

Characterization of agricultural workers in the Philippines

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The Philippine economy has entered a period of growth acceleration since 2011. From 2011 to 2016 alone, the per capita gross domestic product increased by an annual rate of 4.8 percent (WB 2017). During the given period, the labor markets have also tightened as unemployment rate fell from 8.8 to 5.5 percent. However, the extent this growth has benefited the agricultural workers, who represent a sizable share (29%) of the country's workforce, remains unclear (PSA various years). Nevertheless, their productivity per worker already fell below that of the average worker. With a basic pay less than half that of a typical Filipino worker, agricultural workers also represented roughly two in every three working poor in the country in 2012 (PSA various years).

Inclusive growth requires boosting the income of agricultural workers, either by a shift to a better-paying job outside

agriculture or by raising the compensation within agriculture. This *Policy Note* presents a comprehensive socioeconomic profile of agricultural workers that can help facilitate the identification and prioritization of their problems, opportunities, and constraints and design appropriate programs for rural households and their employment.

Profile of workers

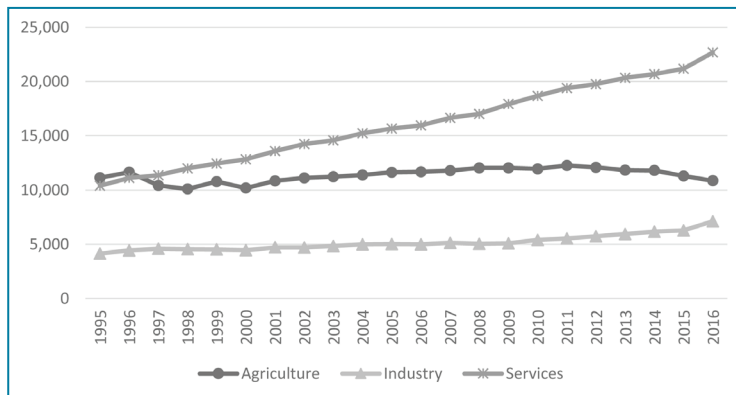
Declining number of agricultural workers

Currently, the basic sector with the most workers in the Philippines is services, followed by agriculture and industry (Figure 1). Although the industry has the least number of workers among the sectors under study, it has seen an increase in its employment share together with the services. Meanwhile, the number of workers in agriculture has

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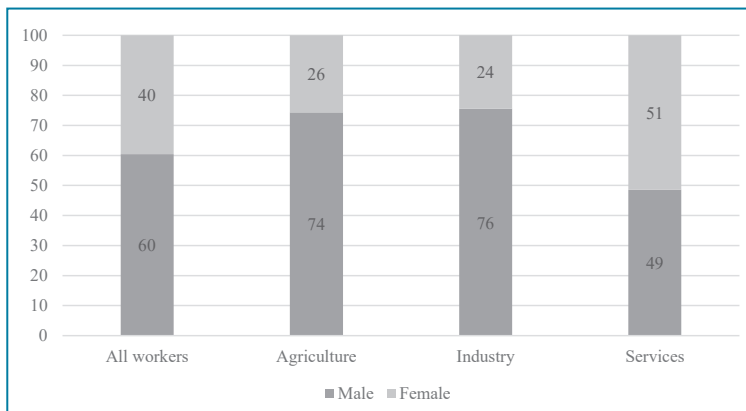
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Figure 1. Number of workers by basic sector, 1995–2016 (thousands)



Source of basic data: Philippine Statistics Authority [PSA] (2016); PSA (2017a)

Figure 2. Distribution of workers by sex, 2015 (%)



Note: Distribution of workers by sex is stable over time, hence Figure 2 presents only figures for 2015.

Source of basic data: PSA (2017a)

been declining since 2011. The number of agricultural workers used to exceed that of services from 1995 to 1996 until it was overtaken in 1997.

This study identifies economic and climate-related reasons as factors behind this decline in the number of agricultural workers. From

1997 to 1998, for instance, their number experienced short-term dips due to the hit of a severe El Niño. Since 2011, this decline has become more consistent, as the number of workers leaving the sector averaged at 250,000 per year. Clearly, the reason is unrelated to climate as the severe El Niño only struck in late 2015. Instead, economic factors, such as the rapid economic growth and tightening labor markets, are driving this decline.

Recently, this decline in agriculture's employment share has accelerated. From 43 percent of workers in 1995, the agriculture's employment share fell to merely 27 percent in 2015. Still, the fall in agriculture's share in the 2000s was much slower than in 1995–2000 and in 2011–2016 (PSA 2016; PSA various years). Meanwhile, the employment share of industry is fairly constant at 15–17 percent of workers. Hence, the declining share of agriculture in employment has been essentially equivalent to the increase in share of services.

