

Understanding Labor Market Outcomes of Graduates in the Informal Economy

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UP PRESIDENT
EDGARDO J. ANGARA
FELLOWSHIP

The **UP President Edgardo J. Angara (UPPEJA) Fellowship** is a grant for pioneering policy research. It aims to promote high-level policy discussions and research on a wide range of topics that address national development goals and imperatives, such as science and technology, economic development, environment and climate change, good governance, and communications.

The Fellowship was established by the University of the Philippines Board of Regents on September 29, 2008 in honor of the late Senator Edgardo J. Angara, who served as UP President from 1981 to 1987 and concurrent UP Diliman Chancellor from 1982 to 1983.

Angara, also a former Senate President, is known for his contributions to Philippine education, serving as the Chairperson of the First Congressional Commission on Education in 1990, which was credited with a number of pioneering reforms in the education sector, including its “trifocalization” and the Free Higher Education Act.

In addition to his notable contributions as a legislator, Angara’s leadership also gave rise to the **UP Center for Integrative and Development Studies (CIDS)**, which he initiated during his presidency.

Officially established on June 13, 1985, and originally called the University Center for Strategic and Development Studies (UCSDS), CIDS serves as a think tank that leverages the multidisciplinary expertise of UP to address the nation's most pressing challenges. The core objectives of CIDS encompass the development, organization, and management of research on national significance, the promotion of research and study among various university units and individual scholars, the securing of funding from both public and private sources, and the publication and wide dissemination of research outputs and recommendations.

For 2024, the Higher Education Research and Policy Reform Program (HERPRP) served as the UP PEJA Fellowship Awards secretariat in partnership with the Second Congressional Commission on Education (EDCOM II).

From the Executive Director of UP CIDS

It has been a long time in the making, but I am pleased to see the UP PEJA Fellowship finally coming to fruition. After all the forums, meetings, presentations, and threads of communication between and among the PEJA Fellows, UP CIDS' Higher Education Research and Policy Reform Program (HERPRP), and the Second Congressional Committee on Education (EDCOM 2), we now have a series of papers that tackle the various facets of Philippine higher education. The series includes the study you're reading.

For much of its history, the UP PEJA Fellowship has been housed in and implemented through the Center for Integrative and Development Studies (CIDS), the University of the Philippines' policy research unit. Over the years, the Fellowship has funded and published the studies of policy scholars, many of them luminaries in their respective fields.

In 2023, after a few years' hiatus, not least because of the COVID-19 pandemic, the UP PEJA Fellowship resumed and began looking for a new set of Fellows. This time, however, UP CIDS, through its Higher Education Research program, embarked on a historic partnership with the Second Congressional Committee on Education (EDCOM 2).

Linking directly with the government in administering the UP PEJA Fellowship was a first for UP CIDS. And that this was a partnership with a national-level policy-making body made it even more special.

As I have always maintained, this type of linkage is exactly what UP CIDS, as a policy research unit, must do: embedding research within a framework of stakeholder engagement.

Guided by the policy objectives of EDCOM 2, the PEJA papers not only tackle the complex issues in education, but also show stakeholders – the state, civil society, and the teachers themselves – how we can tackle them. For all our efforts in improving education in the Philippines, what else can and should we do?

Many thanks to the PEJA fellows for their valuable contribution, and to the UP CIDS Higher Education Research Program for shepherding this important undertaking. With collaboration, great things do happen.

Rosalie A. Hall, PhD

Executive Director

UP Center for Integrative and Development Studies

From the Convenor of UP CIDS-HERPRP

We at the Higher Education Research and Policy Reform Program serve as a convening body that builds partnerships and networks that pursue a shared research agenda and build an evidence basis for policy. Our activities include fellowships for scholars who publish with us and consultancies for junior researchers who wish to begin a career in higher education studies. We maintain databases, conduct events, and publish various manuscripts on higher education.

For 2024, our full attention was devoted to the UP PEJA Fellowship Program, serving as a secretariat for the researchers who studied higher education as it intersected with government and finance, industry and agriculture, regulation and tuition and technical and vocational education, training and lifelong learning, the UP PEJA Program awards grants for pioneering work on a wide range of topics that address national development concerns. This was the very first time that the program focused on a singular topic. This demonstrates the commitment of the University of the Philippines to higher education.

