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**Regional Integration, Inclusive Growth, and Poverty:
Enhancing Employment Opportunities for the Poor**

*Celia M. Reyes, Aubrey D. Tabuga, Christian D. Mina,
and Ronina D. Asis*



PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

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List of Acronyms

4Ps	— Pantawid Pamilyang Pilipino Program
ADB	— Asian Development Bank
APIS	— Annual Poverty Indicators Survey
ASEAN	— Association of Southeast Asian Nations
FDI	— foreign direct investment
FIES	— Family Income and Expenditure Survey
FTAs	— free trade agreements
GDP	— gross domestic product
LFS	— Labor Force Survey
MNCs	— multinational corporations
NIEs	— newly industrialized economies
NSO	— National Statistics Office
PRC	— People's Republic of China
SEPO	— Senate Economic Planning Office
SMEs	— small and medium enterprises
PJEPA	— Philippines-Japan Economic Partnership Agreement
PSIC	— Philippine Standard Industrial Classification
WB	— World Bank

Abstract

Regional economic integration in East Asia is characterized initially as a market-driven process of increased trade and foreign direct investment (FDI) inflows, and eventually by formal arrangements to liberalize trade and integrate economic activities through free trade agreements (FTAs) among East and Southeast Asian countries. This has led to more intensified regional production networks in which East and Southeast Asian countries, including the Philippines, participated. Set against the backdrop of continuing economic integration in the region, economic growth in the Philippines has not been as inclusive as in the other countries as manifested in the increase in the magnitude of poverty incidence.

This paper examines how the Philippines can improve its record on poverty reduction by looking at how it can generate greater demand for the labor services of the poor. Specifically, this paper looks into the linkage between regional production networks and inclusive growth in the Philippines through employment generation for the poor. The manufacturing sector can provide employment opportunities for the poor and can offer relatively higher wages. However, expected high-productivity employment opportunities from the manufacturing sector were not fully realized due to some bottlenecks in the sector. This partly explains the persistence of poverty in the Philippines. To promote inclusive growth and reduce poverty, the manufacturing sector has to be made more competitive and, at the same time, productivity in the agriculture sector (the major employer of the poor) has to be increased.

1 Introduction

Regional economic integration and its impacts on the Philippines

Regional economic integration in East Asia is characterized initially as a market-driven process of increased trade and foreign direct investment (FDI) inflows, and eventually by formal arrangements to liberalize trade and integrate economic activities through free trade agreements (FTAs) among East and Southeast Asian countries (Balboa and Medalla 2011). This has led to a more intensified regional production networks participated in by multinational corporations (MNCs), largely from Japan, People's Republic of China (PRC), and the newly industrialized economies (NIEs). The notable participation of the Philippines in the regional production networks is in automotive parts, machineries, and electronics, particularly semiconductors.

This regional integration has resulted in the growth of intra-regional trade, investment flows, and technology transfers among Japan, the PRC, the NIEs, and member-countries of the Association of Southeast Asian Nations (ASEAN), including the Philippines (Intal et al. 2010). Unfortunately, the Philippines did not benefit as much as the other countries from the regional production networks. During the period 1990–2008, the Philippines registered the lowest growth in mean per capita gross domestic product (GDP) relative to most of its neighboring countries (Table 1). The shares of the manufacturing sector to total output and employment have barely improved since 1990 and, in fact, have been dwindling in recent years (Tables 2 and 3).

The Philippine manufacturing sector has been stagnant for years due to bottlenecks such as low investment, poor infrastructure, and poor logistics, among others (Intal et al. 2010; Medalla and Ledda 2012). The country's investment rate (both public and private) has been going down in recent years and has been comparatively lower than those of its neighbors (Table 4). Low investment rate can be attributed to poor infrastructure, high vulnerability to macroeconomic and political risks, weak financial

Table 1. Per capita GDP growth rate (annual average) in selected Southeast Asian countries, 1990–2008 (in %)

Country	GDP growth rate	Population growth rate	Per capita GDP growth
Indonesia	4.6	1.4	3.2
Malaysia	6.2	2.2	3.9
Philippines	3.8	2.1	1.8
Malaysia	4.6	1.0	3.6

Source: Usui (2011).

Table 2. Share of the manufacturing sector to GDP in selected Southeast Asian countries, 1990–2001 (in %)

Year	Indonesia	Malaysia	Philippines	Thailand
1990	20.7	23.8	24.8	27.2
1995	24.1	26.4	23.0	26.5
2000	27.7	30.9	24.5	28.6
2001	29.1	29.3	24.7	28.1
2002	28.7	29.2	24.7	28.8
2003	28.3	29.9	24.6	29.8
2004	28.1	30.4	23.9	29.6
2005	27.4	27.5	24.1	29.9
2006	27.5	27.6	23.6	30.5
2007	27.0	26.1	22.7	30.9
2008	27.8	24.6	22.8	30.8
2009	26.4	23.8	21.3	29.8
2010	24.8	24.6	21.4	31.5
2011	24.3	24.4	21.0	-

Source: ADB Key Indicators 2012; ADB Key Indicators 2005 (for 1990 figures).

system, poor logistics, and high energy rates, among others (Medalla and Ledda 2012; Intal et al. 2010; Austria 2006, as cited in Aldaba and Aldaba 2010; ADB 2004). As a result, industrial upgrading and labor productivity growth are hampered (Table 5). These have negative implication on labor demand thereby decelerating the creation of good-paying jobs in skilled-

Table 3. Share of the manufacturing sector to total employment in selected Southeast Asian countries, 1995–2011 (in %)

Year	Indonesia	Malaysia	Philippines	Thailand
1995	12.6	23.3	10.2	15.0
2000	13.0	23.5	10.0	14.9
2001	13.3	23.3	10.0	15.3
2002	13.2	21.7	9.5	15.3
2003	12.4	21.6	9.6	15.7
2004	11.8	20.3	9.7	15.8
2005	12.7	19.8	9.6	15.8
2006	12.5	20.3	9.4	15.4
2007	12.4	18.8	9.1	15.5
2008	12.2	18.2	8.6	14.7
2009	12.2	16.6	8.3	14.3
2010	12.8	16.7	8.4	14.1
2011	13.3	17.1	8.3	13.8

Source: ADB Key Indicators 2012.

labor manufacturing industries. At the same time, the quality of human capital in the country can partly explain the low investment rate and low labor absorption in these manufacturing subsectors (Intal et al. 2010). Some of the low-skilled, labor-intensive manufacturing industries such as garments and textiles that can potentially absorb a large number of less-educated workers are not big players in the manufacturing sector. As a consequence, the manufacturing sector as a whole was unable to absorb a greater number of less-educated workers, who are generally the poor, and therefore failed to contribute much to poverty reduction.

Meanwhile, regional economic integration has affected the agriculture sector through tariff reductions on certain agricultural and fishery products, as stipulated in a number of FTAs. While these subsectors absorb the majority of the less-educated workers, they tend to offer very low wages (Figures 1a and 1b). In fact, wages of the less-educated workers in the agriculture sector are among the lowest (PHP 137 in 2009 and PHP 147 in 2011, on average). Thus, high absorption of less-educated workers, who are generally the poor, in the agriculture sector provides another explanation for the non-inclusivity of economic growth and the persistence of poverty in the country.

