

Incidence and Micro-determinants of Informal Employment in the Philippines

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Abstract

This paper determines the extent and the micro-determinants of informal employment in the Philippine labor market. Using merged data of the 2008 Informal Sector Survey and the Labor Force Survey, the study identifies the informality of employment in the formal sector, the informal sector and private households. The findings reveal that 83 percent of the Filipino workers were informally employed, reflecting severe constraints to decent work. While virtually all the workers in the informal sector and private households were consigned to informal employment, the data also bears out the extensive informalization in the formal sector. Informal employment accounted for one-third of workers in the government and private corporations and 70 percent of other formal sector private establishments. Binary logistic regression model is employed to examine the micro determinants of the informality of employment across major regional groupings. High probabilities of informal employment persisted throughout the workers' working life cycle indicating that informal employment was not a transitory but a more permanent phenomenon. While informality rates were highest among the least educated, a college education did not guarantee success in obtaining a formal job. The least developed regions, particularly the Autonomous Region of Muslim Mindanao, experienced the highest rates of informal employment.

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1. Introduction

The widespread informalization of employment in the Philippines brought about in part by increased global market competition that induced a downward pressure on labor costs and greater flexibility of work arrangements, engenders deep concern for the job insecurity and income inadequacy for the Filipino workforce. Informal employment is outside the confines of the legal and statutory protection of workers for decent work and is characterized by low wages, lack of security of tenure and coverage of social protection, poor working conditions and the absence of collective representation.

Informal employment impacts on employment creation, national income, labor productivity, poverty and income equity. The Philippine Statistical Authority has estimated the share of the informal economy to the country's Gross Domestic Product (GDP) in 2016 at 35 percent or PHP 5.013 trillion of the PHP 14.48 trillion GDP. The workers in the informal sector comprising of unpaid family workers and of informal sector operators (i.e., the self-employed without any paid employee and employer in own-family operated farm or business) were estimated at 15.758 million workers or 43 percent of the 40.998 million employed population in 2016.

The informal sector is defined officially in the National Coordination Statistical Board Resolution No. 15-2002 as household unincorporated enterprises owned and operated by own-account workers (National Statistical Coordination Board, 2002). This definition of the informal sector follows from the conceptual framework endorsed by the Fifteenth International Conference of Labour Statisticians in 1993 and subsequently by the United Nations Statistical Commission, leading to the inclusion of the informal sector in the System of National Accounts by the United Nations Economic and Social Council (ILO, 2003).

However, the above figures of informal employment are underestimated in that they do not include the workers that are informally employed in the formal sector and in private households. In this paper informal employment is not equated with employment in the informal sector since the informality of employment can and has

already permeated the formal sector comprising of the organized private establishments and the government agencies.

Notwithstanding its importance, the phenomenon of informal employment across the different production units in the Philippines has not been examined in greater depth primarily due to data constraints as the regular nationwide quarterly Labor Force surveys do not collect information that would capture the dimension of informality in both employment and production unit. The only exception was in 2008, when the Philippine Statistics Authority conducted an Informal Sector Survey which collects information on whether the worker's terms of employment are covered by a written contract, on the worker's entitlement to social security and other employment benefits, and on the characteristics of the enterprise or firm where the workers work such as the legal status of the enterprise, whether the enterprise maintains an accounting or bookkeeping record system, and if the business is legally registered. Availability of such data enabled the operationalization of the enterprise-based concept of employment in the informal sector as well as the job-based concept of informal employment.

By official Philippine definition, a person is employed if he/she has worked for at least an hour for pay or profit, or who worked without pay in a family enterprise, or who has a job but was temporarily absent during the reference period (the past week before the interview date). Using the merged data file of the 2008 Philippine Labor Force Survey and the Informal Sector Survey, this paper adopts the conceptual framework proposed by the Seventeenth International Conference of Labor Statisticians (ILO, 2013) in defining formal employment as comprising of: (a) wage employment covered by a written contract and where both the worker and the worker's employer pays for the worker's social security contribution, and; (b) economic activities by non-wage workers (e.g. the self-employed with no employee and the employer in own-family business or enterprise) who are registered with the Bureau of Internal Revenue and have some bookkeeping record system required for tax payment. Informal jobs comprise: 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.

The paper also classifies three types of productions units as follows: (a) the formal sector enterprises; (b) the informal sector enterprises, and;

(c) the private households. The determination of the informality of an enterprise is based on the legal organization of the production unit rather than based on job characteristics of its workers. In this paper, the formal sector comprises of the government agencies, private corporations, cooperatives, general proprietorships and single proprietorships with more than 10 workers. In the Philippines, employees of the Barangay Micro Business Enterprises and of retail and service establishments employing not more than 10 workers may be exempted from compliance with minimum wage regulation (National Wages and Productivity Commission, 2007). The informal sector includes all the other enterprises not covered under the formal sector and refers to unincorporated or unregistered enterprises or small enterprises not covered by the regulatory framework for minimum wages and labor standards. Adopting the recommendation of the 17th International Conference of Labor Statisticians, the private household is treated as a separate category.

The expanded typology allows for the investigation of the extent of informal employment not just in the informal sector but also in the formal sector and in private households. The distinction of informal employment across these three production units distinguishes the paper from previous Philippine literature that focuses informality of work in the informal sector (Indon, 2002; National Statistics Office, 2009; Sibal, 2007). It describes the contrasting socioeconomic and demographic profile of workers in the formal and informal employment that is carried out in the three production units (formal sector, informal sector and private households) and examines the micro-determinants of informal employment.

2. Incidence and profile of formal and informal employment

This section measures the extent of formal and informal employment within the employed Filipino population in the working ages of 15 to 64 years old, and describes its structure and characteristics in terms of the demographics such as age, gender, regional location and education and work-related characteristics including occupation, class of work, industry, place of work, duration of work hours and underemployment status.