With the support of the UP Foundation, we have assembled what we have been calling the *Avengers* of Philippine education. They are preeminent scholars whose findings and recommendations directly address key policy concerns. Their papers at once draw from empirical data as well as their professional expertise for which they have been identified as a UP PEJA fellow.

Fernando dIc. Paragas, PhD

Convenor

Higher Education Research and Policy Program

UP Center for Integrative and Development Studies

Letter from the Executive Director of EDCOM II

The **Second Congressional Commission on Education (EDCOM II)** is collaborating with scholars across various institutions to provide valuable insights for the development of evidence-based policies that address the unique challenges and opportunities in the Philippine education landscape.

Our commitment to excellence, integrity, and ethical conduct in advancing research and disseminating knowledge, which we share with our research partners, is defined by the following principles:

The Commission is dedicated to upholding the highest standards of academic rigor in the evaluation, review, and dissemination of research publications. Our pledge is to ensure the integrity and quality of the knowledge we contribute to the scholarly community.

The Commission is committed to fostering transparency and data integrity in all aspects of research. This includes transparent communication, disclosure of methodologies and data sources, and providing clear guidelines to authors, reviewers, and the broader academic community.

The Commission promotes ethical research conduct, emphasizing the responsible and respectful treatment of research participants.

The Commission places a strong emphasis on accessibility. We are committed to facilitating the translation of research findings into accessible formats in order to engage the broader public, taking into account ethical and legal considerations. Our goal is to promote public understanding and awareness of scientific advancements.

In adherence to these principles, the members of the Second Congressional Commission on Education (EDCOM II) pledge to be stewards of good scholarly research for a better, more inclusive educational system for the Filipino people.

Karol Mark R. Yee, PhD

EDCOM II Executive Director

Declaration of Funding

This research was conducted in collaboration with the Second Congressional Commission (EDCOM II).

The funding source played no role in the design of the study, data interpretation, or decision to publish the findings as the author(s) maintained complete autonomy in the research process, ensuring objectivity and impartiality in the presentation of results.

Declaration of Interest

None

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List of acronyms or abbreviations

CTF	College graduate with TVET Female
CTM	College graduate with TVET Male
ILO	International Labor Organization
LFS	Labor Force Survey
NAP	National Accounts of the Philippines
NTF	No formal schooling with TVET Female
NTM	No formal schooling with TVET Male
OECD	Organization of Economic Cooperation and Development
PSA	Philippine Statistics Authority
PGTF	Post-graduate degree with TVET Female
PGTM	Post-graduate degree with TVET Male
PSTF	Post-secondary non-tertiary degree with TVET Female
PSTM	Post-secondary non-tertiary degree with TVET Male
SHS	Senior High School
STF	Senior High School graduate with TVET Female
STM	Senior High School graduate with TVET Male
TVET	Technical Vocational Education and Training

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Understanding Labor Market Outcomes of Graduates in the Informal Economy

Lisa Grace S. Bersales, Ph.D.¹

Executive Summary

In the Philippines, a significant percentage of the labor force works in the informal economy. Bersales and Ilarina (2019) estimated that 34.7 percent of the country's Gross Domestic Product in 2016 came from the informal economy. Recent data indicate that this percentage remains unchanged at 34.1 percent (Quarterly Informal Economy Survey, World Economics). The informal economy accounts for 96.4 percent in the agriculture sector, 31.4 percent in industry, and 26.4 percent in services (Bersales and Ilarina 2019). The informal economy usually consists of independent, self-employed small-scale producers and distributors of goods and services, and reported in the National Accounts of the Philippines (NAP) as self-employed without any paid employee, workers in family-operated farms or businesses without pay, and employers in own family-operated farms or businesses. In September 2023, the Philippine Statistics Authority (PSA) reported that informal sector workers make up 35.3 percent of the country's labor force.

