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Does economic growth benefit the poor? Evidence from the 2015-2018 growth episode

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DISCUSSION PAPER SERIES NO. 2020-56

Does Economic Growth Benefit the Poor? Evidence from the 2015-2018 Growth Episode

*Celia M. Reyes, Arkin A. Arboneda, Ronina D. Asis
and Anna Rita P. Vargas*



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Does Economic Growth Benefit the Poor?
Evidence from the 2015-2018 Growth Episode

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PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

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Abstract

The Philippines is generally winning its fight against poverty as the magnitude and incidence of poverty, income gap, and severity of poverty have all decreased in 2018. Poverty decomposition analysis shows that both economic growth and income redistribution factors have equally contributed to the declining poverty levels. However, the decline in poverty gap and poverty severity is largely explained by income redistribution. On the other hand, while inequality measures indicate a more equal distribution of income, poverty indicators continue to vary widely across the regions. Given these developments, the Philippine government has been enacting different policies and programs, including the conditional cash transfer program, social pension program, progressive taxation policies, and universal access to tertiary education policy, to further address poverty and inequality in country in pursuit of eradicating all forms of poverty as targeted by the Sustainable Development Goals.

Keywords: Philippines, poverty, poverty decomposition, inequality

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1. Introduction

More Filipinos were lifted out of poverty in 2018, as poverty estimates reported by the Philippine Statistics Authority (PSA) show a decline in the number of poor people and families. Poverty incidence among Filipinos decreased to 16.7% in 2018 from 23.5% in 2015, which is the greatest decrease in poverty rates recorded in the recent years. Income inequality has also improved during the same period, although estimates by the World Bank showed that the Gini index in the Philippines remained to be significantly higher than our neighboring countries in the Southeast Asian region. These improvements in poverty and inequality coincides with the consistently fast economic growth the country has experienced in the recent years.

This significant decrease in poverty rates is a huge step towards the achievement of ending all forms of poverty by 2030 as stipulated in the Sustainable Development Goals (SDGs). Based on the baseline data of 23.5% in 2015, the current performance of the country in terms of poverty eradication is halfway towards the target of 11.7% by 2030 (i.e. half of the baseline data in 2015). Although about a decade is left to achieve this target, it would be important to assess the current trends and patterns of poverty in the country and to evaluate various poverty reduction efforts of the government. In addition to this, the long-term goal of the Philippines, as stated in the *AmBisyon Natin 2040*, is to have a “predominantly middle-class society,” wherein extreme poverty is eradicated, and all citizens are living comfortable and healthy lives (NEDA 2017, p. 7). Thus, the main concern of government is to be able to effectively increase opportunities and incomes equitably wherein each sector can proportionally reap the benefits from the growing economy.

In line with this, this paper shows the general poverty situation of the country and its regions. A decomposition analysis of poverty is also included in the succeeding section to determine the contributions of economic growth and redistribution to the reduction in poverty. Section 3 discusses trends and patterns of income inequality. Lastly, poverty reduction programs and other policies implemented to safeguard the vulnerable population and to promote overall human capital development were tackled in the last section.

2. Trends and patterns of poverty

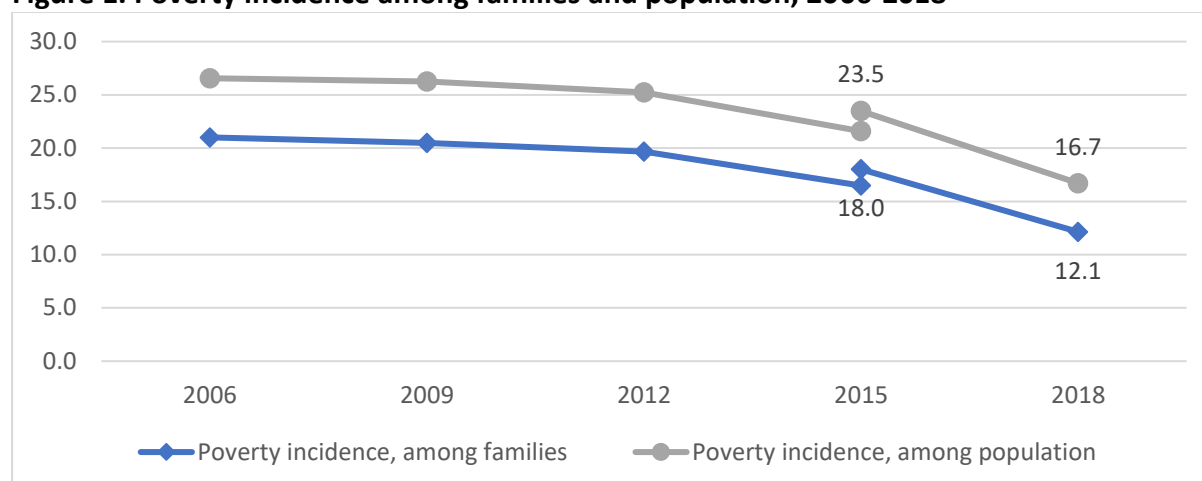
In 2018, there were a total of 17.7 million Filipinos whose per capita income is not sufficient to meet their basic food and non-food needs, as measured by the poverty threshold¹. This translates to a poverty incidence among population of 16.7%, which is significantly lower compared to the 23.5% estimate in 2015 (**Figure 1**). Meanwhile, the proportion of poor families in 2018 was estimated 12.1%, which is equivalent to about three million families. This is 5.9 percentage points lower compared to the estimate in 2015.

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¹ In 2018, the annual per capita poverty threshold in 2018 is estimated at PHP 25,813, while the annual per capita food threshold is estimated at PHP 18,126 (PSA 2019).

Subsistence incidence among Filipinos, or the proportion of the population whose income is not enough to meet the basic food needs (i.e. as identified by the food threshold¹), was registered at 5.2% in 2018, which is equivalent to 5.5 million Filipinos (**Figure 2**). Meanwhile, subsistence incidence among families was estimated at 3.4% during the same year, which is equivalent to about eight hundred thousand families with incomes below the food threshold.

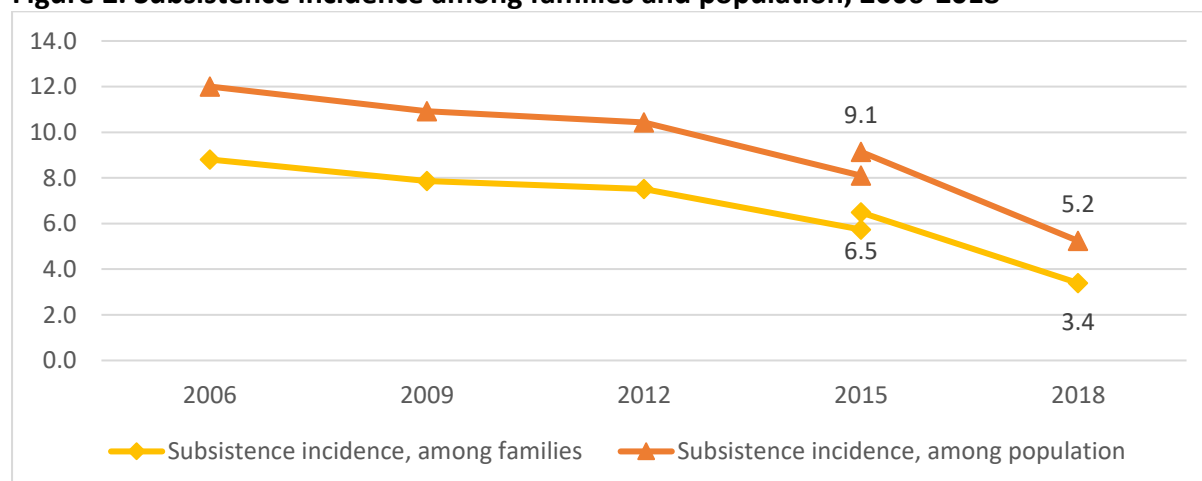
Figure 1. Poverty incidence among families and population, 2006-2018



Note: The 2015 estimates were revised/updated based on the rebasing of the Consumer Price Index market basket of prices from 2006 to 2012, and the adoption of the 2015 Census of Population results for the weights in the Family Income and Expenditure Survey.

Source: Family Income and Expenditure Survey, Philippine Statistics Authority

Figure 2. Subsistence incidence among families and population, 2006-2018

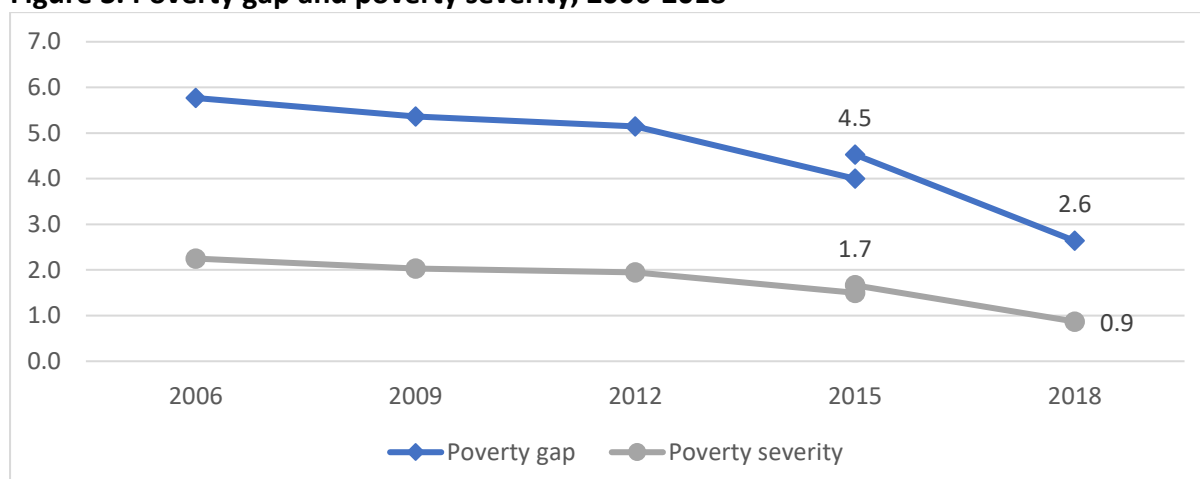


Note: The 2015 estimates were revised/updated based on the rebasing of the Consumer Price Index market basket of prices from 2006 to 2012, and the adoption of the 2015 Census of Population results for the weights in the Family Income and Expenditure Survey.