Far higher proportion of male workers in agriculture

Majority of all workers (60%) in the Philippines today are male. However, the proportion of male workers in agriculture is far higher, where only one in every four workers is a female. Nonetheless, agriculture is not unique in this aspect as industry also hires a slightly higher proportion of male workers. Meanwhile, it is in services where male and female workers are roughly at parity (Figure 2).

Agricultural workers least educated

In general, tertiary undergraduates accounted for the biggest share of workers in basic sectors in 2015 at 42 percent (Table 1). They are followed by secondary undergraduates (26%), tertiary graduates (16%), and primary school undergraduates (15%), respectively. A closer look at these figures, however, would reveal that the agriculture tends to employ the least educated workforce among the basic sectors. About one-third of agricultural workers did not even finish primary school, compared to merely 11 percent for industry and 7 percent for services. Moreover, about 38 percent of them are secondary school undergraduates, compared to 29 percent for industry and 19 percent for services. While about half of workers in industry and services are tertiary undergraduates, only a quarter of them are. Clearly, the most educated workers tend to work in services.

Over time, however, the educational attainment of workers has been improving, with the share of the bottom brackets falling by 6 percent. Similarly, the educational attainment of workers in agriculture has improved with a 4-percent shift to the higher education brackets.

High underemployment rates in agriculture

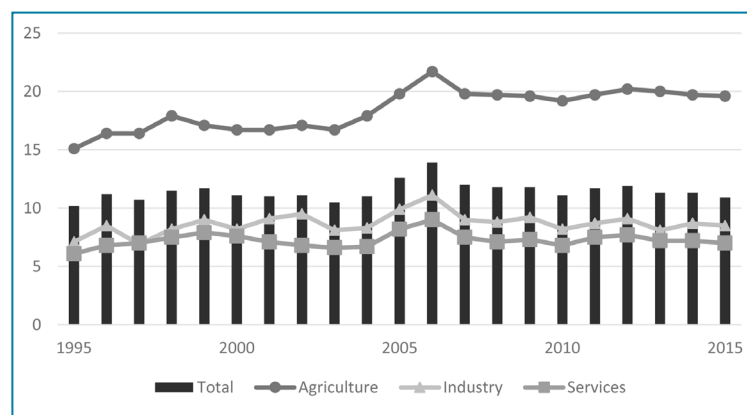
Since 2006, the visible underemployment¹ of workers has fallen to 11 percent from a peak of 14 percent. In general, it has been lowest for services, followed closely by industry

Table 1. Distribution (%) of workers by educational attainment and basic sector, 2008 and 2015

	All Sectors	Agriculture	Industry	Services
2015				
Undergraduate, primary	15	33	11	7
Undergraduate, secondary	26	38	29	19
Undergraduate, tertiary	42	26	50	49
Tertiary graduate	16	2	10	25
All workers	100	100	100	100
2008				
Undergraduate, primary	18	35	11	8
Undergraduate, secondary	30	40	30	23
Undergraduate, tertiary	38	23	48	46
Tertiary graduate	14	2	10	24
All workers	100	100	100	100

Source of basic data: PSA (various years)

Figure 3. Visible underemployment rates by basic sector, 1995–2015 (%)



Source of basic data: PSA (2016)

¹ Visible underemployment refers to the number of employed persons who wanted additional work and worked less than 40 hours in primary job (PSA 2017b).

Table 2. Shares by group and subgroup, in workers and population, 2015 (%)

Group	Subgroup	In Group	Of Poor, in Subgroup	Of Poor, in Group
Population		100.0	23.3	100.0
	Rural	60.1	30.7	79.0
	Urban	39.9	12.3	21.0
Labor force		100.0	20.0	100.0
	Unemployed	2.8	18.8	2.6
Workers		100.0	20.0	100.0
	Underemployed	23.6	29.0	34.2
	Visibly underemployed	12.1	34.2	20.6
	Agricultural workers	35.0	35.7	62.4
Agricultural workers		100.0	35.7	100.0
	Rice	17.0	26.5	12.6
	Corn	11.0	51.8	15.9
	Coconut	6.2	38.2	6.7
	Vegetables	3.7	26.9	2.8
	Other crops	4.2	38.2	4.5
	Farm workers	32.9	39.6	37.8
	Underemployed	34.1	43.4	54.8
	Visibly underemployed	18.9	43.8	33.1

Note: Table 2 presents a summary of employment and poverty incidence indicators using a merged data set combining Family Income and Expenditure Survey (FIES) 2015 with Labor Force Survey during the first quarter of 2016. The merging involves matching of households in the two surveys. The first three rows provide population level information using FIES weights. Meanwhile, the poverty incidence in the merged data set (23.3%) approximates the official poverty line using the entire FIES (21.6%). Hence, the merging involves no serious loss of information.

