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SUSTAINABLE DEVELOPMENT GOALS (SDGs) AND EMPLOYMENT POLICIES IN THE PHILIPPINES

Josef T. Yap, Aubrey D. Tabuga and Christian D. Mina

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Foreword

Full and productive employment and decent work are at the heart of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). In addition to the specific goal (SDG8) of promoting "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all", decent work is featured in many of the other SDGs.[1]

In adopting the SDGs, in particular SDG8, the international community has put job creation at the heart of economic policy-making and development plans: economic growth that generates decent work opportunities will lead to inclusive and poverty-reducing growth. Systematic follow-up and review of the implementation of the 2030 Agenda is required in order to maximize and track its progress. The follow-up and review is expected to "maintain a longer-term orientation, identify achievements, challenges, gaps and critical success factors and support countries in making informed policy choices".[2]

In order to support ILO constituents in their efforts to maximize and track progress on SDG8, a multi-country research programme has been undertaken that diagnoses opportunities and challenges associated with promoting productive employment and that identifies policy options for achieving SDG8. Within the framework of the ILO/Sida Partnership on "More and better jobs for inclusive growth and improved youth employment prospects", this global research on "SDGs and employment policies: Macroeconomic, sectoral and labour market policies for structural transformation and full and productive employment" was conducted in 10 countries, taking into account their specific country context. In particular, the research focused on the interlinkages and potential virtuous circle between targets 8.1 (sustaining per capita economic growth), 8.2 (sustaining labour productivity growth), 8.3 (promoting development-oriented policies), 8.5 (promoting full and productive employment for all women and men) and 8.6 (decreasing the share of NEETs by engaging young people in the labour market).

To better tailor policy advice and to customize employment diagnostics, it is important to present types of employment and economic growth pathways, and similar dynamics, according to core employment and productive characteristics and challenges. This is related, for example, to demographic transition and labour market transformations driven by globalization and technological change. The country selection included a diversity of countries across the employment and productive transformation pathways for more nuanced and contextualized policy guidance.

Four global syntheses are presented, based on the country studies, focusing more specifically on: (i) Structural transformation for inclusive growth and productive employment; (ii) Gender impacts of structural transformation; (iii) Young people not in employment, education and training; and (iv) Delivering on SDG8.

The Employment and Labour Markets Branch (EMPLAB) is engaged in global advocacy and in supporting Member States' efforts to put the aim of more and better jobs at the centre of economic and social policies and of growth and development strategies. Policy research and knowledge generation and dissemination are essential components of

[1] See ILO: *Decent Work and the 2030 Agenda for Sustainable Development* for more information on the linkages between decent work and the SDGs. Available at: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_436923.pdf

[2] United Nations (2015): Transforming our world: The 2030 Agenda for Sustainable Development". Available at: http://undocs.org/A/RES/71/313

EMPLAB's activities. The ILO/Sida Partnership on Employment working paper series is designed to disseminate the main findings of research on a broad range of topics undertaken by EMPLAB on employment and youth employment policies. The working papers are intended to encourage the exchange of ideas and to stimulate debate. The views expressed in them are the responsibility of the authors and do not necessarily represent those of the ILO.

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Executive summary

The year 2010 was a watershed for the Philippine economy. Economic growth surged and was sustained until at least 2018. The investment/GDP ratio breached 30 per cent during this period and the manufacturing sector experienced a revival. As a result, employment expanded, labour productivity rose steadily and real wages recovered. Not surprisingly, the incidence of poverty declined but the Philippines still fell short of achieving the Millennium Development Goal (MDG) related to poverty. Furthermore, inequality has persisted, particularly in rural areas.

In this chapter we examine the Philippines' performance in relation to Sustainable Development Goal (SDG) 8: promoting "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all". The focus will be on SDG target 8.6 or reducing the proportion of young people not in employment, education or training (NEETs). First, we shall discuss macroeconomic developments, labour market conditions, labour productivity growth and relevant policy updates. Then we shall look more deeply into the factors that influence labour force participation and the proportion of young people not in employment or education. The objective is to provide some insights in order to address constraints on economic growth, reducing the number of NEETs and promoting full and productive employment.

Macroeconomic performance has to be sustained by maintaining macroeconomic stability and addressing the major constraints to economic growth, particularly those related to infrastructure bottlenecks. Meanwhile, aggregate performance can be supported by labour market policies, including those emanating from the ILO study on the future of work.

Decomposing labour productivity and analysing the behaviour of its components shows that there has been minimal structural change; in other words, productivity improvements due to inter-sectoral transfer of labour. Decomposition of aggregate labour productivity growth indicates that, during the 2000s, labour productivity in the Philippines was driven mainly by productivity growth in individual sectors. The reallocation-level effect has generally been small during the period we shall examine, but became significant in 2016, driven by the movement of labour from the lowest-productivity agriculture sector to high-productivity industry and services. Sectoral decomposition using 2016–2017 data, meanwhile, corroborates the aggregate decomposition results in that productivity growth in individual sub-sectors accounted for most of the sectoral labour productivity growth.

The declining labour force participation rate is a likely threat to achieving sustained economic growth. In this chapter we shall find important nuances in the factors correlated with being economically inactive. Econometric results show that a high proportion of young people not in employment or education are young women who married at a young age and/or people who belong to households that rely heavily on agriculture. Young people in poor households and those with lower educational attainment are also more likely to be out of school and unemployed or out of the labour force. Meanwhile, individuals in agricultural households are less likely to be NEETs if income from agriculture is relatively high.

While expanding educational opportunities for women in agricultural households can lead to greater labour market participation, the situation for men is different, especially in poor households. As they improve their educational status, they are more likely to become economically inactive. Many men who belong to households dependent on agriculture are young and single. These results suggest that there are not enough job opportunities for those in the sector with relatively high educational attainment.

Labour policies can take these findings into consideration. First, initiatives that focus on encouraging more women to participate actively in the economy are urgently needed.

Women have difficulty participating in the economy with its traditional station-based definition of work, while they are expected to do most of the reproductive labour at home. Policies that facilitate alternative work schemes may incentivize more women to participate more actively in the economy. Second, there is a pressing need to expand opportunities for young people, not only in terms of education and training, but also employment. Private firms must be incentivized to accept on-the-job trainees and/or hire young, inexperienced workers so that they can improve their talents/skills. Improving the quality of jobs of household heads, especially in the Autonomous Region in Muslim Mindanao (ARMM, which is currently transitioning into the Bangsamoro Autonomous Region in Muslim Mindanao or BARMM), may reduce the proportion of young people who are not employment or education in the region. Empowering female-headed households and investing in agricultural productivity–enhancing initiatives in this region are also more likely to lead to a reduction of the NEET rate.

Besides labour policies, more needs to be invested in education and improving young people's employability. In this chapter we shall also emphasize this need to improve the overall productivity of the agriculture sector and develop non-farming job opportunities in the rural areas where many of the working-age population not in the labour force are located, so that they may be encouraged to participate more actively in the economy.

List of acronyms

APIS	Annual Poverty Indicators Survey
ARMM	Autonomous Region in Muslim Mindanao
ASEAN	Association of South East Asian Nations
BPO	Business Process Outsourcing
BPM	Business Process Management
DOLE	Department of Labor and Employment
NWPC	National Wages Productivity Commission
DOLE ROs	Department of Labor and Employment – Regional Offices
DTI	Department of Trade and Industry
FDI	Foreign Direct Investment
FIES	Family Income and Expenditure Survey
GDP	Gross Domestic Product
GEAD	Generalized Exactly Additive Decomposition
GIP	Government Internship Program
IBPAP	Information Technology and Business Process Association of the Philippines
IO	Input-Output
ITES	Information Technology Enabled Services
JEDI	Jobs Expansion and Development Initiative
LFPR	Labour Force Participation Rate
LFS	Labour Force Survey
MDG	Millennium Development Goal
MCC	Millennium Challenge Corporation
MSME	Micro, Small and Medium Enterprises
NCR	National Capital Region
NEE	Not in employment or education
NEET	Not in Education, Employment or Training
NILF	Not in the Labour Force
OSY	Out-of-School Youth
PBED	Philippine Business for Education
USAID	United States Agency for International Development
PSA	Philippine Statistics Authority
RGE	Reallocation Growth Effect
RLE	Reallocation Level Effect
RPN	Regional Production Network

SDG	Sustainable Development Goal
SWDO	Social Welfare and Development Office
SPES	Special Program for Employment of Students
SSS	Social Security System
TRAD	Traditional Additive Decomposition
UNCTAD	United Nations Conference on Trade and Development
WSE	Within-Sector Effect
WTO	World Trade Organization

1. Introduction

The Philippines missed several important Millennium Development Goals (MDGs), particularly the eradication of extreme poverty and hunger. This goal was interpreted as an aspiration to halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day. Progress in the Philippines was monitored using poverty incidence based on the national income threshold, which fell from 34.4 per cent in 1991 to 21.6 per cent in 2015.[3] Based on-half data from the 2018 Family Income and Expenditure Survey (FIES), poverty incidence was estimated at 16.6 per cent, slightly below the 17.2 per cent set as the 2015 MDG target on poverty. Compared with its neighbours, the Philippines' record in reducing poverty incidence has been dismal (Table 1).

During the past two to three decades, inequality has persisted, with only a minimal decline in the Gini index. The problem is more acute in rural areas, where the Gini index increased from 0.394 to 0.429 in the same period.

Table 1. Poverty and inequality in East Asia, latest period

	Poverty headcount ratio at national poverty lines (% of population)	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)	Gini index (World Bank estimate)
China	3.1 (2017)	0.7 (2015)	38.6 (2015)
Indonesia	10.6 (2017)	5.7 (2017)	38.1 (2017)
Malaysia	1.6 (2014)	0.0 (2015)	41.0 (2015)
Philippines	21.0 (2018)	7.8 (2015)	40.1 (2015)
Thailand	8.6 (2016)	0.0 (2017)	36.5 (2017)
Viet Nam	9.8 (2016)	2.0 (2016)	35.3 (2016)

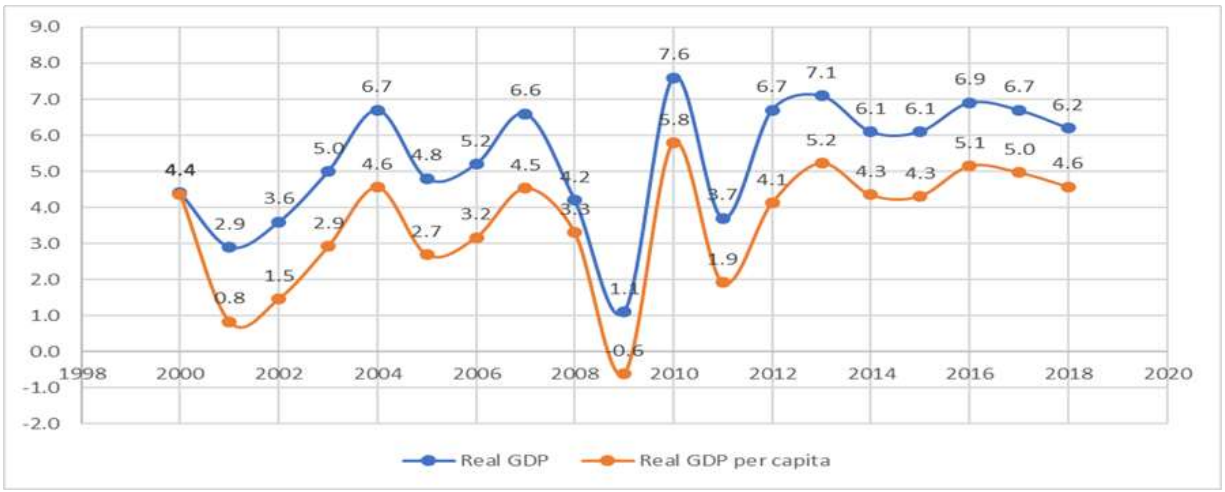
Source: World Bank, https://data.worldbank.org/topic/poverty, accessed on 18 May 2019; Philippines poverty headcount ratio refers to the Philippine Statistics Authority's (PSA) first semester estimate.

Many factors explain the inability of policymakers to achieve this MDG. First and foremost is the patchy economic growth performance. Figure 1 shows gross domestic product (GDP) growth in 2000–2018. While GDP growth has been fairly robust after 2009, the pattern was more erratic in the earlier years. More importantly, the Philippines hardly benefited from the economic boom in the Asia-Pacific region between 1980 and 2000 (Table 2). Real per capita GDP in the Philippines actually declined during these two decades, while those of its neighbours surged. As a result, in 2017 the country had the lowest per capita GDP among economies with a similar level of development, namely China, Indonesia, Malaysia and Thailand. This aspect will be discussed in detail in the next section.

To sustain the momentum generated by the MDGs, the United Nations introduced the Sustainable Development Goals (SDGs) in 2015. This is a set of 17 global goals to be achieved by 2030. It affords an opportunity for the Philippines to catch up with the targets set under the MDGs or to consolidate its achievements. Moreover, the SDGs are broader in scope than the MDGs and, as the term implies, provide a framework for "sustainable" economic growth and development.

[3] In terms of the $1.90 PPP per day threshold – recently adopted by the World Bank as the threshold for extreme poverty – poverty incidence in the Philippines fell from 26.6 per cent in 1991 to only 7.8 per cent in 2015.

Figure 1. Real gross domestic product (GDP) growth rate, Philippines, 2000–2018 (%)



Source: Philippine Statistics Authority.

Table 2. Per capita GDP, selected Asian countries, 1960–2017 (Constant 2010 US$)

	1960	1970	1980	1990	2000	2010	2017
China	192	228	348	731	1772	4561	7329
Hong Kong SAR, China	–	5 796	10 727	18 251	23 016	32 550	37 927
Indonesia	690	772	1 231	1 708	2 143	3 113	4 131
Korea, Rep.	944	1 815	3 700	8 465	15 105	22 087	26 152
Malaysia	1 354	1 916	3 317	4 535	7 010	9 071	11 528
Philippines	1 059	1 257	1 687	1 526	1 607	2 129	2 891
Singapore	3 390	6 507	13 309	22 178	33 390	46 570	55 236
Thailand	571	929	1 404	2 503	3 458	5 075	6 126
Viet Nam	–	–	–	432	762	1 310	1 835

Source: World Bank's World Development Indicators, https://databank.worldbank.org/data/source/world-development-indicators, accessed on 17 May 2019.

In this chapter we shall look at how well prepared the Philippine economy is in terms of being able to meet the SDGs, with a focus on SDG 8, promoting "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all". The primary baseline for the assessment is a report submitted to ILO in 2013 which evaluates the capacity of the Philippines to participate effectively in the ASEAN Economic Community (Yap, 2015). The progress of the Philippines since then will be presented and analysed and form the basis for policy recommendations in this study.

To facilitate the analysis, two general approaches have been adopted. The first is an examination of recent macroeconomic developments. The emphasis will be on GDP growth, the investment/GDP ratio, the unemployment rate, overall unemployment structure and aggregate labour productivity. The second approach deals with labour market developments. To augment the macroeconomic analysis of labour markets a decomposition of labour productivity is undertaken, along with a deeper examination of the situation of young people (those aged 15–24 years) not in education, employment or training (NEET).

As far as possible, the outcomes will be related to policies or the lack thereof. This will be the basis for a roadmap that will guide the Philippines in achieving SDG 8. Policy recommendations will also be steered by the need to anticipate the "future of work" (ILO,

2019). The underlying philosophy is to take advantage of the opportunities presented by transformative changes that are driven by technological advances. The private sector and government have to invest properly in people's capabilities, in the institutions of work, and in decent and sustainable work.

2. Macroeconomic developments

Historical synopsis

Many analysts bemoan the Philippines' lost opportunity in terms of economic development after the Second World War (Balisacan and Hill, 2003; Yap, 2015; Clarete, Esguerra and Hill, 2018). Mainstream economists blame this largely on the protectionist policies implemented from the early 1950s up to the late 1970s. However, this analysis misses the argument that several economies applied the same type of policies and were successful in engendering structural transformation (for example, Rodrik, 2001 and Stiglitz, 1996). Moreover, the key question is why the Philippines did not benefit from the region-wide Asia-Pacific economic expansion between 1980 and 2000. Indonesia, Malaysia and Thailand, for example, were beneficiaries of the surge in economic activity in the region and it can be argued that their socio-economic structures were not much different from the Philippines in the late 1970s.

As observed in Yap (2015), these countries participated extensively in the regional production networks (RPNs), while the Philippines did not. At the initial stages, such networks were driven by foreign direct investment (FDI) from Japan[4] and were subsequently strengthened by the emergence of China as a global manufacturer. In a nutshell, economic and political crises in the 1980s and an acute energy shortage in the early 1990s prevented the Philippines from fully benefitting from the boom in the Asia-Pacific driven by regional economic integration. The severe economic contraction in 1984–1985 came in the wake of an international debt crisis. The Philippines had borrowed heavily in the international markets in the second half of the 1970s – or was provided with easy access to credit – and was hit hard by the sharp rise in global interest rates. Combined with the assassination of a key political figure in 1983, this led to a political upheaval that stabilized only in the early 1990s.

The Philippines missed out on the first wave of FDI in the second half of the 1980s because of the political and economic turmoil. The country was bypassed by the large foreign investment flows that laid down the manufacturing-export platforms for many countries in the region. There was a second wave of FDI in the mid-1990s but by that time China and Viet Nam had emerged as competitors. Moreover, the Philippines was struggling with an energy shortage due to flawed policies, particularly the decision to mothball the Bataan nuclear power plant. The unsystematic solution to the power crisis led to electricity tariffs that were lower only than Japan's compared with other East Asian economies (Ravago et al., 2018).

Tables 3 and 4 show that the Philippines has lagged behind in terms of accumulated FDI and exports, the main ingredients of regional production networks. The inability to latch on to such networks sufficiently is the main reason the Philippines did not benefit from regional economic integration to the same extent as its neighbours. This allowed Indonesia, Malaysia and Thailand to transform their economies, anchored in the manufacturing sector. In the Philippines, by contrast, the share of this sector has declined from 1980 to the present (Table 5). Instead, the Philippines has experienced what has been described as "development

[4] Under the Plaza Accord (1985) and the Louvre Accord (1987), the major advanced economies agreed to intervene in currency markets to facilitate a depreciation of the US dollar vis-á-vis the Japanese yen. To adjust to the loss in competitiveness, many Japanese firms relocated significant parts of their production facilities overseas, notably to Southeast Asia.

progeria" (Fabella, 2018).[5] In economies such as the United States and Japan the share of industry fell as they matured, but during the early stages of their development manufacturing was the main driver of economic growth. Development progeria is "a phenomenon where, over the long term, the growth of manufacturing lags behind that of services in a low-income economy" (Fabella, 2018, p. 57). Fabella goes on to declare that "development progeriacs exhibit slow growth, low investment rate and slow poverty reduction" (2018, p. 11).[6]

Table 3. Foreign direct investment (FDI) inward stock, selected ASEAN countries and China, 1990–2017 (Million US$)

	1990	2000	2010	2017
Indonesia	8 732	25 060	160 735	248 510
Malaysia	10 318	52 747	101 620	139 540
Philippines	3 268	13 762	25 896	78 788
Singapore	30 468	110 570	632 760	1 284 929
Thailand	8 242	30 944	139 286	219 368
Viet Nam	243	14 730	57 004	129 491
China	20 691	193 348	587 817	1 490 933

Source: UNCTAD, FDI/TNC database, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx, accessed on 18 May 2019.