Source: Family Income and Expenditure Survey, Philippine Statistics Authority

In addition to the declining poverty and subsistence incidences, the depth and severity of poverty likewise improved in 2018 (**Figure 3**). In three years, the poverty gap, which measures the average shortfall of the population from the poverty threshold, has been reduced by 1.9 percentage points. Meanwhile, poverty severity, which is the squared poverty gap, has also been reduced, albeit slowly, by about half during the same period.

Figure 3. Poverty gap and poverty severity, 2006-2018



Note: The 2015 estimates were revised/updated based on the rebasing of the Consumer Price Index market basket of prices from 2006 to 2012, and the adoption of the 2015 Census of Population results for the weights in the Family Income and Expenditure Survey.

Source: Family Income and Expenditure Survey, Philippine Statistics Authority

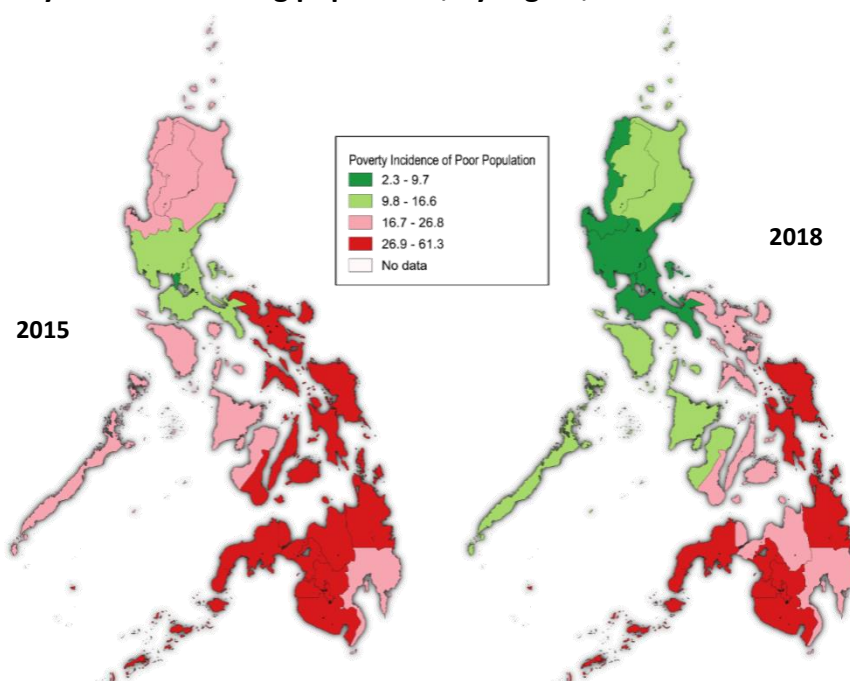
2.1. Disaggregation of poverty measures

Poverty incidence in all of the regions have improved in 2018, except for the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), which is the only one that recorded an increase in poverty incidence from 59.4% in 2015 to 61.8% in 2018 (**Figure 4**). Among the regions, incidence of poverty has greatly improved in Northern Mindanao (from 38.7% to 23.1%), Bicol Region (from 39.8% to 27.0%), and Central Visayas (from 29.4% to 17.7%). The National Capital Region (NCR) and its surrounding regions remained to have the lowest incidence of poverty while Bicol Region, Eastern Visayas and most of the regions in Mindanao remained to have the highest poverty incidence in 2018.

The four districts composed of cities that make up the NCR, the provinces of Pampanga in Central Luzon, Laguna in CALABARZON, and La Union in Ilocos Region have recorded the lowest incidence of poverty in 2018. These provinces recorded a poverty incidence among population of 3.0%, 3.9%, and 4.4%, respectively (**Figure 5**). Meanwhile, the provinces in the BARMM recorded the highest poverty incidence, each with more than 50% of the population with incomes below the poverty threshold (except for Maguindanao which recorded a 48.5% poverty incidence). Comparing the estimates between the two periods, the provinces of Sorsogon in Bicol Region, and Kalinga and Ifugao in the Cordillera Administrative Region recorded the highest decrease in poverty incidence at around thirty percentage points.

Education and demography also play vital roles in the nature of poverty in the country. Poverty rate among families significantly declines as the household head becomes more educated (**Table 1**). Poverty incidence among families headed by persons who have not been able to complete any grade level was at 44.7%, which is about five times higher than those whose heads have reached lower secondary education. This suggests that education is really an important factor in breaking the cycle of poverty. Thus, efforts towards increasing access to opportunities in basic and higher education for all would contribute towards poverty eradication. In terms of family size, poverty rate rises as families become larger, suggesting the importance of addressing population management issues in relation to poverty reduction measures.

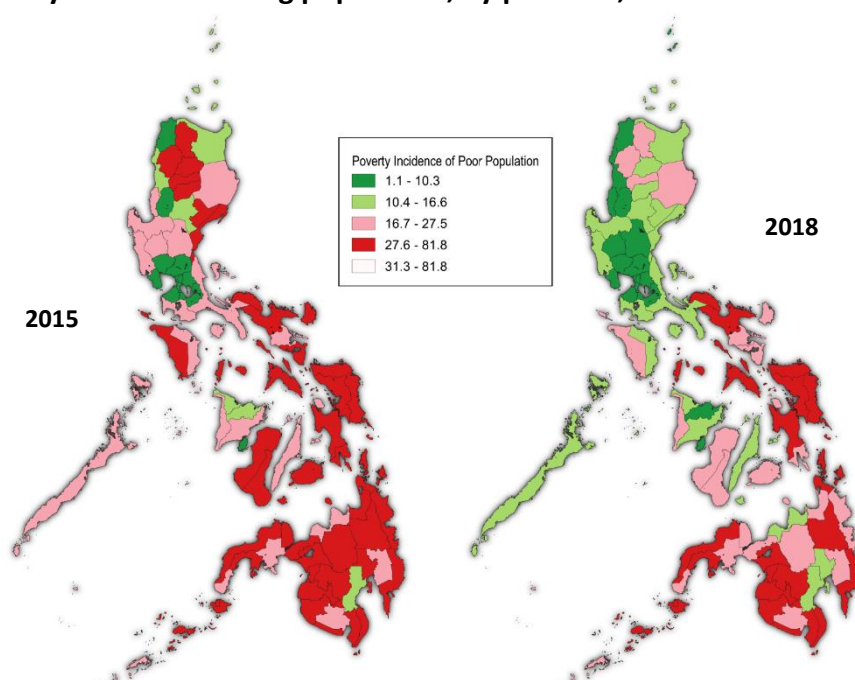
Figure 4. Poverty incidence among population, by region, 2015 and 2018



Note: The 2015 estimates were revised/updated based on the rebasing of the Consumer Price Index market basket of prices from 2006 to 2012, and the adoption of the 2015 Census of Population results for the weights in the Family Income and Expenditure Survey.

Source: Family Income and Expenditure Survey, Philippine Statistics Authority

Figure 5. Poverty incidence among population, by province, 2015 and 2018



Notes:

1. The 2015 estimates were revised/updated based on the rebasing of the Consumer Price Index market basket of prices from 2006 to 2012, and the adoption of the 2015 Census of Population results for the weights in the Family Income and Expenditure Survey.
2. Caution must be taken in utilizing the estimates for Isabela City and the provinces of Batanes, Aurora, Guimaras, Siquijor, and Camiguin due to the very small sample sizes in 2015.