Source of basic data: PSA (various years)

(Figure 3). A different story, however, can be observed in the agriculture sector, where one-fifth of workers have remained visibly underemployed since 2006. Despite having only one-third of workers, the agriculture sector also accounts for 64 percent of visibly underemployed in 1995, which merely dropped to 52 percent in 2015. While the rates of

visible underemployment tend to vary together across basic sectors, agriculture has taken an independent track since 2007.

High poverty rates in agriculture

At present, about 60 percent of the Philippine population are rural, where poverty incidence is substantially higher at 30.7 percent (Table 2). In fact, close to four-fifths of the poor are rural.

Among workers, the major determinant of poverty is sector of employment; agricultural workers account for 35 percent of workers but exhibit a poverty incidence of 35.7 percent. Hence the large majority (62.4%) of all poor workers are primarily employed in agriculture. Lastly, poverty is also associated with visible underemployment; poverty incidence of visibly underemployed workers is 34.2 percent; in all, more than one-fifth of poor workers are visibly underemployed.

Productivity and wages

Labor productivity lowest in agriculture

The contrast between output share and employment share already implies the productivity disadvantage of agriculture relative to industry and services (Figure 4). For instance, the lopsided proportion for industry (17% employment share versus 30% output share) implies that this sector has the highest productivity, followed by services, which has almost equal output and employment shares. In fact, a worker in industry generates six

times the output of a worker in agriculture on the average. However, this gap has actually declined since 1995, narrowing from 6.5 times to 5.9 times, as annual growth in labor productivity became highest for agriculture (2.4%) compared to industry (2.1%) or services (1.2%). From 2010 onward, this labor productivity growth accelerated further to 2.8 percent per year. However, the growth of industry and service has accelerated even faster at 3.2 and 3.8 percent, respectively. Hence, the output per worker by sector has diverged since 2010.

Daily pay lowest in agriculture

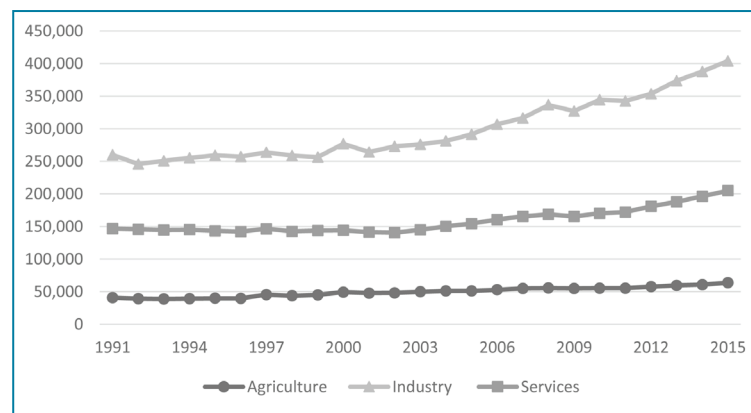
Although higher now than in 2010, the daily pay of workers in the basic sectors has remained unchanged in real terms. Across sectors, it is highest in the services, despite the sector's lagging productivity behind industry (Figure 5). Relative to agriculture, it is 2.2 to 2.3 times higher in services and 1.8 times higher in industry. In general, it had been falling since 2001 before it began to increase in 2010, except for industry.

On the average, the daily pay in real terms has declined by 0.6 percent per year for industry and 0.2 percent for service, but increased by 0.04 percent for agriculture. Given these low average rates, it has basically remain stagnant since 2001 even as output per worker has been increasing over the same period.

Summary

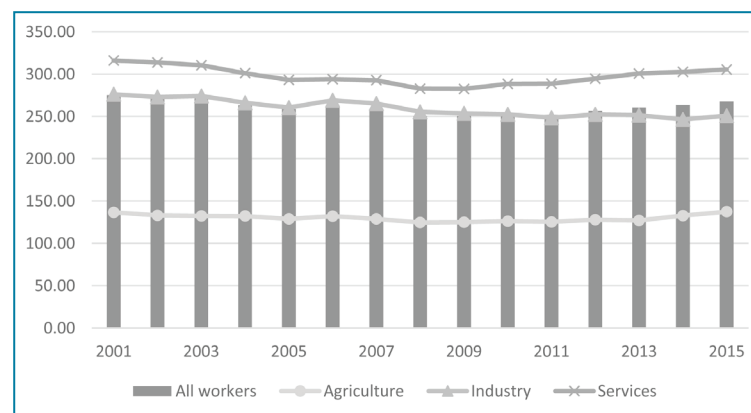
Agricultural workers tend to be older, predominantly male, and less educated

Figure 4. Output per worker by sector, 1991–2015 (PHP at constant 2000 prices)



Source of basic data: PSA (2017a)

Figure 5. Average daily basic pay by sector of employment, (PHP at constant 2006 prices)



Source of basic data: PSA (2016)

compared to the average worker. Their traits tend to be stable over time, though there seems to be a gradual tendency toward ageing of agricultural workers, and improved educational attainment. The visible underemployment rate is also highest in agriculture, where it has remained high and stable despite its decline in other sectors since 2007.