Table 4. Ratio of gross fixed capital formation to GDP in selected Southeast Asian countries, 1990–2005

Year	Indonesia	Philippines	Vietnam
1990	28.3	23.1	-
1991	27.0	20.0	-
1992	25.8	20.9	-
1993	26.3	23.8	-
1994	27.6	23.6	24.3
1995	28.4	22.2	25.4
1996	29.6	23.4	26.3
1997	28.3	24.4	26.7
1998	25.4	21.2	27.0
1999	20.1	18.8	25.7
2000	21.8	21.2	27.7
2001	21.4	19.6	29.2
2002	20.3	19.2	31.1
2003	19.7	18.1	33.0
2004	21.4	16.7	32.3
2005	22.3	15.3	33.0

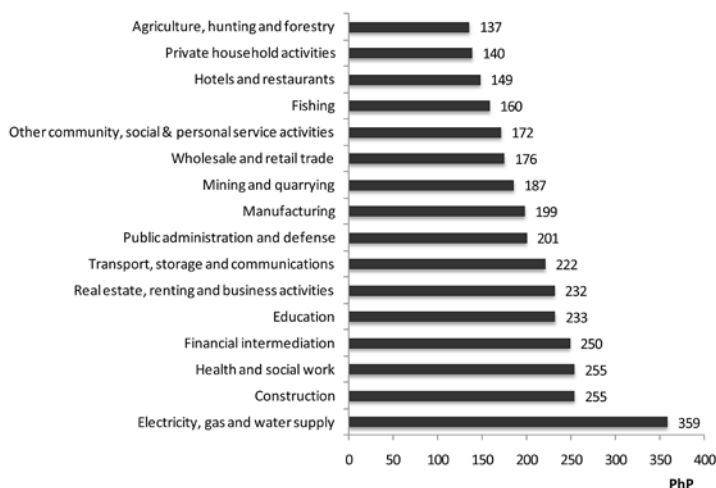
(-) = Data not available
Source: Intal et al. (2010)

Table 5. Growth rate of labor productivity in manufacturing in selected Southeast Asian countries, 1990–2005 (in %)

Period	Philippines	Indonesia	Malaysia
1990–1994	-0.9	2.8	2.2
1995–1999	1.9	2.8	3.1
2000–2005	3.0	5.0	6.9

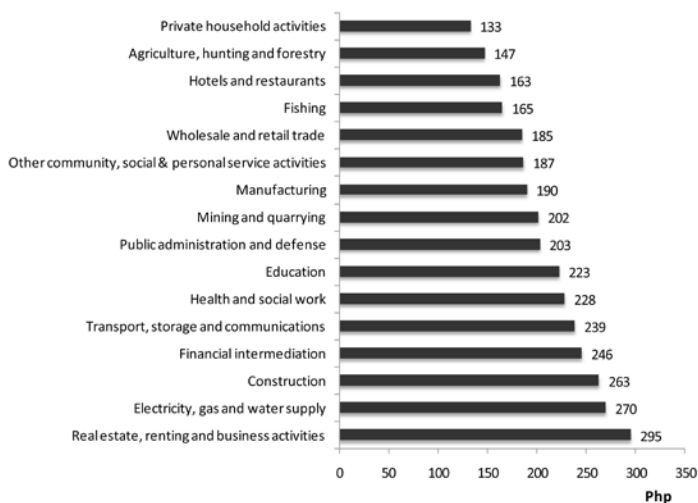
Source: Intal et al. (2010)

Figure 1a. Average daily wage of less-educated wage/salary workers, by sector of employment, 2009 (in Philippine peso)



Source of basic data: Labor Force Survey (LFS) (January 2010), National Statistics Office (NSO).

Figure 1b. Average daily wage of less-educated wage/salary workers by sector of employment, 2011 (in Philippine peso)



Source of basic data: LFS (July 2011), NSO.

Track record in poverty reduction

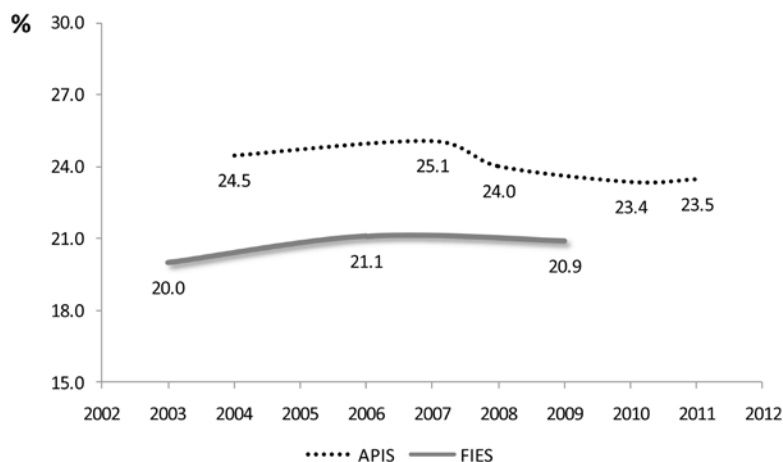
During the past decade, there has been no improvement in the poverty situation in the country based on official poverty statistics. Poverty incidence, based on the Family Income and Expenditure Survey (FIES) of the National Statistics Office, actually increased to 20.9 in 2009 from 20.0 in 2003 (Figure 2). Moreover, the magnitude of the poor continued to increase to 3.9 million families from 3.3 million families during the same period (Figure 3).

Estimates from the Annual Poverty Indicators Survey (APIS) reveal the same pattern—that there has been no significant improvement in the poverty situation as reflected in the increasing number of poor families despite the decline in poverty incidence during the period 2003-2009. It is important to note that data collection instruments are different for FIES and APIS, with the former employing a more detailed questionnaire than the latter. In general, the estimates of poverty indicators from APIS are higher than those from FIES.

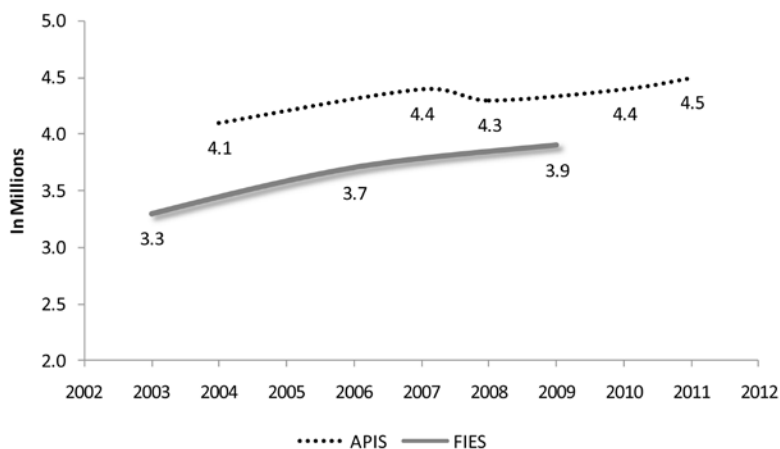
Reducing poverty has been more challenging due to lack of recognition of the heterogeneous nature of poverty in the country. About half of those who are classified as poor are chronic poor (consistently poor all throughout) and the other half are transient poor (those who were previously nonpoor and moved into poverty) (Reyes et al. 2011). A significant proportion of the latter group can be attributed to the numerous shocks that the country has been experiencing, such as food and fuel price shocks, global financial crises, and typhoons and floods, among others. This lack of recognition has led to undifferentiated strategies and programs for the chronic and transient poor. For this paper, the focus will be on reducing chronic poverty.

Objectives of the paper

This paper aims to explore how a more inclusive growth can be achieved, thereby reducing poverty, by examining the linkages between regional economic integration and inclusive growth in the Philippines through employment generation for the poor. From these analyses, this paper will provide recommendations and some strategies to make growth more inclusive.

Figure 2. Poverty incidence among families, 2003–2011 (in %)

Sources of basic data: Family Income and Expenditure Survey (FIES) and Annual Poverty Indicators Survey (APIS), NSO.

Figure 3. Magnitude of poor families, 2003–2011 (in million)

Sources of basic data: FIES and APIS, NSO.

2 Regional economic integration: Generating employment opportunities for the poor

Subsectors affected by regional economic integration

According to Intal et al. (2010), regional production networks have been central to regional economic integration in East Asia during the past two decades. The integration process has been successful for the region as a whole even if the process has not been smooth in some countries. Consequently, there have been talks and negotiations among the countries on bilateral and regional FTAs. Thus, it is expected that production networks in East and Southeast Asia will further deepen and widen in the future.