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The main objective of the study is to determine the labor market outcomes of graduates of the following programs with focus on their participation in the informal economy: Senior High School (SHS), Post-secondary non-tertiary programs, Technical Vocational Education and Training (TVET), College programs, and Post-college programs. Data from the PSA's Labor Force Surveys revealed that women with no schooling are the most vulnerable to informality. TVET is able to provide intervention, however, only for younger men of no formal schooling. Most SHS graduates do not participate in the labor force as most pursue higher education. When they do get employed after SHS, they are most likely in informal work. However, as they age, the probability of working in the informal sector decreases. Men and women with college and post-graduate degrees are least likely to be in the informal sector. However, those who were unable to finish college, especially women, are highly vulnerable to being in the informal sector. A number of policy recommendations have already been given by other studies, including re-examining the employment and entrepreneurial objective of SHS, enhancing and expanding TVET courses to address women's needs, and moving towards entrepreneurship. There is a need to improve graduation rates in college programs to ensure that investments in tertiary education reach fruition, preventing college students from entering the labor force without a degree.

Keywords: SHS, TVET, informal economy, labor market outcomes

Introduction²

In the Philippines, a significant percentage of the labor force works in the informal economy. Bersales and Ilarina (2019) estimated that 34.7 percent of the country's Gross Domestic Product in 2016 came from the informal economy. Recent data indicate that this percentage remains unchanged at 34.1 percent (Quarterly Informal Economy Survey, World Economics). The informal economy accounts for 96.4 percent in the agriculture sector, 31.4 percent in industry, and 26.4 percent in services (Bersales and Ilarina 2019). The informal economy usually consists of independent, self-employed small-scale producers and distributors of goods and services, and reported in the National Accounts

2 Any views, statements, or analyses expressed in this paper are those of the author and should not be attributed to those of EDCOM II

of the Philippines (NAP) as self-employed without any paid employee, workers in family-operated farms or businesses without pay, and employers in own family-operated farms or businesses. In September 2023, the Philippine Statistics Authority (PSA) reported that informal sector workers make up 35.3 percent of the country's labor force.

As a result of decreasing population growth, lower fertility of women, and higher life expectancy, the age structure of the Philippine population provides an opportunity for the increasing number of working age population to more significantly contribute to socioeconomic development. This entails healthy, educated and skilled human resources with high capacity to earn income from employment and other economic activities. It must also be noted that by 2030, the Philippines is expected to have an aging population, which the United Nations defines as 7 percent of the population being aged 65 years and above. It is, therefore, crucial that the country's educational system deliver on its promise to provide the necessary skills and lifelong learning for its population.

In 2015, ILO described informal economy as economic activities done either by individuals or economic entities that are not covered by formal arrangements (OECD/ILO 2019). It is estimated that more than half of the global workforce is in the informal economy as indicated by inadequate social protection, insufficient opportunities for quality employment, lack of social dialogue, denial of rights and situations of denied rights at work. It is acknowledged that most people enter the informal economy not by choice, but due to a lack of opportunities in the formal sector and the absence of other means of livelihood (ILO 2015). This is supported by De Beer and colleagues' (2013) Exclusion Theory which suggests that workers resort to jobs in the informal sector not by choice but out of necessity. Examples of this situation are: burdensome regulations and high costs to enter the formal economy; no access to sufficient education and training from formal education institutions; no legal documentation to formalize businesses; increasing number of women without ownership of land, if in agriculture, or entering the labor market outside of agriculture.

Another point of view is posited by De Beer and colleagues (2013). They subscribe to the Exit theory which considers informal employment as a worker's voluntary choice. People participate in the informal economy for the following reasons (Becker 2004): they have more economic opportunities in providing consumers with their low-cost goods and services, and thus, have competitive advantage; there are less barriers for them to enter the informal economy; the preference for their income to be undocumented; dissatisfaction with formal employment; preference to have more control and autonomy; consideration of being in informal sector as the first step in the process of having a formal business; and the desire for more community support in the pursuit for work. For example, among those

who prefer the informal sector are Grab and Uber drivers, who are part of the gig economy with work arrangements enabled by digital platforms (Moraga-Galvez 2018).