Source: Family Income and Expenditure Survey, Philippine Statistics Authority

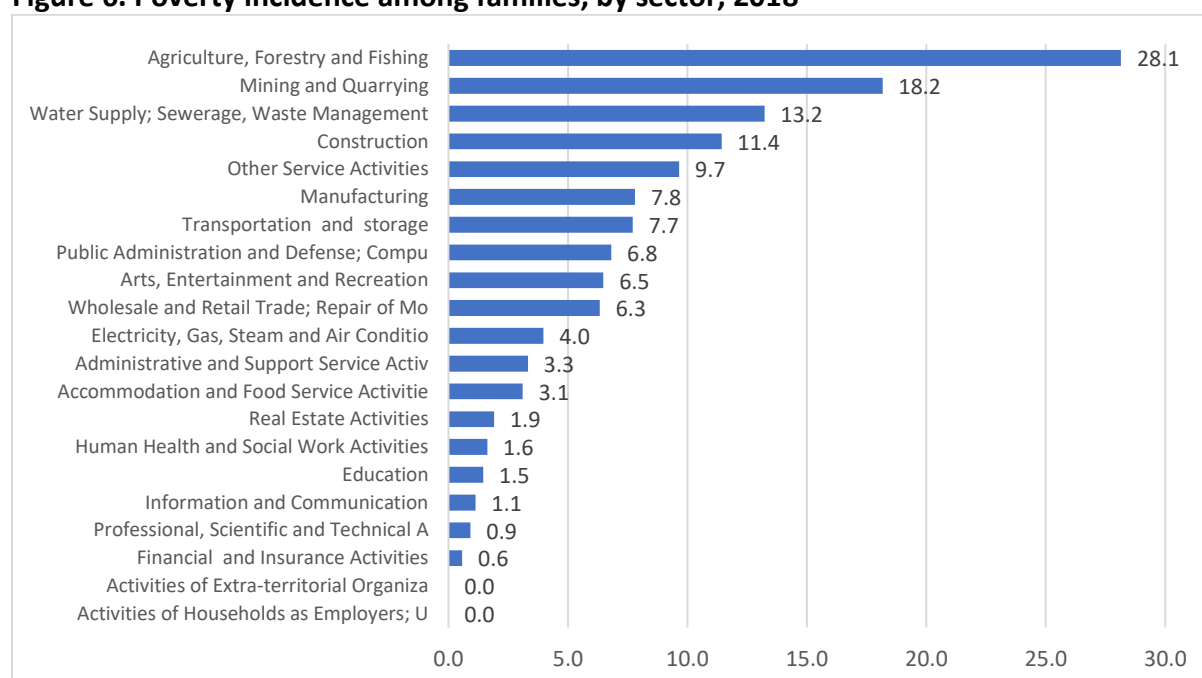
Poverty in the country still remains to be a rural (**Table 1**) and agricultural phenomenon (**Figure 6**). In 2018, about 7 out of 10 poor families are residing in rural areas. Poverty incidence among families in rural areas (18.3%) is about three times higher than those in urban areas (6.5%).

Table 1. Correlates of poverty, 2018

Characteristic/Area	Number of households	Poverty incidence	Share to total poor
Highest grade completed of the HH head			
No grade completed	458,604	44.74	6.83
Early childhood education	9,971	37.57	0.12
Primary education	8,490,573	20.67	58.41
Lower secondary education	9,761,899	9.21	29.93
Upper secondary education	68,036	4.24	0.10
Post-secondary non-tertiary education	613,479	4.79	0.98
Short-cycle tertiary education	747,598	2.52	0.63
Bachelor level education	4,444,674	2.02	2.99
Master level education	119,194	0.25	0.01
Doctoral level education	33,145	0.00	0.00
Family size			
3 members or less	7,895,157	3.08	8.58
4 to 6 members	11,690,966	13.50	55.73
7 members or more	3,383,899	29.87	35.69
Location of residence			
Urban	12,912,192	6.51	27.98
Rural	11,834,982	18.28	72.02

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Figure 6. Poverty incidence among families, by sector, 2018



Note: Industry classification is based on the occupation of the household head

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

In terms of sector, poverty is highest among households headed by those working in the agriculture, forestry and fishing, and mining and quarrying industries. In 2018, poverty incidence among households in these subsectors were estimated at 28.1% and 18.2%, respectively. Most of the subsectors in the industry sector (i.e. manufacturing, transport and storage, and water supply) have estimated poverty incidences of about 10% or less. Meanwhile, the services sector generally have the lowest poverty incidence estimates among the subsectors.

2.2. Non-income-based measures of poverty

Trends in poverty can also be assessed using non-income-based measurements to cover other dimensions of standard of living aside from income status. These include housing characteristics and access of the population to various basic amenities and infrastructure.

In the period from 2015 to 2018, access to electricity and improved water sources had shown remarkable improvements, both having recorded almost three percentage point increase in coverage. Meanwhile, access to improved sanitation facilities slightly declined from 93.3% in 2015 to 92.0% in 2018.

On the other hand, the percentage of the population living in housing units with roof and outer walls made of strong construction materials have significantly increased from 74.5% in 2015 to 84.6% in 2018. Meanwhile, the percentage of the population living as informal settlers decreased, albeit only slightly, from 3.2% in 2015 to 2.3% in 2018.

Table 2. Percentage of population having access to basic amenities, living in housing made of strong materials, and living as informal settlers, 2015 and 2018

Non-income-based indicators of poverty	2015	2018
Access to electricity	90.9	93.3
Access to improved waters sources	89.4	93.8
Access to improved sanitation facilities	93.3	92.0
Living in housing made of strong materials	74.5	84.6
Informal settlers	3.2	2.3

Notes:

1. Improved water sources include community water systems, protected well/tube well/borehole, developed spring, rainwater, and tanker truck/peddler.
2. Improved sanitation facilities include flush system to piped sewer/septic tank/pit latrine, ventilated improved pit latrine, pit latrine with slab, and composting toilet.
3. Housing are considered to be made of strong materials if construction materials for roof and outer wall are both at least predominantly strong materials.
4. Informal settlers are persons living in a rent-free house and/or lot without consent of the owner.

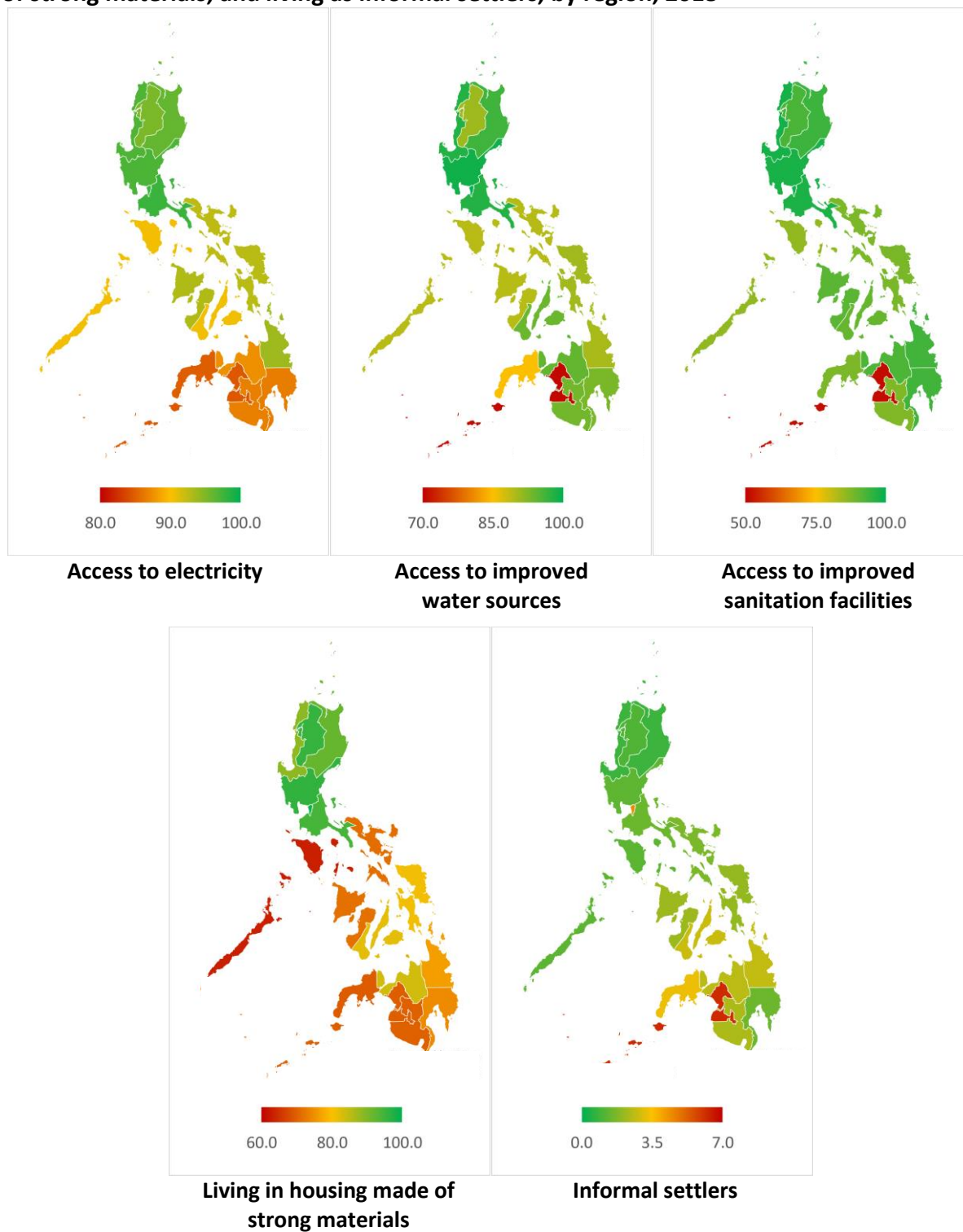
Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Looking at regional disparities, the National Capital Region and its neighboring regions generally have the highest percentage of the population with access to electricity, improved water sources and improved sanitation facilities. However, access to these basic amenities are generally lowest in the regions in Mindanao.

Regions in mainland Luzon have the highest percentage of the population living in housing units made of strong materials. However, it is noteworthy that regions in the eastern seaboard (e.g. Bicol Region, Eastern Visayas, Caraga), which are often struck by natural calamities such

as typhoons, have a significant proportion of the population living in makeshift housing or housing units made of light materials.