The Philippines participates in regional production networks primarily through exports of manufactured automotive and electronics parts and components. However, these manufactured exports are considered belonging to the low value-added segments of the manufacturing sector, are labor-intensive, and highly import-dependent. In addition, the country has been operating within a narrow range in these industries' value-added chains. Thus, backward linkages to these local industries have remained limited (Aldaba and Aldaba 2010). Other manufacturing subsectors such as textile, wood, rubber, and basic metal have stagnated or declined (Intal and See 2005). As a result, there has been low growth in the manufacturing sector as a whole in terms of output and employment due to some constraints (i.e., low investment, poor infrastructure, and poor logistics, among others), indicating that the country has not been able to take advantage of the regional production networks as much as the other countries have.

There were significant growths in some manufacturing subsectors that are net exporters, more capital-intensive, and technology-intensive such as electronics, machineries and automotive parts, and chemicals, among others. Electronics—particularly semiconductor assembly, packaging, and testing—largely comprised total exports (around 65%) in manufacturing for the past decade (Aldaba and Aldaba 2010). The automotive parts—particularly the wiring harnesses and transmissions—have also

been one of the major Philippine exports. There had also been a significant expansion in the export of electrical machinery, appliances, and supplies during the past two decades (Intal et al. 2010). However, these subsectors have higher educational requirements resulting in limited participation of the less educated (World Bank 2010).

On the other hand, the manufacturing subsectors that could potentially employ more of the labor services offered by the poor did not grow as much. A number of so-called low-skilled, labor-intensive manufacturing subsectors, specifically processed food products and ready-made garments, seemed to benefit from the tariff reductions provided for in the Philippines-Japan Economic Partnership Agreement (PJEPA). From 2008 to 2009, export volumes of the following products increased as follows: women's skirts, cotton-made (72%); coconuts, prepared (36%); women's coats, cotton (35%); mackerel, prepared (35%); and bananas and mangoes, prepared with sugar (20%), among others (Medalla and Ledda 2012). However, these manufacturing subsectors are not major export players. As a result, absorption of low-skilled labor that can be drawn from a large pool of less-educated (who are essentially the poor) workers has not significantly increased.¹

Moreover, some agricultural products have also gained from tariff reductions through increased export volumes. These include coconut oil, fresh bananas, pineapple and pineapple products, tuna, seaweeds, and shrimps and prawns, among others (SEPO 2012; Medalla and Ledda 2012). These subsectors absorb more less-educated workers.

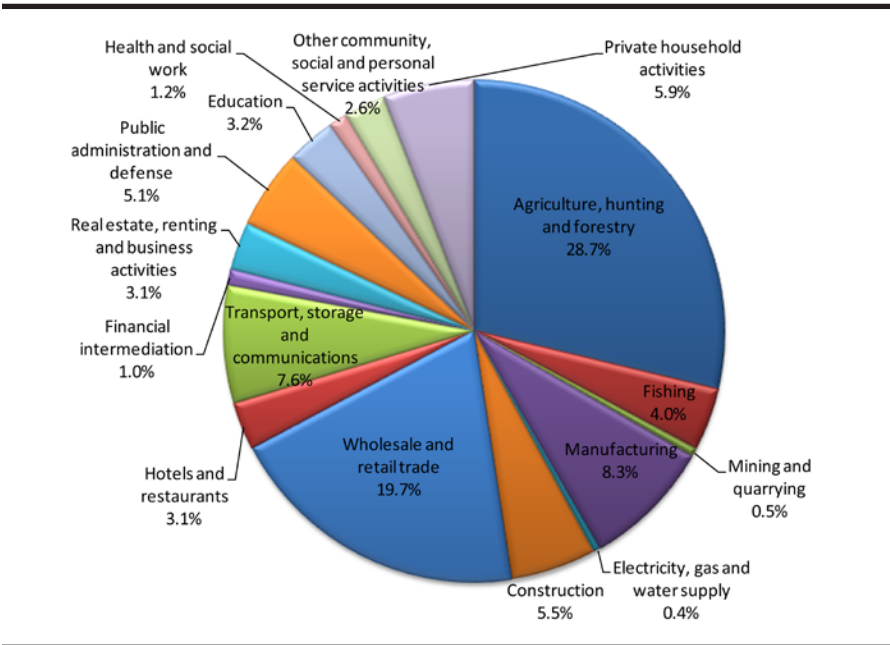
Absorption of less-educated² workers in selected subsectors

During the second quarter of 2011 and the last quarter of 2009, the two largest sources of employment in the country were the agriculture/hunting/forestry (28.7%) and wholesale/retail trade sectors (19.7%) (Figures 4a and 4b). The manufacturing sector ranked third in terms of employment share, with 8.3 percent during both periods.

¹ The proportion of less-educated workers in the following manufacturing subsectors are as follows: food products and beverages (28.4% in 2004 to 22.7% in 2010); textiles (40.1% in 2004 to 38.4% in 2010); and wearing apparel (24% in 2004 to 22.3% in 2010).

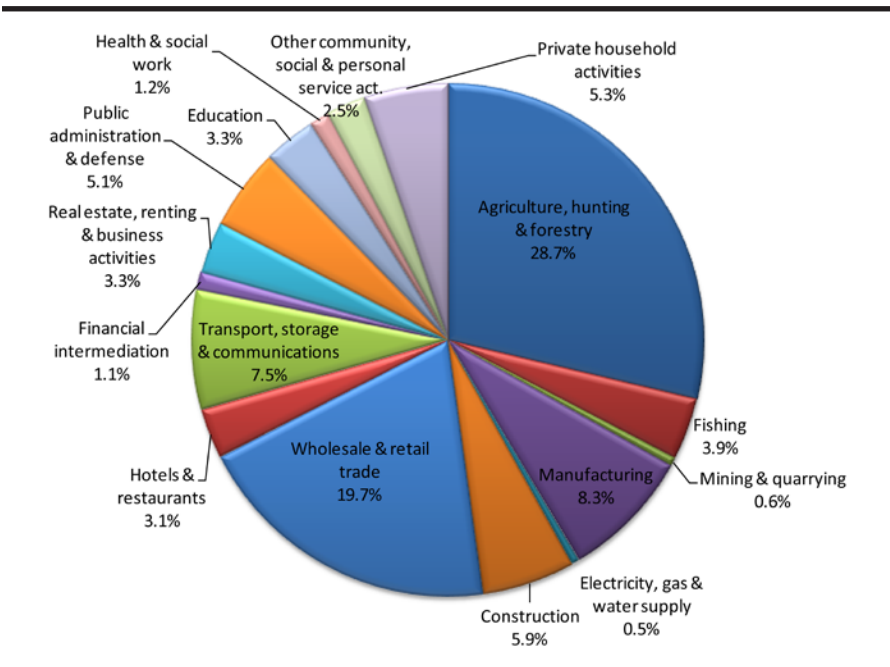
² For the purpose of this study, *less educated* refers to having highest educational attainment that is equivalent to elementary graduate or below (including no formal education). This definition was also adopted in the *Philippines Skills Report* prepared by the World Bank in 2010. Findings barely changed when those who spent one or two years in high school were included in the less-educated group.

Figure 4a. Percentage share of each sector to total employment, 2009 (in %)



Source of basic data: LFS (January 2010), NSO.

Figure 4b. Percentage share of each sector to total employment, 2011 (in %)



Source of basic data: LFS (July 2011), NSO.

Agriculture-related workers are predominantly rural dwellers. A small share of agricultural employment in urban areas might be explained by the presence of a few agricultural workers in barangays that are classified as urban. The majority of workers in the manufacturing sector, however, are found in urban areas (Figure 5). Apparently, many of the manufacturing firms are operating in urban areas. For instance, hundreds of electronics companies operating in the country are located in special economic zones, which are mostly in urban areas.