Under the area of Technical and Vocational Education and Lifelong Learning, this study seeks to determine the labor market outcomes of graduates of the following programs with focus on their participation in the informal economy:

- a.** Senior High School (SHS);
- b.** Post-secondary non-tertiary programs including vocational;
- c.** Technical Vocational Education and Training (TVET);
- d.** College programs; and
- e.** Post-graduate programs

Labor market outcomes are labor force participation rate, employment rate, unemployment rate, and underemployment rate. To meet this objective, the following research questions are answered:

- a.** What is the share of the informal sector in the total economy?
- b.** What is the trend of labor force outcomes for graduates of SHS, TVET, and College?
- c.** What percentage of these graduates are in informal employment?
- d.** What are the significant determinants of informality for these graduates?

The study will use secondary data and will not be able to provide reasons for the graduates' labor force situation. However, previous studies have already identified some of these reasons and will be cited in the discussion.

Methodology

Operational definitions

This study adopts the operational definitions of labor force indicators in the Labor Force Survey (LFS) of the Philippine Statistics Authority (PSA)³. The informal economy consists of independent, self-employed small-scale producers and distributors of goods and services. Workers in this sector are, for the most part, not covered by the country's labor laws and regulations. Proxy measurement and related indicators for the informal economy include the vulnerable employment rate, defined as the share of own-account and contributing family workers in total employment. Proxy for the informal sector is the class of worker in the LFS. We consider the informal sector to include 1) unpaid family workers or 2) self-employed without any paid employees.

Labor force participation rate is “the percentage of the total number of persons in the labor force to the total population of 15 years and over”. A person is in the labor force if they are either employed or unemployed. Those not in the labor force are individuals not looking for work because of various reasons, such as housekeeping, schooling, and permanent disability. Examples are housewives, students, persons with disability, or retired persons.

Employment rate is the percentage of employed persons. A person is employed if they are:

(a) at work (i.e., worked even for one hour during the reference period of the labor force survey for pay or profit, or work without pay on the farm or business enterprise operated by a member of the same household related by blood, marriage, or adoption); or (b) with a job but not at work (i.e., those who have a job or business but are not at work because of temporary illness or injury, vacation, or other reasons).

Likewise, persons who expect to report for work or to start operation of a farm or business enterprise within two weeks from the date of the enumerator's visit are considered employed.

3 <https://psa.gov.ph/statistics/labor-force-survey/technical-notes#:~:text=In%20the%20Labor%20Force%20or,with%20the%20definitions%20described%20below.>

Unemployment rate is the percentage of unemployed persons. Unemployed persons are those who, during the reference period of the LFS are:

(a) without work (i.e., had no job or business during the reference period); (b) currently available for work (i.e., were available and willing to take up work in paid employment or self-employment during the reference period, and/or would be available and willing to take up work in paid employment or self-employment within two weeks after the interview date); (c) seeking work (i.e., had taken specific steps to look for a job or establish a business during the reference period); or (d) not seeking work due to the following reasons: fatigued, or believes there is no work available (i.e., discouraged workers), awaiting results of previous job application, temporary illness or disability, bad weather, and/or waiting for rehire or job recall.

Underemployment rate is the percentage of employed individuals who expressed the desire to have additional hours of work in their present job or to have additional job, or to have a new job with longer hours of work.

Data

Data used in the paper are secondary data from the PSA's Labor Force Surveys from 2021 to 2024. Labor force outcomes—as represented by annual labor force participation rate, employment rate, unemployment rate, and underemployment rate—were accessed from the PSA website for the years 2021 to 2024. Informal sector statistics were generated using monthly data from January 2021 to December 2022. Other analyses, including logistic regression, that involved TVET used quarterly rounds of the survey for 2021 and 2022. These are the rounds that included questions regarding TVET.

Information on the share of informal economy to total economy was provided by the Macroeconomic Service of the PSA.

Statistical Model

The following logistic regression model was estimated for quarterly rounds with TVET questions using Stata:

$$\text{Prob}(y = 1) = p(x) = \frac{e^{\beta_0 + x_1 \beta_1 + \dots + x_p \beta_p}}{1 + e^{\beta_0 + x_1 \beta_1 + \dots + x_p \beta_p}} = \frac{e^{x' \beta}}{1 + e^{x' \beta}}$$

where $x' = (1, x_1, \dots, x_p)$ and $\beta' = (\beta_0, \beta_1, \dots, \beta_p)$.