Figure 7. Percentage of population having access to basic amenities, living in housing made of strong materials, and living as informal settlers, by region, 2018



Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

2.3. Poverty decomposition

Following the method of Datt and Ravallion (1992), the change in poverty rates between two periods can be disaggregated into components which can be attributed to economic growth and to changes in the income distribution:

$$P_{t+n} - P_t = \underbrace{G(t, t+n; r)}_{\text{growth component}} + \underbrace{D(t, t+n; r)}_{\text{redistribution component}} + \underbrace{R(t, t+n; r)}_{\text{residual}}$$

in which the components are given by:

$$G(t, t+n; r) \equiv P\left(\frac{z}{\mu_{t+n}}, L_t\right) - P\left(\frac{z}{\mu_t}, L_t\right)$$

$$D(t, t+n; r) \equiv P\left(\frac{z}{\mu_t}, L_{t+n}\right) - P\left(\frac{z}{\mu_t}, L_t\right)$$

$$R(t, t+n; r) = G(t, t+n; t+n) - G(t, t+n; t) = D(t, t+n; t+n) - D(t, t+n; t),$$

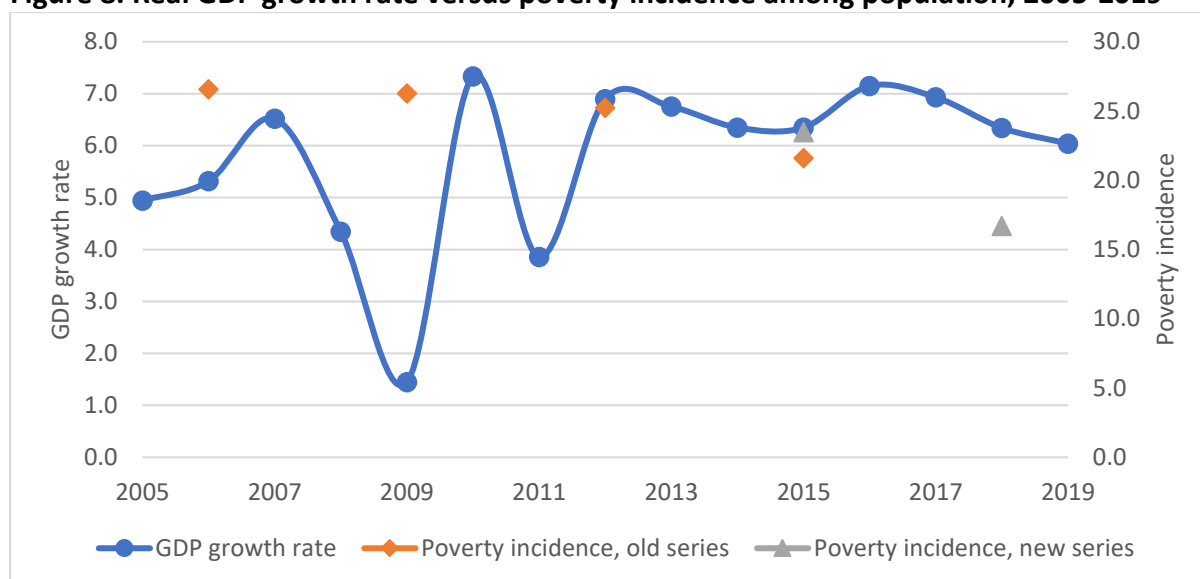
where P_t is a poverty measure at time t , z is the poverty line, μ_t is the mean income, and L_t is a vector of parameters fully describing the Lorenz curve at time t . The growth component refers to the change in poverty measures due to changes in the mean income level while holding the income distribution constant. Meanwhile, the redistribution component refers to the change in poverty measures due to a change in the distribution (as described by the Lorenz curve) while holding the mean income constant. Lastly, the residual (noting that $r = t$), can be interpreted as the difference between the growth component evaluated at the terminal and initial Lorenz curves, or the difference between the redistribution component evaluated at the terminal and initial mean incomes.

The decomposition analysis shows estimates of the component effects wherein a positive (negative) value indicates a poverty worsening (reducing) effect. Lastly, the interaction component measures the change that is not exclusively attributed to growth or redistribution. In this paper, decomposition analysis of changes in poverty followed the methodology of Reyes and Tabuga (2011), which implemented the *gidecomposition* command in Stata. Datasets used in the analysis were deflated to 2015 prices, with deflators based on the changes in poverty thresholds from 2015 to 2018.

Economic growth has been consistently growing at six percent or above for eight straight years since 2012. Latest data shows that the gross domestic product of the country grew at 6.0% in 2019. Growth in the country has averaged 6.4% from 2010 to 2019, peaking at 7.3% in 2010.

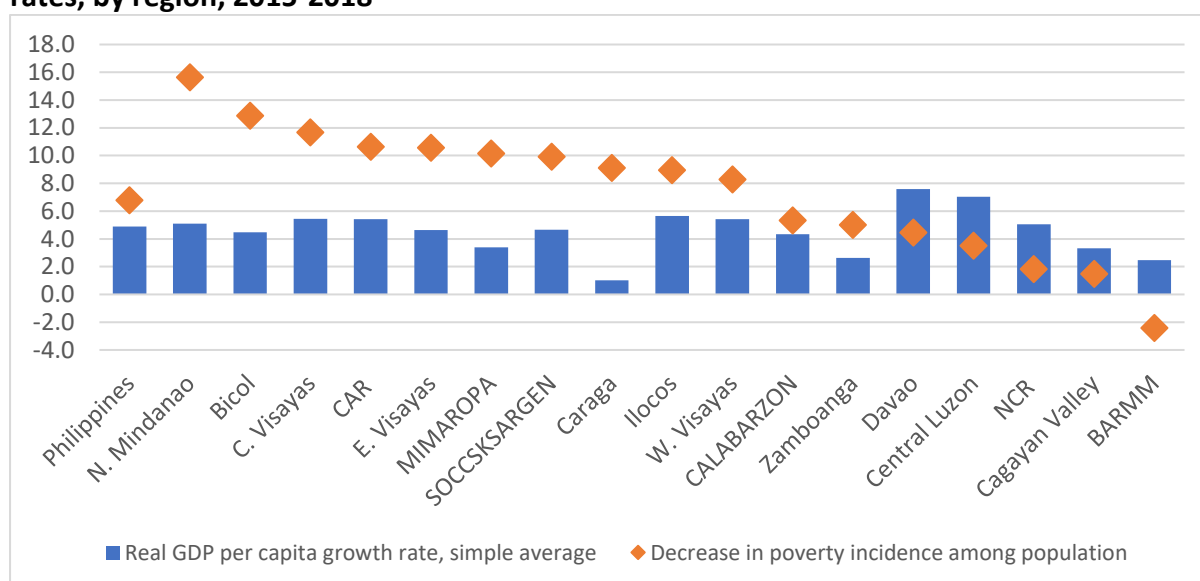
Although the country recorded high economic growth in the recent years, growth has not been consistent throughout the regions (**Figure 9**). On the average between 2015 to 2018, CALABARZON in Luzon, and Zamboanga Peninsula and Caraga Region in Mindanao experienced slower growth at below six percent compared to the other regions. Meanwhile, the poorest regions of MIMAROPA and BARMM, with gross regional domestic product at current prices of PHP 274 billion and 129 billion in 2018, respectively, experienced an average growth of 8.2% and 6.3% during the same period. Despite this growth, only BARMM recorded an increase in poverty rate in 2018 among the regions.

Figure 8. Real GDP growth rate versus poverty incidence among population, 2005-2019



Source of basic data: Philippine Statistics Authority

Figure 9. Per capita gross regional domestic product growth rates and difference in poverty rates, by region, 2015-2018



Notes:

1. Real GDP per capita growth rate are computed as the average of growth rates from 2015-2016, 2016-2017, and 2017-2018.
2. Change in poverty status are computed as the difference between the poverty incidence in 2015 and in 2018 (measured in percentage points).

Source of basic data: National Income Accounts (per capita GRDP growth rates), and Family Income and Expenditure Survey (poverty rates), Philippine Statistics Authority

Given the consistent growth from 2015 to 2018, poverty decomposition analysis results at the national level indicate that both growth and redistribution factors equally have a positive effect on the declining poverty levels (**Table 3**).

Table 3. Decomposition of changes in different poverty measures into growth and redistribution components, 2015 to 2018

Indicator	Change in poverty measure	Growth component	Redistribution component	Interaction component
Poverty headcount	-6.774	-3.205	-3.551	-0.017
Poverty gap	-2.335	-1.079	-1.407	0.150
Poverty severity	-1.022	-0.470	-0.649	0.097

Notes:

1. Income data are delated to 2015 prices based on the poverty thresholds.

2. This decomposition analysis uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

In terms of poverty incidence, the decline of 6.774 percentage points during the period of 2015 to 2018 was due to a growth effect of 3.205, a redistribution effect of 3.551, and an interaction effect of 0.017 percentage points. This means that if the income distribution remained at the 2015 level, the poverty incidence in 2018 would be at 20.3% instead of 16.7%. Meanwhile, had the mean income level remained constant during the same period, the poverty incidence among population would be at 19.9% at 2018.

Similarly, the decline in poverty gap and poverty severity has been largely explained by the redistribution component, since it accounts for more than fifty percent of the observed changes in these poverty measurements during the same period.

Looking at the poverty decomposition results for the regions (**Table 4**), the growth component has a positive effect in the declining poverty incidence in all regions except for NCR, Central Luzon, Zamboanga Peninsula, and BARMM. Similarly, the redistribution component has a similar effect to most of the regions except for Cagayan Valley, and BARMM.