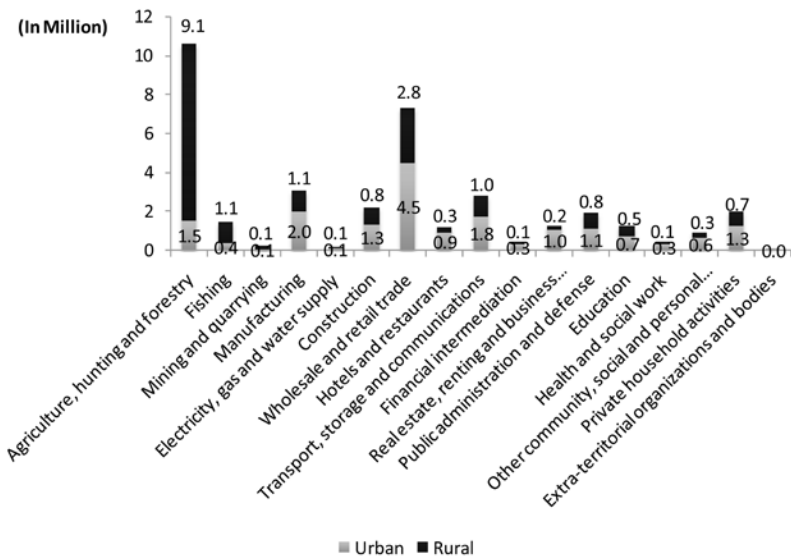
A significant number of workers are less educated. Around 70 percent of the estimated 11.9 million less-educated workers are absorbed by the top three employers, namely, agriculture/hunting/forestry, wholesale and retail trade, and manufacturing. Among these, however, the agriculture/hunting/forestry sector has the highest share of less-educated workers. In the manufacturing sector, 0.7 million workers (equivalent to 22% of the total workforce) are less educated (Figure 6). It is clear in Figures 7a–7d that as the level of education goes up, workers also tend to shift away from the agriculture/hunting/forestry sector toward those that require a higher level of education.

Among the subsectors³ that have benefited from the regional economic integration and have posted high exports during the past decade, the agriculture- and fishery-related sectors absorbed the most number of less-educated workers (i.e., 44%–66% of their total workforce) (Figure 8). Low-skilled, labor-intensive manufacturing subsectors such as processed food, garments, and footwear also employed more less-educated workers, comprising around one-fifth of their total workforce. Except for tobacco products, some skilled-labor-intensive and more capital-technology-intensive manufacturing subsectors like semiconductors and chemical products, however, absorbed only a few less-educated workers (less than 10% of their workforce).

In general, less-educated workers receive relatively lower wages than those with higher educational attainment (Figure 9). Wage/salary workers with elementary-level education or less receive an average wage of less than PHP 200 per day. The average daily wage of those who finished high school is around 32 percent higher than that of elementary graduates. Apparently, an additional increase in the daily wage of workers rises with the level of education. The *2010 Philippines Skills Report* (World Bank

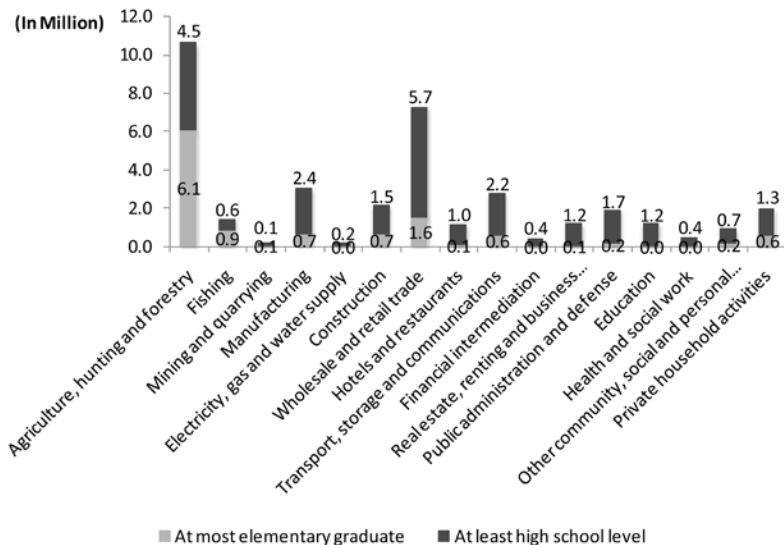
³ The LFS January 2010 data set was utilized since it has more disaggregated subsectors (4-digit Philippine Standard Industrial Classification [PSIC] codes or classes), compared with the LFS July 2011 data set (with only 2-digit PSIC codes or divisions).

Figure 5. Distribution of workers by sector of employment and by location, 2011 (in million)



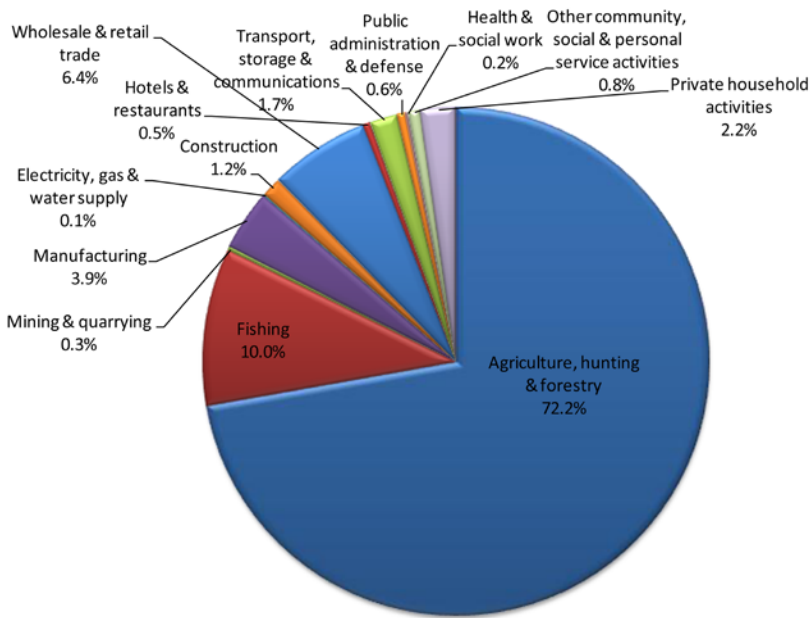
Source of basic data: LFS (July 2011), NSO.

Figure 6. Distribution of workers by sector of employment and by highest educational attainment, 2011 (in million)



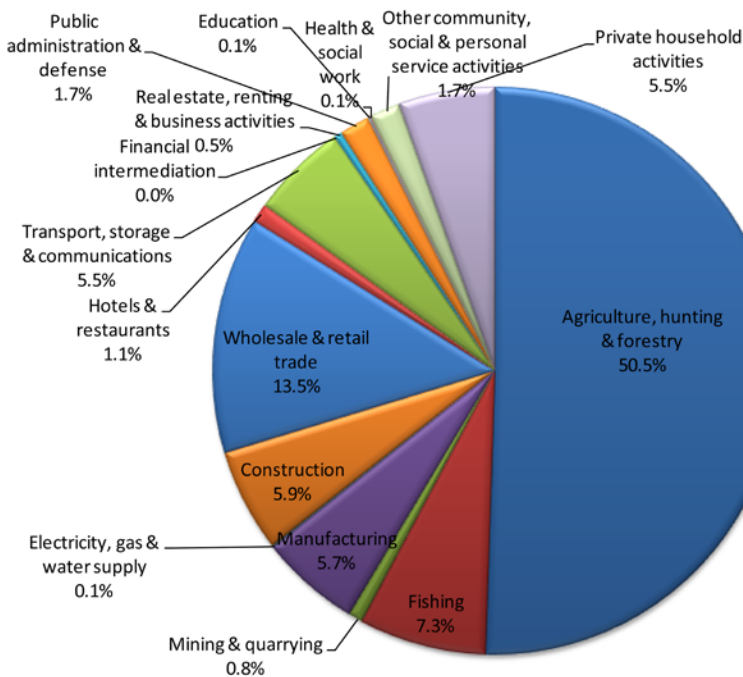
Source of basic data: LFS (July 2011), NSO.