2.1 Incidence of formal and informal employment

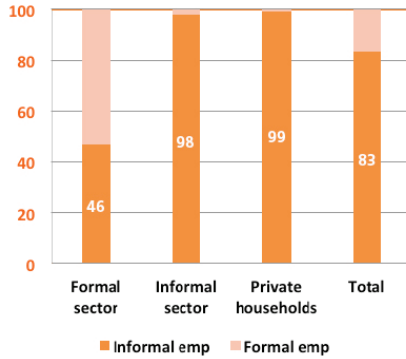
More than four out of five (83 percent) Filipino workers in the working ages of 15 to 64 years old were informally employed (i.e. workers whose terms of employment were not covered by a written contract or by social protection). In terms of production units, 29 percent of the Filipino workforce were working in the formal sector, 67 percent in the informal sector and 4 percent in private households (Table 1). While formal employment was largely concentrated in the formal sector, informal employment was substantially represented in all the three types of production units. Virtually all (98-99 percent) of workers in the private households and in the informal sector were holding informal jobs. The widespread informalization of the formal sector was borne out by the data which showed that almost half (46 percent) of the workers in the formal sector were informally employed (Figure 1).

Informal employment makes up one-third of workers in private corporations and almost two-fifths (38 percent) of wage workers in government agencies (Figure 2). The notable informal employment rate in the government sector is attributed to the latter's substantial use of job order or contract of service workers who are considered to be independent contractor or self-employed workers and who are entitled only to the basic salary of the position and not to social security benefits granted to public employees through a cost-sharing scheme on premium contributions (Civil Service Commission, 2002).

Table 1. Percent distribution of Filipino workforce by informality of employment and production unit

Type of employment	Production unit	%
Formal employment	Formal sector	15.29
	Informal sector	1.41
	Private households	0.05
	Sub-total	16.75
Informal employment	Formal sector	13.26
	Informal sector	65.57
	Private households	4.42
	Sub-total	83.25
Total		100.00

Fig. 1: Percentage of informal employment by production unit

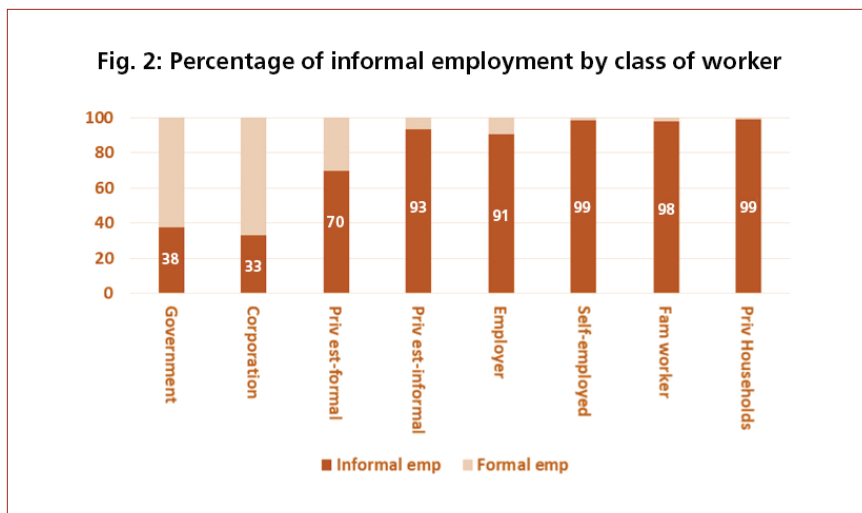


In other registered private enterprises with more than 10 workers, 70 percent of the wage workers were informally employed. About 91-93 percent of workers in smaller private enterprises (with 10 or less workers) and employers of own-family farm or business enterprises were informally employed while virtually all (98-99 percent) of the self-employed without any paid employee, the family workers, and workers in private households were in informal employment.

2.2 Characteristics of workers in informal and formal employment

2.2.1 Occupation and industrial sector

Informal employment was clustered among the lower skilled workers and the agricultural workers (Table 2). Almost two-fifths (38 percent) of workers in the informal employment were in elementary occupations such as cleaning houses, washing cars and windows, delivering messages



or goods, handling baggage and freight, sweeping streets, or performing simple tasks connected with agriculture, construction, manufacturing, mining etc. (National Statistical Coordination Board, 2014). This is three times more the share of elementary occupations (12 percent) among the formally employed. Similarly, the agriculture, fishery and forestry workers that carried out activities requiring higher skill levels than elementary occupations, such as soil preparation, planting and harvesting crops and other plants, raising livestock, basic processing and marketing of produce, made up 21 percent of the informally employed workers and less than one percent of formally employed workers. A reversed pattern was observed for the professional and technician occupations which accounted for 28 percent of the formally employed workers and less than three percent of the informally employed workers. Clerks and sales workers were also more substantially represented in the formal employment (32 percent) than in informal employment (11 percent).

Table 2. Occupation and industrial sector composition of workers in formal and informal employment

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Occupation	100.0	100.0	100.0	100.0	100.0	100.0
Special occupations	0.4	1.1	0.3	0.9	0.2	0.0
Government officials	0.9	1.8	0.7	4.2	0.0	0.0
Managers, supervisors	12.0	11.0	12.3	3.4	14.9	0.0
Professionals	4.4	21.2	1.0	4.8	0.3	0.3
Technicians and associate professionals	2.5	6.8	1.6	5.3	1.0	0.4
Clerks	4.6	16.1	2.3	9.1	1.0	0.1
Service and sales workers	9.6	16.1	8.2	11.8	7.5	8.3
Skilled agricultural workers	17.7	0.3	21.2	7.3	25.5	0.0
Trades and related workers	7.6	6.2	7.9	10.6	7.9	0.0
Plant and machine operators & assemblers	6.3	7.6	6.1	5.1	6.3	5.4
Elementary occupations	34.0	11.8	38.4	37.5	35.4	85.5
Industrial sector of private enterprise	100.0	100.0	100.0	100.0	100.0	-
Agriculture	43.6	5.1	49.4	38.1	51.1	-
Industry	15.9	29.0	13.9	29.0	11.6	-
Services	40.5	65.9	36.7	32.9	37.3	-

Workers in the elementary occupations dominated (with shares of 36-38 percent) the informally employed in both the formal and the informal sectors. A wider gap between the formal and the informal sectors was observed in the share to total informal employment of other occupations such as agricultural workers, managers, clerks and sales workers, and professionals and technicians. Agricultural workers and managers of mostly micro and small-scale enterprises accounted for a larger share of informal workers in the informal sector than in the formal sector

(40 percent of informal sector workers and 11 percent of the informally employed workers in the formal sector). Professionals, technicians, clerks and sales workers made up 31 percent of total workers holding informal jobs in the formal sector but accounted for about 10 percent of the workers in the informal sector.

