of Remeikiene et al. (2013) further revealed that students of economics believe that economics education provides useful knowledge about business start-up and it contributes to the development of the abovementioned personality traits. On the other hand, students of mechanical engineering believe that education does not provide useful information about business, does not encourage young people's creativity for business start-up, and does not contribute to the development of particular personality traits. In conclusion, courses in a higher education institution should develop entrepreneurial abilities, so the programs designed for the students with technological specialization should be supplemented with the subjects enabling to form entrepreneurial skillsets.

Mukundan and Thomas (2016) augmented these earlier findings. They employed a study that aimed to understand the drivers of entrepreneurial intention (EI) among young professionals using a survey of 184 new-to-the-corporate IT professionals and 30 real entrepreneurs, all aged in their 20s and mostly in early 20s. The sample was classified into three categories: non-entrepreneurs with low EI, non-entrepreneurs with high EI, and real entrepreneurs. Similar to Fini et al. (2009), they also applied the theory of planned behavior. The drivers of EI were identified to be attitude towards entrepreneurship (ATE), subjective norms (SN), and perceived behavioral control (PBC). Using discriminant analysis, they found that ATE is the strongest predictor of entrepreneurial behavior.

Operational Framework and Methodology

Likelihood of Employment and Entrepreneurship: The Multinomial Logistic Regression

We employ a multinomial logistic regression model. Instead of having a binary choice of whether a youth will be employed or be entrepreneurial, we expand the categorical outcome to:

(1) **salaried** (i.e., with work, employed); (2) **self-employed** (i.e., without work, with business, entrepreneurial); or (3) **unemployed** (i.e., without work, without business, unemployed, unproductive). This enriches the analysis since we can estimate the likelihood of the career choice of a youth. Likewise, given the same exogenous variables, we are able to determine if these facilitate higher likelihood of being employed or entrepreneurial. Our sample is composed of individual with age 15 to 30, following the Philippine definition of a youth, who are members of the labor force. We no longer included individuals who are both engaged in employment and entrepreneurship in the sample.

By implication, we can construe from the results whether the youth prefer traditional employment or entrepreneurship as argued by Levine (2011) or vise-versa (Constable, 2015). According to Preston (2014, par. 1), "not everyone can handle the pressures of being an entrepreneur" and from the Philippine situation, it can be observed that in times of financial difficulties and job instabilities, the youths resort to entrepreneurship as a temporary solution to unemployment. When they get meaningful employment, they quit being an entrepreneur. At the end of this study, we discussed this in depth and shed more light on this issue.

The multinomial logistic is the simplest unordered multinomial model that permits regressors to vary across alternatives (Cameron & Trivedi, 2005). The marginal effect for multinomial data is computed as a separate marginal effect on the probability of each outcome, and these marginal effects sum to zero since probabilities sum to one.

As discussed by Cameron and Trivedi (2005), in a multinomial logistic model, there are m alternatives and the dependent variable y is defined to take value j if the jth alternative is taken where $j = 1, \ldots, m$. The probability that alternative j is chosen is represented by:

$$p_j = \Pr[y = j] \text{ for } j = 1, \ldots, m. \tag{1}$$

Introduce m binary variables for each observation y,

$$y_j = \begin{cases} 1 & y = j \\ 0 & y \neq j \end{cases} \qquad (2)$$

Thus, y_j equals one if alternative j is the observed outcome and the remaining y_k equal zero, so for each observation on y, exactly one of y_1, y_2, ..., y_m will be nonzero. The multinomial density for one observation can be conveniently written as:

$$f(y) = p_1^{y_1} \times ... \times p_m^{y_m} = \prod_{j=1}^{m} p_j^{y_j} \qquad (3)$$

For regression models, introduce a subscript i for the ith individual and regressors x_i. Specify a model for the probability that individual i chooses the jth alternative,

$$p_{ij} = \Pr[y_i = j] = F_j(x_i, \beta) \text{ for } j = 1, ..., m \text{ and for } i = 1. ..., N \qquad (4)$$

The functional form for multinomial logit represented by F_j should be such that probabilities lie between 0 and 1 and sum over j to one.

The multinomial density for one observation is shown in Equation 3. The likelihood function for a sample of N independent observations is given by:

$$L_N = \prod_{i=1}^{N} \prod_{j=1}^{m} p_{ij}^{y_{ij}} \qquad (5)$$

where the subscript i denotes the ith of N individuals and the subscript j denotes the jth of m alternatives. The log-likelihood function is given by:

$$\ell = \ln L_N = \sum_{i=1}^{N} \sum_{j=1}^{m} y_{ij} \ln p_{ij} \qquad (6)$$

where $p_{ij} = F_j(x_i, \beta)$ is a multinomial logit probability function of parameters β and regressors defined in Equation 4 and the maximum likelihood estimation (MLE) is used to estimate the parameters. Hence, the first order conditions for the MLE β are that it solves