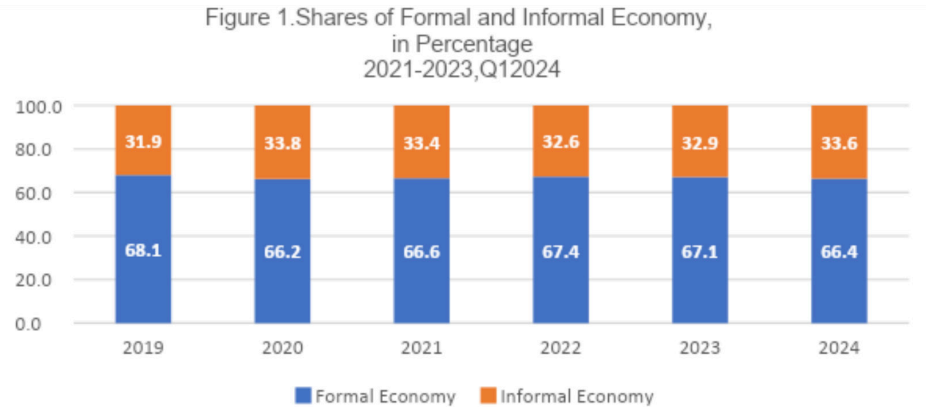
where y=1 when the individual is in the informal sector and 0, otherwise

Proby(y=1)=p(x) is the probability of the individual being in the informal sector
β0 is the intercept and β1,..., βp are the regression coefficients for p
independent variables or determinants
x1,..., xp are the p independent variables or determinants

Odds ratios = p(x)/(1-p(x)) are used in the analysis.

Results

Share of the informal economy in the total economy, as measured by the Gross Domestic Product, in the past five years was highest during the COVID-19 pandemic at 33.8 percent in 2020. Since then, it has declined to 33 percent. First quarter 2024 data, however, yielded a higher preliminary estimate than the past two full years (Figure 1).



Source: Macroeconomic Service, Philippine Statistics Authority

Labor market outcomes, as indicated by labor force statistics, show an improvement in the employment situation since the height of the COVID-19 pandemic in 2020. Labor force participation rate and employment rate indicate an increasing trend, while underemployment and unemployment rates reflect a decreasing trend from 2021 to the first five months of 2024 (Table 1).

TABLE 1. LABOR FORCE INDICATORS, 2019-2024

YEAR	LABOR FORCE PARTICIPATION RATE (%)	EMPLOYMENT RATE (%)	UNDEREMPLOYMENT RATE (%)	UNEMPLOYMENT RATE (%)
2019	61.3	94.9	13.8	5.1
2020	59.5	89.7	16.2	10.3
2021	63.3	92.2	15.9	7.8
2022	64.7	94.6	14.2	5.4
2023	64.8	95.4	12.9	4.6
2024 ^p	64.0	96.0	12.3	4.0

p: (preliminary, may change)

Source: Philippine Statistics Authority

With respect to the labor force in the informal sector, available data from the Philippine Statistics Authority show that the monthly percentage of workers in this sector ranged from 30.3 percent to 35.2 percent from January 2024 to May 2024 (Table 2).

TABLE 2. REGION VIII SECTOR STATISTICS

SECTOR/ OCCUPATION/CLASS OF WORKER	MAY 2023	JANUARY 2024 ^P	FEBRUARY 2024 ^P	MARCH 2024 ^P	APRIL 2024 ^P	MAY 2024 ^P
In percentage						
1. Wage and salary workers	60.6	67.1	62.9	64.2	63.6	63.0
2. Employer in own family-operated farm or business	2.1	2.6	2.0	2.0	2.1	1.7
3. In informal sector:	37.3	30.3	35.0	33.8	34.3	35.2
a. Self-employed without any paid employee	28.1	25.7	27.2	27.0	27.9	27.9
b. Unpaid family worker	9.1	4.7	7.8	6.8	6.5	7.3

Notes: Details may not add up to totals due to rounding. p: preliminary, may change

Source: Philippine Statistics Authority

Table 3 shows that labor force participation rate and employment rate increase with higher educational attainment, with post-graduate degree holders having the highest rates of participation and employment. The opposite is noted for underemployment.