Between 1986 and 2012, the Philippines had to compromise on its public infrastructure spending in order to accommodate repayment of external debt. Relatively poor infrastructure contributed to the low investment rate, including the inability to attract substantial FDI. Following its accession to the WTO in 1995, the Philippines embarked on an ambitious trade liberalization programme. From being among the countries with the highest average tariffs in Asia, the Philippines became a country with among the lowest average tariffs, largely because tariffs were below the bound rates allowed by the WTO. The abrupt swing in the tariff levels caused disruptions in the economy, especially in manufacturing. Meanwhile, political instability reared its ugly head again with the resignation of President Estrada in 2000 and the corruption scandals that marred the 10-year administration of President Arroyo.

[5] "Progeria" is a rare genetic condition that causes a child's body to "age" rapidly. Applied in this context, it means that a low-income economy "matures" too quickly because its services sector expands without the manufacturing sector reaching a certain minimum threshold. The analogy is inconsistent with the historical data, however, because the Philippine manufacturing sector had a 27.6 per cent share in 1980. It is more accurate to say that the Philippines has failed to sustain the expansion of the manufacturing sector. And this failure is all the more abject given the opportunities presented by regional economic integration

[6] The author attributes development progeria to weak institutions and misguided policies. But, as argued in the main text, Indonesia, Malaysia and Thailand did not differ much from the Philippines in terms of socio-economic structures in the late 1970s and nevertheless benefited from the surge in regional economic activity between 1980 and 2000 while the Philippines did not.

Table 4. Export of goods and services, selected Asian countries, 1995–2017 (Million US$)

	1995	2000	2005	2010	2015	2017
Japan	441 538	479 320	595 696	767 825	624 681	697 951
Korea, Republic of	125 058	172 268	284 419	466 384	526 757	573 694
Indonesia	45 418	62 124	85 660	157 779	150 366	168 811
Taipei, China	111 405	151 458	199 807	277 413	283 470	317 313
Philippines	17 447	38 078	41 255	51 498	58 827	62 875
Malaysia	73 865	98 229	141 595	198 325	199 041	217 511
Thailand	56 444	69 152	110 360	192 937	214 077	234 787
China	148 780	249 203	761 953	1 577 754	2 273 468	2 263 522
Hong Kong SAR, China	173 753	201 855	289 325	390 134	465 092	497 340
Viet Nam	5 449	14 483	32 447	72 237	162 017	214 019

Source: ADB Key Indicators for Asia and the Pacific 2018, https://www.adb.org/sites/default/files/publication/443671/ki2018.pdf, accessed on 19 May 2019

Table 5. Manufacturing, value added, selected Asian countries, 1980–2018 (Percentage of GDP)

Country	1980	1985	1990	1995	2000	2005	2010	2015	2018
China						32.1	31.6	29.5	29.4
Indonesia		16.4	19.9	24.1	22.7	27.4	22.0	21.0	19.9
Malaysia	21.9	19.7	24.2	26.4	30.9	27.5	23.4	22.7	21.9
Philippines	25.7	25.2	24.8	23.0	24.5	24.1	21.4	20.0	19.1
Philippines[7]	27.6	27.0	26.6	24.7	24.5	23.7	22.2	23.2	23.6
Thailand	21.5	21.9	27.2	26.5	28.6	29.8	31.1	27.5	26.9
Viet Nam		20.5	12.3	15.0	18.4	18.8	12.9	13.7	16.0

Source: World Bank, https://data.worldbank.org/indicator/NV.IND.MANF.ZS; accessed 4 July 2019.

This track record has contributed to an employment structure that lacks good quality – "decent" – jobs. In 2011, approximately 65 per cent of employment was in the agriculture and fisheries sector and the informal services sector, which is defined as the wholesale and retail trade, private household activities, transportation, communication and storage (Yap, 2015). Most of the jobs in these sectors are low wage and low skill in nature. The only bright spot was information technology enabled services (ITES), otherwise known as the Business Process Outsourcing (BPO) sector (see Box 1). This sector has grown rapidly since the mid-2000s. However, its success is another symptom of development progeria. The great majority of those employed in ITES are college graduates or undergraduates. In terms of the relationship between employment and poverty alleviation, this has been the crux of the problem: the inability of the economy to generate high-productivity, high-paying jobs – those that qualify as decent jobs – that require medium skills. In 2015, the poverty rates among employed population were 6.4 per cent for young people (15 to 24 years of age) and 4.7 per cent for those aged 25 years or above. In terms of inclusive economic growth, it has been argued that a more dynamic – and perhaps more labour intensive – manufacturing

[7] At constant prices, based on National Income Accounts, Philippine Statistics Authority; the World Bank data using current prices are generally lower than those given in constant prices because the price level in the tradable sector increases more slowly than that in the non-tradable sector. There is more competition in the tradable sector

sector would have provided more higher-paying jobs to the less-educated workforce, thereby accelerating poverty reduction (Yap, 2015).

Box 1. Business outsourcing in the Philippines

Business process outsourcing (BPO) grew out of increased connectivity, provided by new technologies and a business opportunity to reduce costs in delivering services to customers. Estimates suggest that the Philippines now has a 13 per cent market share of global BPO.

In 2013, BPO accounted for 20 per cent of Philippine exports, 6 per cent of GDP and 4.2 per cent of wage employment.[8] More recent (2016) industry estimates put information technology (IT)-BPO revenues at $22.9 billion, or about 7.5 per cent of GDP. Estimates for 2016 show that labour productivity in the industry is PhP513,434 or roughly US$10,810 per worker. Given that formal job creation is low, the BPO sector provides young graduates access to good jobs. Clerical support work dominates BPO jobs, while education and skill requirements vary across the industry. A 2016 labour force survey shows that 62 per cent of IT-BPO jobs are in administrative support. PSA likewise estimates that total employment in the sector in 2016 was 609,848.[9] Sixty-nine per cent of employees are in customer relationship management activities, 13.2 per cent in sales and marketing and 6.4 per cent in computer programming. More than half (54 per cent) of total employees in the BPO sector are female.[10] Nearly 85 per cent of call centre workers are college undergraduates, while nearly 13 per cent are college graduates. By contrast, animation BPOs – which require more technical or advanced skills – hire mostly college graduates for entry-level positions (72 per cent). Similarly, mainly college graduates fill entry-level positions in medical transcription (68 per cent) and computer-related activities, including software development (55 per cent).

The Information Technology and Business Process Association of the Philippines (IBPAP) says that the share of low-skilled BPO workers will decline from 47 per cent in 2016 to 27 per cent in 2022. Middle- and high-skill occupations will increase to 46 per cent and 27 per cent, respectively, up from 38 per cent and 15 per cent in 2016. But while the composition of the BPO workforce will probably change in the coming years, shifting to a larger share of medium- and high-skilled jobs, overall employment is unlikely to be affected.

One of the proposals presented by IT-BPO leaders is a Skills Development Fund to train IT-BPO workers in new technology so that they become familiar with automated service delivery models. To incentivize firms to upskill and re-skill workers, industry leaders believe that the government should contribute to the fund. Furthermore, as the majority of the BPO workers are university graduates or undergraduates, industry leaders believe that educational streams must be better aligned with industry needs. Given the growth in computer-related BPO activities, it is imperative that university education in computer and IT-related majors better meet industry needs.

Recent developments

The year 2010 may have been a watershed for the Philippines. GDP growth surged to 7.6 per cent and, after a momentary downturn in 2011, an event that did not reflect economic weakness, GDP grew by an average of 6.5 per cent between 2012 and 2018. The average quarterly GDP growth rate between 1999 and 2009 was 4.3 per cent. This jumped to 6.3 per cent between 2010 and the first quarter of 2019. During the latter interval, the Philippines was the fastest growing economy in Asia, along with China and India.

Despite a relatively low and declining employment elasticity early in this decade (Yap, 2015), the unemployment rate fell along with the surge in GDP growth (Figure 2). The

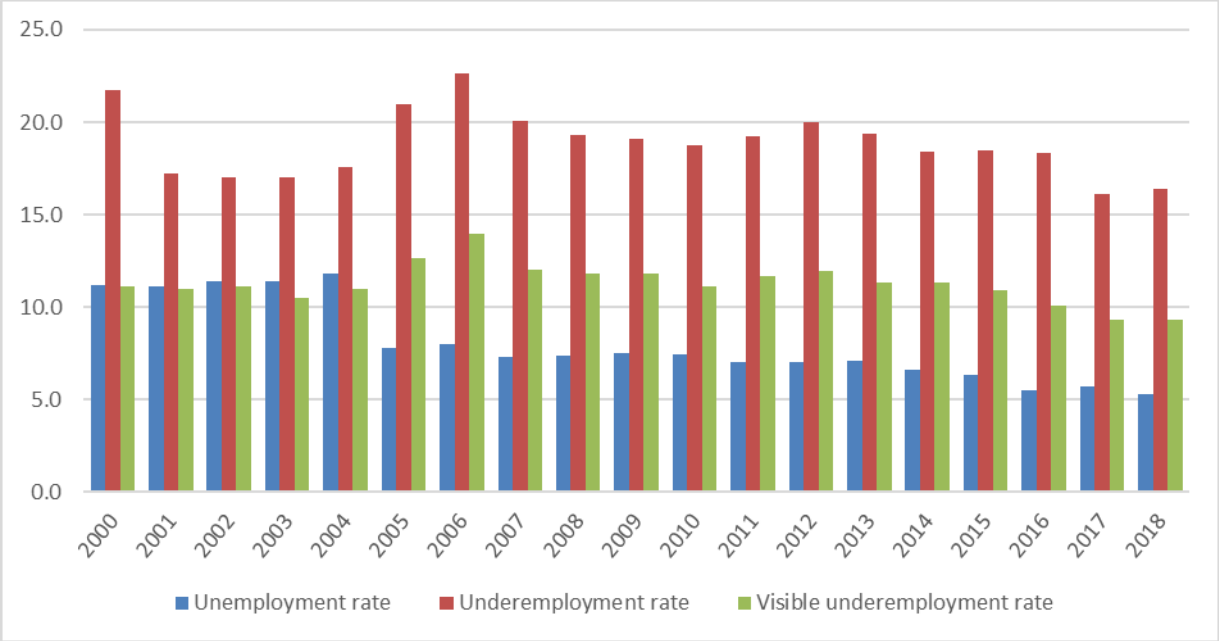
[8] This is based on the official statistics available from the Bangko Sentral ng Pilipinas (BSP) and Philippine Statistics Authority (PSA). Reference years for data vary, depending on the source of the information. In the case of BSP and PSA, the most recent year is 2013. Labour force surveys (LFS), official sources of labour market data, provide us with access to 2016 data. IBPAP also provides access to 2016 data, in the form of industry estimates.

[9] Philippine Statistics Authority's 2016 Annual Survey of Philippine Business and Industry (ASPBI) results for the Business Process Management industry released on 11 March 2019.

[10] 2015/2016 Industry Profile: Business Process Outsourcing, PSA Labstat Updates (July 2018), Vol. 22, No. 13.

unemployment rate in 2018 was recorded at 5.4 per cent. However, the Philippines still has one of the highest unemployment rates in the region (Table 6).

Figure 2. Unemployment, underemployment and visible underemployment rates, Philippines, 2000–2018 (Percentage of labour force)



Note: The methodology for calculating annual estimates of labour and employment indicators is based on the Philippine Statistics Authority (PSA) Board Resolution No. 01 Series of 2017-151, Approving and Adopting the Official Methodology for Generating Annual Labour and Employment Estimates, using the average of the estimates of the four LFS rounds, approved on 14 February 2017. Data on the visible underemployment rate for 2018 is an average of the January, April and July rounds. Underemployed persons are defined by PSA as those who express a desire to have additional hours of work in their present job, or an additional job, or to have a new job with longer working hours. Visibly underemployed are people who work for fewer than 40 hours during the reference week and want additional hours of work.

Source: Philippine Statistics Authority, Annual Labour and Employment Estimates for 2018 and 2017.

Perhaps the most encouraging sign of a turnaround is the investment/GDP ratio. This is one aspect in which the Philippines has persistently lagged behind its Asian neighbours (Table 7). Based on data from the Philippine Statistical Authority, however, the investment/GDP ratio increased steadily from 2010 and broke through 30 per cent in 2018, the first time since at least 1990. This augurs well for future economic expansion.

Meanwhile, the manufacturing sector has also experienced robust growth. Between 1999 and 2009 the quarterly growth rate of value added from this sector averaged 3.1 per cent. This more than doubled to 7.3 per cent between 2010 and the first quarter of 2019. An important observation is that during the earlier time interval, growth in manufacturing was below the quarterly GDP growth average of 4.3. However, during the later period, the manufacturing sector recaptured its role as the main driver of economic activity. If value added at constant prices is used, the data show that the share of manufacturing to GDP increased slightly after 2010 (Table 5).

Table 6. Unemployment rate, selected Asian countries, 1990–2017 (Percentage of labour force)

	1990	1995	2000	2005	2010	2015	2017
China	2.5	2.9	3.1	4.2	4.1	–	3.9
Indonesia	2.4	7.2	6.1	11.3	7.1	6.2	5.5
Korea, Republic of	2.4	2.0	4.4	3.7	3.7	3.6	3.7
Malaysia	5.1	3.1	3.0	3.5	3.3	3.1	3.4
Philippines	8.1	8.4	11.2	7.7	7.4	6.3	5.7
Singapore	1.8	1.8	3.7	5.6	4.1	3.8	4.2
Thailand	3.8	1.7	2.4	1.4	1.0	0.9	1.2
Vietnam	12.3	5.8	2.3	–	2.6	2.1	2.0

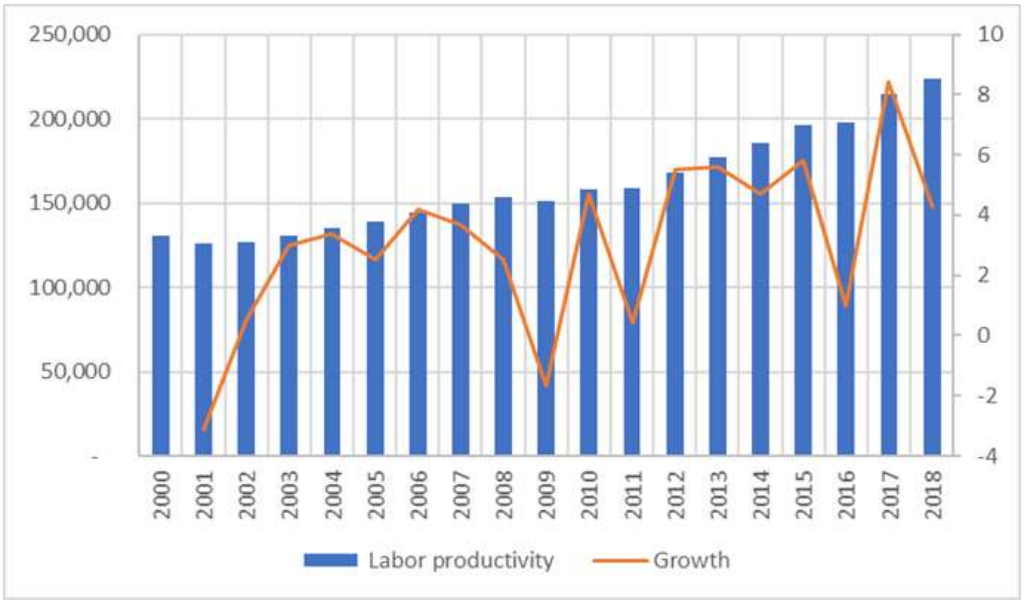
Note: Data for Indonesia, Philippines, Thailand and Viet Nam were estimates using national definitions. The national definition of unemployment varies from the international standard as defined by the International Conference of Labour Statisticians (see ILO, 2013a). In most cases showing a national and ILO estimate, the official national rate excludes from the definition of unemployment being available for work or actively seeking a job.

Source: ILOSTAT, https://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/unemployment/lang--en/index.htm, accessed on 18 May 2019.

Partly because of the rise in the investment/GDP ratio, labour productivity increased uninterruptedly between 2010 and 2018 (Figure 3). Labour productivity is measured as GDP divided by aggregate employment. It is encouraging that both the numerator and the denominator significantly increased during the relevant interval. This implies that output benefited from more than just an increase in labour inputs.

The employment structure reflects the rise in labour productivity. The share of the manufacturing sector increased from 8.3 per cent in 2011 to 9 per cent in 2018 (Figure 4). The shares of the agriculture and fisheries sector and of the informal service sector fell from 65 per cent in 2011 to less than 55 per cent in 2018. Meanwhile, underemployment declined from 19.3 per cent to 16.4 per cent (Figure 2). As a result of higher productivity, a larger share of good quality jobs, and less unemployment and underemployment, there was an increase in average real wages after 2010 (Table 8). This contributed to the decline in poverty incidence between 2011 and 2018.

Figure 3. Labour productivity, Philippines, 2000–2018 (PHP/employed person)



Source: PSA.

Table 7. Gross capital formation, selected Asian countries, 1994–2018 (Percentage of GDP)

	Indonesia	Korea, Rep	Malaysia	Philippines	Philippines (constant prices)	Thailand
1994	29.6	38.5	41.2	24.1	–	40.9
1995	30.4	39.0	43.6	22.5	–	42.9
1996	31.6	39.7	41.5	24.0	–	42.5
1997	30.3	37.4	43.0	24.8	–	34.3
1998	27.4	27.8	26.7	23.4	–	20.1
1999	22.1	30.9	22.4	19.0	–	20.2
2000	22.2	32.9	26.9	18.4	18.4	22.3
2001	22.5	31.6	24.4	22.1	22.1	23.1
2002	21.4	30.9	24.8	24.5	24.7	22.7
2003	25.6	32.0	22.8	23.0	23.4	23.8
2004	24.1	32.1	23.0	21.6	21.5	25.7
2005	25.1	32.2	22.4	21.6	21.1	30.4
2006	25.4	32.7	22.7	18.0	17.0	27.0
2007	24.9	32.6	23.4	17.3	15.9	25.5
2008	27.8	33.0	21.5	19.3	18.8	28.2
2009	31.0	28.5	17.8	16.6	17.0	20.6
2010	32.9	32.0	23.4	20.5	20.8	25.4
2011	33.0	33.0	23.2	20.5	20.6	26.8
2012	35.1	31.0	25.7	18.2	18.5	28.0
2013	33.8	29.1	25.9	20.0	22.1	27.5
2014	34.6	29.3	25.0	20.6	21.7	23.9
2015	34.1	28.9	25.1	21.2	24.2	22.3
2016	33.9	29.3	25.8	24.4	28.2	21.1
2017	33.7	31.1	25.6	25.1	28.9	22.8
2018	–	–	–	–	30.8	–

Note: Gross capital formation (formerly gross domestic investment).