$$\frac{\partial \ell}{\partial \beta} = \sum_{i=1}^{N} \sum_{j=1}^{m} \frac{y_{ij}}{p_{ij}} \frac{\partial p_{ij}}{\partial \beta} = 0 \tag{7}$$

which is nonlinear in β. The distribution of y_i is necessarily multinomial so correct specification of the data generating process means correct specification of the functional form $F_j(x_i, \beta)$ for the probabilities p_{ij}. This ensures consistency as then $E[y_{ij}] = p_{ij}$, so taking expectations of Equation 7 yields $E[\partial \ell / \partial \beta] = \sum_{i=1}^{N} \sum_{j=1}^{m} \partial p_{ij} / \partial \beta = 0$ since $\sum_{j=0}^{m} p_{ij} = 1$. For the complete details of the mathematical derivations, refer to Cameron and Trivedi (2005).

The usual asymptotic theory applies and the variance matrix is minus the inverse of the information matrix. Differentiating the double summation in Equation 7 with respect to β' and using $E[y_{ij}] = p_{ij}$ yields upon Equation 8. For the details of the derivations, refer to Cameron and Trivedi (2005).

$$\beta \sim N\left[\beta_0, \left(\sum \sum \frac{1}{p_{ij}} \frac{\partial p_{ij}}{\partial \beta} \frac{\partial p_{ij}}{\partial \beta'} - \frac{\partial^2 p_{ij}}{\partial \beta \partial \beta'}\Big|_{\beta_0}\right)^{-1}\right] \tag{8}$$

Equation 8 is correct provided that observations are independent over i, there is no need to use more general sandwich form of the variance matrix since that data are definitely multinomial distributed and the information matrix equality will hold (Cameron & Trivedi, 2005).

Model Specification

From the discussion above, we represent our multinomial logistic regression model through Equation 9. We use MLE on the CBMS Accelerated Poverty Profiling dataset, conducted in 2013, whose samples are individuals from the surrounding communities of the

different schools of De La Salle Philippines (DLSP), who are part of the labor force.[1] The roster includes: (1) DLS – College of St. Benilde, (2) DLSU – Dasmarinas, (3) DLSU – Manila, (4) De La Salle Lipa, (5) La Salle University – Ozamiz, and (6) University of St. La Salle – Bago. The survey provides information on household and member demographics, income, and expenditures, as well as the availment of government- and privately- sponsored programs.

$$Y_i = \beta_0 + \beta_1 CSHWGE_i^* + \beta_2 \mathbf{v}CVSTAT_i + \beta_3 MALEHH_i + \varepsilon_i \tag{9}$$

$$CSHWGE_i^* = \alpha_0 + \alpha_1 AGEHHM_i + \alpha_2 AGEHSQ_i + v_i \tag{10}$$

$$CSHWGE_i = \delta_0 + \delta_1 \mathbf{v}EDUHHM_i + \varphi_i \tag{11}$$

$$\mathbf{v}CVSTAT_i = (CVSSIN_i, CVSMAR_i, CVSOTH_i) \tag{12}$$

$$\mathbf{v}EDUHHM_i = (EDELMU_i, EDJHSU_i, EDSHSU_i, EDTECV_i, EDCOLU_i, EDPOST_i,$$
$$EDUALS_i, EDSPED_i, EDELMG_i, EDUHSG_i, EDTECG_i, EDCOLG_i, EDPOSG_i, \tag{13}$$
$$EDUNGC_i)$$

Endogenous variable: Career status – Employment or entrepreneurship? The dependent variable, *Y*, is a categorical dummy variable that represents individual *i*'s employment status and entrepreneurial incidence. It assumes a value of 1 if an individual is (1) salaried (i.e., with work, employed); (2) self-employed (i.e., without work, with business, entrepreneurial); or (3) unemployed (i.e., without work, without business, unemployed, unproductive).

Exogenous variable: Demographic characteristics, educational attainment, and training/entrepreneurial programs. The predictors of the likelihood that an individual is employed or entrepreneurial are listed in Table 1.

---

[1] Labor force participation refers to population 15 years old or over who are either employed or unemployed based on the definitions of the Philippine Statistical Authority (https://psa.gov.ph/content/technical-notes-labor-force-survey-lfs).