While the agriculture sector accounted for 44 percent of total workers in the private establishments, it represented only 5 percent of the formally employed workers. Almost half (49 percent) of the workers in informal employment were in the farming, fishing and forestry industries. The agriculture sector was the primary source of informal employment in both the informal sector (51 percent) and the formal sector (38 percent). Conversely, the industry sector which made up 16 percent of total workers in private establishments accounted for 29 percent of total formal employment, which was double its share (14 percent) among the informally employed. Semiconductor and electronic manufacturing companies absorbed a substantial portion of the formally employed workers in the industry sector. Two thirds (66 percent) of the formally employed workers in private establishments were employed in the services sector with the greater likelihood of holding formal jobs for those working in the financial services, education and research and development services, administrative services and hotel services. Services industries that accounted for a large share of the informally employed were those in the retail sale in non-specialized stores, small restaurants and fast food centers, telecommunication services and security services.

2.2.2 Class of work

Informal employment was concentrated in certain classes of workers, industrial sectors and occupations. Table 3 categorizes eight classes of workers, including the employers of own farm or business enterprise, the self-employed with no employees, the contributing family members and the wage workers who are differentiated among those that work in the government, in the private corporations, in the other private establishments in the formal and in the informal sectors, and the wage workers in private households. Wage and salary workers comprised half of the total workforce (51 percent) but accounted for 93 percent of the formally employed workers, which was more than twice its share (42 percent) of the informally employed workers. About 40 percent of

workers with formal jobs worked in private corporations and another 32 percent worked in the government agencies. While workers in the public service and in private formal sector enterprises constituted only 25 percent of the total workers, they accounted for about 85 percent of the formally employed.

Table 3. Formal and informal employment by class of work

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Class of work	100.0	100.0	100.0	100.0	100.0	100.0
Workers in the government	8.5	31.5	3.8	24.1	-	-
Workers in corporations	9.9	39.6	3.9	24.5	-	-
Workers in other private establishments- formal sector	7.3	13.2	6.2	38.6	-	-
Workers in other private establishments- informal sector	20.7	8.4	23.2	-	29.5	-
Employer in own-family business	4.6	2.5	5.0	4.8	5.3	-
Self-employed with no employee	30.3	2.7	35.9	3.0	45.0	-
Contributing family workers	14.2	1.8	16.7	5.0	20.2	-
Workers in private households	4.5	0.3	5.3	-	-	100.0

Conversely, the informally employed workers were comprised largely of the self-employed workers (36 percent), workers in the micro and small enterprises that are outside the coverage of national labor legislation (23 percent) and the contributing family workers (17 percent). These classes of work accounted for 55 percent of the total workforce and 76 percent of the total informal employment. Compared to workers holding formal jobs, the informally employed workers in the formal sector were less concentrated in government agencies and private corporations and more clustered in other registered private establishments such as cooperatives, and other non-corporation private enterprises with more than 10 workers.

2.2.3 Place of work

Formal employment diverges from informal employment in terms of the principal places of work (Table 4). Formal employment was primarily carried out in the business premises of the employer's enterprise (79 percent) and least likely to take place in the streets (0.2 percent), in mobile locations like transport vehicles (2.2 percent) or in the construction site (2.6 percent). The more predominant places of work for the informally employed workers were the farms (43 percent) and the home of the employer or the worker (17 percent), or in other places that are either unidentifiable or with no fixed location (11 percent).

The informally employed in the formal sector can be found in quite substantial proportion in the business premises (36 percent) and in the farms (34 percent) and to some extent (11 percent) in the construction site. Informal sector employment was largely carried out in the farms (44 percent) and the home of the worker or employer (19 percent).

Table 4. Formal and informal employment by place of work

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Place of work	100.0	100.0	100.0	100.0	100.0	100.0
Business premises	21.2	78.5	12.5	35.6	9.0	-
Market, bazaar stall	3.6	3.5	3.6	2.3	3.8	-
Construction site	3.8	2.6	4.0	11.4	2.9	-
Home of worker/employer	15.4	4.8	17.0	4.4	18.9	100.0
Street, pavement	1.5	0.4	1.6	0.8	1.8	-
Transport vehicle	6.5	2.3	7.2	2.1	7.9	-
Farm	38.1	4.1	43.3	34.0	44.7	-
Others	9.9	3.8	10.8	9.4	11.0	-

2.2.4 Hours of work and underemployment status

Filipino workers worked an average of 7.5 hours a day and 40.2 hours a week

(Table 5). The informally employed workers in private households worked the longest with an average of 9 working hours in a day and 52 hours in a week. They were followed by workers with formal jobs with an average duration of hours worked at 8.2 hours a day and 43.6 hours a week. The average work day was shortest for the informally employed workers in both the formal and the informal sectors at less than 8 hours a day or less than 40 hours a week. This is attributed to the higher proportion of part time workers (working less than 40 hours a week) for the informally employed workers which was almost four times more than for the formally employed (44 percent versus 12 percent). The likelihood of part-time employment among the informally employed was highest for the workers in the informal sector (48 percent) followed by those in the formal sector (31 percent) and in private households (24 percent).