Table 4. Decomposition of changes in poverty headcount into growth and redistribution components, by region, 2015 to 2018

Region	Change in poverty incidence	Growth component	Redistribution component	Interaction component
National Capital Region	-1.820	0.110	-2.137	0.208
Cordillera Administrative Region	-10.641	-9.224	-2.187	0.770
Ilocos Region	-8.957	-7.353	-1.999	0.395
Cagayan Valley	-1.480	-3.438	1.060	0.898
Central Luzon	-3.496	1.299	-4.611	-0.183
CALABARZON	-5.317	-4.221	-0.603	-0.494
MIMAROPA	-10.145	-0.700	-9.420	-0.025
Bicol Region	-12.857	-13.581	-0.018	0.742
Western Visayas	-8.281	-5.625	-3.127	0.471
Central Visayas	-11.659	-8.174	-2.454	-1.031
Eastern Visayas	-10.554	-5.818	-3.725	-1.010
Zamboanga Peninsula	-4.995	0.000	-4.630	-0.365
Northern Mindanao	-15.641	-4.169	-10.502	-0.970
Davao Region	-4.442	-0.546	-3.582	-0.315
SOCCSKSARGEN	-9.924	-6.098	-1.810	-2.017
Caraga	-9.127	-7.267	-1.750	-0.110

Region	Change in poverty incidence	Growth component	Redistribution component	Interaction component
Bangsamoro Autonomous Region in Muslim Mindanao	2.427	2.130	0.566	-0.269

Notes:

1. Income data are delated to 2015 prices based on the poverty thresholds.

2. This decomposition analysis uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

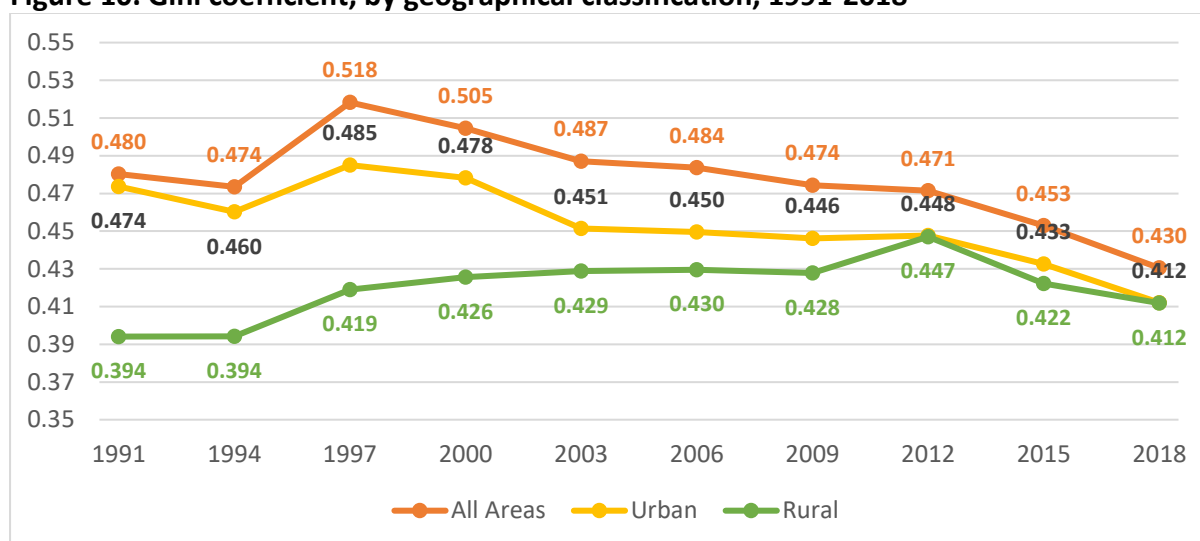
Among the regions, the growth component significantly contributed to the reduction in poverty rates in Cagayan Valley. In particular, should the income distribution remained at the 2015 level, poverty incidence in the region would be down to 14.3% in 2018, which would be more than double than the observed decrease of 1.5 percentage points to 16.3%. Although BARMM experienced a positive average economic growth from 2015 to 2018 at 2.5%, the growth component actually contributed significantly to the increase in the poverty incidence of the region. Meanwhile, although Central Luzon and Davao regions recorded the highest average economic growth among the regions during the same period, the growth component did not significantly contribute to the reduction in their respective poverty rates.

3. Trends and patterns of inequality

Alongside poverty rates, there have also been slight improvements in several indicators of income inequality from 2015 to 2018. The overall Gini index for the country has been continuously declining since 1997 (**Figure 10**). From 0.5183 in 1997 to 0.4529 in 2015, it went further down to 0.4305 in 2018. This suggests that the income distribution has been becoming more equitable over the span of 22 years.

Similar to the situation at the national level, income distribution in the urban areas has been the most equitable since 1991, with a Gini index of 0.4121 in 2018. Meanwhile, the Gini index of rural areas has been constantly increasing until it peaked and coincided with the Gini index of urban areas in 2012. After which, it has been declining and is now at 0.4118 in 2018, which is slightly lower than that of urban areas during the same period.

Figure 10. Gini coefficient, by geographical classification, 1991-2018



Note: This estimation uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Movement towards income equality can also be seen by the slight increase in the share of the average income of the poorest 20 percent (**Table 5**). The higher their share would mean a more equal distribution of income. From a total of 5.4% share in 2015, the share of average per capita income of the poorest 20 percent slightly rose to 5.9% in 2018. This has been the highest share of the poorest 20 percent among the available data since 1991 (**Figure 11**). Meanwhile, the share of the richest decile slightly decreased from 35.3% in 2015 to 33.8% in 2018. In a perfect equality, the bottom 20 percent should receive 20% of the aggregate income.

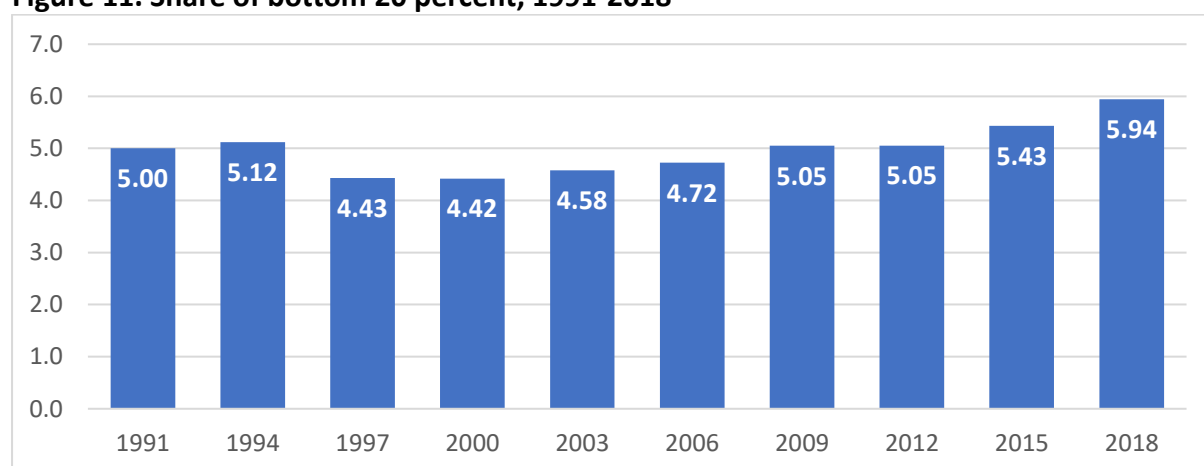
Table 5. Average per capita income (at current prices) by decile, 2015-2018

Per capita income decile	2015		2018	
	Average per capita income (in PHP)	Share to total income	Average per capita income (in PHP)	Share to total income
Poorest	12,717.37	2.2	16,996.38	2.4
2nd	18,602.95	3.2	24,429.55	3.5
3rd	23,305.13	4.0	30,344.97	4.4
4th	28,417.60	4.9	36,650.54	5.3
5th	34,633.32	6.0	43,894.00	6.3
6th	42,241.02	7.3	52,688.61	7.6
7th	52,358.66	9.1	64,320.07	9.2
8th	67,230.84	11.7	81,174.81	11.6
9th	93,682.05	16.2	110,876.57	15.9
Richest	203,439.78	35.3	235,522.77	33.8
All	57,657.26		69,689.10	

Note: This estimation uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Figure 11. Share of bottom 20 percent, 1991-2018

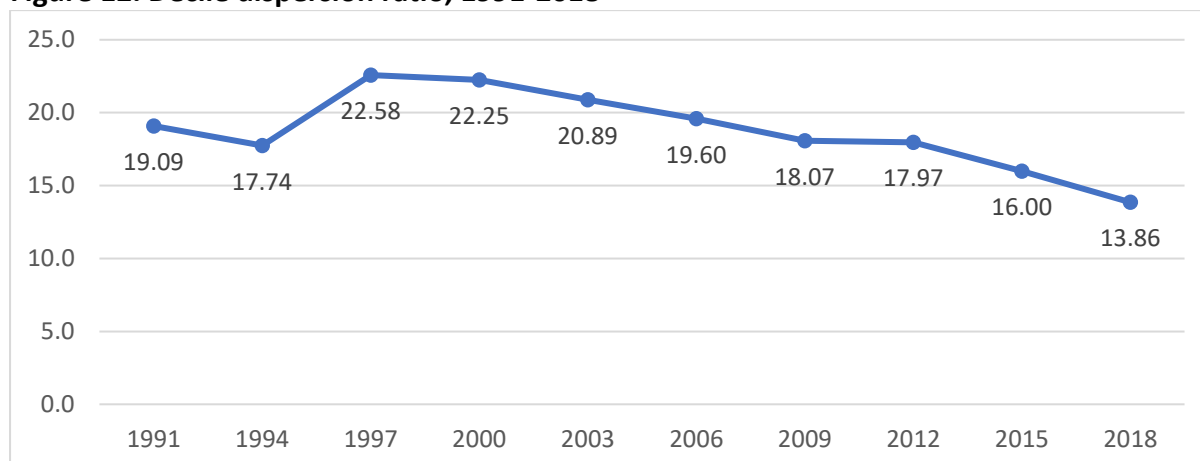


Note: This estimation uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Another inequality measure is the decile dispersion ratio, which is the ratio of the average incomes of the richest decile over that of the poorest decile (**Figure 12**). Since 1997, the decile dispersion ratio has been declining, denoting a gradual movement towards having a more equal distribution of income. As of 2018, the decile dispersion ratio was at 13.86, which means that the richest decile is about fourteen times richer than the poorest decile.