Table 1

The Exogenous Variables

Variable	Description
$CSHWGE_i$	Annual cash wage received by individual i from employment and entrepreneurship. This variable is endogenous with $EDUHHM_i$; hence, the need to address endogeneity through Equation 11 where predicted values will be determined.
$CSHWGE_i^*$	Predicted values of $CSHWGE_i$ from Equation 11; an endogeneous variable in Equation 10; and an exogenous variable in Equation 9.
$\mathbf{v}CVSTAT_i$	Vector of dummy variables indicating individual i's civil status: $CVSSIN_i$ assumes a value of 1 if individual i is single, 0 otherwise. $CVSMAR_i$ assumes a value of 1 if individual i is married, 0 otherwise. $CVSOTH_i$ is the base category and assumes a value of 1 if individual i is widowed, divorced, live-in or other categories of civil status, 0 otherwise.
$MALEHH_i$	A dummy variable indicating the sex of individual i. It assumes a value of 1 if male, 0 otherwise.
$AGEHHM_i$	An integer measuring the age in years of individual i.
$AGEHSQ_i$	An integer measuring the squared age in years of individual i. This is a necessary variable to capture the non-linear impact of age on the endogenous variable.
$\mathbf{v}EDUHHM_i$	Vector of dummy variables indicating individual i's highest educational attainment: $EDELMU_i$ assumes a value of 1 if individual i is an elementary undergraduate (Grades 1-6), 0 otherwise. $EDJHSU_i$ assumes a value of 1 if individual i is a junior high school undergraduate (Grades 7-10), 0 otherwise. $EDSHSU_i$ assumes a value of 1 if individual i is a senior high school undergraduate (Grades 11-12), 0 otherwise. $EDTECV_i$ assumes a value of 1 if individual i is enrolled in a technical and vocational course, 0 otherwise. $EDCOLU_i$ assumes a value of 1 if individual i is a college undergraduate, 0 otherwise. $EDPOST_i$ assumes a value of 1 if individual i is enrolled in a post-graduate studies (Master's or Doctoral), 0 otherwise. $EDUALS_i$ assumes a value of 1 if individual i is in an Alternative Learning System (ALS) either elementary or secondary level $EDSPED_i$ assumes a value of 1 if individual i is in a Special Education (SPED) System either elementary or secondary level $EDELMG_i$ assumes a value of 1 if individual i is an elementary graduate (Grade 6), 0 otherwise. $EDUHSG_i$ assumes a value of 1 if individual i is a high school graduate (Grade 12), 0 otherwise. $EDTECG_i$ assumes a value of 1 if individual i is a graduate of a technical and vocational course, 0 otherwise. $EDCOLG_i$ assumes a value of 1 if individual i is a college graduate, 0 otherwise.

	EDPOSG$_i$ assumes a value of 1 if individual *i* is a Master's or Doctoral degree holder, 0 otherwise.
	EDUNGC$_i$ is the base category and assumes a value of 1 if individual *i* has no grade completed, completed Day Care, Nursery, Kindergarten, Preparatory levels, 0 otherwise.
$\varepsilon_i, v_i, \varphi_i$	Stochastic disturbance terms for Equations 9, 10, 11, and 14 respectively that captures all other variables that were not included in the econometric model.

Addressing Endogeneity and Heteroscedasticity: The Generalized Method of Moments

Including the variables *CSHWGE$_i$*, *EDUHHM$_i$*, and *AGEHHM$_i$* on a single equation (i.e. Equation 9) creates an endogeneity problem wherein there is correlation between a parameter or variable and the error term (Gujarati & Porter, 2009). It arises as a result of measurement error, autoregression with autocorrelated errors, simultaneity, omitted variables, and sample selection errors. According to Mincer (1974), income is endogenous with respect to educational attainment; and income distribution is related to age as well as varying amounts of education and on-the-job training among workers. To address the problem of endogeneity, we provide structural equations (i.e. Equations 10 and 11) that will explain the movement of income with respect to age and education. Equation 10 will then enter Equation 9 grounded on the framework of Mincer (1974).

Aside from endogeneity, heteroscedasticity also arises with the estimation of Equations 10 and 11. Heteroscedasticity exists by the fact that we are utilizing a cross-sectional data. According to Gujarati and Porter (2009), heteroscedasticity does not cause ordinary least squares (OLS) coefficient estimates to be biased, although it can cause OLS estimates of the variance of the coefficients to be biased, possibly above or below the population variance. Therefore, regression analysis using heteroscedastic data still provides an unbiased estimate for the relationship between the exogenous and endogenous variables. However, standard errors and inferences obtained from data analysis are spurious. Consequently, biased standard errors lead to biased inference, so results of hypothesis tests might be wrong.

To address this econometric problem, the CBMS survey is subjected to the Generalized Method of Moments (GMM) estimation methodology to analyze the statistical significance of educational attainment and age on cash wage. According to Baum, Schaffer, and Stillman (2003), the usual approach today when facing heteroscedasticity of unknown form is to use GMM introduced by Hansen (1982), which makes use of the orthogonality conditions to allow for efficient estimation in the presence of heteroscedasticity of unknown form. Also, many standard estimators, including the Instrumental Variable (IV) and OLS are deemed as special cases of GMM estimators. Hence, in the presence of heteroscedasticity, the GMM estimator is more efficient (Baum et al., 2003).

Another reason why the GMM estimation technique is preferred is because of its robustness to differences in the specification of the data generating process (DGP) and it also automatically addresses endogeneity. According to Greene (2003), under GMM, a sample mean or variance estimates its population counterpart regardless of the underlying process. GMM provides this freedom from distributional assumptions, such as the normality assumption under OLS that has made this method more appealing. However, it must be noted that this comes at a cost because if more is known about the DGP such as its specific distribution, then the method of moments may not make use of all of the available information. Hence, the natural estimators of the parameters of the distribution based on the sample mean and variance becomes inefficient. Thus, MLE is the alternative, which uses out-of-sample information and provides more efficient estimates (Greene, 2003).