Table 5 also presents the underemployment status of the workers which is determined by the question asked in the Philippine Labor Force Survey on whether they desire to have additional hours of work in their present job or to have an additional job or to have a new job with longer working hours. Underemployed workers are those who are already employed but prefer to work additional hours or are seeking for additional work. Underemployment represents inadequate employment and indicates a slack in the labor market (ILO, 1998), and signifies a loss in human capital that is detrimental to the well-being of the worker and his family (Wilkins, 2007). There are two forms of time-related underemployment, namely visible underemployment (i.e., underemployment by workers who worked less than 40 hours a week) and invisible underemployment that refers to underemployed workers who worked 40 hours or more a week. The underemployment rate for the total workforce was 22 percent.

**Table 5. Hours of work and underemployment status
in the formal and informal employment**

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Hours of work in a day	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 hours	33.3	4.5	39.1	18.8	44.5	19.2
8 hours	47.4	85.2	39.7	68.3	34.9	25.9
More than 8 hours	19.3	10.3	21.2	12.9	20.6	54.9
Mean hours of work a day	7.5	8.2	7.3	7.8	7.2	8.9
Hours of work in a week	100.0	100.0	100.0	100.0	100.0	100.0
Less than 40 hours	38.9	12.2	44.2	31.0	48.3	23.9
40 hours	12.1	29.9	8.5	19.1	6.7	2.4
More than 40 hours	49.0	57.9	47.3	49.9	45.0	73.7
Mean hours of work a week	40.2	43.6	39.5	39.7	38.6	52.0
Underemployment status	100.0	100.0	100.0	100.0	100.0	100.0
Fully employed	78.1	87.7	76.2	76.0	75.6	85.1
Underemployed-visible	9.6	1.0	11.3	6.9	12.5	6.8
Underemployed-invisible	12.3	11.3	12.5	17.1	11.9	8.1

Informal employment was more likely associated with underemployment. Underemployment rates were twice as high among the informally employed as the formally employed workers (24 percent versus 12 percent). Visible underemployment affected only one percent of the formally employed workers but 11 percent of the informally employed workers. Visible underemployment among the informally employed may reflect involuntary part-time work where those who worked for less than 40 hours a week during the survey reference week indicated that they would prefer to work additional hours. About the same share (11-13 percent) of workers in the formal and informal employment were invisibly underemployed or those who have worked more than 40 hours a week but still prefer to work additional hours.

2.2.5 Demographic and socioeconomic characteristics

Gender. Men accounted for 62 percent of the total employed workforce but only 55 percent of the formally employed workers (Table 6). By contrast, women workers which made up 38 percent of the employed workers, accounted for 45 percent of those in formal employment. This may be attributed to the higher concentration of male workers in the agriculture industry where the incidence of informality in employment is high while women were more likely than men to be holding jobs in government agencies and corporations where informality rates were the lowest.

Age. Informal employment cuts across all age groups, but with the youngest and the oldest workers showing higher likelihood to be holding informal jobs. The share of youth workers aged 15-24 years old was higher in the informal than in the formal employment (21 percent versus 16 percent) but this pattern was reversed for the young adults aged 25-34 years old (21 percent versus 32 percent). Similarly with the youngest workers, the more senior adult workers in the early retirement ages of 55 to 64 years old also accounted for a larger share of the informally employed than the formally employed (11 percent versus 8 percent). The age pattern for both the formal and the informal employment followed a slightly inverted U shape, with the share of the formally employed peaking at the earlier age group of 25-29 years old while that for the informally employed at the prime working age group of 35-44 years old. Workers in informal employment were older by a year, on average, compared to workers in formal employment (38 years old versus 37 years old). There was a larger concentration of the very young workers aged 15-24 years old (34 percent) that were informally employed in private households than in the formal or informal sectors. Among the informally employed, workers in the informal sector were the oldest with an average age of 38 years old while workers in the private households were the youngest with an average age of 34 years old.

Education. As expected, the better educated were the more likely to be in formal employment while the less educated were the more likely to be absorbed in the informal sector. For the lower educated workers who made it in the formal sector, they were more likely to be in informal than

in formal employment. Workers with less than secondary education made up only 9 percent of the formally employed workers but accounted for 57 percent of the informally employed workers. The share in total informal employment decreased as education increased, a pattern that was in reverse for the formal employment. The college educated workers accounted for half of the formally employed workers and only 6 percent of the informally employed. Workers in the informal sector were the least educated, followed by workers in private households. Worthy of note was the substantial share (32 percent) of workers with at least some college education to the total informally employed workers in the formal sector. This indicates that college education is not a guarantee to obtaining formal employment and that the informal employment in the formal sector is an important entry point for many of the college educated workers.

Table 6. Socioeconomic characteristics of workers in the formal and informal employment.

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Sex	100.0	100.0	100.0	100.0	100.0	100.0
Male	62.2	55.1	63.6	65.9	66.4	15.3
Female	37.8	44.9	36.4	34.1	33.6	84.7
Age	100.0	100.0	100.0	100.0	100.0	100.0
15-24	20.2	16.3	21.0	22.1	19.9	34.1
25-29	23.1	31.7	21.4	25.7	20.8	17.6
30-44	25.1	25.6	25.0	25.4	25.0	23.2
45-54	20.5	18.7	20.9	18.8	21.5	17.9
55-64	11.1	7.7	11.7	8.0	12.8	7.2
Mean age	37.3	36.5	37.5	36.0	38.0	33.8
Education	100.0	100.0	100.0	100.0	100.0	100.0
Less than high school graduate	49.2	8.6	57.4	42.2	60.5	56.4
High school graduate	24.1	21.3	24.7	25.4	23.9	34.1
Some College	12.8	20.0	11.3	15.8	10.6	8.0
College graduate	13.9	50.1	6.6	16.6	5.0	1.5