Figure 7a. Distribution of workers with no formal education, by sector of employment, 2011 (in %)



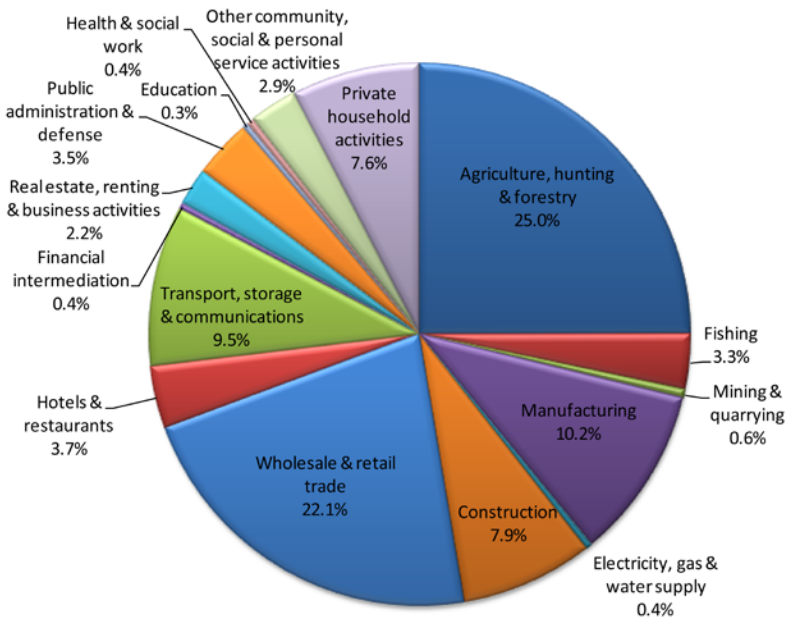
Source of basic data: LFS (July 2011), NSO.

Figure 7b. Distribution of workers with elementary education, by sector of employment, 2011 (in %)



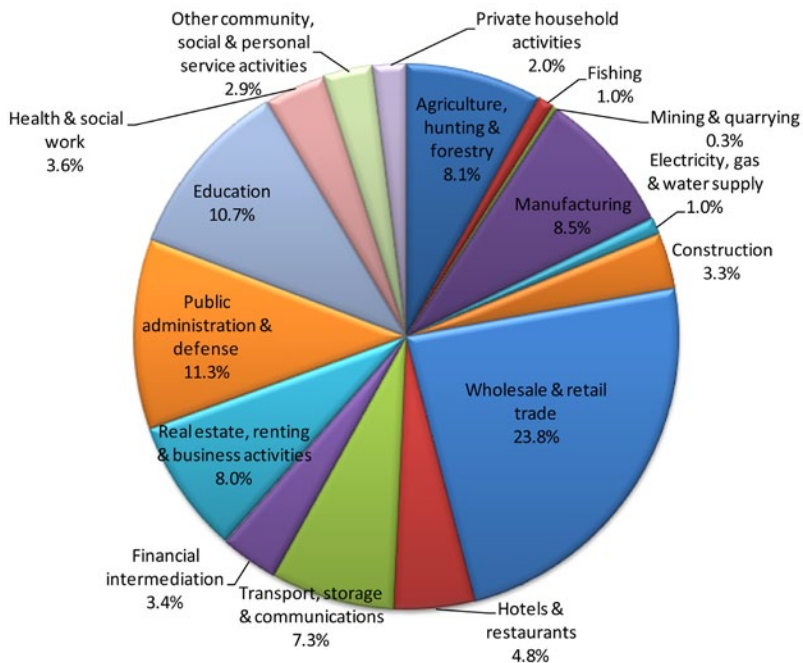
Source of basic data: LFS (July 2011), NSO.

Figure 7c. Distribution of workers with secondary education, by sector of employment, 2011 (in %)



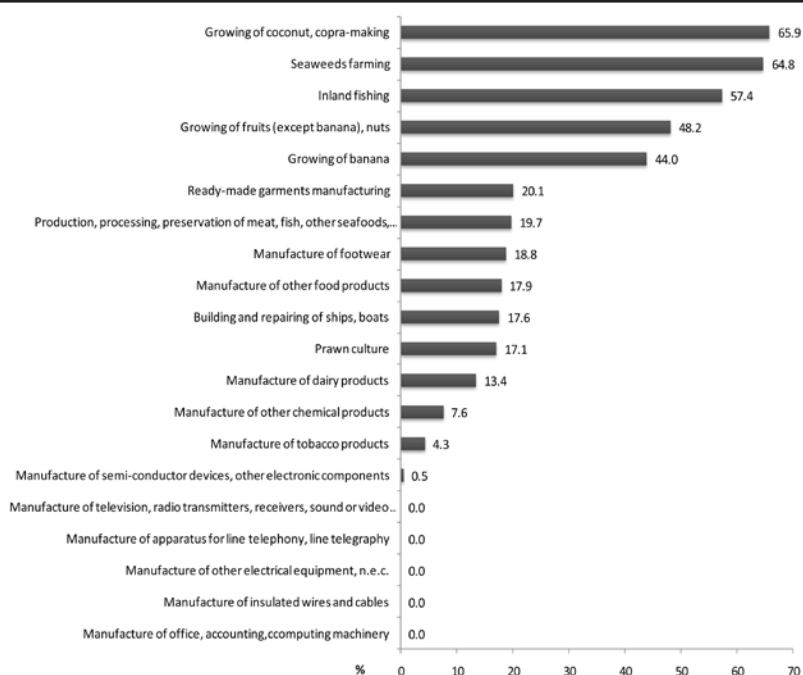
Source of basic data: LFS (July 2011), NSO.

Figure 7d. Distribution of workers with college education, by sector of employment, 2011 (in %)



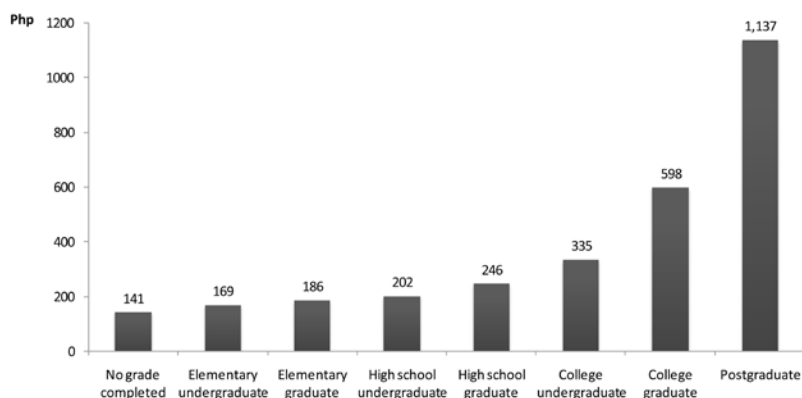
Source of basic data: LFS (July 2011), NSO.

Figure 8. Proportion of workers who are at most elementary graduate in selected subsectors, 2009 (in %)



Source of basic data: LFS (January 2010), NSO.