Source: PSA and World Bank's World Development Indicators, https://data.worldbank.org/indicator/NE.GDI.TOTL.ZS, accessed on 18 May 2019.

Explaining the turnaround

Several factors led to the economic turnaround since 2010. The most important is macroeconomic stability, which can be traced partly to two important policy reforms: the introduction of inflation targeting in the year 2000 and a more flexible exchange rate regime after the 1997 Asian financial crisis. Inflation was below 5 per cent between 2010 and 2017 (Figure 5). It climbed to 5.2 per cent in 2018 largely due to a rise in food prices but averaged only 3.6 per cent in the first four months of 2019. Largely because of the benign inflation situation, interest rates have been fairly low (Figure 6), reflecting monetary policy that is supportive of economic growth. During this period, the average lending rate has not been much higher than inflation. This has led to a steady rise in the credit-to-GDP ratio (Figure 7), which can partly explain the uptick in the investment/GDP ratio.

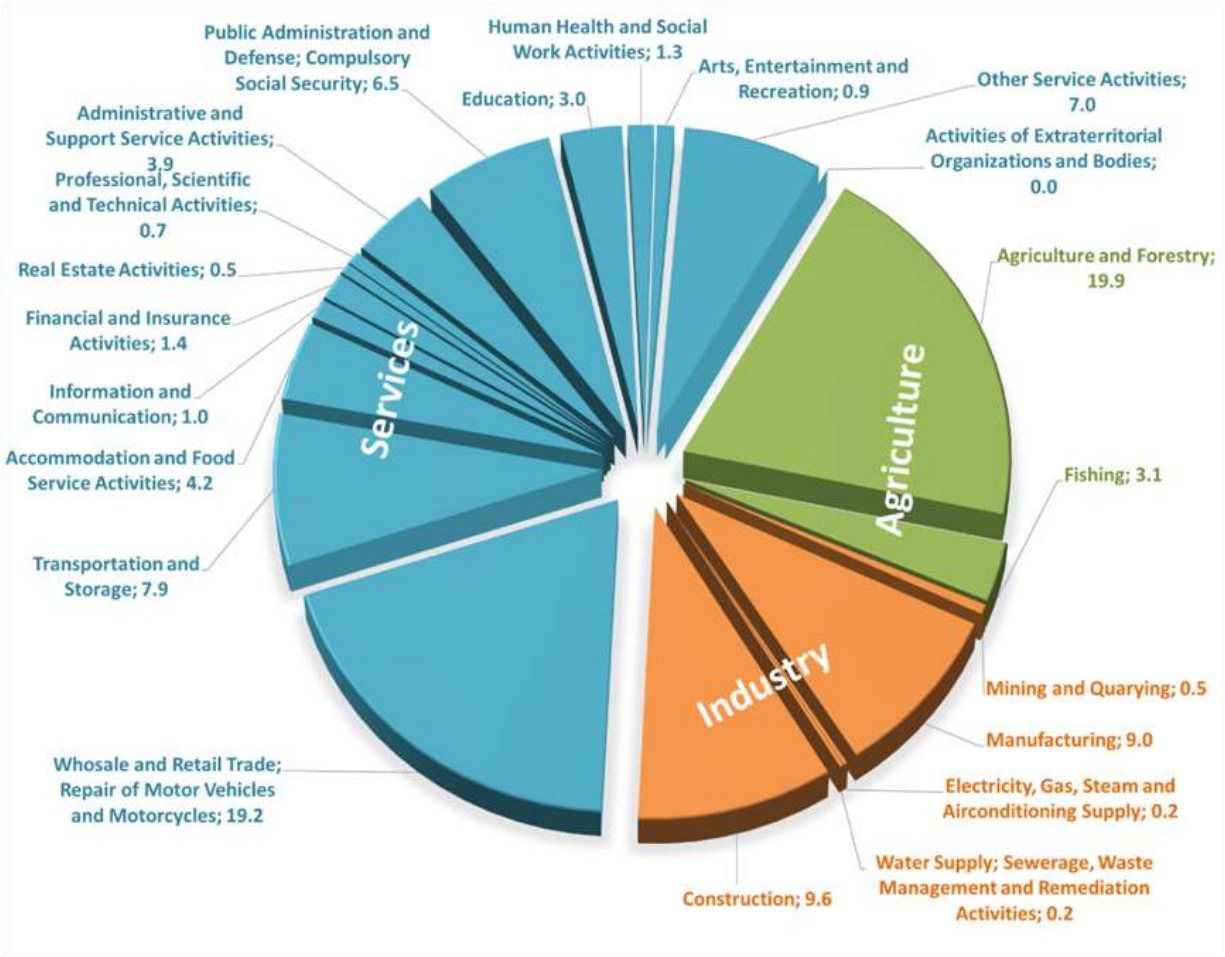
Table 8. Average real daily basic pay (constant 2006 PhP), major sectors, Philippines, 2001–2017 (2006=100)

	All major sectors	Agriculture	Industry	Services
2001	275.11	136.67	276.11	316.13
2002	272.76	133.22	272.87	313.72
2003	271.05	132.54	274.28	310.47
2004	263.02	132.39	266.22	301.07
2005	258.84	128.87	260.37	293.16
2006	261.90	132.25	268.97	294.20
2007	259.14	128.91	265.22	292.74
2008	250.39	124.64	255.45	282.77
2009	250.63	125.12	253.58	282.55
2010	254.38	126.15	252.34	288.55
2011	251.74	125.46	248.66	288.71
2012	256.59	128.16	252.47	294.76
2013	260.57	127.12	251.57	300.75
2014	263.33	132.84	246.35	302.62
2015	267.60	137.46	250.93	305.38
2016	278.44	145.36	261.39	316.46
2017	279.39	148.22	260.85	313.62

Source: Various rounds of Labour Force Surveys (LFS), PSA.

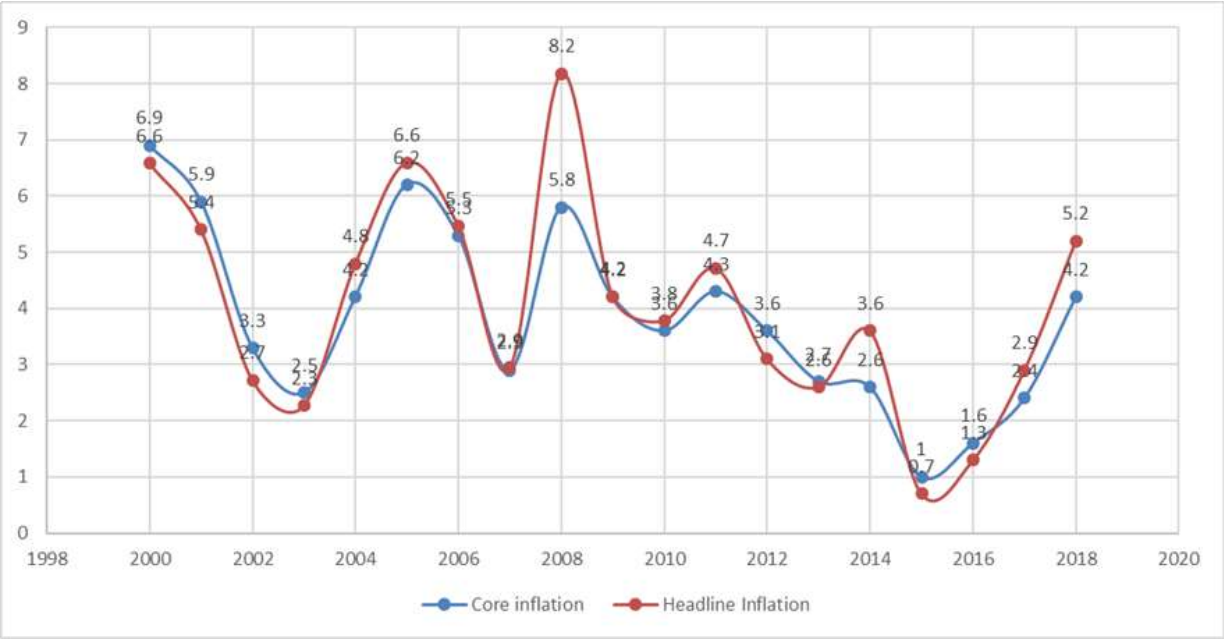
Macroeconomic stability has also been supported by a steady deficit-to-GDP ratio (Figure 8), which has also contributed to the low interest rate regime. However, to support higher output expansion, the Duterte administration adopted a higher budget deficit ceiling, consistent with a more expansionary fiscal policy. As a result, from an average of 1 per cent of GDP in 2013–2015, the budget deficit rose to 2.4 per cent in 2016, 2.2 per cent in 2017 and 3.2 per cent in 2018, as expenditure, particularly capital outlays, grew faster than revenues. Meanwhile, the real effective exchange rate has avoided abrupt swings similar to the pattern between 1997 and 2009 (Figure 9). This has provided a conducive environment for the tradable sector to expand, an important factor in the resurgence of manufacturing.

Figure 4. Percentage share of each sector in total employment, Philippines, 2018



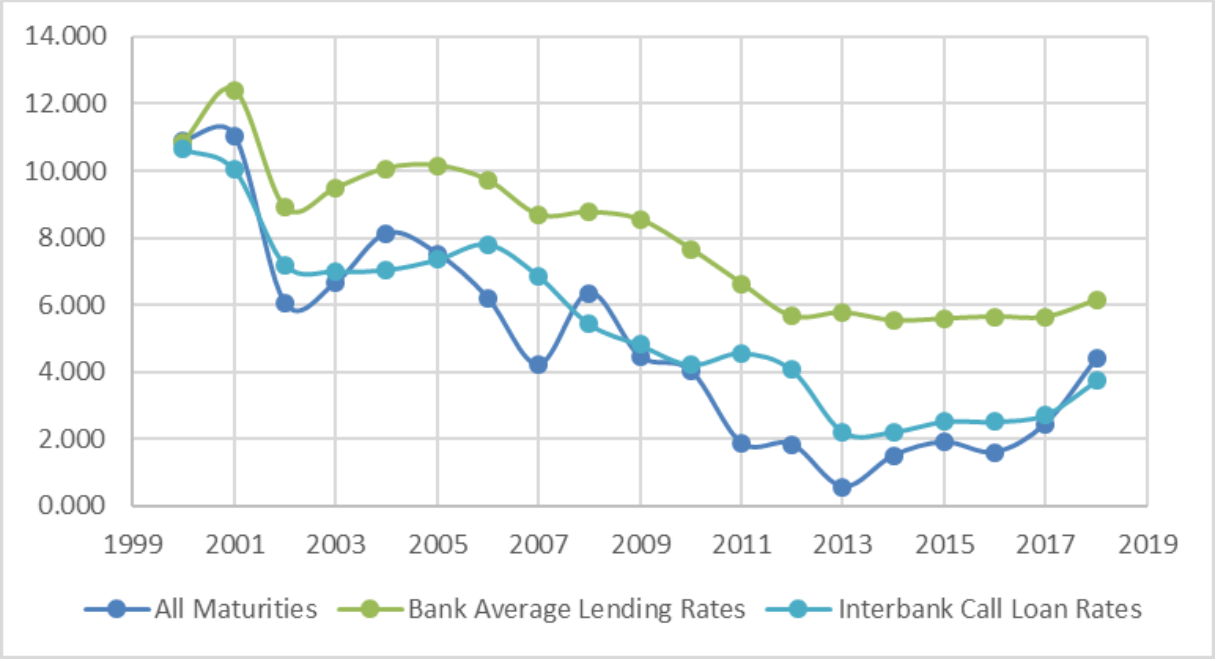
Source of basic data: Labour Force Survey (July 2018), Philippine Statistics Authority (PSA).

Figure 5. Core and headline inflation rates, Philippines, 2000–2018 (%)



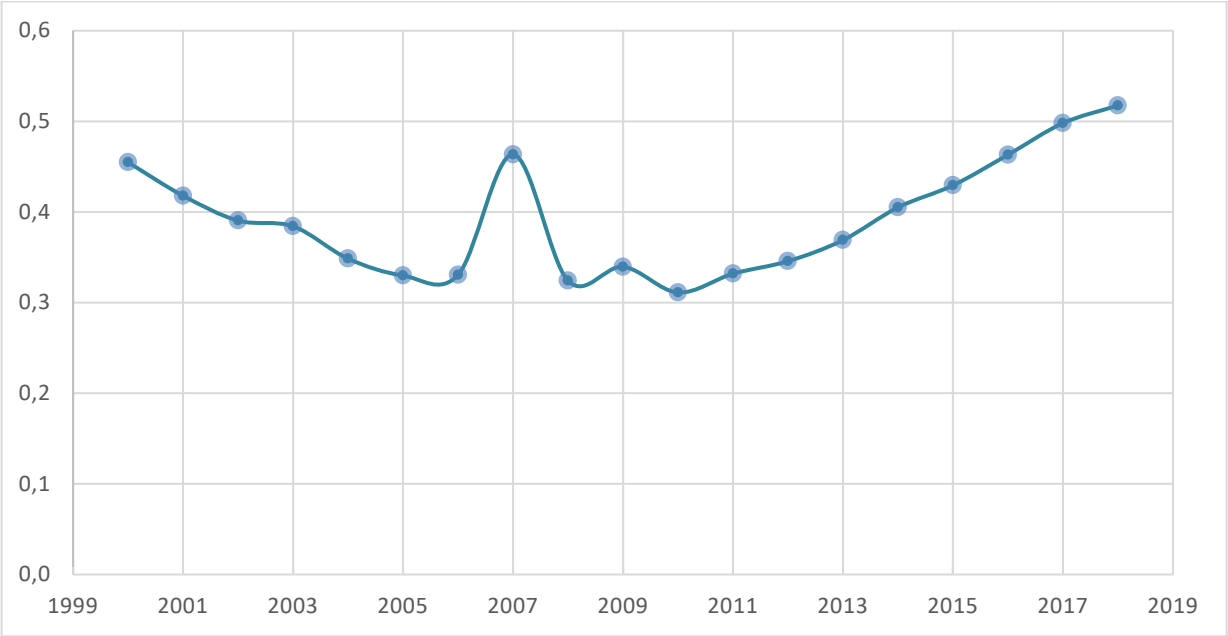
Source: PSA.

Figure 6. Selected interest rates, Philippines, 2000–2018 (%)



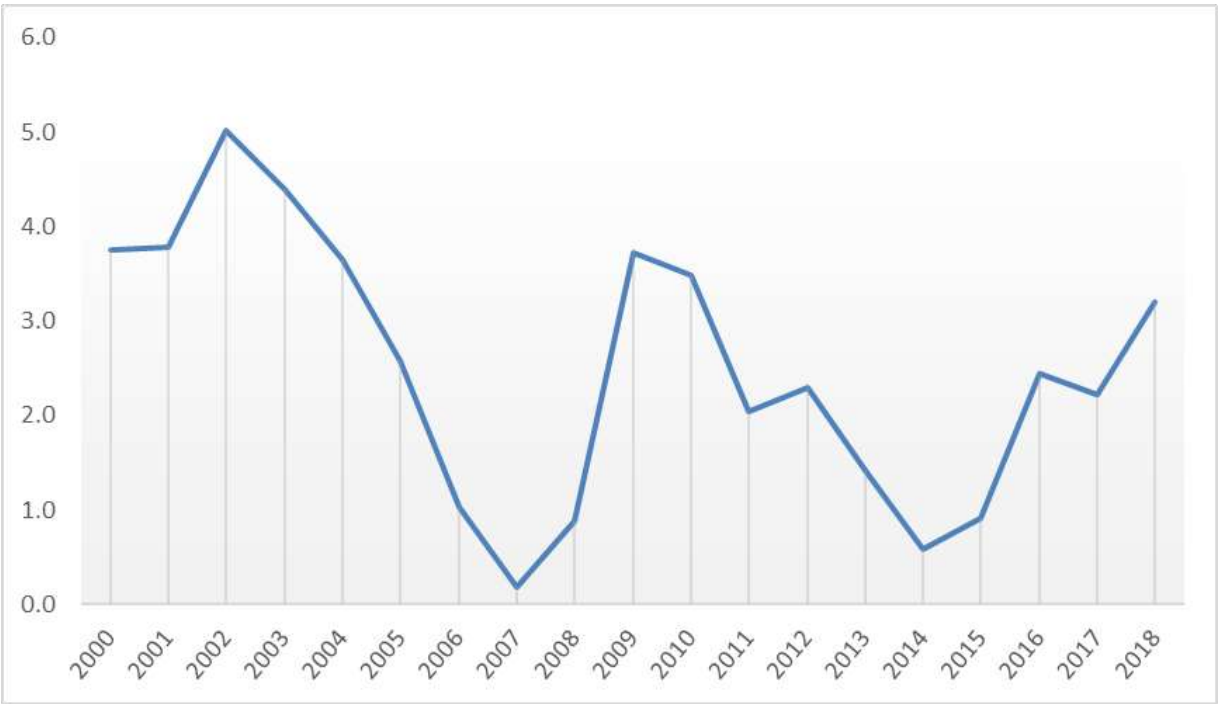
Source: Bangko Sentral ng Pilipinas (BSP).