Results and Discussion

Descriptive Statistics

Among the youth sample with identified job status in the labor force, Table 2 shows that only 4.17% of the youth are unemployed. It can be inferred that they may either be in school or actively looking for a job. Meanwhile, of the 86.12% of the salaried youth, more than half (62.4%) are seasonally employed while approximately 35% are permanently employed. Meanwhile, 9.71% are self-employed. It can be seen that most often, the youth are employed rather than being employers.

Table 2

Descriptive Statistics for Career (Age 15 to 30)

Career/ Nature of Employment	Number of Individuals	%
Salaried	**5,127**	**86.12**
Permanent employment	1,784	34.80
Short-term, seasonal, casual employment	3,199	62.40
Worked on different jobs on day to day or week to week	130	2.54
Unclassified	14	0.27
Self-employed	**578**	**9.71**
Unemployed	**248**	**4.17**
Total	**5,953**	**100.0**

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

Table 3

Descriptive Statistics for Sex (Age 15 to 30)

Sex/ Class of worker/ Nature of Employment	Number of Individuals	%
Male	**3,936**	**66.12**
Salaried	*3,324*	*84.45*
Permanent employment	1,039	31.26
Short-term, seasonal, casual employment	2,166	65.16

Worked on different jobs on day to day or week to week		111	3.34
Unclassified		8	0.24
Self-employed		*460*	*11.69*
Unemployed		*152*	*3.86*
Female		**2,017**	**33.88**
Salaried		*1,803*	*89.39*
Permanent employment		745	41.32
Short-term, seasonal, casual employment		1,033	57.29
Worked on different jobs on day to day or week to week		19	1.05
Unclassified		6	0.33
Self-employed		*118*	*5.85*
Unemployed		*96*	*4.76*
Total		**5,953**	**100.0**

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

Table 3 presents a youth sample that is dominated by males (66.12%). Of the salaried females, majority are seasonally employed (57.29%). The same is true for males with work, majority are also seasonally employed (65.16%). Similar to Table 2, a sparse percentage of the youth are unemployed (3.86%).

Table 4

Descriptive Statistics for Age (Age 15 to 23 and 24 to 30)

Age Bracket/ *Class of worker/* *Nature of Employment*	Number of Individuals	%	Mean	Standard Deviation
Age (15 to 23)	**2,466**	**41.42**		
Salaried	*2,154*	*87.35*	*20.65*	*1.97*
Permanent employment	587	27.25	21.04	1.88
Short-term, seasonal, casual employment	1,507	69.96	20.51	1.98
Worked on different jobs on day to day or week to week	54	2.51	20.41	2.16
Unclassified	6	0.28	20.50	1.87
Self-employed	*154*	*6.24*	*20.86*	*1.94*
Unemployed	*158*	*6.41*	*20.32*	*1.91*
Age (24 to 30)	**3,487**	**58.58**		
Salaried	*2,973*	*85.26*	*26.88*	*2.00*

Permanent employment	1,197	40.26	27.02	1.99
Short-term, seasonal, casual employment	1,692	56.91	26.79	2.01
Worked on different jobs on day to day or week to week	76	2.56	26.82	1.94
Unclassified	8	0.27	26.13	1.81
Self-employed	*424*	*12.16*	*27.26*	*1.97*
Unemployed	*90*	*2.58*	*26.36*	*2.03*
Total	**5,953**	**100.0**		

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

In Table 4, we created a structural break in the age range. From 15 to 30, we split it to 15 to 23 (i.e., new college graduates) and 24 to 30 (i.e., young adults). For both age groups, there is also a small proportion of youth sample of unemployed. One possibility is that they are actively looking for a job (unemployed). We can also observe that for those salaried, those in the lower age bracket are mostly seasonally employed while those in the higher age bracket are mostly with permanent and seasonal employment.

Table 5

Descriptive Statistics for Civil Status (Age 15 to 30)

Civil Status/ *Class of worker/* *Nature of Employment*	Number of Individuals	%
Single	**3,537**	**59.42**
Salaried	*3,110*	*87.93*
Permanent employment	1,021	32.83
Short-term, seasonal, casual employment	2,005	64.47
Worked on different jobs on day to day or week to week	78	2.51
Unclassified	6	0.19
Self-employed	*237*	*6.70*
Unemployed	*190*	*5.37*
Married	**1,262**	**21.20**
Salaried	*1,046*	*82.88*
Permanent employment	471	45.03
Short-term, seasonal, casual employment	541	51.72

Worked on different jobs on day to day or week to week	29	2.77
Unclassified	5	0.48
Self-employed	*187*	14.82
Unemployed	*29*	2.30
Others	**1,154**	**19.39**
Salaried	*971*	84.14
Permanent employment	292	30.07
Short-term, seasonal, casual employment	653	67.25
Worked on different jobs on day to day or week to week	23	2.37
Unclassified	3	0.31
Self-employed	*154*	13.34
Unemployed	*29*	2.51
Total	**5,953**	**100.0**

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

Table 5 shows that majority of the youth in our sample are single (59.42%) in terms of marital status and of those salaried, most of them are seasonally employed (51.72%). The youth in the "others" category are either widowed or separated. Still, a significant minority are unemployed.