The Philippine economy has entered a period of growth acceleration since 2011. From 2011 to 2016 alone, World Bank estimates that our per capita gross domestic product increased by an annual rate of 4.8 percent. However, it seems this growth has thus far not benefited the agricultural workers, who represent a sizable share of the Philippine workforce. For instance, this study finds that poverty rates remain high in the agricultural sector. Unfortunately, the agricultural workers are also the recipients of the lowest daily pay among those working in the basic sectors in the country. (Photo by Flickr/ILO in Asia and the Pacific)

The sector has been in a long-term decline in terms of output share and employment share. However, its growth acceleration period (2011 onward) has introduced some dramatic changes. Since 2011, for instance, the agriculture's employment share has accelerated as the absolute number of agricultural workers fell. The last episode of such decline was observed only in 1995–2000, when agriculture was reeling from climate

shocks. In contrast, the recent episode appears to have been due to pull factors, such as the rising demand for workers in other sectors, rather than push factors.

At the same time, labor productivity has been growing across all sectors. Previously, it was fastest in agriculture. Since 2011, however, the output per worker in industry and services has started to outpace that of agriculture.

Over the same period, the daily pay of workers has begun to increase in real terms, after a decade of stagnation.

These patterns and trends appear broadly consistent with some features of the dual economy model (Lewis 1954; Ranis and Fei 1961). The high underemployment in agriculture implies surplus labor of low skill. Meanwhile, the expansion of industry and service output is beginning to exhaust surplus labor, leading to an increase in agricultural wage (i.e., the Lewis turning point). With continued growth in the rest of the economy, agricultural wages will continue to rise and structural change will accelerate.

However, the consistency of stylized facts with the dual economy model does not prove validity of the latter. Alternative explanations may account for the patterns and trends, such as spread of mechanization. Hence, the validity of the model's predictions remains in doubt.

Areas for further research

The overriding concern in observing all these trends is making growth more inclusive by long-term improvement in the welfare of agriculture-dependent households. Several questions therefore arise considering the stylized facts uncovered in this review:

- What is driving the increase in agricultural wages? Will this trend be sustained? Under what conditions?
- What is driving the decreasing number of workers in agriculture? Will this trend be

sustained? What are the implications for growth of agriculture and agricultural incomes?

- Whereas agricultural wages are growing and workers are leaving agriculture, why is there persistent rate of underemployment in agriculture? Under what conditions will it decline?

While a large amount of information has been shown to be available from secondary sources, this study still noted significant gaps in the socioeconomic profile of agricultural workers. Some of these gaps are as follows:

- The limited duration of the reference period of the Labor Force Survey severely constrains information on seasonality. No information is available on spells of underemployment, including the severity of shortfall from full-time work.
- A breakdown of activities for which wages are paid is not available, nor is the relationship between these activities and skill level or other entry barriers (e.g., access to equipment or draft animals). A more detailed disaggregation by product (i.e., crop, livestock raising, fishing, aquaculture) is also essential. These data will be useful to quantify heterogeneity of labor supply, say in relation to education, sex, and other worker characteristics.
- Past employment history of agricultural workers is basically unknown. Did they migrate from elsewhere? Did they work in other sectors previously?
- Other relevant worker and household characteristics may be useful, such as

memberships in cooperatives and associations, other types of training such as technical and vocational education, other activities including outside agriculture, household assets, members of household sending migrant remittances, among others.

- Also critical are community-level variables, such as access to roads and other infrastructures (ports, the main power grid, potable water), and technologies such as farm machinery. These information will determine the level of development and economic diversification at the barangay level, as well as potential displacement of labor by machinery, especially in relation to seasonality of job opportunities.

Concluding remarks

This scoping exercise has pinpointed the key knowledge gaps which constrain the development of a detailed socioeconomic profile of agricultural workers. The identification of these gaps informs the strategy of data gathering using survey of workers in agricultural households. The

primary data thereby gathered, upon suitable analysis, will assist in recommending policies and design of programs that can help sustain and accelerate growth of remunerative employment opportunities in agriculture. 📄

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