Figure 7. Ratio of credit to GDP, Philippines, 2000-2018 (%)



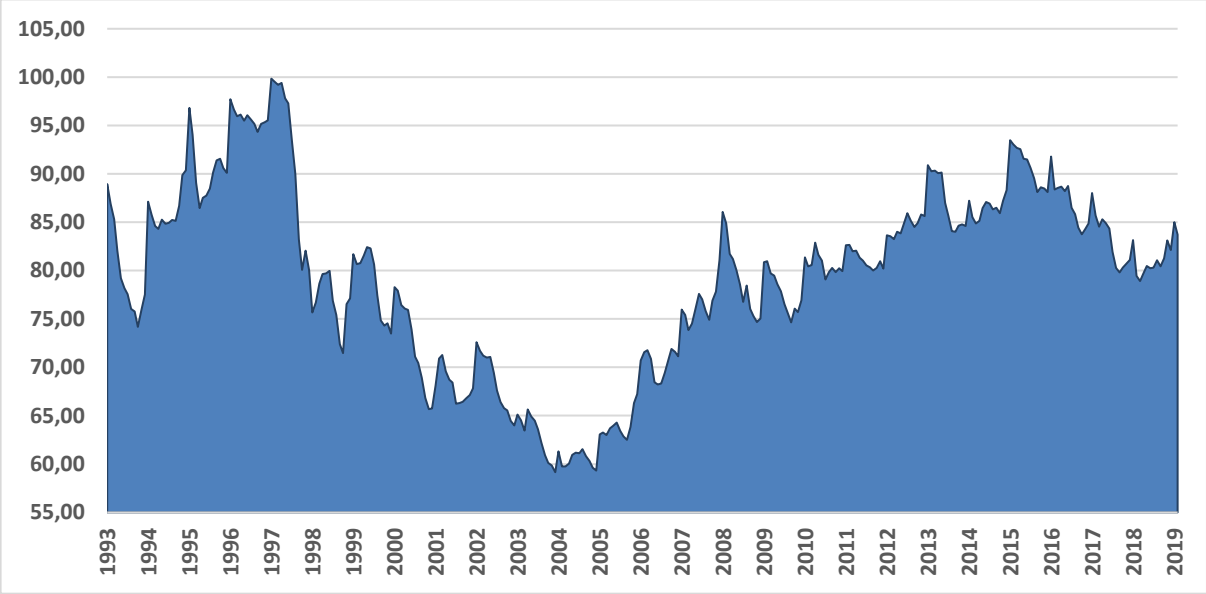
Source: Authors' calculations using data from Bangko Sentral ng Pilipinas and Philippine Statistics Authority.

Figure 8. Budget deficit, Philippines, 2000–2018 (Percentage of GDP)



Source: Bangko Sentral ng Pilipinas (BSP).

Figure 9. Real effective exchange rate of the Philippine peso, 1993–2019 (Constant 1980 ₱)



Source: Bangko Sentral ng Pilipinas.

Among the many manufacturing sub-sectors, only one category had an average growth rate in value added higher than aggregate manufacturing between 2010 and 2018 and at the same time a significant share of the total, namely radio, television and communication equipment and apparatus. It grew at an average of 8.2 per cent during this period with an average share of total manufacturing of 17.3 per cent. This is a clear sign that participation in regional production networks has deepened somewhat. This can be attributed partly to a shift of the centre of gravity of such networks away from China following its adoption of a strategy in 2011 that emphasizes domestic consumption as the main driver of economic growth instead of investment and exports.

Remittances from Filipino workers overseas have been steady during this period. The ratio of remittances to GDP was 9.4 per cent in 2010 and declined slightly to 8.8 per cent in 2018. The Philippine economy has been heavily dependent on these remittances, which is also a symptom of the development progeria described earlier.

Table 9 depicts the struggle of the Philippine economy with regard to the power sector. After the crisis in the early 1990s, access to electricity grew steadily and contributed to the turnaround in economic performance after 2010. The electrification rate reached 91 per cent in 2016. However, the Philippines has consistently underperformed in this sector when compared with its Southeast Asian neighbours. Not only does the Philippines have the lowest electrification rate among the five countries, it also has the highest electricity tariffs and lowest per capita electricity consumption (Ravago et al., 2018).

Meanwhile, the Philippines has fared well in terms of the quality of governance. The study by Mendoza and Olfindo (2018) used the World Bank's World Governance Indicators, which measure good governance with regard to six key dimensions: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. The authors observe that since 2010 "it has been apparent that the Philippines' scores in all six dimensions, including regulatory quality and rule of law, have been increasing at a much faster pace than those of other countries" (Mendoza and Olfindo, 2018, p. 378).

Table 9. Electrification rate, selected ASEAN countries, 1990–2016 (Percentage of population)

	1990	1995	2000	2005	2010	2016
Indonesia	61.7	66.9	86.3	86.2	94.1	97.6
Malaysia	93.9	95.6	97.0	98.0	99.3	100.0
Philippines	62.1	67.9	73.5	78.6	84.0	91.0
Thailand	75.9	81.7	82.1	92.3	99.7	100.0
Viet Nam	74.1	80.3	86.2	96.1	97.6	100.0

Source: World Bank, https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS (accessed on 26 May 2019).

The improvement in governance indicators coincided with the administration of President Benigno C. Aquino III, which strongly advocated a programme of clean government. During its first full year in 2011, the zeal to avoid any hint of corruption led to a decline in public construction expenditure of 38.8 per cent. Nevertheless, the improved policy environment led to higher investor and consumer confidence and was translated into higher spending by both groups after 2011.

Whether the positive trends since 2010 can be sustained will be crucial to achieving the SDGs. Apart from implementing sound macroeconomic policies, some of the gains – particularly in terms of labour productivity and employment structure – can be consolidated with microeconomic policies, especially in the labour market. This will be explored in the subsequent sections.

3. Labour market developments

Structure

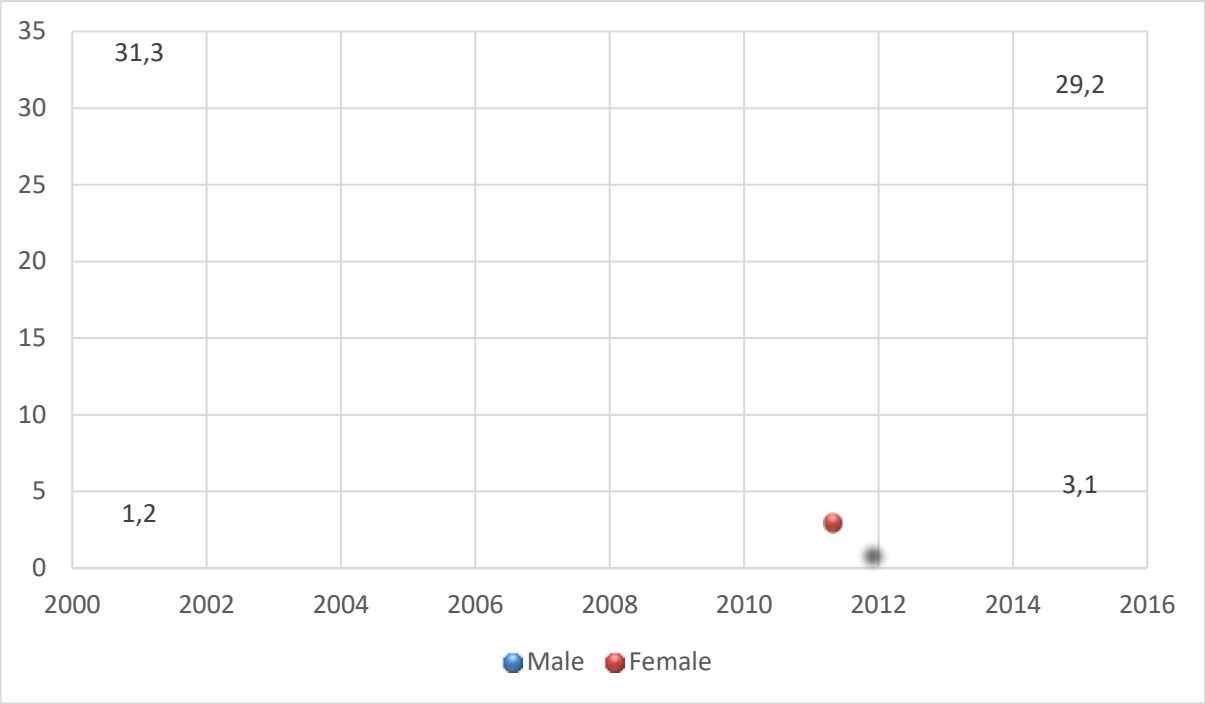
The country's employment situation has improved since 2000: the overall employment rate went up from 88.8 per cent in 2000 to 92.9 per cent in 2012 and to 94.6 per cent in 2018. Unemployment is now down to 5.4 per cent (Figure 2). The pool from which the country can draw its workforce also continues to grow. The population of individuals aged 15 and above grew at an average rate of 2.1 per cent each year in the past decade. Unfortunately, the growth of the labour force is not as robust, expanding by only an average of 1.7 per cent. In comparison, the economically inactive population has grown much faster, at an average of 2.8 per cent during the same period. In fact, those not in the labour force now account for 39 per cent of the relevant population (15 years old and above), compared with 36 per cent in 2000. The labour force participation rate (LFPR), therefore (see below), is now down to 61 per cent of the total adult population from 63.6 in 2000. Its highest level was 67.5 per cent in 2004.

While the male and female labour force participation rates are both on a downward trend, that of females is substantially lower, at 46.7 per cent compared with 75.3 per cent. The gap has remained fairly steady during the past decade. The current situation therefore is characterized by fewer women entering the labour force, but if women do participate, their employability is higher than that of men. Women's employment rate (93.1 per cent) in 2018 is slightly above that of men (92.4 per cent). Women used to have a lower employment rate until 2006 when it caught up and even exceeded men's.

Many women do not enter the labour force because of their traditional role in the family/household. A PSA publication noted that 10.5 million persons were economically inactive due to household or family duties in 2015. These persons include those who "quit their jobs or opt to stay at home rather than find a job to give more time and importance to their family".[11] Of the 10.5 million economically inactive people in this circumstance, 90.4 per cent are women. In fact, based on the same 2015 data, 29.2 per cent of working age women – but only 3.1 per cent of men – are categorized as economically inactive due to their household/family duties (Figure 10). Although the proportion of economically inactive women has gone down slightly, while that of men has inched up slightly, a huge gap remains.

[11] PSA Labstat Updates, Vol. 21, No. 8, June 2017; accessed 4 July 2019 at https://psa.gov.ph/sites/default/files/Vol%2021%20No.%208%20Combining%20work%2C%20Family%20and%20Personal%20life.pdf

Figure 10. Economically inactive due to household/family duties, Philippines, 2001–2015 (Percentage of working age population by sex)



Source: Various rounds of Labour Force Surveys, Philippine Statistics Authority.

Labour productivity and intensity

The growth of labour productivity over the years suggests that labour has become relatively more efficient. During the period 2001 to 2010, the average growth in labour productivity was 2 per cent. This doubled in the succeeding eight years to 4.5 per cent. Output per employed worker in 2018 was nearly twice (1.7 times) that of 2000. As already mentioned, part of this can be attributed to the higher investment/GDP ratio. Among the key sectors, industry had the highest labour productivity at P399,878 in 2017, followed by the services sector with P204,689, measured in constant 2000 prices (Table 10). Agriculture, meanwhile, continues to lag behind at only P72,023, a mere one-fifth of the industry sector. Labour productivity growth is examined more deeply in the succeeding section under decomposition of labour productivity.

Table 10. Labour productivity levels (constant 2000 ₱) and growth rates (%) by major sector, Philippines, 2000–2018

	Level (constant 2000 PhP)			Growth rate (%)		
Year	Agriculture	Industry	Services	Agriculture	Industry	Services
2000	49 122	277 003	144 092	9.4	8	0.4
2001	47 680	264 297	141 350	–2.9	–4.6	–1.9
2002	48 059	272 978	140 568	0.8	3.3	–0.6
2003	49 864	276 122	144 925	3.8	1.2	3.1
2004	51 281	281 324	150 093	2.8	1.9	3.6
2005	51 318	291 596	154 478	0.1	3.7	2.9
2006	52 941	306 747	160 742	3.2	5.2	4.1
2007	54 954	316 584	165 688	3.8	3.2	3.1
2008	55 574	336 603	168 668	1.1	6.3	1.8
2009	55 110	327 298	165 526	–0.8	–2.8	–1.9
2010	55 425	344 418	170 183	0.6	5.2	2.8
2011	55 420	342 486	172 033	0.0	–0.6	1.1
2012	57 800	353 725	180 875	4.3	3.3	5.1
2013	59 734	373 769	187 988	3.3	5.7	3.9
2014	60 910	387 752	196 075	2.0	3.7	4.3
2015	63 728	405 643	204 753	4.6	4.6	4.4
2016	64 263	384 215	204 689	0.8	–5.3	0.0
2017	72 039	399 666	219 402	12.1[12]	4.0	7.2
2018	74 593	400 567	228 134	3.5	0.2	4.0

Source: Philippine Statistics Authority.

Labour intensity among the various sectors of the economy is also analysed. For this, the transaction table from the input-output (IO) table is used, wherein the compensation of employees is simply divided by the total primary inputs. Thus, it crudely measures the weight of labour in the production of all primary inputs. The 2012 65-sector Input-output matrix notes that, on average, labour comprises a little over one-third (0.3521) of all primary inputs. The most labour-intensive sectors are (see Table 11): (i) public administration and defence and compulsory social security, with a labour intensity value of 0.9341; (ii) agricultural activities and services, with 0.8058; and (iii) wearing apparel, with 0.7173. The other industries that are highly labour-intensive (that is, their index is above 0.5) are administrative and support service activities, education, furniture and fixtures, publishing and information, footwear and leather and leather products, corn, human health and social

[12] The sharp increase in the growth of labour productivity in the agriculture sector is due to a combination of low base, decline in the denominator and overall economic performance in 2017. In particular, the growth rate of agriculture value added was 4 per cent in 2017, the highest since 2007. This was led by stronger growth in the crop sub-sector as a result of favourable weather conditions (especially in major crop-growing areas like the Cagayan Valley and Western Visayas), sufficient water supply (as a result of the rehabilitation of irrigation facilities in the aforementioned areas) and increased use of newly introduced hybrid rice and corn seed varieties, among other things (http://www.bsp.gov.ph/downloads/Publications/2017/REDP_2017.pdf

work activities, basic pharmaceutical products and pharmaceutical preparations, fabricated metals, and printing and reproduction of recorded media.

Meanwhile, the sectors with the 15 lowest labour intensities are: (i) property; (ii) petroleum and other fuel products; (iii) other mining and quarrying; (iv) tobacco manufactures; (v) nickel mining; (vi) electricity; (vii) real estate activities; (viii) copper mining; (ix) beverages; (x) computer, electronic and optical products; (xi) forestry; (xii) gold mining; (xiii) other metallic mining, not elsewhere classified; (xiv) insurance and activities auxiliary to financial intermediation; and (xv) non-bank financial intermediation.

While the 2012 input-output table helps to understand the labour intensity of the different sectors, only 65 broad sectors were included, which makes it incomparable to older IO tables, making analysis of trends difficult. Hence, this study used the 2000 and 2006 IO tables to examine changes in the structure of economic sectors with regard to labour. The analysis shows some interesting trends. The average indices in these earlier years are similar, with 0.3295 in 2000 and a slightly lower level of 0.3287 in 2006. Both are lower than the average index in 2012, which was 0.3521. However, there are more sectors in 2006 that had an index of above 0.5. In 2006, there are 35 such sectors, while in 2000 there were only 17 of them.

There are many sectors that became more labour-intensive during this period. Rubber, for example, experienced a 65 per cent increase in its index during the period. There was also a surge in the garment industry's labour intensity, with a 151 per cent increase in its index. The manufacture of primary cells and batteries and accumulators saw its labour intensity double within the same period. Motion picture and video production and distribution also became more reliant on labour input and became one of top sectors for labour intensity in 2006. The manufacture of aircraft and spacecraft, which is a highly labour-intensive sector (0.6261) did not have its own category in 2000. The closest industry is the manufacture, assembly, rebuilding and major alteration of railroad equipment, aircraft, and animal and hand-drawn vehicles, which had an index of only 0.1607. The manufacture of lighting equipment and electric lamps and other electrical equipment is another sector that has become significantly more intensive, experiencing a 141 per cent increase in its index, making it one of the top performers in 2006.

Meanwhile, some sectors became less reliant on labour input. Tour and travel agencies, which was a top sector in 2000, became less labour intensive in 2006, similarly tour buses and cars. Private medical, dental and other health activities, which had an index above 0.5 in 2000 also became less labour-intensive in 2006, with only 0.3427. Architectural, engineering and other technical activities have also become significantly less intensive.

Despite the changes in some sectors, those consistently on top in terms of labour intensity are:

- railway transport,
- public medical, dental and other health activities,
- public education services,
- public administration and defence,
- postal and courier activities,
- public utility cars and taxicab operations,
- investigation and security activities,
- labour recruitment and provision of personnel,
- washing and (dry)-cleaning of clothing and textiles,
- abaca,
- corn,
- call centre activities.

Understanding that such trends exist is important because they indicate some dynamics in the structure of industries. Labour intensity indicates whether there is a trend toward higher employment. It also shows which sectors are becoming more labour intensive. The expansion of investments through more enabling policies for the sectors that have become more labour intensive is likely to lure more people into the labour force. Capacitating and incentivizing young people, through scholarships and other related programmes, to join the workforce in these sectors may reduce the proportion of them not in employment, education or training. This information must feed into the government's planning and updating of its policies, especially in terms of sectoral priorities, in designing appropriate incentives for the development and expansion of labour-intensive industries, among other things, in support of the jobs agenda.

Table 11. Sectors with highest labour intensity, 2012

Rank	Sector	Labour intensity (compensation/ total primary inputs)
1	Public administration and defence Compulsory social security	0.9341
2	Agricultural activities and services	0.8058
3	Wearing apparel	0.7173
4	Administrative and Support Service Activities	0.6857
5	Education	0.6402
6	Furniture and fixtures	0.6149
7	Publishing and Information	0.5732
8	Footwear and leather and leather products	0.5653
9	Corn	0.5489
10	Human Health and Social Work Activities	0.5372
11	Basic pharmaceutical products and pharmaceutical preparations	0.5363
12	Fabricated metal products	0.5308
13	Printing and reproduction of recorded media	0.5146
14	Miscellaneous manufactures, nec	0.4921
15	Palay	0.4759
16	Banana	0.4675
17	Other Service Activities, nec	0.4657
18	Rubber and plastic products	0.4421
19	Paper and paper products	0.4318
20	Professional, Scientific and Technical Activities	0.4266
21	Coconut	0.4255
22	Sewerage and waste water remediation activities	0.4231
23	Accommodation and Food Service Activities	0.3891
24	Banking Institutions	0.3834
25	Postal and courier activities	0.3806
26	Machinery and equipment except electrical	0.3763
27	Wholesale and retail trade and Maintenance and repair of motor vehicles	0.3637

Source: Authors' estimates based on PSA Input-Output Transaction Table.