Table 6

Descriptive Statistics for OFW Indicator (Age 15 to 30)

OFW (not part of labor force) / ***Class of worker/*** ***Nature of Employment***	**Number of Individuals**	**%**
Permanent employment	80	28.17
Short-term, seasonal, casual employment	188	66.20
Worked on different jobs on day to day or week to week	1	0.35
Unclassified	15	5.28
Total	**284**	**100.00**

Note: According to Tullao, Cortez, and See (2007), migrant worker refers to a person

who is to be engaged, is engaged or has been engaged in a remunerated activity in a

state of which he or she is not a legal resident; to be used interchangeably with

Overseas Filipino Worker per Republic Act (RA) 8042 also known as the Migrant

Workers and Overseas Filipinos Act of 1995.

Table 6 shows the distribution of youth who are working overseas (OFWs). It is interesting to note that there is already an incidence of temporary labor migration among this segment of the population. Indeed, working abroad is seen here as a solution to the inadequate employment opportunities in the domestic labor market. Moreover, of those who have work as OFWs, 70% of them are also seasonally employed most likely on a contractual basis, which is the current situation among OFWs.

Table 7

Descriptive Statistics for Highest Educational Attainment (Age 15 to 30)

Highest Educational Attainment/ Class of worker/ Nature of Employment	Number of Individuals	%
Elementary Undergraduate	**648**	10.89
Salaried	541	83.49
Permanent employment	138	25.51
Short-term, seasonal, casual employment	375	69.32
Worked on different jobs on day to day or week to week	24	4.44
Unclassified	4	0.74
Self-employed	93	14.35
Unemployed	14	2.16
High School Undergraduate	**1,013**	17.02
Salaried	830	81.93
Permanent employment	225	27.11
Short-term, seasonal, casual employment	579	69.76
Worked on different jobs on day to day or week to week	25	3.01
Unclassified	1	0.12
Self-employed	129	12.73
Unemployed	54	5.33

Alternative Learning System (Elementary and Secondary)	**27**	
		0.45
Salaried	22	81.48
Permanent employment	3	13.64
Short-term, seasonal, casual employment	18	81.82
Worked on different jobs on day to day or week to	1	
week		4.55
Self-employed	1	3.70
Unemployed	4	14.81
Special Education (Elementary and Secondary)	**2**	0.03
Salaried	2	100.00
Permanent employment	0	0.00
Short-term, seasonal, casual employment	2	100.00
Worked on different jobs on day to day or week to	0	
week		0.00
Self-employed	0	0.00
Unemployed	0	0.00
Technical and Vocational Education	**84**	1.41
Salaried	58	69.05
Permanent employment	29	50.00
Short-term, seasonal, casual employment	29	50.00
Worked on different jobs on day to day or week to	0	
week		0.00
Self-employed	15	17.86
Unemployed	11	13.10
College Undergraduate	**715**	12.01
Salaried	611	85.45
Permanent employment	231	37.81
Short-term, seasonal, casual employment	369	60.39
Worked on different jobs on day to day or week to	9	
week		1.47
Unclassified	2	0.33
Self-employed	57	7.97
Unemployed	47	6.57
With Post Graduate Units (Master's/Doctoral)	**33**	0.55
Salaried	31	93.94
Permanent employment	15	48.39
Short-term, seasonal, casual employment	16	51.61
Worked on different jobs on day to day or week to	0	
week		0.00
Self-employed	1	3.03
Unemployed	1	3.03
Elementary Graduate	**248**	4.17
Salaried	211	85.08
Permanent employment	61	28.91
Short-term, seasonal, casual employment	139	65.88

Worked on different jobs on day to day or week to week	10	4.74
Unclassified	1	0.47
Self-employed	35	14.11
Unemployed	2	0.81
High School Graduate	**1,601**	26.89
Salaried	1,366	85.32
Permanent employment	436	31.92
Short-term, seasonal, casual employment	878	64.28
Worked on different jobs on day to day or week to week	48	3.51
Unclassified	4	0.29
Self-employed	164	10.24
Unemployed	71	4.43
Technical and Vocational Education	**494**	8.30
Salaried	451	91.30
Permanent employment	107	23.73
Short-term, seasonal, casual employment	341	75.61
Worked on different jobs on day to day or week to week	3	0.67
Self-employed	39	7.89
Unemployed	4	0.81
College Graduate	**1,069**	17.96
Salaried	990	92.61
Permanent employment	530	53.54
Short-term, seasonal, casual employment	448	45.25
Worked on different jobs on day to day or week to week	10	1.01
Unclassified	2	0.20
Self-employed	40	3.74
Unemployed	39	3.65
With Post Graduate Degree (Master's/Doctoral)	**8**	0.13
Salaried	8	100.00
Permanent employment	5	62.50
Short-term, seasonal, casual employment	3	37.50
Worked on different jobs on day to day or week to week	0	0.00
Self-employed	0	0.00
Unemployed	0	0.00
No Grade Completed, Others, Unknown	**11**	0.18
Total	**5,953**	**100.0**