INDICATOR	All workers	Type of employment		Informal employment by sector		
		Formal Employment	Informal Employment	Formal sector	Informal sector	Private households
Region – Major Groupings	100.0	100.0	100.0	100.0	100.0	100.0
National Capital Region	10.6	23.9	7.9	12.6	6.1	20.5
Other Luzon	35.7	35.9	35.7	35.8	35.9	33.1
Visayas	24.4	17.6	25.7	26.5	25.5	27.0
Mindanao	29.3	22.6	30.7	25.1	32.5	19.4
Region	100.4	100.0	100.2	100.2	100.0	100.0
National Capital Region	10.5	24.0	7.9	12.6	6.1	20.5
Cordillera Administrative Region	4.4	3.7	4.5	3.4	4.9	1.7
Ilocos	5.0	4.3	5.2	3.8	5.5	5.1
Cagayan Valley	4.9	2.8	5.3	8.7	4.7	3.3
Central Luzon	7.7	8.7	7.5	7.1	7.5	8.9
CALABARZON	9.3	14.0	8.3	9.6	7.9	10.3
MIMAROPA	4.5	2.3	4.9	3.2	5.4	3.8
Bicol	5.5	3.3	6.0	4.0	6.5	4.6
Western Visayas	6.8	4.7	7.2	8.6	6.8	8.5
Central Visayas	6.8	6.6	6.9	8.1	6.6	8.9
Eastern Visayas	5.2	3.1	5.6	5.8	5.6	5.1
Zamboanga Peninsula	4.4	3.0	4.6	3.5	5.0	3.0
Northern Mindanao	5.2	4.9	5.3	4.1	5.6	4.0
Southern Mindanao	5.8	5.8	5.8	5.9	5.8	4.2
Soccsksargen	5.3	4.0	5.5	5.9	5.5	4.0
Autonomous Region in Muslim Mindanao	4.0	1.6	4.5	0.9	5.5	0.4
CARAGA	4.7	3.2	5.0	4.8	5.1	3.7

Region. Metro Manila accounted for the larger share of the formally employed workers across all regions in the country. While the National Capital Region made up 11 percent of total employment in the country, it accounted for almost a quarter (24 percent) of the formally employed

workers and only 8 percent of the informally employed workers. The rest of the Luzon regions made up 36 percent of both the formally employed and the informally employed workers while workers in the Visayas and Mindanao regions accounted for a larger share of informal employment than of formal employment. Metro Manila's neighboring regions of CALABARZON and Southern Tagalog jointly made up 23 percent of the formally employed workers even if these regions accounted for only 17 percent of total employment. Central Visayas and Southern Mindanao regions secured an equal share for formal and informal employment, at 6-7 percent. For the rest of the regions, the portion they took for informal employment was higher than that for formal employment which also indicates that informality is largely a feature of underdevelopment.

3. Micro-determinants of informal employment

To examine the micro determinants of informal employment, the paper estimates six binary logit regressions for: the full sample; the National Capital Region (NCR); the Autonomous Region of Muslim Mindanao (ARMM); and the three major regional groupings of Other Luzon, Visayas, and Other Mindanao. Both the NCR and the ARMM are divergent outlier regions in terms of income and development, as well as in the rates of informal employment. The logistic model specifies that the logit transformation of the probability of informal employment (π) has a linear relationship with a set of observed individual characteristics:

$$\text{logit}(\pi_{ij}) = \log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_{0j} + \beta_{1j}X_{ij} ;$$

$$\pi_{ij} = \text{Pr}(Y_{ij} = 1|X_{ij}) = \exp\left(\frac{\beta_{0j} + \beta_{1j}X_{ij}}{1 - \beta_{0j} + \beta_{1j}X_{ij}}\right)$$

where π_{ij} is the probability of informal employment for observation i in location j , Y is a binary variable that takes the value of one if the worker is informally employed and zero otherwise. X represents a vector of explanatory variables that includes demographic characteristics of the worker such as age (dummy variables for age groups, with 15 to 19

years old as the reference category), sex (dummy variable with female workers as the reference category) and marital status (dummy variable with ever-married workers as the reference category), levels of highest education attainment (with below high school graduates as the reference category) and the class of worker (dummy variables for each of the following categories: workers in government, in corporations, in other private establishments in the formal sector, in private establishments in the informal sector, self-employed workers, and employers of own farm or business; and with workers in own family business and private households as the reference category).

Table 7 presents the estimates of marginal effects of the micro determinants on informal employment for all workers and for the five regional categories. Controlling for other factors, the teen workers aged 15 to 19 years old are the most likely to be informally employed as indicated by the negative and statistically significant marginal effect coefficients for all the higher age groups. The predicted probabilities for the full sample reveal an 88 percent likelihood of being informally employed for workers 15-19 years old, with the rate dropping by 4 percentage points lower to 84 percent for workers 20-24 years old (Figure 3). After age 24, the predicted probability of informal employment remains at high levels between 82-83 percent, indicating very little transition from informal to formal employment throughout the working life cycle.

Controlling for socioeconomic characteristics, the likelihood of holding informal jobs across all age groups is least in the National Capital Region and highest in the Autonomous Region in Muslim Mindanao. For the National Capital Region, the predicted informality rate ranges from 59 percent for workers aged 30-34 to 67 percent for the teen workers aged 15-19 years old and the most senior age group just before compulsory retirement (ages 60 to 64 years old). Workers in the ARMM face very high probabilities of informal employment at 91-96 percent across the working life cycle.