Figure 9. Average daily wage of wage/salary workers, by educational attainment, 2011 (in Philippine peso)

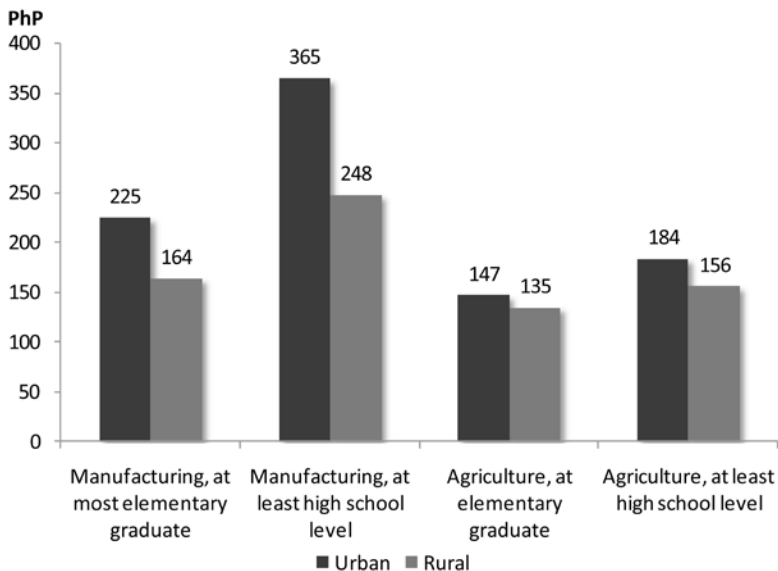


Source of basic data: LFS (July 2011), NSO.

2010) and other studies on human capital noted that additional investment in formal education increases potential earnings. In particular, the estimated returns to schooling are significantly higher for higher levels of education, i.e., high school graduate and higher. Using Mincerian wage analysis, the World Bank (2010) estimated the annual wage returns to completion of different levels of formal education as follows: 6–8 percent for elementary; 5–10 percent for high school; 9–12 percent for some college; and 16–18 percent for college degree or postgraduate studies.

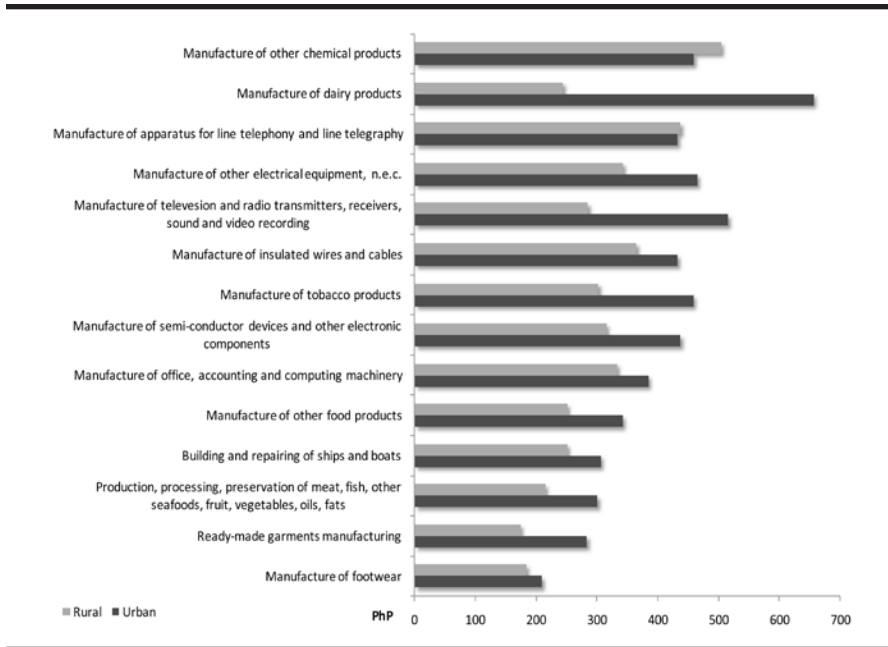
The wages received by less-educated workers in rural areas are even lower. The urban–rural wage gap is more evident in the manufacturing sector than in agriculture (Figure 10). Less-educated urban workers in many manufacturing subsectors receive relatively higher wages than their rural counterparts, especially in dairy products, tobacco products, television/radio transmitters/etc., semiconductors, and other electrical equipment (Figure 11).

Figure 10. Average daily wage of wage/salary workers in agriculture and manufacturing sectors, by highest educational attainment and by location, 2009 (in Philippine peso)



Source of basic data: LFS (January 2010), NSO.

Figure 11. Average daily wage of less-educated wage/salary workers in manufacturing subsectors, by location, 2009 (in Philippine peso)



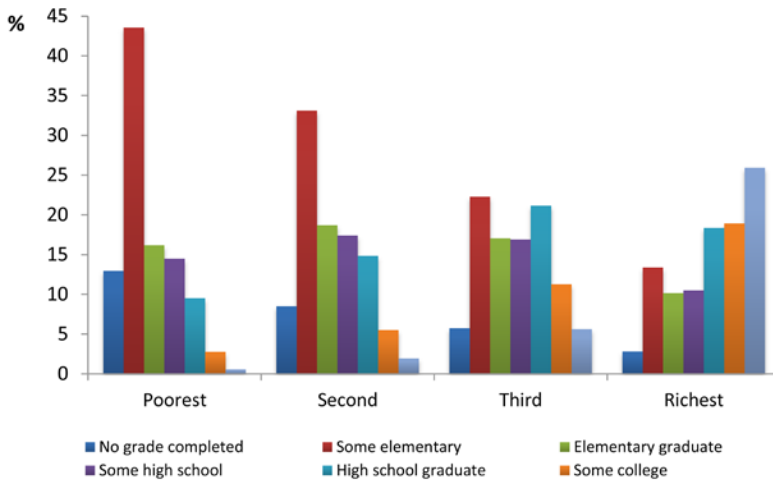
Source of basic data: LFS (January 2010), NSO.

Labor supply from the poor

That educational attainment tends to increase with income is apparent based on data from the National Statistics Office (NSO). As can be gleaned from Figure 12, the educational attainment of the poorest quartile is lowest among the four income groups. The poorest quartile has the lowest proportion of workers that are at least high school graduates. Meanwhile, the richest quartile has the highest proportion of workers that are college undergraduates or have a college degree. This pattern is evident in the shifting of the distribution of educational attainment toward the right as income increases. Table 6 shows that this positive relationship between educational attainment and per capita income is observed over time, from 2003 to 2009.

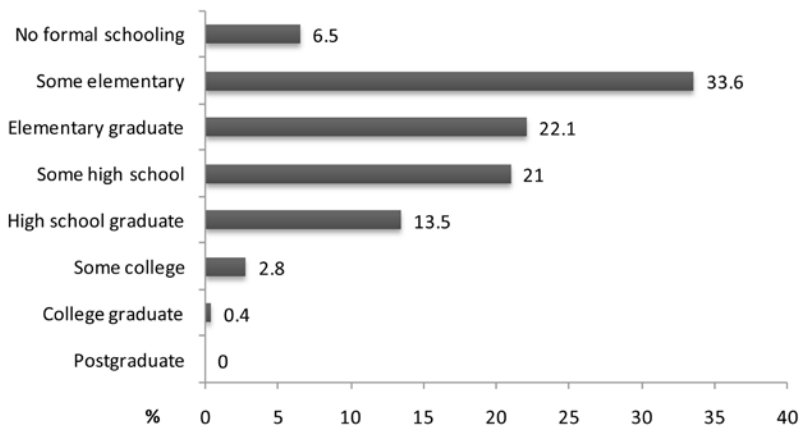
Because the majority of the poor, particularly the chronic poor (Figure 13), are less educated, it can be argued that employment opportunities for this segment of the population are greater in such subsectors as crop

Figure 12. Percentage distribution of workers (aged 25 and over) by highest educational attainment and by income quartile, 2009 (in %)



Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

Figure 13. Highest educational attainment of the chronic poor, 2009



Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

Table 6. Percentage distribution of workers, by highest educational attainment and by income quartile, 2003, 2006, 2009 (in %)