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

It can be seen from Table 7 that the sample contains mostly of youth who are high school graduates (26.89%), and college graduates (17.96%) as their highest educational attainment. Across all categories of highest educational attainment, the salaried youth is either permanently or seasonally employed. A very small proportion of the sample are self-employed. It can be implied that the youth are more often employed rather than being entrepreneurial.

Table 8

Descriptive Statistics for Annual Cash Wage (Age 15 to 30)

Class of worker/ Nature of Employment	Number of Individuals	%	Mean Cash wage	Standard Deviation	Minimum	Maximum
Salaried	**5,127**	**86.12**	**74,751.76**	**84,554.95**	**0**	**2,616,000**
Permanent employment	1,784	34.80	99,032.55	103,538.60	0	2,616,000
Short-term, seasonal, casual employment	3,199	62.40	62,668.22	69,655.56	0	2,400,000
Worked on different jobs on day to day or week to week	130	2.54	42,975.05	51,053.08	0	493,200
Unclassified	14	0.27	36,842.86	29,761.75	0	84,000
Self-employed	**578**	**9.71**	**24,822.40**	**56,622.96**	**0**	**672,000**
Unemployed	**248**	**4.17**	**2,472.53**	**12,998.75**	**0**	**129,600**
Total	**5,953**	**100.00**				

Source: CBMS Census, selected partner barangays of DLSP schools, 2014-2015

Table 8 shows that the highest average cash wage arises from permanent employment and is followed by engagement in entrepreneurial activities. There is also a significant difference between the mean annual cash wage of being salaried and being self-employed. This can explain the preference of the youth towards employment relative to starting their own business. Being an

employee has its own pros and cons. An employee has a relatively low amount of risk because he/she is only responsible for his/her work responsibilities during the designated business hours. This form of employment is ideal for an individual who wants a higher degree of stability and predictability within his/her career. Meanwhile, for those who thrive under high pressure situation, being an entrepreneur may be advantageous. The entrepreneur would be accountable for all of the financial costs, business risks, and personal risks that come with an enterprise's start up and operations. An entrepreneur's day never ends in order to develop ways to improve the business.

For those who have permanent employment, this brings about the highest mean annual cash wage at PHP 99,032.55 followed by both short-term, seasonal, and casual employment (PHP 62,668.22), and entrepreneurial activities (PHP 24,882.40). Working on different jobs on day to day or week to week results to a mean cash wage of PHP 42,975.05, which is still higher by PHP 18,152.65 than what one would get, on average, in an entrepreneurial venture.

From these figures, it can be construed that the differential between the mean cash wage of an entrepreneur, and a short-term, seasonal, and casual employee is not enticing enough for the youth to switch to being entrepreneurial.

Marginal effects after Maximum Likelihood Estimation

Table 9 shows the marginal effects after performing MLE for the multinomial logistic regression in Equation 9. It can be seen that an increase in cash wage received increases the likelihood of being self-employed, at the 1% significance level, compared to other categorical outcomes. However, this increase in probability is diminutive. This may be an indication of the minor role of cash wages as an avenue to motivate entrepreneurship, perhaps in the long run

when there is sufficient and extra savings arising from cash wages. On another note, cash wages decreases the likelihood of being unemployed indicative of the role of cash wages to pull the youth towards cash-generating activities.

Gender is a significant predictor of being salaried where being male decreases the likelihood of being salaried and increases the likelihood of being self-employed. A patriarchal society like the Philippines usually deems males as the more risk-taker gender. Meanwhile, marital status is insignificant in increasing the likelihood of being salaried, self-employed, and unemployed. This is due to the universal quest for job stability and steady flow of income to support themselves and their families. The opportunity costs of engaging in risky entrepreneurial activities outweigh its benefits due to the existence of mouths to feed.