**Table 7. Marginal effects of micro determinants
on the probability of informal employment**

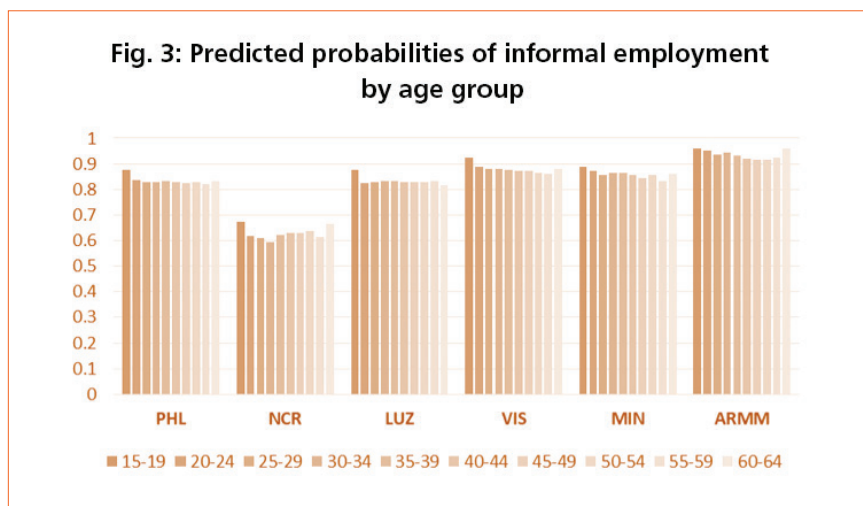
Variable	Total	NCR	Other Luzon	Visayas	Mindanao (exc.ARMM)	ARMM
Age^s						
	-0.041	-0.056**	-0.049***	-0.039***	-0.016*	-0.007
20-24	(.005)	(.026)	(.008)	(.009)	(.009)	(.020)
	-0.048	-0.064**	-0.045***	-0.045***	-0.032***	-0.023
25-29	(.005)	(.025)	(.009)	(.010)	(.010)	(.019)
	-0.048	-0.080***	-0.043***	-0.044***	-0.025**	-0.018
30-34	(.006)	(.026)	(.009)	(.010)	(.010)	(.021)
	-0.044	-0.054**	-0.042***	-0.049***	-0.024**	-0.030
35-39	(.006)	(.027)	(.009)	(.010)	(.010)	(.021)
	-0.049	-0.043	-0.047***	-0.053***	-0.034***	-0.040*
40-44	(.006)	(.027)	(.009)	(.010)	(.010)	(.022)
	-0.051	-0.044	-0.045***	-0.055***	-0.043***	-0.046**
45-49	(.006)	(.028)	(.009)	(.011)	(.011)	(.022)
	-0.051	-0.038	-0.047***	-0.060***	-0.033***	-0.047**
50-54	(.006)	(.029)	(.009)	(.011)	(.011)	(.023)
	-0.058	-0.061**	-0.041***	-0.065***	-0.058***	-0.036
55-59	(.007)	(.031)	(.009)	(.012)	(.013)	(.023)
	-0.046	-0.010	-0.059***	-0.044***	-0.027*	-0.002
60-64	(.008)	(.038)	(.009)	(.014)	(.015)	(.025)
Sex	.001	-0.001	0.004	.0003	-.004	-.001
Male	(.002)	(.009)	(.003)	(.004)	(.004)	(.006)
Marital Status	0.005*	0.005	0.002	.0002	0.015***	-0.016
Single	(0.003)	(0.011)	(0.005)	(0.005)	(0.005)	(0.010)
Education^s						
High school graduate	-0.089***	-0.129***	-0.092***	-0.079***	-0.061***	-0.008
	(.003)	(.014)	(.005)	(.005)	(.005)	(.011)

Variable	Total	NCR	Other Luzon	Visayas	Mindanao (exc.ARM)	ARM
Some college	-0.140*** (.004)	-0.258*** (.015)	-0.128*** (.006)	-.0122*** (.007)	-0.100*** (.007)	-0.041*** (.014)
College graduate	-0.258*** (.005)	-0.400*** (.016)	-0.244*** (.008)	-0.235*** (.009)	-.0219*** (.009)	-0.080*** (.018)
Class of worker ⁵						
Self-employed with no employee	.013*** (.002)	.045*** (.014)	.006 (.004)	.004 (.004)	.024*** (.004)	.0001 (.005)
Employer in own family business	-0.049*** (.005)	-0.123*** (.026)	-0.050*** (.008)	-0.053*** (.010)	-0.019** (.008)	-0.035 (.029)
Non-corporation private est.-informal sector	-0.060*** (.003)	-0.179*** (.017)	-0.051*** (.005)	-0.053*** (.006)	-0.031*** (.006)	-0.030** (.014)
Non-corporation private est.-formal sector	-0.248*** (.006)	-0.442*** (.019)	-0.231*** (.010)	-0.173*** (.011)	-0.216*** (.012)	-0.660*** (.113)
Corporation	-0.465*** (.007)	-0.565*** (.017)	-0.513*** (.011)	-0.324*** (.013)	-0.460*** (.014)	-0.589*** (.128)
Government	-0.329*** (.007)	-0.448*** (.024)	-0.388*** (.012)	-0.257*** (.011)	-0.300*** (.013)	-0.365*** (.055)

⁵Reference category: 15-19 years old for age; below high school graduate for education; and family workers and workers in private households for class of worker; *** significant at .01 level; ** significant at .05 level; *significant at .10 level; standard errors in parenthesis.

In the Visayas, other Luzon and other Mindanao regions, the predicted informality rates are lower compared to the Autonomous Region in Muslim Mindanao but still very high at between 82-92 percent. This finding indicates that for most of the workers in other Luzon, Visayas and Mindanao, the only way to join the employed workforce is to obtain informal employment. In these regions, there is meagre likelihood of transitioning into formal employment as workers move from youth into adulthood, unless these workers migrate to the National Capital Region