Figure 12. Decile dispersion ratio, 1991-2018

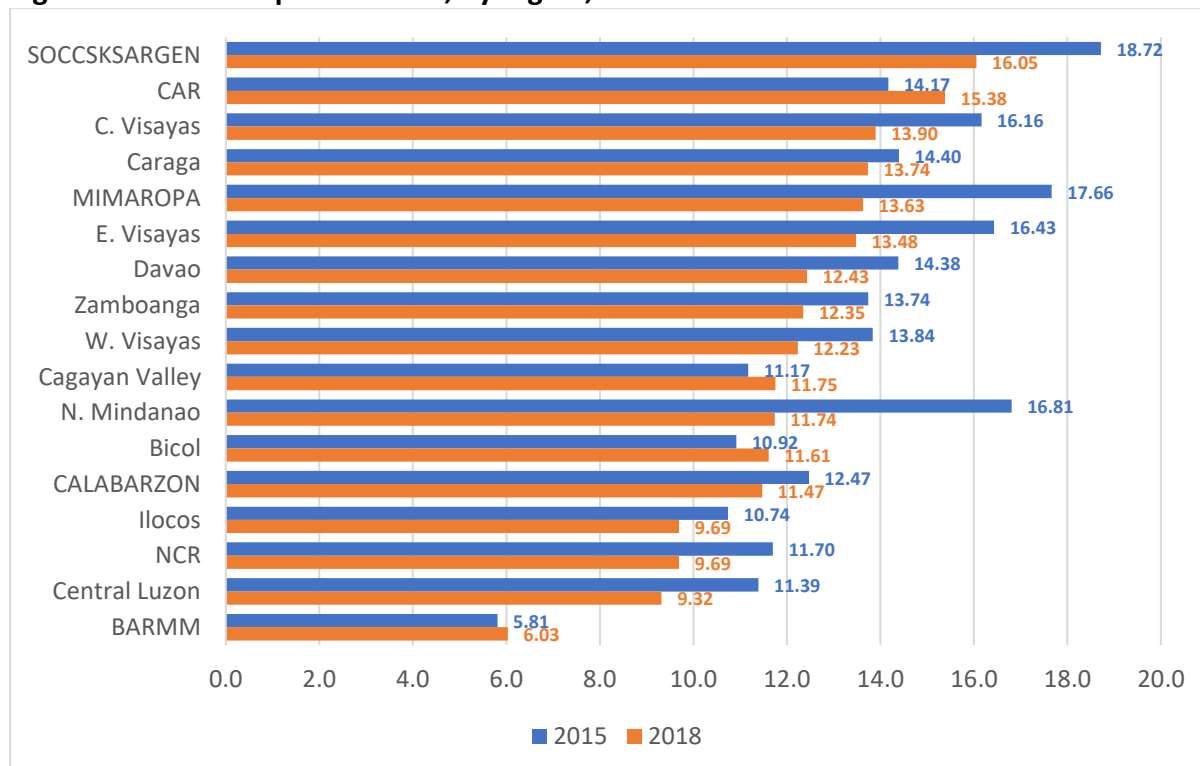


Note: This estimation uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Decile dispersion ratio also decreased significantly among all the regions except for CAR, Cagayan Valley, Bicol Region, and BARMM (**Figure 13**). In the case of BARMM, although there was a slight increase from 5.81 in 2015 to 6.03 in 2018, it has the lowest decile dispersion ratio among the regions, followed by Central Luzon (9.32), NCR (9.69), and Ilocos Region (9.69). On the other hand, SOCCSKSARGEN and CAR recorded the highest decile dispersion ratio, with the richest income decile having an average income of at least 15 times that of the poorest income decile.

Figure 13. Decile dispersion ratio, by region, 2015-2018



Note: This estimation uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using the Family Income and Expenditure Survey, Philippine Statistics Authority

Lastly, Selway (2011) have introduced two measures of inequality which looks involves other social dimensions or characteristics aside from welfare indicators. Cross-cuttingness and cross-fractionalization looks at how groups people are distributed between these dimensions. The measure of cross-cuttingness, which is based on the chi-square measure of independence, captures how groups are identically distributed across various dimensions of society. Moreover, cross-fractionalization, which is also a measure of cross-cuttingness and subgroup fractionalization, captures the extent of how individuals belonging in the same group in an identified social dimension but belongs in different groups when considering another social dimension.

In this estimation, location of residence (regions and provinces) and household income deciles were used to represent geography and socioeconomic status, respectively, which are two of the commonly identified salient cleavages in the society. In this case, a perfectly crosscutting society, the distribution of people according to regions or provinces are identically distributed across income deciles, and in the same way, the distribution of people of varying income levels are identically distributed across regions or provinces.

The analysis shows that the Philippines can be described as having a near perfectly reinforcing society in terms of geography and socioeconomic status (**Table 6**). Given that both cross-cuttingness and cross-fractionalization measures are very low, this means that groups of people with the same income status are concentrated in certain regions/provinces.

Table 6. Cross-cuttingness and cross-fractionalization measures for socioeconomic status (income deciles) and geography (regions/provinces), 2015 and 2018

Measure	Region and Income Deciles		Province and Income Deciles	
	2015	2018	2015	2018
Cross-cuttingness	0.1509	0.1486	0.1794	0.1706
Cross-fractionalization	0.1490	0.1493	0.1139	0.1119

Notes:

1. A value of 0 means perfectly reinforcing while 1 means perfectly crosscutting.

2. This analysis uses an initial version of the 2015 Family Income and Expenditure Survey.

Source: Authors' estimates using Family Income and Expenditure Survey, Philippine Statistics Authority

This finding coincides with the earlier discussion on poverty incidences across regions and provinces. The highest incidence of poverty is consistently recorded in regions and provinces in Mindanao, while the National Capital Region and its surrounding regions and provinces have the lowest poverty incidences. This reinforces that although the poverty situation in the country is improving, income inequality consistently remains at the subnational level.

4. Policies and programs to reduce poverty and inequality

Pursuant to eradicating all forms of poverty as targeted by the SDGs, the Philippine government has been implementing various social protection programs that aim to address poverty and inequality in the country.

4.1. Pantawid Pamilyang Pilipino Program (4Ps)

The *Pantawid Pamilyang Pilipino Program* (4Ps) is the government's largest poverty reduction and social development program under the Department of Social Welfare and Development (DSWD), which provides cash grants to poor families to help them in meeting

their intermediate needs. Moreover, 4Ps aims to break the cycle of intergenerational poverty by investing in human capital through the imposition of various conditionalities related to health and education in exchange for the cash assistance provided by the program (Reyes, et al. 2015). The program was institutionalized in 2019 by virtue of the Republic Act No. 11310.

Eligible beneficiaries are households classified as poor and near-poor based on the National Household Targeting System for Poverty Reduction (NHTS-PR) or *Listahanan*. Moreover, eligible household beneficiaries must have members who are eighteen years and below, or have members who are pregnant at the time of registration. Under the program, cash transfers to qualified household-beneficiaries will be provided for a maximum period of seven years.

Conditionalities under the 4Ps program include the following:

- Pregnant women must avail of pre- and post-natal care, and give birth in a health facility and attended by a skilled health personnel. Her newborn infant must also receive essential newborn care and postnatal follow-up visits.
- Children aged five years old and below must receive regular preventive health and nutrition services, including check-ups, vaccination, and growth and development monitoring.
- Children aged fourteen years old and below must avail of deworming pills at least twice a year.
- Children beneficiaries of school age must enroll in school and maintain a class attendance of at least 85% of the school days per month.
- At least one household member must attend Family Development Sessions (FDS) conducted by the DSWD at least once per month.

These conditionalities must be complied, as applicable, by all household-beneficiaries to ensure continued program eligibility.

Previously, every household beneficiary receives a monthly health grant of PHP 500. Meanwhile, a monthly education grant, depending on the school level of the child, is also provided for a maximum of three children per household. Monitored children in elementary receives PHP 300, while every monitored child in high school received PHP 500. There is also a rice subsidy amounting to PHP 600 monthly for each household-beneficiary, and a top-up cash subsidy amounting to PHP 300 as tax subsidy under the Unconditional Cash Transfer (UCT) program² (DSWD n.d.).

However, under the implementing rules and regulations of the Republic Act No. 11310 (2019), health and nutrition grants will be increased to an amount not lower than PHP 750, while the monthly education grants for monitored children enrolled in elementary, junior high school, and senior high school will be changed to an amount not lower than PHP 300, PHP 500, and PHP 700, respectively, for a maximum of ten months per year. All active and compliant 4Ps households are also entitled to a monthly rice allowance of PHP 600 (DSWD 2019b).