Income quartile	No grade completed	Some elementary	Elementary graduate	Some high school	High school graduate	Some college	At least college graduate
2003							
Poorest	15.4	43.1	16.1	13.7	8.5	2.6	0.4
Second	11.2	34.2	17.6	16.6	13.5	5.6	1.4
Third	6.5	24.2	17.1	17.6	18.4	11.1	5.1
Richest	4.6	15.1	10.3	12.5	18.3	17.8	21.5
Total	8.6	27.1	14.9	15.1	15.5	10.4	8.6
2006							
Poorest	14.6	44.1	16.3	14.1	7.4	3.0	0.5
Second	8.9	32.7	19.0	18.0	14.6	5.2	1.6
Third	6.1	24.0	16.5	15.7	21.2	11.4	5.2
Richest	3.9	14.6	9.6	10.6	19.5	17.6	24.2
Total	7.6	26.7	14.9	14.3	16.6	10.4	9.5
2009							
Poorest	13.0	43.6	16.2	14.5	9.5	2.8	0.6
Second	8.5	33.1	18.7	17.4	14.9	5.5	1.9
Third	5.7	22.3	17.0	16.9	21.2	11.3	5.6
Richest	2.8	13.4	10.1	10.5	18.4	18.9	25.9
Total	6.8	25.9	15.1	14.6	16.7	10.7	10.2

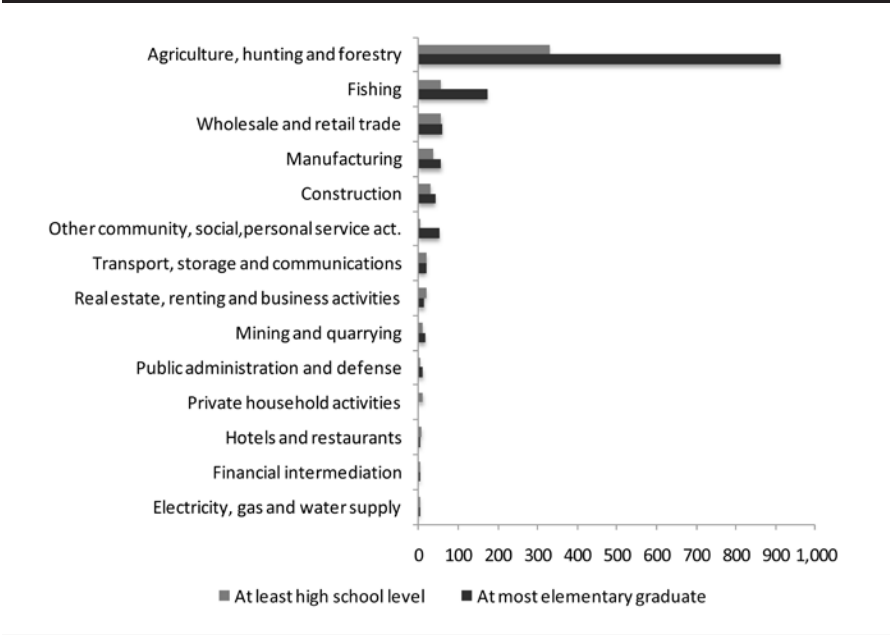
Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

growing, fishing, as well as manufacturing of garments, footwear, and food products—activities that require lower skills. In fact, the majority of chronic poor workers who are less educated are found in agriculture/hunting/forestry and fishery sectors (Figure 14). Some of them are absorbed in such sectors as wholesale/retail trade, manufacturing, construction, and private household activities. A similar pattern is observed in rural areas since the chronic poor workers are predominantly rural dwellers (Figure 15).

Only a few subsectors were able to absorb less-educated, chronic poor workers (Figure 16). These subsectors grew or have the potential to grow as a result of increasing regional economic integration. They include coconut growing, banana growing, seaweeds farming, and inland fishing. Unfortunately, wages in these subsectors are among the lowest, ranging from PHP 105 to PHP 228 per day (Figure 17).

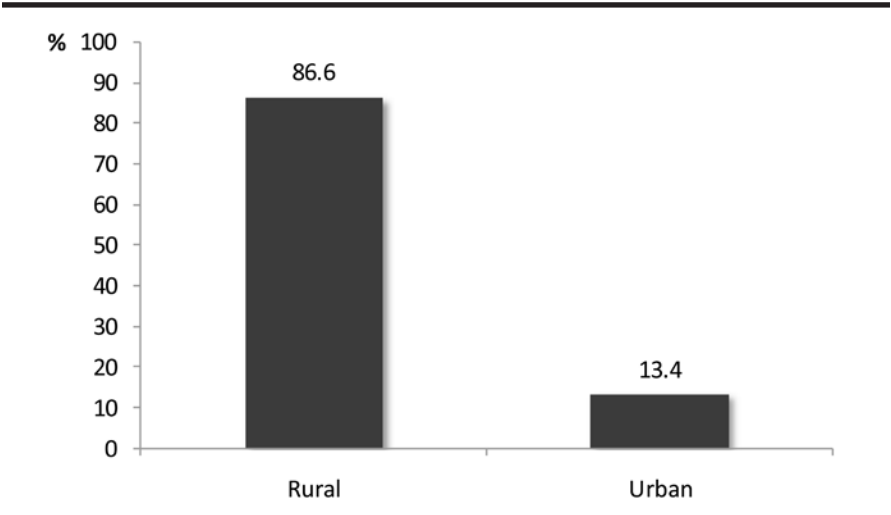
It is important that these less-educated, chronic poor workers get the highest possible pay for their level of education to help reduce poverty. Some manufacturing subsectors, particularly those that are linked to regional production networks, offer relatively higher wages to their less-educated workforce. For instance, a few ones who are employed in the skilled-labor-intensive and more capital-intensive manufacturing of semiconductor devices receive a high wage of PHP 345 per day (Figure 17). Some less-educated workers in other manufacturing subsectors such as dairy products, chemicals/chemical products, and meat/fish production/processing/preservation receive a basic pay of above PHP 200 per day. However, workers with similar educational attainment in some low-skilled, labor-intensive manufacturing subsectors such as garments, apparel, and other food products receive an average daily wage ranging only from PHP 100 to PHP 200, which is comparable with wages in agriculture-related subsectors, particularly crop growing.

Figure 14. Chronic poor workers absorbed in selected sectors, by highest educational attainment, 2009



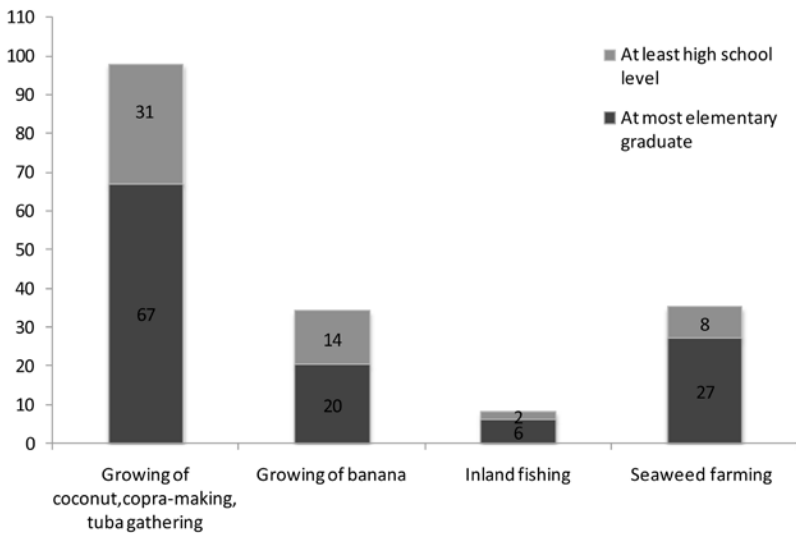
Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

Figure 15. Location of chronic poor workers, 2009 (in %)