4. A closer look at labour

Decomposition of labour productivity

In writing this study we adopted the Generalized Exactly Additive Decomposition (GEAD) of labour productivity growth, the formula proposed by Tang and Wang (2004), for the following reasons:[13]

- First, the additivity of GEAD is not sensitive to real output volume measure as it is exactly additive when output is measured in either constant or chained prices. In contrast, the traditional additive decomposition (TRAD) is not additive when output is in chained prices.
- Second, the components of GEAD (within-sector productivity growth effect, dynamic structural reallocation or Baumol effect, and static structural reallocation or Denison effect) are analytically superior to those of TRAD. GEAD allows both changes in labour shares and relative prices to have an effect on reallocation, while TRAD only recognizes the role of changes in labour shares.
- Third, although De Avillez (2012) argued that GEAD formula has not yet been widely adopted in the empirical literature, the said methodology provides a better intertemporal picture of sectoral or geographical transformation, primarily because relative price changes are taken into account in the GEAD formula.

While this study has used GDP data expressed in constant prices, the other aforementioned merits of GEAD methodology that were reported by Dumagan (2013) reinforced the choice of the labour productivity decomposition methodology (see Box 2).

Box 2. Generalized Exactly Additive Decomposition (GEAD) methodology

The GEAD formula[14] is as follows:

$$G_t = \sum_j \left[\frac{Y_{t-1}^j}{Y_{t-1}} G_t^j + \frac{Z_{t-1}^j}{Z_{t-1}} (p_t^j l_t^j - p_{t-1}^j l_{t-1}^j) G_t^j + \frac{Z_{t-1}^j}{Z_{t-1}} (p_t^j l_t^j - p_{t-1}^j l_{t-1}^j) \right]$$

where G_t is the aggregate[15] growth rate of labour productivity and is computed as $\frac{Z_t - Z_{t-1}}{Z_{t-1}}$; Z_t is the aggregate labour productivity at time *t* , while Z_{t-1} is the aggregate labour productivity at time *t-1*;

$\sum_j \left[\frac{Y_{t-1}^j}{Y_{t-1}} G_t^j \right]$—the first term in the above equation—is termed the *pure productivity growth effect* (Dumagan, 2013, as cited in Nordhaus, 2002) or *within-sector effect* (De Avillez, 2012), which measures the contribution of productivity growth of individual sectors to the aggregate labour productivity growth; $\frac{Y_{t-1}^j}{Y_{t-1}}$ is the sector's nominal output share at time *t-1*, Y_{t-1}^j is the sectoral nominal output at time *t-1*, Y_{t-1} is the aggregate nominal output at time *t-1*, and G_t^j is the sectoral growth rate of labour productivity;

[13] Which are essentially based on the key findings of Dumagan (2013)

[14] Drawn mainly from the description of GEAD methodology in Dumagan (2013) and De Avillez (2012).

[15] Or national.

$\sum_j \left[\frac{Z_{t-1}^j}{Z_{t-1}}\left(p_t^j l_t^j - p_{t-1}^j l_{t-1}^j\right) G_t^j\right]$ – the second term in the above equation – is akin to the Baumol effect (Dumagan, 2013, as cited in Nordhaus, 2002) or the reallocation growth effect (De Avillez, 2012), which captures a phenomenon similar to Baumol's cost disease or the propensity of labour to move towards sectors with stagnant or declining labour productivity, and is non-zero when there are changes in relative prices and labour shares; where Z_{t-1}^j is the sectoral labour productivity at time t-1, p_t^j is the relative price differences between an economy and a specific sector or ratio between P_t^j (sectoral output price deflator) and P_t (aggregate output price deflator) at time t, p_{t-1}^j is the lagged counterpart of p_t^j, l_t^j is the sector's share of total employment at time t, l_{t-1}^j is the lagged counterpart of l_t^j, while G_t^j is the sectoral growth rate of labour productivity that makes use of sectoral labour productivity values at time t and t-1;

$\sum_j \left[\frac{Z_{t-1}^j}{Z_{t-1}}\left(p_t^j l_t^j - p_{t-1}^j l_{t-1}^j\right)\right]$—the third term in the above equation—is similar to the *Denison effect* (Nordhaus, 2002) or *reallocation level effect* (De Avillez, 2012), which implies that the aggregate productivity growth could increase as a result of the movement of resources from a low-productivity industry to a high-productivity industry; *j* is the notation for sector, i.e., agriculture,[16] industry and services in this study; and *t* is the notation for time, i.e., 2001 to 2018 in this study.

The table below lists the data sets used in this decomposition analysis.

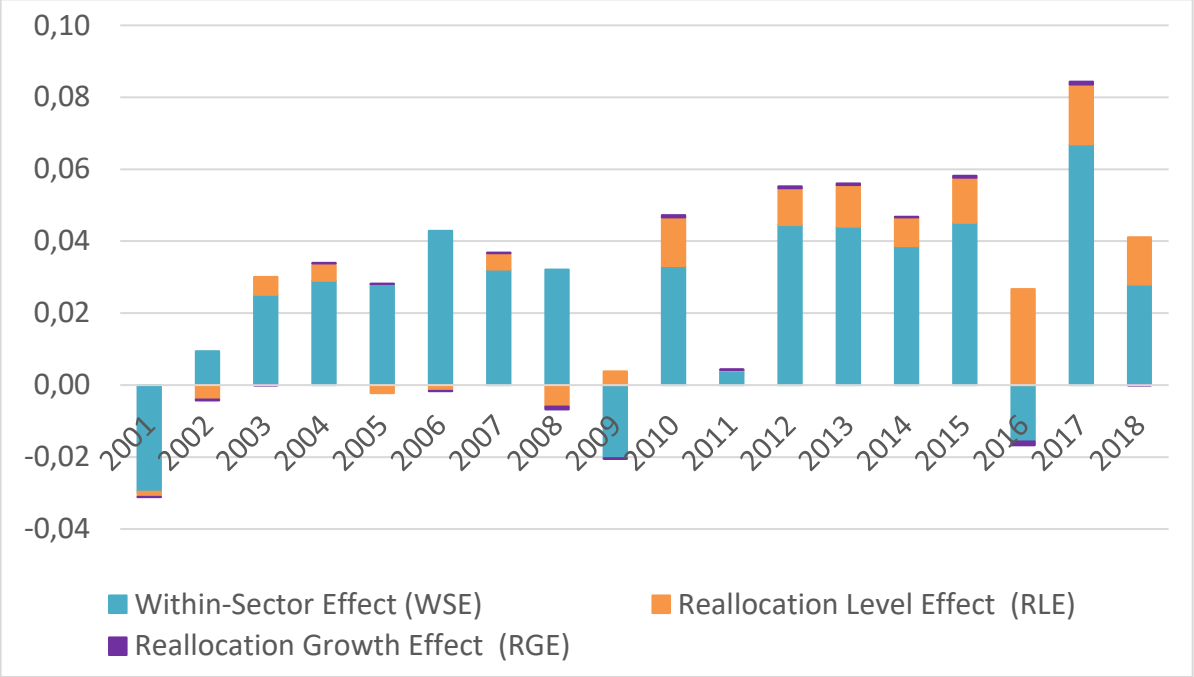
Indicator	Description	Source
GDP	Gross domestic product, both in current and constant 2000 prices (₱), by major sector (agriculture, industry and services), 2000–2018	National Income Accounts, Philippine Statistics Authority (PSA)
Implicit Price Index	Implicit price index, by major sector (agriculture, industry and services), 2000–2018	
Employment	Number of employed persons, by major sector (agriculture, industry and services), 2000–2018	Various rounds of Labour Force Survey, PSA

Source: Authors.

The results of the decomposition analysis suggest that aggregate labour productivity has been driven mainly by the within-sector effect (WSE), or productivity growth of the individual sectors, since 2001 (Figure 11). Only in 2016 did the reallocation level effect outweigh the within-sector effect.

[16] Officially termed the "Agriculture, Hunting, Forestry and Fishing" sector; used for purposes of brevity.

Figure 11: Decomposition of aggregate labour productivity growth, Philippines, 2001–2018 (%)



Source: Authors' estimates.

Apparently, labour productivity growth decelerated in 2016 (although still positive at 1 per cent), mainly because employment growth outpaced output growth in every sector (Table 12). The gap between output and employment growth was 6 percentage points in industry and 0.1 percentage point in services, resulting in negative labour productivity growth in these sectors. On the other hand, the negative growth in agricultural employment was 0.8 percentage points higher than the negative output growth, resulting in a positive labour productivity growth in this sector.

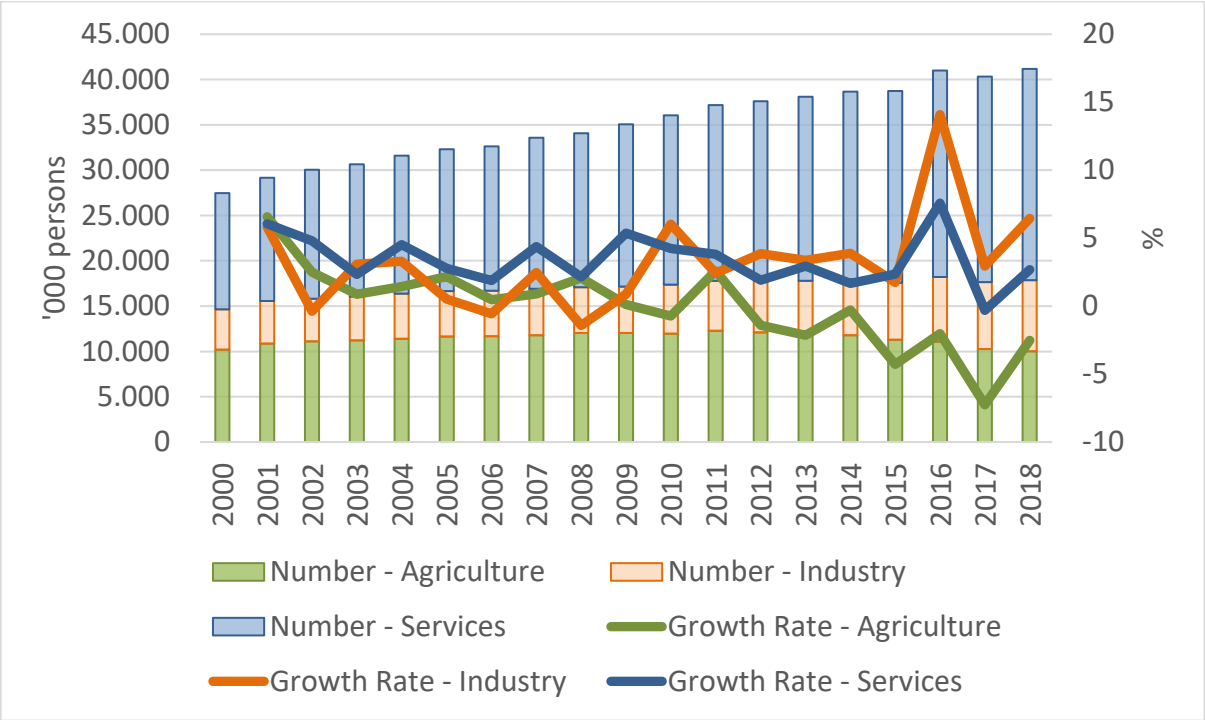
Table 12: Growth rates of labour productivity, real gross domestic product and employment, Philippines, 2015–2016

Indicator	Agriculture	Industry	Services	All Sectors
Labour productivity	0.8	-5.3	–0.03	1.0
Real gross domestic product	–1.2	8.1	7.5	6.9
Employment	–2.0	14.1	7.6	5.8

Source of basic data: Philippine Statistics Authority.

The main takeaway here is that aggregate labour productivity in 2016 managed to post positive growth despite the slowdown in labour productivity growth in high-productivity sectors. The literature refers to this phenomenon as reallocation level effect (RLE), or movement of workers from low- to high-productivity sector. It can be said that agricultural workers move away from agriculture to the more productive industry and services sectors. This can be supported by the finding that employment growth in agriculture declined while those in non-agriculture sectors increased. In fact, the positive employment growth in non-agriculture sectors, specifically in industry, have been the highest since 2001, while the negative employment growth in agriculture has been evident since 2012 (Figure 12).

Figure 12: Employment levels and growth rates (%), by major sector, Philippines, 2000–2018



Source: Philippine Statistics Authority.

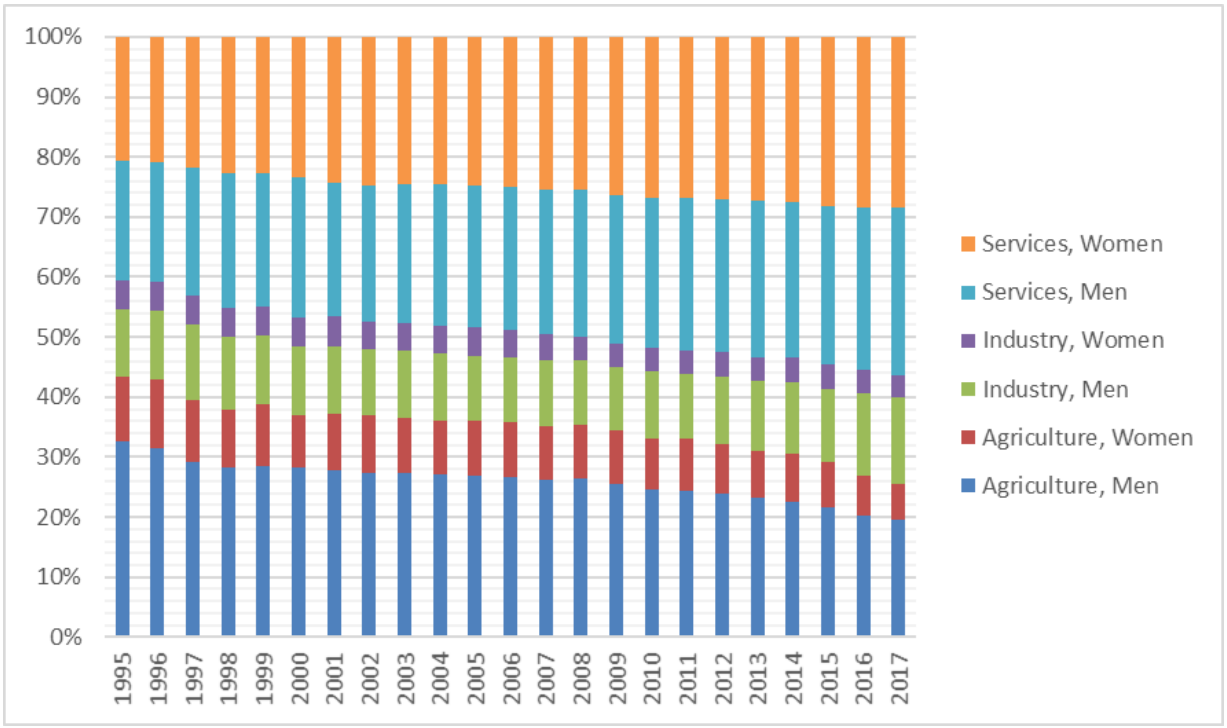
Across sectors, industry had been the largest contributor to aggregate productivity growth during the past two decades. However, agriculture, the lowest productivity sector, had outperformed the industry sector during the last three years in terms of growth (Table 13). This largely reflects the lower base of the agriculture sector. Another reason is the movement of labour away from agriculture, resulting in a decrease in the denominator. The share of the agriculture sector to total employment went down from 43 percent in 1995 to only 25 percent in 2017, with the decrease happening for both male and female workers at 5 and 17 percent reduction in absolute number of workers, respectively (Figure 13). This can also explain the decline in labour productivity in the industry sector in 2016—related to the faster increase in the denominator in this sector—and the rise in the RLE component—driven by the movement of labour from agriculture to industry.

Table 13: Labour productivity growth rates, by major sector, Philippines, 2001–2017 (%)

Year	Agriculture	Industry	Services	All Sectors
2001	–2.9	–4.6	–1.9	–3.1
2002	0.8	3.3	–0.6	0.5
2003	3.8	1.2	3.1	3.0
2004	2.8	1.9	3.6	3.4
2005	0.1	3.7	2.9	2.5
2006	3.2	5.2	4.1	4.2
2007	3.8	3.2	3.1	3.7
2008	1.1	6.3	1.8	2.5
2009	–0.8	–2.8	–1.9	–1.7
2010	0.6	5.2	2.8	4.7
2011	0.0	–0.6	1.1	0.4
2012	4.3	3.3	5.1	5.5
2013	3.3	5.7	3.9	5.6
2014	2.0	3.7	4.3	4.7
2015	4.6	4.6	4.4	5.8
2016	1.0	–5.3	0.1	1.0
2017	12.1	4.0	7.2	8.4
2018	3.5	0.2	4.0	4.1

Source: Philippine Statistics Authority.

Figure 13. Employed persons by sector and by gender, Philippines, 1995–2017



Source: Philippine Statistics Authority.

Looking at the various sub-sectors, agriculture and forestry were the largest contributors to agricultural productivity growth in 2016 and 2017 (Table 14). The surge in labour productivity in the agricultural sector in 2017 was a combined effect of low base, decline in denominator and overall economic performance. In particular, the growth of agriculture value added was 4 per cent in 2017, the highest since 2007, supported primarily by the stronger growth in the crop sub-sector as a result of favourable weather conditions (especially in major crop-growing areas such as Cagayan Valley and Western Visayas), sufficient water supply (as a result of the rehabilitation of irrigation facilities in the aforementioned areas) and increased use of newly introduced hybrid rice and corn seed varieties, among other things.[17] Looking at the gender dimension, the trend suggests a shift by women from agriculture to services (Figure 13). This is shown by a decline in the number of female workers in the agriculture sector of 4.7 per cent between 2000 and 2017. The proportion of female workers in industry increased only slightly, by 10 per cent, while services gained an additional 77 per cent of female workers during the same period. Meanwhile, there was a very minimal increase of 2.5 per cent in male workers in the agriculture sector, while industry gained 89 per cent and services an additional 77 per cent.

Table 14. Labour productivity growth rates, by sub-sector, Philippines, 2016–2017 (%)

Sector/Sub-Sector	2017	2016
1. Agriculture, hunting, forestry and fishing	12.1	1.0
a. Agriculture and forestry	13.5	1.0
b. Fishing	4.8	0.2
2. Industry	4.0	–5.3
a. Mining & Quarrying	9.1	10.4
b. Manufacturing	6.0	1.1
c. Construction	0.3	–10.0
d. Electricity, Gas and Water Supply	10.7	–20.3
3. Services	7.2	0.1
a. Transport, Storage & Communication	0.5	–1.8
b. Trade and Repair of Motor Vehicles, Motorcycles, Personal and Household Goods	9.2	1.1
c. Financial Intermediation	9.2	5.8
d. Real Estate, Renting & Business Activities	11.4	9.3
e. Public Administration & Defence; Compulsory Social Security	–0.01	2.0
f. Other Services	9.6	–2.6

Source: Authors' estimates.

The utilities and mining and quarrying sub-sectors, however, accounted for most of the industrial productivity growth in 2017, while the utilities and construction sub-sectors made a significant contribution to the negative industrial productivity growth in 2016. Labour productivity growth in services, meanwhile, was driven mainly by productivity growth in real estate, renting and business activities, as well as in financial intermediation sub-sectors.