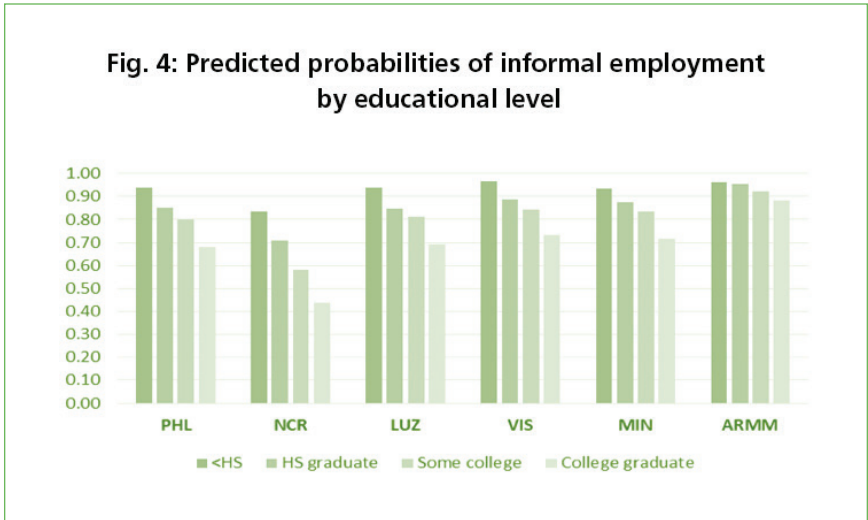
where informality rates are significantly lower. The dearth of formal sector enterprises in most regions outside of Metro Manila presents an important barrier to labor mobility from informal employment in younger ages to formal employment as workers gain more work experience.



Gender and marital status are not significant determinants of informality, except in other Mindanao regions where the single workers are associated with a 5 percent higher probability of being employed informally than similarly characterized married workers.

Education has a strong negative effect on informal employment. Compared with non-high school graduate workers, the informal employment rate is lower by: 9 percentage points for workers that have completed secondary education; 15 percentage points for those with some college education; and 29 percentage points for college graduates. The negative effect of increased education on informality rate is largest in Metro Manila and least in the Autonomous Region of Muslim Mindanao. College graduates in Metro Manila are 42 percentage points less likely to be in informal employment compared to workers that have not completed secondary education, while the corresponding reduction in informality rates for college graduates in the Autonomous Region in Muslim Mindanao is only 8 percent. The negative effect of higher levels of education is larger in other Luzon regions than in either the Visayas or the Mindanao regions. Compared with workers without a high

school diploma, college graduates have a lower probability of being in informal employment by 27 percentage points in other Luzon regions, 25 percentage points in the Visayas regions and 24 percentage points in the other Mindanao regions.



While the better educated are also the more likely to secure formal employment, a college education does not guarantee success of obtaining a formal job even in the most developed region of Metro Manila. Compared to the rest of the country, workers in Metro Manila face lower informality rates and a more rapid decline in the likelihood of informal employment as education increases. Yet even in Metro Manila, a college graduate is faced with a 44 percent probability of joining the informally employed in the labor market. In the Autonomous Region in Muslim Mindanao, the likelihood that a college graduate will take on an informal job is 88 percent, which is higher than the 83 percent probability of being informally employed for workers without a high school diploma in Metro Manila. College-educated workers in the other regions also faced very high informality rates at 69 percent for other Luzon, and 72-73 percent for the Visayas and other Mindanao regions, which are of about the same level of rates or higher rates as the 71 percent likelihood of informality for workers with secondary education in Metro Manila.

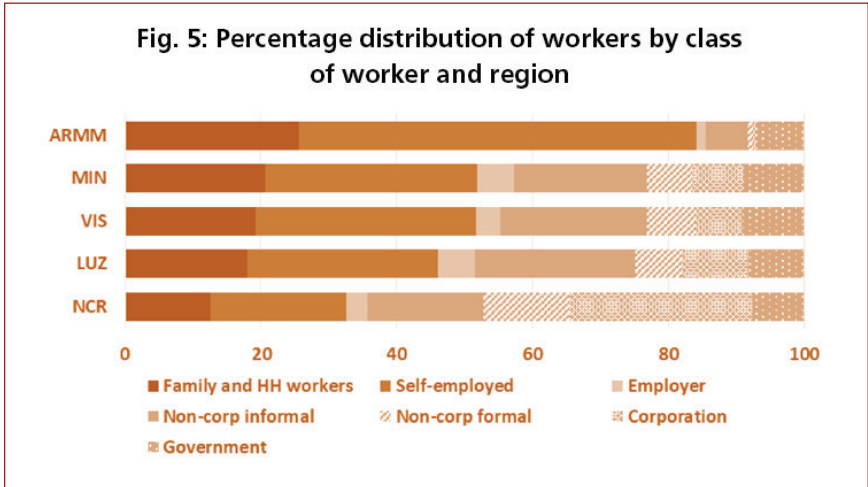
Corporations and the public sector are the two most important sources of formal employment. Compared with similarly characterized contributing

family workers and workers in private households, employees of corporations are 47 percent less likely to be informally employed while government employees are 33 percent less likely to be informally employed (Table 5). Workers in other private enterprises in the formal sector are also significantly less likely to be holding informal jobs by 25 percent compared with contributing family workers or workers in private households, while employers in own family farm or business and workers in informal sector private enterprises are only 5-6 percent less likely to be in informal employment. There is not much difference in the likelihood of being in informal work between the own-account workers and the contributing family workers or workers in paid domestic work.

The negative marginal effect of formal sector enterprises on informality rates relative to contributing family workers and workers in domestic paid work vary across the regions. The largest reduction in informality rates in the Autonomous Region in Muslim Mindanao (ARMM) are in the private corporations and other private enterprises in the formal sector, for which workers are 59-66 percent less likely to be informally employed than similarly characterized workers in private households or contributing family workers. The public sector in the ARMM also reduces informality rates by 37 percent. Private corporations also have the largest negative marginal effect on informality rates in the National Capital Region (57 percentage points lower), in the other Luzon regions (51 percentage points lower), in the other Mindanao regions (46 percentage points lower) and in the Visayas regions (32 percentage points lower). The government is also an important source of formal employment and reduces the informality rates by 45 percent in Metro Manila, 39 percent in the other Luzon regions, and between 26-30 percent in the Visayas and other Mindanao regions. Non-corporation private sector enterprises in the formal sector generates not only the largest reduction in informality rates in the Autonomous Region in Muslim Mindanao but are associated with significantly lower probability of informal employment in the National Capital Region (44 percentage lower), the other Luzon and Mindanao regions (22-23 percentage lower), and the Visayas regions (17 percentage lower).