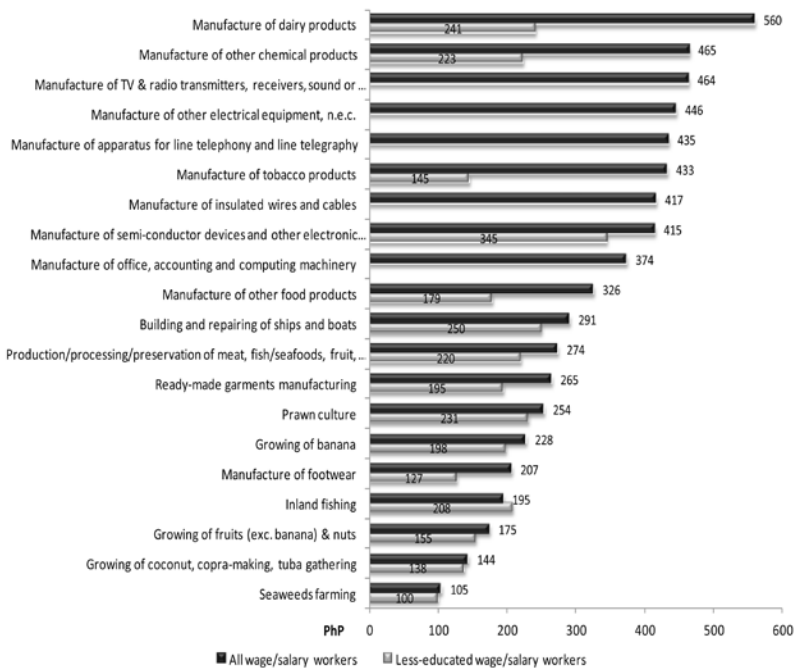
Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

Figure 16. Chronic poor workers absorbed in selected subsectors, by highest educational attainment, 2009



Sources of basic data: Matched files of FIES (2003, 2006, and 2009) and LFS (January 2004, 2007, and 2010), NSO.

Figure 17. Average daily wage of less-educated wage/salary workers in selected subsectors, 2009 (in Philippine peso)



Source of basic data: LFS (January 2010), NSO.

3 Conclusions and Recommendations

This paper examined how the Philippines can improve its record on poverty reduction by looking at how it can generate greater demand for the labor services of the poor. Specifically, this paper looked into the linkage between regional production networks and inclusive growth in the Philippines through employment generation for the poor. The study showed that the manufacturing sector provides employment opportunities for the poor and also offers relatively higher wages compared with agriculture, which is the major employer of chronic poor workers. However, expected high-productivity employment opportunities from the manufacturing sector were not fully realized due to some bottlenecks in the sector. This partly explains the persistence of poverty in the Philippines. To promote inclusive growth and reduce poverty, the manufacturing sector has to be made more competitive and, at the same time, productivity in the agriculture sector (the major employer of the poor) has to be increased.

Summary and Conclusions

- i. The manufacturing sector can provide opportunities for productive employment for the poor.
 - a. Agriculture, hunting, and forestry (28.7%), wholesale/retail trade (19.7%), and manufacturing (8.3%) sectors were the three largest sources of employment in the country.
 - b. Of the workforce, 30 percent of workers in the manufacturing sector are less educated (elementary graduate, at most).
 - c. Manufacturing provides higher pay for less-educated workers than the agriculture sector.
- ii. Subsectors that grew as a result of regional economic integration absorb only a few less-educated workers while subsectors that did not grow as much have more less-educated workers.

- a. Less-educated workers in manufacturing subsectors that have greater participation in the regional production networks (e.g., automotive and electronics parts and components) comprised less than 10 percent of the total workforce.
 - b. Some agriculture subsectors comprise 45–65 percent of less-educated workers while the low-skilled, labor-intensive manufacturing subsectors (e.g., processed food, garments, and footwear), although they are not major export players, have less-educated workers of around 20 percent of their total workforce.
- iii. The average daily wage of wage/salary workers is positively correlated with educational attainment.
 - a. Less-educated workers receive only less than PHP 200 per day.
 - b. The average daily wage of those who finished high school is 32 percent higher than that of elementary graduates.
- iv. Wages of less-educated workers in the growing subsectors of manufacturing are higher.
 - a. Less-educated workers in manufacturing subsectors that are linked to regional production networks receive higher wages. For example, workers in electronics parts and components manufacturing (i.e., semiconductor devices) receive an average daily wage of PHP 345.
 - b. The average daily wage of less-educated workers in other manufacturing subsectors (e.g., dairy products, chemicals/chemical products, and meat/fish production/processing/preservation) is above PHP 200.
 - c. The average daily wage of less-educated workers in some low-skilled, labor-intensive manufacturing subsectors (e.g., garments, apparel, and other food products) ranges from PHP 100 to PHP 200, comparable with wages in agriculture-related subsectors, particularly crop growing.

Recommendations

Inclusive growth, as defined in the literature, means broad-based growth with encompassing benefits that can reach the marginalized and the disadvantaged, such as the poor in developing countries. These marginalized and disadvantaged are mainly engaged in agriculture and are rural dwellers. Inclusive growth, thus, can be equated to growth that is pro-poor,

pro-employment, pro-agriculture, and pro-rural development. In addition, the World Bank noted that productive employment is assumed to be the main instrument for a sustainable and inclusive growth.

To achieve more inclusive growth and to reduce poverty, it is important to address the problem from both the demand and supply sides. Demand for less-educated workers should be increased to absorb the significant number of less-educated workers among the poor. Regional economic integration that leads to regional production networks resulting in a more dynamic manufacturing sector can be a source of that increased demand. At the same time, investments have to be made to increase the access of the poor to quality education so that they can take advantage of employment opportunities that are not available to most of the poor right now.

This study has shown that the manufacturing sector absorbs “less-educated workers” and pays them higher wages than other sectors. If the manufacturing sector can grow faster, this can provide employment opportunities for less-educated poor workers. It is imperative to address constraints in the manufacturing sector so that it can absorb a greater number of less-educated poor and lift them out of poverty. Aldaba and Aldaba (2012) highlighted some concrete measures on how the manufacturing sector can be revived and become more competitive. Alongside an industrial policy that aims to develop local firms, Aldaba and Aldaba (2012) also suggests that the government must carry out some measures that will improve the investment climate in the country and increase the participation of local firms in higher segments of the industry value chain. Some of the recommended policies in the aforementioned paper are as follows:

- human resource development and training;
- industrial and technology upgrading, or development of technological capabilities and specialized skills of firms;
- finance support programs for small and medium enterprises (SMEs);
- improve linkages between local firms (including SMEs) and MNCs through information exchange;
- promotion of subcontracting and outsourcing activities;
- improvement of infrastructure and logistics through policies aimed at lowering power and communication costs, provision of sufficient port systems, travel time reduction, and offering of travel and shipment options;

- improvement of overall investment climate by addressing low institutional quality, corruption, and inefficient bureaucracy; and
- capacity building and adequate funding for the Department of Trade and Industry and Board of Investments' Competitiveness and Linkages Program.

However, it should also be recognized that the manufacturing sector employs only 8.3 percent of the total workforce, of which 23 percent are less educated. This translates to around 1 million less-educated workers in the manufacturing sector. Assuming an annual growth rate of 5 percent or higher, the manufacturing sector can only absorb a small proportion of the less-educated workers. It is, thus, unlikely that the manufacturing sector can quickly absorb all the excess labor in the agriculture sector, where 74 percent of the chronic poor workers are currently employed. If the government aims to reduce poverty more quickly, it is equally important to increase productivity also in the agriculture sector.

Moreover, it is also important that the quality of labor being supplied by the poor be enhanced to open more employment opportunities for them. At the same time, improving labor quality will have a long-term positive impact on technical, skill-intensive manufacturing firms that participate in regional production networks, such as electronics, machineries, chemicals, and high-technology agro-industry (World Bank 2010). In fact, the *2010 Philippines Skills Report* noted that manufacturing firms with a higher proportion of skilled workers, or those with at least some high school⁴ education, tend to be more competitive. Hence, programs aimed at improving human capital, such as the *Pantawid Pamilyang Pilipino Program* (4Ps), which is a conditional cash transfer program, is very timely and relevant.

⁴ World Bank (2010) considered education as an indirect measure of intermediate and advanced skills, i.e., academic, generic, and technical, and defined skilled workers as those with at least some high school education.

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