SHS graduates have the lowest labor force participation rate, as many proceed to higher education in either college or post-secondary non-tertiary courses, as reported by Orbeta and Potestad (2020).

Those with TVET have higher labor force participation but experience lower employment rate and higher underemployment rate compared to those without. Tables A.1-A.4 of the Annex provide the information that this pattern is true for different levels of education.

TABLE 3. LABOR FORCE INDICATORS OF GRADUATES OF SENIOR HIGH SCHOOL, POST-SECONDARY PROGRAMS, COLLEGE PROGRAMS, POST-GRADUATE PROGRAMS, WITH TVET, WITHOUT TVET, IN PERCENTAGE, 2021-2022

LABOR FORCE INDICATOR	TOTAL	SENIOR HIGH SCHOOL GRADUATE	POST SECONDARY GRADUATE	COLLEGE GRADUATE	WITH POST- GRADUATE DEGREE	WITH TVET	WITHOUT TVET
Labor Force Participation Rate	62.4	38.6	75.8	78.1	79.6	79.0	61.7
Employment Rate	93.2	78.5	91.3	91.2	98.0	91.0	93.4
Unemployment Rate	6.6	21.5	8.7	8.8	2.0	9.0	6.6
Underemployment Rate	16.8	16.1	16.4	9.7	8.5	22.6	16.5

Note: Computations done by the author

Source: Labor Force Surveys 2021-2022

Majority of those in the labor force are in the formal sector (i.e., wage and salary workers or employers in their own family-operated farm or business) except for those with no formal schooling. For such workers, the majority (69.1 percent) are in the informal sector, consisting of self-employed individuals without paid employees (54.2 percent) and unpaid family workers (15.9 percent). It is worth noting that SHS graduates in the informal sector are mainly unpaid family workers (20.3 percent), while those with college units and with TVET are mainly self-employed without paid employees at 25.4 percent and 26.9 percent respectively (Table 4).

**TABLE 4. CLASS OF WORKER BY SELECTED LEVELS
OF EDUCATIONAL ATTAINMENT, 2021-2022**

HIGHEST EDUCATIONAL ATTAINMENT	WAGE AND SALARY WORKERS	EMPLOYER IN OWN FAMILY- OPERATED FARM OR BUSINESS	INFORMAL SECTOR	TYPE OF INFORMALITY
All in Labor Force	62.3	62.3	35.4	
No formal schooling	28.5	2.4	69.1	54.2% are self-employed without any paid employee and 15.9% unpaid family workers
Senior High School Graduate	71.5	0.3	28.2	20.3% are unpaid family workers
With TVET	66.8	2.9	30.3	26.9% are self-employed without any paid employee
College Units	62.9	2.5	34.6	25.4% are self-employed without any paid employee
College Graduate	80.2	3.0	16.7	
With Post Graduate Degree	90.5	2.8	6.7	

Note: Computations done by the author

Source: Labor Force Surveys 2021-2022

Logistic regression was used for the 2021-2022 survey rounds of the LFS in the months with TVET information (January, April, July, and October) to determine significant determinants of participation in the informal sector. Annex B provides the odds ratios of significant determinants. Determinants that were considered are: highest level of educational attainment, with or without TVET, sex, and age. The following determinants were significant at 10 percent level of significance:

a. Highest educational attainment

Those with no formal schooling have the highest chance of being in the informal sector. SHS graduates' probability of participating in the informal sector is more than 50 percent but this reduces to less than 50 percent as they age. The reduction in the probability of being in the informal sector is faster for men than for women. The unusual pattern of being in the informal sector for SHS graduates is illustrated in Figure 2. Annex C provides the estimated logistic regression for October 2022 using Stata. Those with post-secondary,

college, and post-graduate degrees have less than 50 percent probability of working in the informal sector, with the probability lowest for highest levels of education.