The results of sectoral decomposition for 2016 and 2017 to some extent support the findings of the aggregate labour productivity decomposition in that the within-sector effect accounted for most of the total labour productivity growth in each major sector (Table 15). The within-sector effect contributed substantially to the productivity growth of each sector in 2017 and labour productivity growth in agriculture and services in 2016. All components

[17] http://www.bsp.gov.ph/downloads/Publications/2017/REDP_2017.pdf

contributed to the decline in labour productivity growth of the industry sector in 2016, largely due to the within-sector effect as a result of negative growth in utilities and construction.

Table 15. Decomposition of sectoral labour productivity growth, Philippines, 2016–2017

Year	Within sector effect (WSE)	Reallocation Growth effect (RGE)	Reallocation level effect (RLE)	Total (labour Productivity Growth)
2017				
Agriculture	0.1234	–0.0007	–0.0016	0.1210
Industry	0.0523	–0.0014	–0.0109	0.0401
Services	0.0816	–0.0020	–0.0078	0.0719
2016				
Agriculture	0.0085	0.0001	0.0015	0.0101
Industry	–0.0333	–0.0068	–0.0126	–0.0527
Services	0.0264	–0.0020	–0.0238	0.0006

Source: Authors' estimates.

Young people not in employment, education or training (NEET)

SDG target 8.6.1 is the reduction in the proportion of young people not in employment, education or training (NEET). The behaviour and characteristics of this group are analysed based on data limited to young people not in employment and education ("NEE"), primarily because of the absence of a training variable in the Philippine Labour Force Survey (LFS) data set. "NEE" is hereby defined as young people who are either: (i) unemployed and not in school, or (ii) not in the labour force and not in school.

In 2017, nearly 4.3 million young people aged 15 to 24 were neither in employment nor education. This figure accounts for 21.7 per cent of the total youth population (Table 16). Although the proportion of youth NEE had been on a downward trend, from 24.4 in 2006 to 21.7 per cent in 2017, the number had barely changed since 2006 because of population growth. The data also show that most young people neither in employment nor education are not only economically inactive but are also unable to continue to higher education. Nearly three in every four youth NEE belong to category 2, neither in the labour force nor in school. In 2006, this proportion was 68 per cent, but it rose to 74 per cent in 2017.

Table 16. Proportion of population aged 15–24 who are not in employment and education (NEE) by category, Philippines, 2006–2017 (%)

Category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
All	24.4	24.9	24.7	24.7	25.2	24.3	24.8	24.2	23.1	22.8	22.1	21.7
Unemployed, not in school	7.9	7.4	7.3	7.7	7.7	7.3	7.2	7.0	6.7	6.2	5.5	5.6
Not in the labour force, not in school	16.5	17.5	17.4	17.0	17.5	17.0	17.6	17.2	16.4	16.5	16.6	16.0
Male	18.0	18.4	18.2	18.0	18.7	17.4	17.7	17.6	16.5	17.1	15.4	15.2
Female	31.1	31.5	31.3	31.6	31.9	31.4	32.1	31.1	29.9	28.7	29.2	28.5
Aged 15–19	17.8	18.7	18.6	18.1	18.7	17.5	18.2	17.5	15.9	15.9	14.8	13.2
Aged 20–24	33.4	33.4	33.2	34.0	34.0	33.1	33.3	32.8	32.0	31.4	30.9	31.7

Source: Authors' estimates.

Young people neither in employment nor education also has a gender bias, with females at a disadvantage. Not only is the NEE rate among females significantly higher, at 28.5 per cent, compared with 15.2 per cent for males, but this gender disparity has widened over recent years. Among the 4.3 million youth NEE, 2.7 million are female, while 1.5 million are male. The incidence of inactivity – neither in the labour force nor in school – is higher among girls than among boys. In 2017, 84 per cent of female NEE were in this category compared with only 56 per cent among males.

Sixty-seven (67) per cent of youth NEE are relatively older, aged 20 to 24. The share of the older cohort rose from 58 per cent to 67 per cent in a span of 12 years. In fact, the NEE rate among the older cohort, at 31.7 per cent, is more than twice that among the younger cohort, aged 15 to 19, which is only 13.2 per cent (Table 16). The NEE rate among the younger cohort has been declining, while among the older cohort it has been fairly stable. Looking at the composition of these groups, seven in every ten youth NEE in older cohort are neither in the labour force nor in school. The majority, or 69 per cent, of these individuals are female. Among the younger cohort of youth NEE, on the other hand, nearly eight out of ten are neither in the labour force nor in school, and a majority (54 per cent) of them are also female.

The NEE rate is negatively correlated with educational attainment. The NEE rate among those with no completed education is three times that among those with tertiary level education. In fact, the data show that the NEE rate tends to be reduced by half as the level of educational attainment moves from having no education at all to having some elementary level education. It is interesting to note, however, that a non-negligible proportion of these youth NEE are educated and yet they are either unemployed or not in the labour force. Using a pooled sample of individuals aged 15 to 24 from the 2016 and 2017 Annual Poverty Indicators Survey (APIS)-Labour Force Survey (LFS) data set, a quarter of youth NEE have at least some college level education (whether graduated or not),[18] nearly half (49 per cent) obtained a high school education while one-fifth were able to complete elementary level education.

[18] This sample is used for the regression analysis of NEE status in the subsequent part of this section.

In 2017, the majority of youth NEE were in Luzon, the largest island in the Philippines. Over one-third of youth NEE were in the National Capital Region (NCR) and the surrounding sub-urban regions, Central Luzon and Calabarzon. Some 18 per cent were in Visayas region, while 27 per cent were in Mindanao. The region with the highest NEE rate was the Autonomous Region in Muslim Mindanao (ARMM), with 30.2 per cent.[19] ARMM had a larger share in youth NEE relative to its share in the total youth population. Other regions with relatively higher NEE rates were Ilocos Region (25.1 per cent), Zamboanga Peninsula (24.5 per cent), Central Luzon (22.3 per cent) and NCR (22.2 per cent). Bicol Region, which has a relatively high incidence of poverty, has a relatively low NEE rate of 20.3 per cent. Among all regions, the Cordillera Administrative Region (CAR) has the lowest NEE rate at 18 per cent.

To formally determine the relationship between NEE status and various individual- and household-level characteristics, a logistic regression model is estimated, in which the dependent or outcome variable – NEE status – takes the value of 1 if the person is NEE and 0 otherwise. The regression analysis therefore is aimed at identifying the key factors that significantly affect the odds of being NEE. The data used in this analysis are the pooled data sets of the 2016 and 2017 APIS and their corresponding LFS rounds, which contain a total of 16,462 observations (individuals aged 15–24). The information on NEE status and other individual-level variables are obtained from the LFS, while the characteristics of the household head and other household-level variables are obtained from the APIS. The explanatory variables are limited to those that are available in these surveys. Also, the analysis is applied only on the sub-sample of young people who are not heads of their households. Given that the analysis accounts for the attributes of the household head, such as education and employment status, it is important to exclude young people who are themselves heads of their households. Of the total 16,462 observations, only 698, or 4 per cent, are heads of household.

Following the descriptive analysis from the cross-tabulations discussed above, the individual-level variables that are hypothesized to have significant effects on NEE status are age, estimated number of years of schooling,[20] being female, being married, interaction between being female and being married, and interaction between being female and the share of agricultural income in total household income (Table 17). The inclusion of age and its square captures any non-linear relationship between age and being NEE. In this chapter we hypothesize that years of education and being married are negatively associated with NEE status. It is also interesting to formally examine any gender dimension by including a female dummy variable, as well as its interactions with marital status and the share of agricultural income. We posit that, based on the profile of youth NEE, being female is positively associated with being NEE. Also, women who are married or who belong to households that largely depend on agriculture have a higher tendency to stay at home or assist at their farm and/or other agriculture-related businesses, respectively, and hence are more likely to be NEE.

[19] ARMM is currently transitioning to the Bangsamore Autonomous region in Muslim Mindanao (BARMM).

[20] Given that the education variables available in the APIS-LFS data set are categorical, for this chapter we estimated the number of years of schooling based on the categories provided.

Table 17. Description of variables in NEE regression

Variable	Description
Dependent	
NEE status	1 if not in employment and education or NEE (either *unemployed and not in school*, or *not in the labour force and not in school*); 0 otherwise
Independent	
Individual characteristics	
Age	Age, in years
Age squared	Square of age, in years
Education	Total number of years of schooling
Female	1 if female; 0 if male
Married	1 if married; 0 otherwise
Female × Married	1 if both female and married; 0 otherwise
Female × Share of agricultural income	Being female multiplied by the share of agricultural income in total household income
Household characteristics	
Family size	Total number of family members
Log per capita income	Logarithm of per capita income, which is total household income divided by total number of family members
Share of wage income	Total income derived from wage employment divided by total household income
Share of agricultural income	Total income derived from agriculture divided by total household income
Log of agricultural income	Logarithm of total agricultural income
Share of remittance income	Total remittances from abroad divided by total household income
Household head profile	
Head, education	Total number of years of schooling of household head
Head, employed	1 if household head is employed; 0 otherwise
Head, wage earner	1 if household head is wage earner; 0 otherwise
Head, female	1 if household head is female; 0 otherwise
Location and period	
Luzon	1 if located in Luzon; 0 otherwise
Visayas	1 if located in Visayas; 0 otherwise
Mindanao	1 if located in Mindanao; 0 otherwise
ARMM	1 if located in ARMM; 0 otherwise
Bicol	1 if located in Bicol Region; 0 otherwise
2017	1 if 2017; 0 if 2016

Source: Authors.

The regression analysis also controls for a number of household-level characteristics, such as family size, log of per capital income, share of wage income, share of agricultural income, log of agricultural income and share of remittance income. If the share of wage income is high, the household is said to have a more stable source of income and therefore young members of the household are less likely to be NEE. If the household depends more on agriculture for the sustenance of its members, it is likely that it has limited means, given the relatively low productivity of the agriculture sector. Thus, young members of the

household are more likely to be NEE. Also, many Filipino families rely on remittances to provide for their daily needs. Hence a young person who belongs to a household that strongly depends on remittances may be more likely to be in school and is less likely to be NEE. Some studies show that migrant households invest in the education of their young members (see Yang, 2008; Tullao, Cortez and See, 2007; and Tabuga, 2007).

The profile of the household head, such as education level, employment profile and sex, are also included in the set of independent variables. It is hypothesised that if the head is more educated, the young members are less likely to be out of school. Higher educational attainment of the household head also implies better employment, as a result of which children in the household may be more motivated and better provided for. On the other hand, young members may have less motivation to look for a job because their household may not have much difficulty providing for their needs. These hypotheses may also apply to the employment profile of the household head. Specifically, young people may be motivated or encouraged when the head of the household has a better quality of employment, such as when the head is a wage earner, than when the head is only self-employed or an unpaid worker. It would be useful to determine which factor has more weight. Meanwhile, it would also be interesting to examine the significance of the sex of the household head.

Furthermore, recognizing that contexts in the different regions vary, separate analyses were carried out for each of the major islands, Luzon, Visayas, and Mindanao. It is also interesting to see whether the variables have differentiated effects across sub-national regions.[21] The study examined the cases of ARMM and NCR to illustrate any variation. Table 17 presents a description of the variables, while Tables 18, 19, 20, 21, 22, and 23 show the summary statistics for the full sample and sub-samples.

[21] For some reason, the model could not be estimated using the Bicol sub-sample.

Table 18. Summary statistics of variables in NEE regression (full sample)

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Dependent					
NEE status	15 764	0.22	0.41	0	1
Independent					
Individual characteristics					
Age	15 764	19.05	2.83	15	24
Age squared					
Education	15 750	10.37	2.60	0	21
Female	15 764	0.50	0.50	0	1
Married	15 764	0.14	0.35	0	1
Female x Married	15 764	0.11	0.31	0	1
Female x Share of agricultural income	15 673	0.05	0.16	0.00	1
Household characteristics					
Family size	15 673	5.84	2.35	1	21
Log per capita income	15 673	9.96	0.77	7.73	14.85
Share of wage income	15 673	0.50	0.34	0	1
Share of agricultural income	15 673	0.10	0.21	0.00	1
Log of agricultural income	15 673	–0.43	6.57	–4.61	13.67
Share of remittance income	15 673	0.07	0.17	0.00	1
Household head profile					
Head, education	15 671	8.98	3.47	0	21
Head, employed	15 764	0.20	0.40	0	1
Head, wage earner	15 764	0.49	0.50	0	1
Head, female	15 764	0.20	0.40	0	1
Location and period					
ARMM	15 764	0.05	0.22	0	1
2017	15 764	0.48	0.50	0	1

Table 19. Summary statistics of variables in NEE regression (Luzon sub-samples)

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Dependent					
NEE status	8 003	0.21	0.41	0	1
Independent					
Individual charasteristics					
Age	8 003	19.09	2.84	15	24
Age squared	8 003	372.68	110.21	225	576
Education	7 995	10.71	2.40	0	21
Female	8 003	0.51	0.50	0	1
Married	8 003	0.14	0.35	0	1
Female x Married	8 003	0.10	0.31	0	1
Female x Share of agricultural income	7 992	0.04	0.13	0	0.97
Household charasteristics					
Family size	7 992	5.74	2.33	1	21
Log per capita income	7 992	10.16	0.75	7.98	14.85
Share of wage income	7 992	0.54	0.33	0	1
Share of agricultural income	7 992	0.07	0.18	0.00	0.97
Log of agricultural income	7 992	–1.36	6.08	–4.61	13.67
Share of remittance income	7 992	0.08	0.19	0	1.00
Household head profile					
Head, education	7 990	9.62	3.03	0	21
Head, employed	8 003	0.22	0.42	0	1
Head, wage earner	8 003	0.53	0.50	0	1
Head, female	8 003	0.22	0.42	0	1
Period					
2017	8 003	0.49	0.50	0	1

Table 20. Summary statistics of variables in NEE regression (Visayas sub-samples)

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Dependent					
NEE status	3 059	0.21	0.41	0	1
Independent					
Individual characteristics					
Age	3 059	19.06	2.82	15	24
Age squared	3 059	371.35	109.16	225	576
Education	3 055	10.23	2.56	0	16
Female	3 059	0.48	0.50	0	1
Married	3 059	0.13	0.34	0	1
Female × Married	3 059	0.10	0.30	0	1
Female × Share of agricultural income	3 051	0.03	0.12	0	0.93
Household charasteristics					
Family size	3 051	6.05	2.38	1	16
Log per capita income	3 051	9.85	0.71	7.94	13.03
Share of wage income	3 051	0.51	0.33	0	1
Share of agricultural income	3 051	0.08	0.18	0.00	0.94
Log of agricultural income	3 051	–0.15	6.56	–4.61	12.41
Share of remittance income	3 051	0.05	0.16	0	0.95
Household head profile					
Head, education	3 051	8.41	3.62	0	21
Head, employed	3 059	0.21	0.41	0	1
Head, wage earner	3 059	0.50	0.50	0	1
Head, female	3 059	0.21	0.41	0	1
Period					
2017	3 059	0.50	0.50	0	1

Table 21. Summary statistics of variables in NEE regression (Mindanao sub-samples)

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Dependent					
NEE status	4 702	0.23	0.42	0	1
Independent					
Individual characteristics					
Age	4 702	18.95	2.83	15	24
Age squared	4 702	367.14	109.48	225	576
Education	4 700	9.87	2.85	0	17
Female	4 702	0.51	0.50	0	1
Married	4 702	0.15	0.36	0	1
Female × Married	4 702	0.12	0.33	0	1
Female × Share of agricultural income	4 630	0.08	0.20	0	1.00
Household characteristics					
Family size	4 630	5.87	2.36	1	19
Log per capita income	4 630	9.70	0.74	7.73	14.23
Share of wage income	4 630	0.42	0.35	0	1
Share of agricultural income	4 630	0.16	0.27	0.00	1.00
Log of agricultural income	4 630	0.98	7.10	–4.61	13.07
Share of remittance income	4 630	0.06	0.16	0	1.00
Household head profile					
Head, education	4 630	8.23	3.85	0	21
Head, employed	4 702	0.17	0.38	0	1
Head, wage earner	4 702	0.42	0.49	0	1
Head, female	4 702	0.17	0.38	0	1
Period					
2017	4 702	0.46	0.50	0	1

Table 22. Summary statistics of variables in NEE regression (National Capital Region sub-samples)

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Dependent					
NEE status	2 323	0.22	0.41	0	1
Independent					
Individual characteristics					
Age	2 323	19.36	2.81	15	24
Age squared	2 323	382.52	109.41	225	576
Education	2 318	11.11	2.16	0	16
Female	2 323	0.52	0.50	0	1
Married	2 323	0.12	0.32	0	1
Female × Married	2 323	0.09	0.28	0	1
Female × Share of agricultural income	2 318	0.00	0.01	0	0.25
Household charasteristics					
Family size	2 318	5.58	2.24	1	18
Log per capita income	2 318	10.55	0.67	8.70	14.14
Share of wage income	2 318	0.62	0.32	0	1
Share of agricultural income	2 318	0.00	0.01	0.00	0.25
Log of agricultural income	2 318	–4.50	1.19	–4.61	11.24
Share of remittance income	2 318	0.08	0.19	0	1
Household head profile					
Head, education	2 318	10.53	2.50	0	21
Head, employed	2 323	0.77	0.42	0	1
Head, wage earner	2 323	0.57	0.49	0	1
Head, female	2 323	0.29	0.45	0	1
Period					
2017	2 323	0.49	0.50	0	1

Table 23. Summary statistics of variables in NEE regression (ARMM sub-samples)

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Dependent					
NEE status	809	0.28	0.45	0	1
Independent					
Individual characteristics					
Age	809	18.90	2.82	15	24
Age squared	809	365.26	108.93	225	576
Education	808	8.99	3.18	0	16
Female	809	0.53	0.50	0	1
Married	809	0.13	0.34	0	1
Female × Married	809	0.11	0.32	0	1
Female × Share of agricultural income	792	0.21	0.33	0	1.00
Household charasteristics					
Family size	792	6.34	2.39	2	18
Log per capita income	792	9.40	0.46	8.05	10.93
Share of wage income	792	0.21	0.31	0	1
Share of agricultural income	792	0.41	0.35	0.00	1.00
Log of agricultural income	792	5.84	6.96	–4.61	11.76
Share of remittance income	792	0.06	0.15	0	0.96
Household head profile					
Head, education	792	6.64	4.31	0	15
Head, employed	809	0.13	0.34	0	1
Head, wage earner	809	0.21	0.41	0	1
Head, female	809	0.13	0.34	0	1
Period					
2017	809	0.35	0.48	0	1

The parameter estimates of the relationship between the outcome variable and the explanatory variables are reported in Tables 24–26. In particular, Tables 24 and 25 show the regression results for the full sample in terms of coefficients and odds ratios, respectively. Table 26 contains the parameter estimates for the different sub-samples (Luzon, Visayas, Mindanao, NCR and ARMM).