These findings indicate the need for the spatial decentralization of private corporations and other formal sector private enterprises to regions outside of Metro Manila, especially to the Autonomous Region in Muslim Mindanao where the rate of informal employment is highest. Outside of Metro Manila, the presence of the private corporations and other private enterprises in the formal sector, which are characterized by higher rates of formal employment,

remains very limited. In Metro Manila, the corporations and other formal sector enterprises accounted for 40 percent of total employment (Figure 6). The corresponding figures were only 17 percent for the other Luzon regions and 14 percent for the Visayas and other Mindanao regions. In the Autonomous Region in Muslim Mindanao, only one percent of total employment were absorbed in corporations and formal sector private establishments.



4. Conclusion and recommendations

Unlike previous Philippine literature that ascribed the concept of informal employment with the employment in the informal sector, this paper examines the incidence and correlates of informal employment in the informal sector as well as in the formal sector and in private households. Informal employment includes jobs whose terms of employment are outside the coverage of a written contract or social protection. The determination of the informality of an enterprise is based on its legal organization rather than on job entitlements or characteristics, and the informal sector is herein defined as comprising of unincorporated or unregistered enterprises or those exempted from compliance with labor standard regulations.

Informal employment is a matter of important concern. Being outside the scope of the statutory regulatory framework for wages and labor standards, workers in informal employment face low wages,

poor working conditions, and a lack of collective representation and protection from the risk of job termination and income loss. The findings bear out the high incidence of informal employment which accounted for 83 percent of total employment in the country. Informal employment is a predominant characteristic of the informal sector and of private households as well as a substantial feature of the formal sector. While virtually all the workers in the informal sector and in private households were holding informal jobs, about 46 percent of workers in the formal sector were informally employed substantiating the phenomenon of the informalization of the workforce within the formal sector. More specifically, one third of the workers in the government and in private corporations and 70 percent of workers in other formal sector private establishments were holding informal jobs.

Workers are not homogenous in terms of risks to informal employment. The very young workers and the elderly workers were more likely to be informally employed relative to workers in the adult age groups. The probabilities of informal employment remains high across all age groups indicating that informal employment is not a transitory but a more permanent phenomenon. The data indicates very little transition from informal to formal employment throughout a worker's working life cycle.

As expected, the less educated are also the more likely to be informally employed. However, a college education in the Philippines does not guarantee success in obtaining formal employment. The finding implies a problem of educated informal employment in the country. Controlling for demographic and socioeconomic characteristics, a college graduate faces a 44 percent probability of being informally employed in Metro Manila and an 88 percent probability of holding an informal job in the Autonomous Region in Muslim Mindanao. This problem of an educated informal employment is of important concern as it translates to low returns to a college education and constitutes a loss of human capital for the educated workforce.

The absence of corporations and formal sector enterprises in the regions outside of Metro Manila drives the rate of informal employment in the Visayas and Mindanao regions. As informal employment is a characteristic of underdevelopment, there is clearly a need for government to promote regional decentralization of development and location of investments.

Informal employment is evidently a pervasive and persistent phenomenon in the Philippine labor market, reflecting the endemic failure of the government to provide decent jobs. Informal employment reflects not only a decent work deficit but is associated with high rates underemployment and labor underutilization that undermines the potential for rapid economic growth. The findings underlie the critical need to implement measures to improve the working conditions of the majority of the Filipino workforce that are trapped in informal jobs and to facilitate the transition from informal to formal employment.

Reforms in policy and labor enforcement measures can begin with the public sector of which one third of its workforce are holding informal jobs. All the government units (i.e. National Government Agencies, Local Government Units, Government Owned or Controlled Corporations, Government Financial Institutions, State Universities and Colleges) have gravely abused their prerogative powers in hiring job order or contract of service workers that is in violation of Civil Service rules and regulations (e.g. 2002 Civil Service Commission Resolution No. 020790: Policy Guidelines for Contract of Service). The government has been selective in the enforcement of its regulations when it comes to the job order or contract of service workers, with provisions limiting the monetary benefits for these workers being strictly followed while provisions that prohibits the hiring of job order and contract of service workers for the performance of regular functions of the agency concerned are widely circumvented. In cognizance of the considerable abuse committed by government units in the exercise of their prerogative powers to hire job order and contract of service workers, the Civil Service Commission, the Commission on Audit and the Department of Budget and Management (CSC-COA-DBM) issued the Joint Circular No. 1-2017 which stipulates the rules and regulations governing contract of service and job order workers in the government. More specifically, the joint circular limits the hiring of: (a) contract of service workers to “consultants, learning service providers, and/or technical experts” to undertake projects that are not part of the regular functions of the agency or where the manpower expertise is not available in the agency; and (b) job order workers to emergency or intermittent work such as clearing of debris on the roads, canals, waterways, etc. and manual tasks such as carpentry, plumbing and the like that are not part of the regular functions of the agency.

The 2017 CSC-COA-DMB joint circular designated the Commission on Audit to monitor compliance of agencies with the provisions of the circular governing contract of service and job order workers in the government and stipulated a sanction against culpable heads and officers of government agencies.

Labor unions play a critical role in the transition from informal to formal employment such as facilitating a movement from largely enterprise-level collective bargaining towards multiple-employer, sectoral-level collective bargaining; and participating more actively in organizing workers in the informal sector and the private households and workers holding informal jobs in the formal sector into unions or alternative non-union forms of representation such as employee associations.

Finally, it is important to strengthen the labor enforcement mechanism to increase compliance of labor laws and regulations and to minimize the infringement of labor laws by imposing stiffer monetary penalties and conducting widespread information and education on workers' rights.

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