Table 9

Marginal Effects after Multinomial Logistic Regression (Equation 9)

Variables	Marginal effects (dy/dx) for each outcome (N=5,979)		
	Salaried (1)	Self-employed (2)	Unemployed (3)
Predicted Probability	**0.8601**	**0.0953**	**.04466437**
$MALEHHM_i$ (*)	-0.0381~	0.0428~	-0.0047
$CVSSIN_i$ (*)	0.0450~	-0.0657~	0.0207~
$CVSMAR_i$ (*)	-0.0088	0.0118	-0.0031
$CSHWGE_i^*$	-0.0000	0.0000~	-0.0000~

^ Statistically significant at the 1 percent   (*) dy/dx is for discrete change of dummy

* Statistically significant at the 5 percent   variable from 0 to 1

~ Statistically significant at the 10 percent

Source: Author's calculations, 2016

Tables 10 shows the auxiliary regression, estimated using GMM, to explain cash wages using the age variable and highest educational attainment respectively. As mentioned earlier, this procedure is done to address the endogeneity issues raised by Mincer (1974). It can be seen that age is indeed accompanied by experience. Hence, as age increases, cash wage will also increase through time but will eventually decrease which is indicative of the curvature created by the age variable, as shown by the statistical significance of $AGEHHM_i$ and $AGEHSQ_i$.

It can also be seen that as an individual acquires higher levels of education, cash wage will be higher than the previous highest educational attainment. For instance, the annual cash wage of an individual with a college degree is higher by PHP 99,720.34 than somebody who has not completed any significant educational attainment, who can only earn up to PHP 22,000.00. Moreover, individuals who are in a post-graduate and have finished post-graduate (i.e., masteral and doctoral) are also likely to reap higher cash wages. Specifically, the annual cash wage of an individual with masteral and/or doctoral is higher by PHP 63,179.66 than somebody who has a college degree.

Incorporating these findings with the results from Table 9, we can imply that education and age are facilitating factors in acquiring employment or encouraging entrepreneurial tendencies.

Table 10

Results of Linear Generalized Method of Moments

Variable	Coefficient	Linearized Standard Error
$CSHWGE_i^*$ (Equation 10)		
$AGEHHM_i$	13,579.71~	1,264.34
$AGEHSQ_i$	-262.11~	26.37
Constant	-104,853.30~	14,907.05

Number of observations	5,973	
Prob > F	0.0000	
R-squared	0.0334	

$CSHWGE_i$ (Equation 11)		
$EDELMU_i$	16,639.67	23,560.20
$EDJHSU_i$	21,656.24	23,489.89
$EDSHSU_i$	42,192.00	41,794.14
$EDTECV_i$	51,733.90~	24,846.35
$EDCOLU_i$	55,795.73~	23,542.17
$EDPOST_i$	106,566.80~	26,878.63
$EDUALS_i$	31,192.89	27,717.26
$EDSPED_i$	2,400.00	59,565.81
$EDELMG_i$	25,334.09	23,874.12
$EDUHSG_i$	29,372.88	23,443.61
$EDTECG_i$	48,963.55~	23,622.32
$EDCOLG_i$	99,720.34~	23,482.86
$EDPOSG_i$	162,900.00~	36,005.78
Constant	22,000.00	23,363.63

Number of observations	5,973	
Prob > F	0.0000	
R-squared	0.1258	

^ Statistically significant at the 1 percent   * Statistically significant at the 5 percent
~ Statistically significant at the 10 percent

Source: Author's calculations, 2016

Conclusion

The number of unemployed youth accounts for more than half f the Philippine's jobless sector. Although youth unemployment has decreased from 16.8% in April 2013 to 15.7% in April 2014, the number still accounts for more than half of the 2.9 million unemployed Filipinos in the country. In addressing our research problem and objectives, we used the CBMS Accelerated Poverty Profiling dataset, conducted in 2014-2015 in selected partner barangays of DLSP schools. Looking into the micro details of the data, we found that for youths aged 15 to 30 in the labor force who are employed, most (62.4%) of them work in short-term, seasonal, and casual employment and only a handful (9.71%) are entrepreneurial. This situation holds true for both genders, age brackets of 15 to 23 and 24 to 30, civil status, OFWs, and across highest

educational attainment, except for college and postgraduate degree holders who are more likely to have permanent employment. From our results, we have seen that education increases the wage-earning capacity of the youth, as established my many studies in the literature. This increases the tendencies of the youth towards employments more than entrepreneurship. However, in the long run, as the wealth of the youth accumulates through income streams, then they might give high consideration towards being self-employed than being employed. This requires interventions to make entrepreneurship more appealing that can come in the form of an augmented curriculum and to some extent, reduction of diversifiable risks in the market.

There should also be a focus on more long-term and sustainable activities rather than one-time seminars so that would-be entrepreneurs would not feel disadvantaged if they do not see an increase in their incomes in the short-run. The results have also shown that both education and age are facilitating factors in acquiring employment but not in fostering entrepreneurship. The levels of entrepreneurship are low because higher cash wages, on average, are brought about by permanent employment. Since this study also emphasizes the importance of entrepreneurship in economic prosperity and wealth creation, there is a need to increase the interest and participation of the youth in programs and curriculum that foster the entrepreneurial spirit which could lead to both employment and entrepreneurship as seen from the results. Since these programs already bring about an increased likelihood of employment, the programs must make entrepreneurship more enticing by the provision of an entrepreneurial ecosystem (from education to government funding and support) that would encourage the youth to become entrepreneurs. Moreover, the various entrepreneurship programs of the government must have wider breadth and scope to reach the youth while they are still in school. Indeed, the ABM strand of the Senior High School program of the DepEd is a good avenue for the government to market and implement its

entrepreneurship programs, which should incorporate strong partnership with the industry. Those who are not in school can be reached by the TESDA or through their *barangay* officials. The reach of the educational programs must be maximized to further ensure the harnessing of the entrepreneurial mindset which will lead to successful and sustainable youth entrepreneurs.