Aside from this, the DSWD also implements a Modified Conditional Cash Transfer (MCCT) for households who are poor and vulnerable but are not covered by the regular conditional cash transfer program. This covers victims of natural and man-made disasters rendered homeless

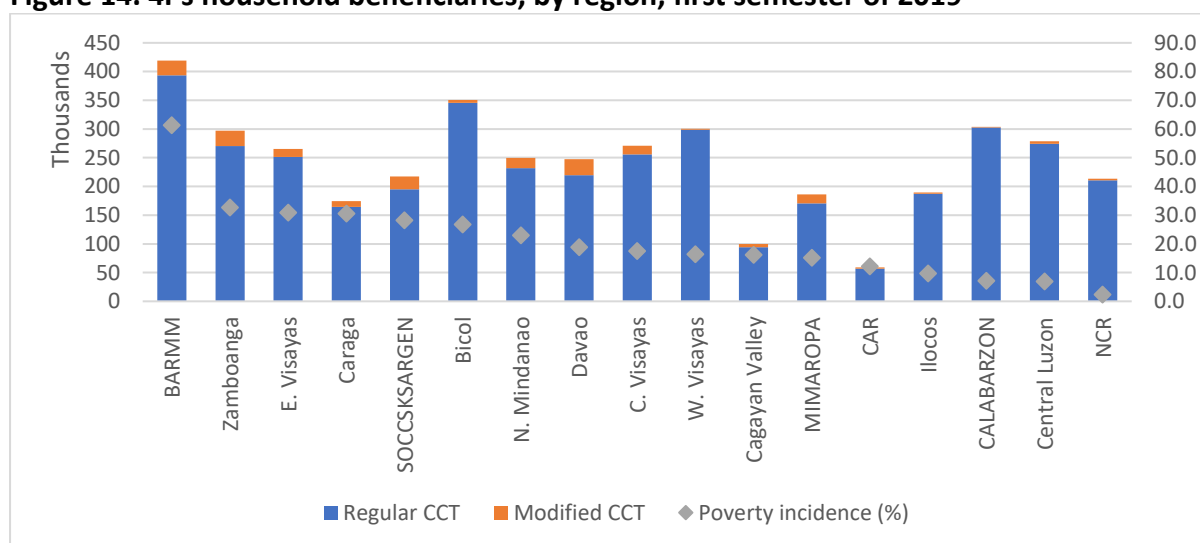
² The UCT program is a tax subsidy provided under Republic Act No. 10963 or the Tax Reform for Acceleration and Inclusion (TRAIN) Act. This is to help poor families affected by the adverse economic effects brought by the TRAIN law.

and with no means of livelihood, homeless street families, and indigenous people in geographically isolated and disadvantaged areas.

The 4Ps is currently being implemented in 144 cities and 1,483 municipalities in 80 provinces. In the first semester of 2019, a total of 4,123,829 households were served under the 4Ps program, of which 3,922,303 households were served under the regular CCT, while 201,526 were served under the MCCT. In terms of budget utilization, a total amount of almost PHP 31 billion was utilized for the implementation of the 4Ps program in the first semester of 2019.

Since the program's inception in 2008, there were a total of 5,066,892 registered households in the program. Out of the registered households, 4,250,272 were considered as active beneficiaries of the program, of which 4,026,964 or 94.7% were covered under the regular CCT, while 223,308 or 5.3% were covered under the MCCT (DSWD 2020a).

Figure 14. 4Ps household beneficiaries, by region, first semester of 2019



Note: The number of 4Ps beneficiaries are as of June 2019. The poverty incidence shown are 2018 estimates.

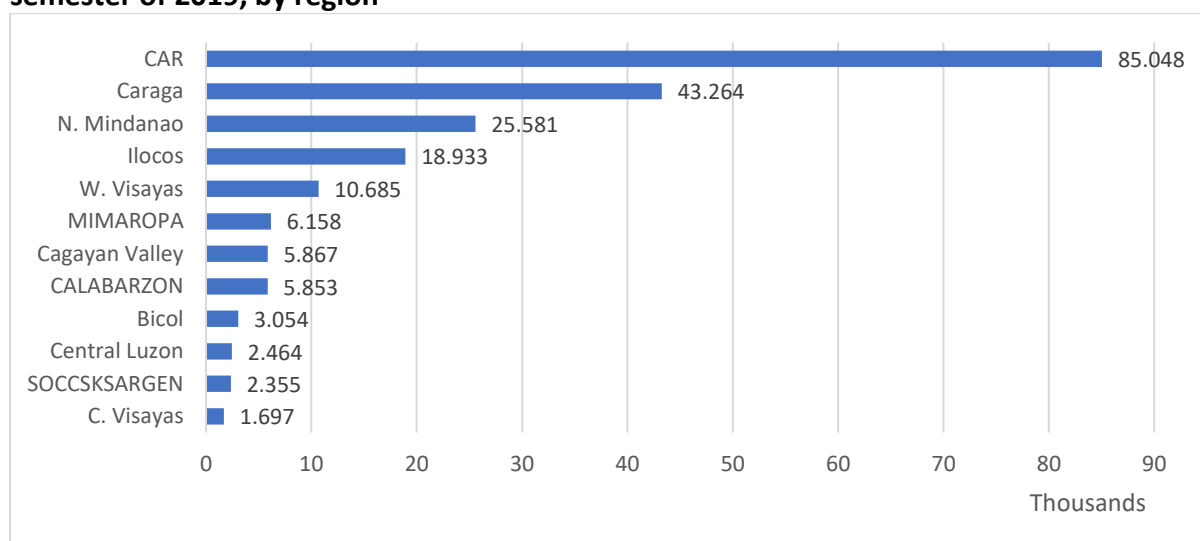
Source: FIES 2018 (poverty incidence); DSWD 2019b (4Ps beneficiaries)

4.2. Social Pension Program for Indigent Senior Citizens (SPISC)

The Social Pension program of the DSWD, by virtue of Republic Act No. 9994 or the Expanded Senior Citizens Act of 2010, aims to provide additional government assistance in the form of monthly stipend amounting to PHP 500. Eligible beneficiaries of the program are persons aged 60 or above who are frail, sickly or disabled, with no regular income or support from family and relatives, and with no other pension from government and private insurance companies.

Since its implementation in 2011, the program targets to improve the living condition of senior citizens by augmenting their capacity to meet their daily sustenance and medical requirements, reducing incidence of hunger, and by protecting them from neglect, abuse, or deprivation.

Figure 15. Beneficiaries of the social pension program for indigent senior citizens, first semester of 2019, by region



Note: Other regions not included in the graph have no social pension beneficiaries during the specified period.
Source: DSWD 2019b

As of 2016, there are 1,274,037 beneficiaries of social pension nationwide who were provided with cash grants. In 2018, this increased to 3,151,910 with total pension amounting to PHP 18 billion (DSWD 2019a). In the first semester of 2019, a total of 210,959 social pension beneficiaries have received their stipends, most of which were in the Cordillera Administrative Region and Caraga Region (DSWD 2019b).

4.3. Sustainable Livelihood Program (SLP)

The Sustainable Livelihood Program (SLP) of the DSWD is a community-based capacity-building program aimed to provide livelihood assistance and to improve economic sufficiency of poor and vulnerable beneficiaries. Interventions under the SLP are facilitated through two tracks: (1) microenterprise development track, which prepares beneficiaries to establish and manage a new microenterprise or augment their existing microenterprises, and (2) employment facilitation track, which prepares beneficiaries to become qualified and ready to enter employment.

Previously, target program participants are: (1) *Pantawid* beneficiaries, (2) non-*Pantawid* households identified as poor families based on the National Household Targeting System for Poverty Reduction, (3) families identified as part of a vulnerable group (e.g. PWDs, out-of-school youth), and (4) families with certificate of indigency issued by their respective local governments (Reyes and Arboneda 2018). Currently, SLP is open to every Filipino family, with a maximum of two beneficiaries per households, provided that they would pursue different tracks (DSWD 2019b).

Table 7. SLP accomplishments, 2017-2019

SLP Accomplishments	2017	2018	2019
Household-level ^{1/}	27,622	149,559	55,779
Microenterprise Development	24,587	177,513	49,296
Employment Facilitation	424	598	285
Individual-level	27,864	192,379	61,706

SLP Accomplishments	2017	2018	2019
Seed Capital Fund ^{2/}	21,657	182,548	55,256
Skills Training Fund ^{2/}	4,358	5,292	3,976
Cash for Building Livelihood Assistance Fund ^{2/}	1,514	3,885	2,248
Employment Assistance Fund ^{3/}	335	654	180

Notes:

^{1/} May not add up to total. Households not counted into MD/EF tracks were still in the process of project implementation, e.g. establishing the microenterprise or preparing documents for employment.

^{2/} Modalities under the Microenterprise Development track.

^{3/} Modality under the Employment Facilitation track.

Source: DSWD 2020b

Since the program's onset in 2011, SLP was able to assist 2,366,730 households, of which 1,897,382 or 80.2% were household-beneficiaries of the 4Ps program. Out of the household-beneficiaries who were provided with SLP program modalities, 79.9% have underwent establishment or development of a microenterprise, while 20.1% have established employment (DSWD 2020b).

4.4. Progressive taxation policies and programs

The Comprehensive Tax Reform Program (CTRP) aims to target problems on inequality and poverty reduction by reforming the tax system to be “simpler, fairer, and more efficient” (Department of Finance n.d., par. 1). The CTRP is divided into four main packages, namely: 1) Tax Reform for Acceleration and Inclusion (TRAIN) law; 2) Corporate Recovery and Tax Incentives for Enterprises Act (CREATE); 3) Real Property Valuation Reform; and 4) Passive Income and Financial Intermediary Taxation Act (PIFITA). Various complementary packages, containing various provisions on tax amnesties and additional or revised excise taxes for tobacco products, alcohol, and e-cigarettes, were also included in the CTRP.