b. TVET

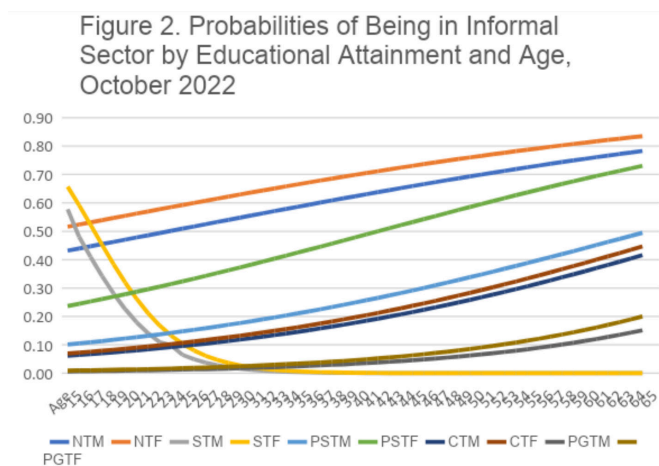
For four out of eight rounds of the LFS, the odds of being in the informal sector is lower for those with TVET than those without, except for women. Younger men especially benefit from TVET because their chance of being employed in the informal sector becomes below 50 percent with TVET. Women at any age, whether with or without TVET, have more than 50 percent chance of working in the informal economy.

c. Sex

Women have a higher probability of being employed in the informal sector compared to men. However, women with college degrees and post-graduate degrees have almost zero chance of joining the informal sector, similar to men with college and post-graduate degrees. This is not the case for women with no formal schooling, post-secondary graduates, and those with college units only. Such women have a higher chance of being in the informal sector. The case of females who are SHS graduates is not clear. As in the case for male SHS graduates, they start with a high chance of informality, but this reduces as they age. It is not clear whether having TVET has a positive impact or not.

d. Age

Older persons have a higher probability of being in informal work.



Notes: N=No formal schooling, T=With TVET, M=Male, F= Female, S=SHS graduate, PS=Post-secondary graduate, C=College graduate, PG=With Post-graduate degree

Policy Discussion and Recommendations

In their study on the low labor force participation among SHS graduates, Orbeta and Potestad (2020) found that “only a little over 20 percent enter the labor force and most of them (more than 70 percent) continue with their education.” Among their policy suggestions were: revisit the objectives of employment and entrepreneurship for SHS given the observed pattern of SHS graduates to proceed with higher education rather than joining the workforce; continue the review and validation of how effective the SHS curriculum in preparing graduates to enter the labor force; continue to provide employers with information and examples of employability of SHS graduates; and, continue to monitor and generate data for more understanding of SHS graduates in the labor market. It must be noted that for the 2021-2022 rounds studied in this paper, the labor force participation rate increased to 38.6 percent.

TVET graduates’ estimated labor force participation rate of 79.0 percent is an increase from the 70.43 percent in 2018. Employment rate of 91.0 percent is likewise a significant increase from 84.15 percent. However, the underemployment rate of 22.6 percent is a significant percentage that warrants more study.

Talento and colleagues (2022), in their survey of the employability of women TVET graduates, found that the reason hindering women from entering employment despite their TVET training is the priority they give to family duties. They noted that women’s choices of TVET programs were stereotypical roles associated with women. Thus, TESDA may have to review the various training given to women and provide more choices outside of the traditional gender roles, choices that will give them more opportunities to transition from formal to informal—whether as salary and wage workers or entrepreneurs that employ workers. Mack and colleagues (2019, as quoted in Mariano and Tantoco 2023) noted that TVET students in Trinidad and Tobago were interested in pursuing a career in entrepreneurship. Consequently, Mariano and Tantoco (2023) suggested that entrepreneurship is a vehicle for trainees to develop skills for employability such as skills on good communication, solving problems, dealing with people, innovations, use of information and technology.

HEIs and SUCs should provide an enabling environment and support for college students to earn their degree given the high chance of being employed in informal work.