References

Ahmad, N., & Hoffman, A. (2007). *A framework for addressing and measuring*

  entrepreneurship. Retrieved from http://www.oecd.org/std/business-stats/39629644.pdf

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision*

  Processes, *50*, 179–211.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003). *Instrumental variables and GMM:*

  Estimation and testing (Working Paper 545). MA: Boston College.

Cameron, A. C., & Trivedi, P. K. (2005). *Microeconometrics: Methods and application*. UK:

  Cambridge University Press.

CNN Philippines. (2016, March 31). *ADB: Youth unemployment a 'policy challenge' for gov't*.

  Retrieved from http://cnnphilippines.com/business/2016/03/30/ADB-Youth-

  unemployment-policy-challenge-govt.html

Constable, K. (2015, January 05). 5 reasons you should consider becoming an entrepreneur. *Entrepreneur.* Retrieved from http://www.entrepreneur.com/article/241175

Corrales, N. (2014, June 18). DOLE: Jobless youths account for half of PH's unemployed sector. *INQUIRER.net.* Retrieved from http://newsinfo.inquirer.net/612180/dole-jobless-youths-account-for-half-of-phs-unemployed-sector

Edwards, L. J., & Muir, E. J. (2012). Evaluating enterprise education: Why do it? *Education+Training*, *54*(4), 278-290.

Fini, R., Grimaldi, R., Marzocchi, G. L., & Sobrero, M. (2009). *The foundation of entrepreneurial intention.* Retrieved from http://www2.druid.dk/conferences/viewpaper.php?id=5955&cf=32

Global Entrepreneurship Monitor (GEM). (n.d.). *How GEM defines entrepreneurship*. Retrieved from http://www.gemconsortium.org/wiki/1149

Greene, W. H. (2003). *Econometric analysis* (5th ed.). New Jersey: Prentice Hall.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th edition). Singapore: McGraw-Hill Companies, Inc.

Hansen, L. (1982). Large sample properties of generalized method of moments estimators. *Econometrica, 50*(4), 1029-1054.

International Labor Organization (ILO). (2013). *Global employment trends for youth 2013: A generation at risk.* Retrieved from: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_212423.pdf

Levine, C. C. (2011, June 13). Why traditional employment is better than entrepreneurship. *Forbes.* Retrieved from http://www.forbes.com/sites/work-in-progress/2011/06/13/why-traditional-employment-is-better-than-entrepreneurship/

Migrant Workers and Overseas Filipinos Act, H.R. 14314, 9th Cong. (1995).

Mincer, J. (1974). *Schooling, experience, and earnings.* New York: Columbia University Press.

Mukundan, R., & Thomas, S. (2016). Discriminating entrepreneurship intentions: Empirical study of young Indian IT professionals. *International Journal of Entrepreneurship and Innovation Management, 20*(3-4), DOI: 10.1504/IJEIM.2016.077958.

Peng, Z., Lu, G., & Kang, H. (2012). Entrepreneurial intentions and its influencing factors: A survey of the university students in Xi'an, China. *Creative Education, 3*, 95-100.

Preston, J. (2014, September 25). *Richard Branson: My thoughts on entrepreneurship v steady employment*. Retrieved from http://www.virgin.com/entrepreneur/richard-branson-my-thoughts-on-entrepreneurship-v-steady-employment

Pruett, M., Shinnar, R., Toney, B., Llopis, F., & Fox, J. (2009). Explaining entrepreneurial intentions of university students: A cross-cultural study. *International Journal of Entrepreneurial Behavior & Research*, *15*(6), 571-594.

Remeikiene, R., Startiene, G., & Dumciuviene, D. (2013). *Explaining entrepreneurial intention of university students: The role of entrepreneurial education.* Retrieve from http://www.toknowpress.net/ISBN/978-961-6914-02-4/papers/ML13-258.pdf

Rindova, V., Barry, D., & Ketchen, D.J. (2009). Entrepreneuring as emancipation. *Academy of Management Review, 34*(1), 477-491.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217-226.

Trofin, M. (2012) Entrepreneur: Between the old and the new. Portrait of Romanian entrepreneur. *Studies and Scientific Researches* (Economics Edition). Retrieved from http://sceco.ub.ro/index.php/SCECO/article/view/96/96.

Tullao, T. S., Cortez, M. A. A., & See, E. C. (2007). *The economic impacts of international migration: A case study on the Philippines.* Quezon City, Philippines: East Asian Development Network.

Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training, 33*(2), 142-159.