Table 8. Legislative status of the Comprehensive Tax Reform Program packages

CTRP Package	Legislative Status
Package 1: Tax Reform for Acceleration and Inclusion (TRAIN)	Republic Act No. 10963 was signed into law on December 19, 2017
Package 1B: Tax Amnesty	Republic Act No. 11213 was signed into law on February 14, 2019, with line veto on the grant of general tax amnesty due to lack of safeguards against tax evasion, and on various provisions under estate tax amnesty
Package 2: Corporate Recovery and Tax Incentives for Enterprises (CREATE)	<ul style="list-style-type: none"> Approved on third and final reading in the House of Representatives on September 13, 2019 Under period of interpellations in the Senate after the filing of committee report on February 17, 2020
Package 2+: Sin Taxes Alcohol, vapes and e-cigarettes Tobacco products	<p>The Congress has ratified the bill on December 18, 2019</p> <p>Republic Act No. 11346 was signed into law on July 25, 2019</p>
Package 2+: Mining Taxes	<ul style="list-style-type: none"> HB 8400 was approved on third and final reading on November 12, 2018 SB 1979 was filed based on the DOF proposal

CTRP Package	Legislative Status
Package 3: Real Property Valuation Reform	<ul style="list-style-type: none"> Passed on third and final reading in the House of Representatives Pending in the Senate Committees on Ways and Means, Local Government, and Finance
Package 4: Passive Income and Financial Intermediary Taxation Act (PIFITA)	<ul style="list-style-type: none"> HB 204 was passed and approved on third reading Ongoing committee hearings in the Senate

Source: Department of Finance

Among the main CTRP packages, only the TRAIN Law was currently implemented following the passage of Republic Act No. 10963 on December 2017. The TRAIN Law basically lowers the income tax while increasing the excise tax for oil, automobile, and tobacco, among others. It also introduces new taxes on sweetened beverages. Overall, the TRAIN law aims to rectify inequality of the previous tax system (through the lowering of the income tax in lower income earners), while raising funds through the increased taxes on various goods to finance the Build, Build, Build program and other social services program of the government (DOF n.d.). Consequently, the implementation of the program coincided with high inflation and increasing global prices, which overpowered any augmentation in disposable income. Although, the government have planned to employ coping mechanisms, such as Unconditional Cash Transfer (UCT)³ and Pantawid Pasada Program (PPP)⁴, this was delayed to the following year which left many to be vulnerable from the initial price hikes.

Table 9. Salient provisions of Republic Act No. 10963 or the TRAIN Law

Lowered and simplified personal income taxes	Persons with annual taxable income below PHP 250,000 are exempted from paying personal income taxes
	The top individual taxpayers with annual taxable income exceeding PHP 8 million have a higher tax rate of 35% (from 32%).
	The rest of the taxpayers have lower tax rates ranging from 15% to 30% by 2023.
Simplified tax for small and micro self-employed and professionals	In lieu of income and percentage taxes, small and micro SEPs can opt to pay a flat tax rate of 8% on their gross sales.
Unconditional cash transfers	Monthly cash transfers amounting to PHP 200 in 2018, and PHP 300 in 2019 and 2020 are provided to 10 million poorest households and individuals.
Simplified estate and donor's taxes	Estate tax for net estate with standard deduction of PHP 5 million is lowered from 20% to 6%.
	Donor's taxes are lowered from up to 15% to a single rate of 6% of net donations exceeding PHP 250,000.
Expanded value-added tax (VAT) base	<p>Fifty-four (54) special laws with non-essential VAT exemptions were repealed, for instance:</p> <ul style="list-style-type: none"> VAT exemptions on the sale of medicines for diabetes, cholesterol and hypertension VAT exemptions on transactions collected by homeowners' associations and condominiums

³ About 10 million low-income households who are negatively affected by rising prices will be given a one-time payment of PhP3,600.

⁴ Approximately 180,000 public utility jeepneys (PUJ) nationwide will be given Pantawid Fuel card worth PhP5,000 as fuel subsidy.

Adjusted oil excise taxes	A staggered increase in oil excise tax amounting to PHP 6 per liter will be implemented over a three-year period.
Adjusted automobile excise taxes	Automobile tax rates were adjusted, now ranging from 4% to 50%, based on the net manufacturing or importer's price.
Introduced excise tax on sweetened beverages	Excise taxes amounting to PHP 6 per liter of beverages containing caloric or non-caloric sweeteners, and PHP 12 per liter for those containing high-fructose corn syrup were introduced.

Source: Department of Finance, Package 1: TRAIN

4.5. Universal access to quality tertiary education act

In August 2017, Republic Act No. 10931, or the Universal Access to Quality Tertiary Education Act, was signed into law. Section 2 of the Act states the following objectives:

- Provide adequate funding and other mechanisms to increase the participation rate among all socioeconomic classes in tertiary education;
- Provide all Filipinos with equal opportunity to quality tertiary education in both private and public educational institutions;
- Give priority to students who are academically able and who come from poor families;
- Ensure the optimized utilization of government resources in education;
- Provide adequate guidance and incentives in channeling young Filipinos in their career choices and towards the proper development and utilization of human resources, and;
- Recognize the complementary roles of public and private institutions in tertiary educational system (Republic Act No. 10931 2017).

By virtue of this Act, all state and local universities and colleges and public technical-vocational institutions are mandated to provide free quality tertiary and post-secondary education, respectively, to Filipino students. Eligible to free higher education are Filipino students who have not yet attained any Bachelor's degree or any comparable undergraduate degree or technical-vocational certificate.

Aside from these, RA 10931 also provides for additional financial assistance and loan programs to selected deserving students. Through the Tertiary Education Subsidy (TES), students may enjoy any of the following benefits: (1) tuition and other school fees in private higher education institutions; (2) allowances for other educational expenses such as books, room and board, and other miscellaneous personal expenses, and; (3) allowance for disability-related expenses for students with disability, and a one-time cost of obtaining their first professional credentials for students requiring professional license or certification. Meanwhile, the Student Loan Program provides further financial support to students by providing short- and long-term student loans for students enrolling in post-secondary undergraduate courses. For TES, priority is given to continuing beneficiaries of the Expanded Students' Grants-in-Aid Program for Poverty Alleviation (ESGP-PA), students enrolled in private HEIs in areas where there is no SUCs or LUCs, and students listed in the *Listahanan* of the DSWD.

4.6. Expanding economic opportunities in agriculture, forestry, and fisheries

Given that poverty and inequality in the country is mainly an agricultural issue, one way to address persisting inequality in the country is through handling the problems faced by the agriculture, forestry, and fisheries sector.

The expansion of the Philippine rural development project targets rural development by providing key infrastructure and facilities, technology, information to raise annual household income of beneficiaries, increase productivity and competitiveness of the agri-fishery sector. It is a six-year project, which began as a farm-to-market road initiative and eventually expanded to include other livelihood incentives (Simeon 2019).

Meanwhile, the fisheries, coastal resource and livelihood project targets poor coastal communities by improving capacity to manage coastal and fishery resources and by encouraging engagement in diversified livelihood opportunities. More than 180,000 low-income households, located in the Autonomous Region in Muslim Mindanao, Caraga, Eastern Visayas, and Bicol, will be benefitted from the program (IFAD n.d.). The project will engage in replanting vegetation and creating fish sanctuaries, improving infrastructure, promoting micro-enterprises related to fisheries.

Overall, the NEDA has a total investment target for the agriculture, forestry and fisheries sectors amounting to PHP 682 million for the year 2017 to 2022 (NEDA 2017). This will cover 301 programs and projects designed to expand economic opportunities in the sector, especially small farmers and fisherfolk.

5. Concluding remarks

Although there is still a long way to go as far as poverty eradication is concerned, the Philippines has been generally winning its fight against poverty. Magnitude and incidence of poverty has been decreasing, together with the income gap and severity of poverty. Moreover, measures of inequality, such as the Gini coefficient and the decile dispersion ratio, indicate a trend towards more equal distribution of income, although the inequality is still high.

Poverty decomposition analysis shows that both growth and redistribution factors equally have a positive effect on the declining poverty levels between 2015 and 2018. Meanwhile, the decline in poverty gap and poverty severity has been largely explained by income redistribution.

However, the poverty situation continues to vary widely across the regions. Although poverty rates among the regions have mostly improved in 2018, only BARMM has recorded an increase in poverty incidence. The NCR and its surrounding regions (i.e. Central Luzon and CALABARZON) remained to have the lowest incidence of poverty, while Eastern Visayas and some of the regions in Mindanao remained to have the highest poverty incidence in 2018.

Sustained economic growth, as what we have experienced in recent years, can lift many of the poor out of poverty. The global COVID-19 pandemic in 2020, however, has caused economic recession in many countries, including the Philippines. This can reverse the gains made in recent years and push poverty rates higher than the 2015 levels. Thus, government efforts to contain the spread of the virus and restart the economy is critical to steer the economy back to its growth path. Moreover, safety nets are also important to help those who fell into poverty in 2020 to recover more quickly.

One of the challenges in designing and implementing effective safety nets is lack of understanding of the dynamics of poverty. Future research on chronic and transient poverty would require panel data. The Philippine Statistics Authority might want to consider designing future Family Income and Expenditure Surveys that would generate panel data for a subsample

of households. Alternatively, the Community-Based Monitoring System, recently institutionalized by Republic Act 11315 and placed under the supervision of the Philippine Statistics Authority, can be tapped to provide the much-needed panel data to enable us to understand better the movements in and out of poverty.

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