The hypothesized negative relationship between education and NEE status is confirmed by the regression results. Young people who have spent more years in school, all else being equal, are less likely to be NEE. This finding is true for the full sample and all of the sub-samples. Such a finding strongly indicates the need to improve access to education to prevent young people from becoming NEE.

Meanwhile, age has a significant and non-linear association with NEE status, as evidenced by the positive sign of the coefficient of age and the negative sign of age squared (Table 24). The probability of being NEE increases with age, holding all other factors constant, up to the estimated inflection point, 21.7, and then starts to decrease thereafter. This may correspond to the age young people finish college. This inverted-U relationship between age and NEE status is observed in all of the regression results. Aside from the need to improve educational access, there is clearly a need to expand job opportunities. These results showing that age has a nonlinear influence on being NEE indicate young people's limited opportunities upon reaching the age of 22 or after graduating from college (for those who went to college).

The gender issue raised earlier in the profile of youth NEE is also reflected in the regression results. The main effect of the female dummy variable is positive in all models and is significant in models for the full sample, as well as for the Luzon and Mindanao sub-samples. In other words, the probability of being NEE is higher for women than for men, as shown by odds ratios higher than 1 (Table 25). This probability is even higher for married women. Once married, women generally bear the burden of household chores, more so when they have children. Note that this finding is consistent throughout the regression estimations, using the full sample and all subsamples.

The results also show that a young woman who belongs to a household that relies heavily on agriculture is more likely to fall out of school and become either unemployed or economically inactive than her counterpart who belongs to a household that relies less on agriculture. This is consistent for all model iterations using the national sample. It is also true for the estimations in Visayas, Mindanao and ARMM. It warrants a much deeper analysis. Is it an effect of agriculture's low productivity if households are unable to send their members to school? Does this hint that socially determined gender biases are stronger in agricultural households than in non-agricultural ones?

In terms of household-level characteristics, family size is not significantly correlated with NEE status. By contrast, the relationship between income per capita and NEE status is found to be negative and highly significant, which suggests that young people in more (less) well-off families are less (more) likely to be NEE. The negative coefficient of the per capita income variable is significant in all models, except in the ARMM sub-samples. This shows the importance of improving economic opportunities in general. For ARMM, the result indicates that reducing NEE may require interventions beyond improving economic well-being.

Meanwhile, the share of wage income has a negative, albeit insignificant, effect. Its negative relationship with NEE status is only significant – although not highly significant – in the model for Visayas sub-samples and in one estimation using the full sample. The share of agricultural income in total household income is found to be negatively associated with NEE status, but significant only in models for the full country sample and for Visayas and NCR sub-samples.

On the other hand, the log of agricultural income has a significantly negative relationship with NEE status. This is relatively more consistent than the share of agricultural income. The higher the income derived by a household from agriculture, the less likely its members are to fall under the NEE category, all things being equal. This finding is true for the full country sample, as well as for the Luzon and ARMM sub-samples. It is important, at this point, to differentiate the two aforementioned variables that pertain to agricultural income. Essentially, the logarithm of the total agricultural income of the household serves as an indicator of household productivity with regard to agriculture-related activities.

Moreover, the variables on the logarithm of total agricultural income, the share of agricultural income in total household income, as well as the interaction between the female dummy and the share of agricultural income are found to be highly correlated with one

another. Thus, several models with different combinations of these three variables, together with other explanatory variables, were estimated as a way of checking the robustness of the model estimation results discussed earlier. Interestingly, the results confirm the earlier findings on the significance and the sign of the coefficient of the agricultural income variables. The interaction between the female dummy and the share of agricultural income is significantly positive. The share of agricultural income, on the other hand, is significantly negative, although its significance weakens when its interaction term with the female dummy is excluded from the model. Meanwhile, the result for the logarithm of agricultural income is considered as robust, that is, consistent in having a significantly negative effect. This particular result suggests that the level of agricultural income matters for NEE status.

It is interesting to look at the positive sign of the coefficient of the share of income from overseas remittances in total household income, although the result is significant only in estimations using the full sample. This result implies that children of migrant households are more likely to be out of school and unemployed or not in the labour force, which runs counter to the literature that OFW households do invest in the education of their children. Does this mean that they depend too much on remittances and are therefore less motivated? Clearly, this is something that requires more in-depth analysis in the future.

Meanwhile, the educational attainment of the household head has a (surprisingly) positive and significant relationship with being NEE. This finding is true for the full sample, as well as for all sub-samples, except that for Luzon (which is insignificant) and for NCR (negative and significant). The dependence hypothesis seems to outweigh the motivation hypothesis for these positive results. Children of more-educated heads, who may be more likely to be more economically stable than those with lower educational attainment, are more likely to fall in the NEE category.

Young people who are members of female-headed households tend to have higher odds of becoming NEE. However, this variable is significant only in models for Luzon, NCR and ARMM sub-samples. It is also interesting to note that female headship increases the odds of being NEE in Luzon and NCR, but decreases the odds in ARMM. There is no significant relationship between sex of head and NEE status in Visayas and Mindanao. Meanwhile, the employment of the household head (dummy for being a wage earner) does not significantly explain NEE status, except in ARMM, where it has a negative effect. In other words, in ARMM, if the household head is a wage-earner, young household members are less likely to be NEE. Interventions aimed at reducing the NEE rate in ARMM would therefore benefit from improving people's access to more formal employment.

We can draw a number of recommendations based on these econometric results. First, a more concerted effort is needed to understand and address the low labour force participation rate among young people, because most of those who are considered NEE are actually not in the labour force. Much closer attention must be focused on young women who are NEE. The low labour force participation rate among women starts at a young age. Early interventions therefore are essential to arrest the trend.

The analyses also point to the need to focus on young women who are married or those in agricultural households. Improving non-farm or off-farm livelihood opportunities may be useful in reducing NEE rates in agricultural areas. Intervention packages that provide scholarships for either tertiary education or technical-vocational education and direct pathways to quality employment must be developed for these segments of the population.

But not all youth NEE are uneducated. Thus, the government must develop interventions such as job-matching programmes that will attract many young people who are considered to be NEE, but with tertiary education.

Private firms must also be incentivised to accept on-the-job trainees and/or hire inexperienced young workers, so that the latter can develop or improve their skills.

Given that young married women face difficulty in participating in the economy with its traditional station-based definition of work, enabling policies and regulations must be implemented to allow home-based enterprises to flourish.

Table 24. Logistic regression results using full sample, coefficients

ariable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Individual characteristics												
Age	2.1891	***	2.1919	***	2.1933	***	2.2369	***	2.2331	***	2.2325	***
Age squared	–0.0504	***	–0.0505	***	–0.0505	***	–0.0516	***	–0.0515	***	–0.0514	***
Education	–0.1060	***	–0.1081	***	–0.1088	***	–0.1229	***	–0.1219	***	–0.1212	***
Female	0.3727	***	0.2617	***	0.2630	***	0.2660	***	0.2661	***	0.2645	***
Married	–1.2674	***	–1.2890	***	–1.2939	***	–1.3051	***	–1.3133	***	–1.3109	***
Female × Married	3.0788	***	3.0986	***	3.1020	***	3.1004	***	3.1243	***	3.1192	***
Female × Share of agricultural income			1.7218	***	1.7258	***	1.7340	***	1.7354	***	1.7387	***
Household characteristics												
Family size	0.0077		0.0101		0.0095		0.0079		0.0107		0.0124	
Log per capita income	–0.4517	***	–0.4241	***	–0.4486	***	–0.5182	***	–0.5245	***	–0.5193	***
Share of wage income	–0.1741		–0.2918	**	–0.1782		–0.1769		–0.1667		–0.2412	
Share of agricultural income	–0.1394		–1.2643	***	–1.1621	**	–1.1399	**	–1.1298	**	–1.1394	**
Log of agricultural income	–0.0370	***	–0.0366	***	–0.0369	***	–0.0341	***	–0.0332	***	–0.0319	***
Share of remittance income	0.4546	*			0.4573	*	0.4458	*	0.3907	*	0.3760	
Household head profile												
Head, education							0.0424	***	0.0429	***	0.0419	***
Head, wage earner											0.0860	
Head, female									0.1462		0.1623	*
Location and period												
ARMM	–0.0530		–0.0749		–0.0804		–0.0514		–0.0494		–0.0521	
2017	–0.0597		–0.0632		–0.0587		–0.0562		–0.0627		–0.0633	
Constant	–19.3007	***	–19.4345	***	–19.2995	***	–19.2790	***	–19.2362	***	–19.3035	***
Pseudo R2	0.1974		0.1995		0.2001		0.2018		0.2022		0.2023	
Number of observations	15 657		15 657		15 657		15 657		15 657		15 657	
Result of goodness-of-fit test												
Pearson chi2	35 527 916		35 951 552		36 031 577		36 201 220		36 118 640		36 146 402	
Prob> chi2	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	

Notes: * significant at 5% level; ** significant at 1% level; *** significant at 0.1% level.

Table 25. Logistic regression results using full sample, odd ratios

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	P>z	Odds ratio	P>z	Odds ratio	P>z	Odds ratio	P>z	Odds ratio	P>z	Odds ratio	P>z
Individual characteristics												
Age	8.927	0.000	8.952	0.000	8.964	0.000	9.365	0.000	9.328	0.000	9.323	0.000
Age Squared	0.951	0.000	0.951	0.000	0.951	0.000	0.95	0.000	0.95	0.000	0.950	0.000
Education	0.899	0.000	0.897	0.000	0.897	0.000	0.884	0.000	0.885	0.000	0.886	0.000
Female	1.452	0.000	1.299	0.000	1.301	0.000	1.305	0.000	1.305	0.000	1.303	0.000
Married	0.282	0.000	0.276	0.000	0.274	0.000	0.271	0.000	0.269	0.000	0.270	0.000
Female* Married	21.732	0.000	22.167	0.000	22.242	0.000	22.207	0.000	22.744	0.000	22.628	0.000
Female* Share of agricultural income	0.951	0.000	8.952	0.000	8.964	0.000	9.365	0.000	9.328	0.000	9.323	0.000
Household charasteristics												
Family size	1.008	0.564	1.001	0.449	1.010	0.480	1.008	0.553	1.011	0.425	1.012	0.356
Log per capita income	0.637	0.000	0.654	0.000	0.639	0.00	0.596	0.000	0.592	0.000	0.595	0.000
Share of wage income	0.840	0.118	0.747	0.004	0.837	0.108	0.838	0.111	0.846	0.133	0.786	0.064
Share of agricultural income	0.870	0.584	0.282	0.000	0.313	0.001	0.320	0.002	0.323	0.002	0.320	0.002
Log of agricultural income	0.964	0.000	0.964	0.000	0.964	0.000	0.966	0.000	0.967	0.000	0.969	0.000
Log of agricultural income	1.576	0.020			1.580	0.019	1.562	0.022	1.478	0.048	1.456	0.058
Share of remittance income	1.008	0.564	1.010	0.449	1.010	0.480	1.008	0.553	1.011	0.425	1.012	0.356
Household head profile												
Head, education							1.043	0.000	1.044	0.000	1.043	0.000
Head, wage earner											1.090	0.276
Head, female									1.157	0.060	1.176	0.041
Location and period												
ARMM	0.948	0.685	0.928	0.579	0.923	0.554	0.950	0.703	0.952	0.715	0.949	0.700
2017	0.942	0.317	0.939	0.291	0.943	0.325	0.945	0.347	0.939	0.294	0.939	0.289

Table 26. Logistic regression results using sub-samples, by area

Variable	Luzon		Visayas		Mindanao		NCR		ARMM	
Individual characteristics										
Age	2.5011	***	2.0259	***	1.9724	***	3.2780	***	1.5572	*
Age squared	–0.0589	***	–0.0439	***	–0.0444	***	–0.0782	***	–0.0327	*
Education	–0.1274	***	–0.1321	***	–0.1269	***	–0.1722	***	–0.0897	*
Female	0.2488	*	0.2831		0.3942	***	0.3219		0.1198	
Married	–1.2673	***	–1.4603	**	–1.5679	***	–0.5242		–1.7446	*
Female × Married	3.2462	***	3.0314	***	3.1523	***	2.2633	***	2.3249	**
Female × Share of agricultural income	1.1897		2.8062	**	1.6926	***	–45.8458	***	1.5185	*
Household characteristics										
Family size	–0.0129		0.0303		0.0522	*	–0.0324		0.0322	
Log per capita income	–0.6642	***	–0.4285	***	–0.3802	***	–0.9330	***	–0.1599	
Share of wage income	–0.1933		–0.5567	*	–0.3383		–0.4708		0.1233	
Share of agricultural income	–0.6546		–2.9140	**	–0.4752		134.1948	**	0.2208	
Log of agricultural income	–0.0322	*	–0.0029		–0.0542	***	–2.0498	**	–0.1084	***
Share of remittance income	0.4796		0.1027		0.0164		0.0708		–0.9823	
Household head profile										
Head, education	0.0135		0.0710	**	0.0449	**	–0.0730	*	0.0674	*
Head, wage earner	0.0149		0.2473		0.1751		–0.0516		–0.8317	*
Head, female	0.2236	*	0.0758		0.1337		0.3849	*	–0.9334	*
Period										
2017	0.0033		–0.2371		0.0025		0.2671		0.1457	
Constant	–19.6548	***	–19.2428	***	–18.7301	***	–32.1579	***	–16.8937	**
Pseudo R2	0.2002		0.2337		0.2159		0.203		0.1862	
Wald chi2	739.41		324.62		590.11		500.91		110.77	
Number of observations	7,982		3,047		4,628		2,313		791	
Result of goodness-of-fit test										
Pearson chi2	20 566 039		7 170 632		8 354 620		4 621 732		1 043 062	
Prob > chi2	0.0000		0.0000		0.0000		0.0000		0.0000	

Notes: * significant at 5% level; ** significant at 1% level; *** significant at 0.1% level.

Improving the quality of jobs of household heads in ARMM may reduce the proportion of young people who are NEE. Empowering female-headed households and investing in agricultural productivity-enhancing initiatives in this region would also be more likely to reduce the NEE rate.

Factors correlated with being economically inactive (not in the labour force)

The significantly lower labour force participation rate of women compared with that of men is a significant barrier to achieving full and productive employment for women (SDG 8.5). Furthermore, if this trend persists, it may have adverse consequences on the country's ability to sustain per capita economic growth (SDG 8.1) and achieve higher level productivity (SDG 8.2). Mechanisms are needed that would encourage women to participate more actively in the economy. This section therefore examines the factors associated with not being in the labour force.

Similar to the NEE analysis, this section uses the merged LFS and APIS data.[22] Given that each survey year has a sufficient number of samples, separate analyses are conducted for 2016 and 2017. The analysis of factors associated with not being in the labour force is segregated by income class and by sex. This method provides more a nuanced understanding of the phenomenon and therefore enables one to draw useful insights on the development or improvement of interventions.

The analyses are limited to persons aged 15 and above who are not heads of household so that the attributes of the heads can be included as explanatory variables. Table 27 displays the parameter estimates for each of the variables considered in this analysis. Note that a negative and significant estimate means that the variable has a negative correlation with the dependent variable (which takes the value of 1 if not in the labour force and 0 otherwise) or is positively correlated with being part of the labour force.

The results for the individual-level characteristics are interesting. The U-shaped relationship between age and the dependent variable is consistent across estimated models, regardless of income status and sex. As a person ages, the likelihood of being economically inactive goes down and then goes up again when they become very old.

After controlling for the household's economic status and characteristics of the head, this study does not find robust evidence, based on the limited sample, that education is significantly correlated with labour force participation among persons aged 15 and above who are not heads of household, save for men in the bottom income categories. Education is not significant for those in the richer decile, regardless of sex, based on the estimated models for 2017. The result for women in the bottom 50 per cent is negative throughout (and significant only for those in the richer income deciles in the estimated model for 2016), although not robust for all of the estimations. This roughly indicates that improving women's education and skills is likely to improve their labour force participation, all else being equal.

Meanwhile, results for the male samples are quite surprising. Contrary to expectations, as men (of limited means) become more educated, they are more likely to become idle, as shown by the positive and highly significant estimate (with p-value<0.001). A closer look at

[22] Because the data are not representative of the population, given that the relevant LFS round that coincides with the APIS visit is only for the second quarter (July round), the data were used only for correlation analysis and not for cross-tabulation of characteristics. Nevertheless, this analysis has some advantages because it can control for the variation in other factors in the estimation of relationships between being 'not in the labour force' and the variable of interest.

their profile shows that many men in poorer (bottom 50 per cent) households who are not in the labour force usually belong to households that are more engaged in agriculture, with an average share of agricultural income of 14 per cent. Their counterparts in richer households, on the other hand, usually belong to households that have an average share of agricultural income of less than 3 per cent. There is also an average difference of two years of schooling between the two groups, with richer households having the advantage. When examined more closely, these men from the bottom 50 per cent who are economically inactive with educational levels higher than the average for that group (mean years of education is 11 years) comprise nearly 90 per cent young people (aged 15–24), 95 per cent single and 63 per cent rural dwellers. Household heads are less educated (8.7 years) than their counterparts in richer households (11.2 years), they are mostly (80 per cent) male and households rely less on overseas remittances (4% compared with 14 per cent for their counterpart).

The above results suggest that men with relatively higher education but based in agricultural or rural areas are less likely to be part of the labour force as it may be difficult to find jobs commensurate with their qualifications, unless they are willing and able to relocate to areas where there are more job opportunities. It is also likely that they will be less willing to engage in agriculture-related jobs given their educational attainment. Nevertheless, it is also possible that even with higher educational attainment than most people within the group, it may not be adequate: 80 per cent are high school graduates at best, while only 20 per cent have college level education. This reflects the need to improve access to education and skills that are important and relevant to the local context. In general, however, this result reflects the urgent need to expand job opportunities (both agriculture- and non-agriculture-related jobs) in agricultural and rural areas.

The regression outcomes for being married clearly show a gender dimension: being married is associated with being in the labour force for men (negative and significant) but with being inactive for women (positive and significant). The estimates are robust for the analyses for 2016 and 2017. This is consistent with the data mentioned previously that show that many women are unable to participate in the labour force because of their unpaid or uncompensated reproductive labour in caregiving and domestic roles. Again, when examined more closely, it appears that there is a willingness to participate among married women who are not heads of household and who are not in the labour force because 78 per cent have experienced working at some time in the past. Aside from being married, these women also lack education: only two out of ten have attended college and the majority of them are from the bottom 50 per cent of all households. Among the young, married women who are not household heads or in the labour force, nearly half are from the poorest 30 per cent of households. In terms of intervention, ensuring that young women, especially in poor families, stay in school and do not get married early is a useful strategy. Married women who are willing to work may benefit from innovative schemes that allow them to participate without necessarily leaving their homes or, if this is not an option, they can take their children with them, if they are unable to afford or access childcare services.