Conclusion

This paper presented the labor market outcomes of different graduates across different levels of educational attainment. The following research questions were answered:

- a.** What is the share of the informal sector in the total economy?

Share of the informal economy to total economy, as measured by the Gross Domestic Product, in the past five years was highest during the COVID-19 pandemic at 33.8 percent in 2020. Since then, it has declined to 33 percent. First quarter 2024 data, however, yielded a higher preliminary estimate than the past two full years.

- b.** What is the trend of labor force outcomes for graduates of SHS, TVET, and College?

For the years 2021 to 2022, labor force participation and employment rate are highest, and underemployment rates are lowest for college graduates and those with post-graduate degrees. SHS graduates have the lowest labor force participation rate, as many pursue higher education in either college or post-secondary non-tertiary courses. Those with TVET have higher labor force participation but experience lower employment rate and higher underemployment rate compared to those without.

- c.** What percentage of these graduates are in informal employment?

In 2021-2022, those with no formal schooling had the highest percentage of informality at 69.1 percent, while those with post-graduate degrees had the lowest at 6.7 percent. The percentage of SHS graduates in informal work is at 28.2 percent, while 16.7 percent for college graduates. Of concern is the percentage of those with college units only which is at 34.6 percent.

- d.** What are the significant determinants of informality for these graduates?

Determinants considered in the study are the highest level of educational attainment, with TVET and without TVET, sex, and age. All indicated significance at 10 percent significance level. Women of no schooling are the most vulnerable to informality. TVET is able to provide intervention, but only for younger men with no formal schooling. Most SHS graduates do not participate in the labor force, as most proceed to higher education. When they do get employed after SHS graduation, they are most likely in informal work. However, as they age, the probability of their being in informal work decreases. Men and women with college and post-graduate degrees are the least likely to work in the informal sector.

However, those who are not able to finish college, especially women, are highly vulnerable to participating in informal work. A number of policy recommendations have already been given by other studies, including re-examining the employment and entrepreneurial objective of SHS, enhancing and expanding TVET courses to address women's needs, and moving towards entrepreneurship. There is a need to improve graduation rates in college programs as well to ensure that investments in tertiary education reach fruition, preventing college students from entering the labor force without a degree.

On an important note, Cabegin (2018) estimated the percentage of workers in the informal sector at 83.2 percent, using the conceptual framework from the Seventeenth International Conference of Labor Statisticians (ILO 2013). The framework defines informal jobs as “wage work with no employment contract or contracted only by verbal agreement; jobs that are outside the coverage of national labor legislation and social security regulation; or those that are in law or in practice not subject to income taxation” (Cabegin 2018). This expands the informal sector to include those in the formal economy but who have no social protection (e.g., Job Order workers who are employed by the government and private establishments incorporated under the Securities and Exchange Commission). Cabegin's estimate was from a merged data file of the 2008 Philippine Labor Force Survey and the 2008 Informal Sector Survey. Bersales and Ilarina (2019) also estimated the prevalence of informality in the Philippines using the April 2018 round of the Labor Force Survey and recorded 62.8 percent of workers are part of the informal sector. This is a clear alert to all stakeholders that once the PSA adopts the new ILO framework and data becomes available to estimate the informal sector without using the proxy definition, the estimate of workers in the informal sector will likely double.

Biographical note

Dr. Lisa Grace S. Bersales is professor emeritus of the School of Statistics of the University of the Philippines Diliman where she served as Dean. She served as the first national statistician of the Philippines, heading the Philippine Statistics Authority, from 2014 to 2019. She is currently the Executive Director of the Commission on Population and Development, assuming the position in January 2023.

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Annexes

ANNEX A

Table A.1	Labor Force Participation Rate by Level of Educational Attainment With and Without TVET, 2021 and 2022
Table A.2	Employment Rate by Level of Educational Attainment With and Without TVET, 2021 and 2022
Table A.3	Unemployment Rate by Level of Educational Attainment With and Without TVET, 2021 and 2022

ANNEX B

Table B.1	Odd Ratios of Significant Determinants of Informal Sector, 2021 and 2022
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ANNEX C

Table C.1	Estimated Logistic Regression, October 2022
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