In terms of family size, the higher the number of members, the more likely it is that a person from the higher income deciles, regardless of sex, will not participate in the labour force. Note that the sample includes only non-heads of household. Among richer households, an additional member does not necessarily encourage labour force participation. The situation is different, however, for those in the lowest income classes, where family size does not matter in the labour force participation of members other than the household head, regardless of sex.

The estimates illustrate the importance of improving economic and formal employment opportunities. The association between labour force participation and income is significant, albeit only among women, regardless of income class. In other words, higher income is positively associated with being in the labour force. The results also suggest that as the share of wage income to total household income increases, members other than household heads

are less likely to be inactive. This result is robust for most of the estimates, regardless of sex and income class.

The association between dependence on agriculture as a source of livelihood and inactivity has a gender dimension. The more a household depends on this sector, the more female members are likely to become economically inactive, holding other factors constant. The correlation is consistent regardless of income class. In contrast, while most of the estimates using the samples for men resulted in insignificant results, the estimated model for male members in poorer (bottom 50 per cent) households shows a negative and highly significant result, which indicates that those who depend more on agriculture are less likely to become inactive. It is noteworthy that the level of income people get from agriculture-related activities tends to reduce the likelihood of being inactive for people in lower income classes, regardless of sex, and for women in the upper income deciles. These findings suggest a need to increase and improve livelihood opportunities in the agriculture sector by making the sector more productive and by creating off-farm livelihood opportunities especially for the lower income classes.

The regression results for the share of overseas remittances in total income are positive and significant for people in richer households, but more consistently for women, and insignificant for those belonging to lower-income households. In other words, non-household head female members in remittance-dependent, upper-income households are more likely to become economically inactive than those who are less dependent on remittances. Either these women are tasked with managing household operations and therefore unable to participate in the labour market or they have become lazy because they are well provided for. This requires more in-depth analysis and corresponding interventions if the country wants to maximize the gains from international labour migration. When a member is sent abroad to work, there are dynamics within the household that can either drive or reinforce the gender inequality that may already exist. This can make it difficult for members who are left behind – usually the mother and other female dependent members – to participate more actively in the economy because they take responsibility for looking after household operations and taking care of other, younger members of the household. While this may be true in many cases, it is also important to examine more deeply whether remittances can indeed make people lazy and under what circumstances so that corresponding interventions can be developed.

In terms of location, being in ARMM is associated with a higher likelihood of inactiveness for those in the lower income groups, but only for the 2017 samples, and for men in richer households.

The outcomes for the characteristics of the household head are interesting and noteworthy. The effect of the sex of the household head is not significant in any of the estimated models, but those of the educational attainment and quality of employment are consistently significant. Individuals whose heads of household are more educated tend to have a higher likelihood of being economically inactive, regardless of income class and sex. There is also some evidence that having heads who are wage earners is correlated with a higher chance of not being in the labour force. It is unclear what factors drive such findings and so it is important that future research looks into these issues more deeply.

Table 27. Logistic regression results (NEE category 2), by period, income group and sex

Variable	2017				2016			
	Richer 50%		Bottom 50%		Richer 50%		Bottom 50%	
	Male	Female	Male	Female	Male	Female	Male	Female
Individual characteristics								
Age	-0.5561 ***	–0.3337 ***	–0.5437 ***	–0.2643 ***	–0.5322 ***	–0.3176 ***	–0.4823 ***	–0.2398 ***
Age squared	0.0069 ***	0.0039 ***	0.0069 ***	0.0029 ***	0.0065 ***	0.0037 ***	0.0060 ***	0.0026 ***
Education	0.0886	–0.0035	0.0997 ***	–0.0064	0.0338	–0.0489 *	0.1004 ***	–0.0067
Married	–1.9368 ***	0.5078 ***	–1.0559 ***	0.5353 ***	–1.1163 ***	0.5091 ***	–1.4923 ***	0.4924 ***
Household characteristics								
Family size	0.1057 **	0.0494 *	–0.0077	–0.0054	0.0618 *	0.0716 ***	0.0164	0.0179
Log per capita income	–0.1173	–0.6051 ***	–0.1790	–0.6254 ***	0.0389	–0.4912 ***	0.1667	–0.3569 ***
Share of wage income	–1.1302 ***	–0.4150 *	–1.7997 ***	–0.4630 **	–1.2213 ***	–0.5055 **	–1.7118 ***	–0.1980
Share of agricultural income	–0.0733	1.3767 ***	–1.3685 ***	0.6947 **	–0.3943	1.5660 ***	–0.5676	1.2465 ***
Log of agricultural income	–0.0196	–0.0362 ***	–0.0269 *	–0.0570 ***	–0.0268	–0.0516 ***	–0.0422 ***	–0.0550 ***
Household head profile								
Head, education	0.0878 **	0.0520 **	0.0469 *	0.0614 ***	0.0758 **	0.0609 ***	0.0555 **	0.0490 ***
Head, wage earner	0.5362 **	0.5145 ***	0.4769 **	0.5158 ***	0.0756	0.4897 ***	0.2547	0.3817 ***
Head, female	0.2775	–0.0089	–0.1945	0.1194	0.0981	0.0978	–0.0803	0.0380
Location								
ARMM	3.2839 ***	0.0762	1.0188 ***	0.5613 ***	1.0363 **	–0.0850	0.1789	–0.2381 *
Constant	7.3078 ***	10.8320 ***	9.1479 ***	10.5019 ***	6.6559 ***	9.5733 ***	4.6685 **	7.2464 ***
Chi-square	423.9339	410.16145	383.7221	552.8875	384.1824	459.74776	326.1433	543.3899
Pseudo R-square	0.3736	0.1671	0.3188	0.1181	0.3247	0.1513	0.2912	0.1043
Number of observations	3 280	5 872	3 619	6 934	3 455	6 136	3 687	7 193

Note: * significant at 5% level; ** significant at 1% level; “”” significant at 0.1% level

5. Achieving the SDGs

Labour market structure and econometric results can provide a guide to crafting a policy that would help to achieve the Sustainable Development Goals (SDGs), particularly SDG8. At the macroeconomic level, the overriding objective is to sustain the level of economic performance achieved since the upturn in 2010. This goal can be simplified to maintaining the upward trend in the investment/GDP ratio, which involves addressing the major constraints on economic growth. A study conducted in 2016 under the auspices of the Millennium Challenge Corporation (MCC) identified these major constraints.

Labour market policies

There have been amendments to labour policy in the Philippines that may influence the country's ability to achieve full employment and decent work, not to mention reducing the proportion of young people not in employment, education or training (NEET). In their 12-point agenda dubbed the Jobs Expansion and Development Initiative (JEDI), Paqueo et al. (2014) proposed a number of measures for reaching these objectives. The JEDI can be summarized in terms of the following key topics: (i) labour regulations and processes; (ii) competencies and skills; (iii) partnerships; (iv) social protection; and (v) development of labour-intensive industries. The key policy updates pertain to labour regulations and social protection, while programmes for skills development are expanded and improved.

The minimum wage law is one defining aspect of Philippine labour regulations. Wages are governed by Republic Act No. 6727 or the Wage Rationalization Act, under which each region has a unique minimum wage set by the Regional Tripartite Wages and Productivity Boards. The minimum wage is set based on the poverty threshold, the employment rate, and the cost of living in the region. In 2018, the Department of Labour and Employment's National Wages Productivity Commission (DOLE-NWPC) approved an increase in the minimum wage for the National Capital Region of 25 Philippine pesos (₱), across the board. Other regions, such as Davao, also increased its minimum wage by as much as ₱56.43 while Western Visayas implemented a ₱41.50 hike. Table 28 shows the minimum wage rates by region and industry type.

Table 28. Minimum wage by region and sector PHP

Region	Non-agriculture	Agriculture	
		Plantation	Non-plantation
NCR	500.00–537.00	500	500
CAR	300.00–320.00	300.00–320.00	300.00–320.00
Ilocos	273.00–340.00	295	282
Cagayan Valley	360	340	340
Central Luzon	349.00–400.00	334.00–370.00	322.00–354.00
CALABARZON	317.00–400.00	303.00–370.00	303.00–356.00
MIMAROPA	294.00–320.00	294.00–320.00	294.00–320.00
Bicol	295.00–305.00	295.00–305.00	295.00–305.00
Western Visayas	295.00–365.00	295	295
Central Visayas	318.00–386.00	313.00–368.00	313.00–368.00
Eastern Visayas	305	275	275
Zamboanga	316	303	303
Northern Mindanao	343.00–365.00	331.00–353.00	331.00–353.00
Davao	396	391	391
SOCCSKARGEN	311	290	290
Caraga	305	305	305
ARMM	280	270	270

Source: National Wages and Productivity Commission (NWPC)

In May 2018, President Duterte issued Executive Order No. 51 prohibiting illegal contracting or subcontracting, as provided for in the Labour Code. This directive fulfils a promise made in the President's proposed policy agenda during the 2016 election campaign. One of the initiatives implemented to ensure compliance is the conduct of labour inspections. From January to December 2018, some 411,449 contracted workers were regularized, based on a report by the Department of Labour and Employment (DOLE)[23] DOLE also noted that 65 per cent of this number had been regularized because of voluntary compliance by private companies.

Meanwhile, in an effort that will reinforce and legitimize the abovementioned directive, on 22 May 2019 the Senate approved, on its third and final reading, the Security of Tenure Bill. The senators voted 15–0 in favour of prohibiting labour-only contracting practices. Under this proposal, workers are now classified into: regular, probationary, project, and seasonal, where project and seasonal workers enjoy the same rights as regular employees, including wage and social protection coverage, among other benefits, for their employment's duration.[24] The House of Representatives had already passed its version of the bill on 23 March 2018.[25] However, on 26 July 2019, the President vetoed the Security of Tenure Bill. In an explanation, he noted that "the sweeping expansion of the definition of labour-only contracting destroys the delicate balance and will place capital and management at an impossibly difficult predicament with adverse consequences to the Filipino workers in the long term" (Philstar).[26]

[23] https://www.pna.gov.ph/articles/1057071

[24] https://www.philstar.com/headlines/2019/05/22/1919998/senate-approves-final-reading-anti-endo-bill#7V1JKEvfw6G8TLZq.99

[25] https://www.sunstar.com.ph/article/1806682

[26] https://www.philstar.com/headlines/2019/07/27/1938275/duterte-vetoes-endo-bill

Nevertheless, enforcing labour laws and regulations with a focus on promoting security of tenure is at the forefront of DOLE's policy thrust, at the behest of President Duterte. The priority sectors identified for promoting security of tenure are fast-food chains, malls, and manufacturing companies.[27] Despite the President's veto on the Security of Tenure Bill, he emphasized that abusive employment practices have always been the target, but that businesses should have freedom to engage in practices that are beneficial to both the workforce and the management (Philstar).[28] The other elements of the agency's policy agenda are (i) enhancing workers' employability and the competitiveness of micro, small and medium enterprises (MSME), (ii) the protection of Filipino migrant workers, (iii) strengthening social protection for vulnerable workers, (iv) labour dispute resolution, (v) promoting industrial peace, and (vi) streamlining business processes and making frontline services more responsive.

Government initiatives for improving the skills and competencies of young people include the Special Program for Employment of Students (SPES). The SPES was created by RA 7323 in 1992 and amended by RA 95471 in 2009. The SPES is targeted towards deserving but financially challenged young people who are not in school, as well as dependents of displaced or about to be displaced workers, for the purpose of providing them with a means to augment their income and continue their education. Qualifying criteria for the SPES include the following: (i) students or young people not in school who are at least 15 years of age but not more than 30 years of age; (ii) combined net income after tax of parents and the applicant may not exceed the regional poverty threshold; (iii) students must have obtained a passing general weighted average (GWA); and (iv) the fact that they are not in school must be certified by the local Social Welfare and Development Office (SWDO).

Under the SPES, beneficiaries may be employed for a set number of days (10–15 days for Christmas vacation, 20–78 days otherwise) and they are supposed to be compensated with the minimum wage in the private sector or the applicable government wage rate. Young people in basic education may be employed only during summer vacation, mid-year break, or Christmas break, whereas young people in vocational, technical and tertiary education may be employed at any time throughout the year. SPES beneficiaries below 18 years of age may not be employed to engage in hazardous work or any job that violates child-labour laws, rules, and regulations. Furthermore, work is limited only to eight hours a day and a maximum of 40 hours a week, and there can be no work between 10 pm and 6 am. SPES beneficiaries are also given insurance coverage under the Group Personal Accident Insurance of the GSIS for one year, the premiums of which shall be charged under the SPES budget of DOLE ROs or the LGUs. The private sector participates in the SPES. In fact, there was an increase of 22 per cent in the number of companies that participated in 2016 from the number in 2015 (from 1,309 to 1,597). In 2016, the DOLE reported that it had provided temporary employment to some 229,674 poor students and young people not in school through the SPES.[29]

Besides the SPES, DOLE also has a programme for young people called the Government Internship Program, which helps young people, particularly the poor and indigent, gain experience in government work as interns for a period of three to six months. The programme also serves as a mechanism for recruiting potential employees in the public sector. To qualify, the applicant must be 18 to 30 years old and at least a high-school or tech-voc graduate. If the applicant belongs to a family that has fallen victim to a disaster, the applicant can be as old as 35 years of age. In 2016, GIP helped a total of 43,385 young people. JobStart is another government-led programme that is intended to shorten young

[27] https://www.bworldonline.com/dole-set-to-complete-list-of-endo-violators/

[28] https://www.philstar.com/headlines/2019/07/27/1938275/duterte-vetoes-endo-bill

[29] 2016 Annual Report of the Department of Labor and Employment at https://www.dole.gov.ph/wp-content/uploads/2019/03/2016-Annual-Report.pdf retrieved 18 May 2019.

people's school-to-work transition through the provision of full-cycle employment facilitation services. For this, it provides training and paid internships. To qualify, the applicant must be 18 to 24 years of age, have attained at least secondary school level, not be in education, employment or training (NEET), and have no work experience or accumulated work experience of less than a year. In 2016, JobStart provided some 3,398 young individuals with life-skills training, technical training, and paid internships.

Turning to the private sector, the Philippine Business for Education (PBEd) and the United States Agency for International Development (USAID) launched YouthWorksPH. The project is a five-year collaboration between the two organizations that is geared towards providing work-based training for Filipino youth in the hope of creating a more productive and employable workforce and providing greater synergy between the education system and industries in the country. To qualify for the project, an applicant has to be a (i) young person aged 18 to 24 years old, (ii) a graduate of basic education, and (iii) not in education, employment or training during the time of application.

Through the YouthWorksPH programme, applicants are selected and given life-skills training before beginning work-based training in a firm. Work-based training is defined as training that combines theoretical and practical learning by allowing applicants to be trained in a company, while receiving an allowance. Priority sectors under the project currently include hospitality, banking, manufacturing, agriculture, energy and construction. It is currently being initialized in Metro Manila, Cebu, Iloilo, Cagayan De Oro, General Santos, and Zamboanga.

In terms of social protection, the proposition to expand female workers' maternity benefits was signed into law early in 2019. Up from the original 60 days of paid leave for normal delivery and 78 days for caesarean section delivery, all working mothers in the public and private sectors are now entitled to 105 days of paid maternity leave, seven days of which can be transferred to fathers. Single mothers enjoy an additional 15 days of paid leave.[30] Notably, the law removed the cap on the number of pregnancies to which these maternity benefits apply. It is now applicable to every pregnancy and is applied to all female workers, regardless of civil status.

Aside from the minimum wages and maternity leave, the range of other benefits[31] mandated by law for employees under the Labour Code and other special laws include the following:

- Social insurance: both employer and employee contribute to the social security system, Pag-IBIG, and PhilHealth.
- Paid leave: besides maternity leave, women can have two-months' leave with pay to undergo surgery related to gynaecological disorders. There is also five days' paid leave for every year of service ("service incentive leave"). Married men have paid paternity leave of seven days. There is also seven days' paid parental leave for every year of service for single parents. Victims of violence, under RA 9262 (Anti-Violence against Women and Their Children Act) can avail themselves of 10 days' paid leave.
- Thirteenth month pay: employees can receive one-twelfth of their total basic salary within a calendar year (after one month of service).
- Holiday pay: if an employee works on a regular holiday, they shall receive a 100 per cent premium, if not, they shall receive their normal pay. There is also a 30 per cent premium if the employee works on a special non-working holiday.

[30] https://news.abs-cbn.com/news/02/21/19/duterte-signs-expanded-maternity-law

[31] https://ndvlaw.com/employee-benefits-under-philippine-laws/

- Overtime pay: the employee receives 25 per cent on top of their hourly rate. There is also a 10 per cent premium on the hourly rate for night work, if the employee works between 10 in the evening and 6 in the morning.

In the Philippine Development Plan, the government's key strategies for improving employability are to "encourage skills development and retooling through continuing education and training; strengthen employment facilitation services; strengthen and expand internship, apprenticeship, and dual training programs; and implement programs that encourage women to participate in the labor market" (NEDA, 2017, p.25). In achieving the productivity and income security of individual Filipinos, the same plan outlines the following strategies: "strengthen the implementation of the two-tiered wage system or the process by which the minimum wage is determined and the link between the wages and productivity of employees is put in place; ensure safety and health in the workplace; nurture workplace harmony; provide income support through an unemployment insurance and emergency employment; and enhance the efficacy of the minimum wage policy" (NEDA 2017 p.25).[32] The PDP notes that unemployment insurance will be established for risk management purposes. The PDP 2017–2022 is likewise clear on its agenda for reducing youth unemployment by facilitating job creation in all sectors, agriculture, industry, and services, while recognizing the need to collaborate with the private sector. It also seeks to "improve the living wage of young workers, especially those with young children to support" (p. 30). A crucial step towards reducing the NEET rate is pushing for initiatives that incentivize the business sector to train and employ young, inexperienced workers. It is likewise essential for the government to address the declining labour force participation rate by implementing a whole-of-government approach in addressing constraints affecting jobs expansion and development.

In accordance with analysis of the "future of work", Filipino young people can also take advantage of emerging and new employment platforms. In 2018, Filipinos were the heaviest internet users, according to social media firms Hootsuite and We Are Social.[33] The same report shows that the average internet user from the Philippines spend over 10 hours a day online. This presents numerous opportunities for working and conducting business online. Filipinos' attitudes to work are also changing, as shown by the increasing number of freelancers and platform workers. The Philippines ranks fourth among 200 countries, after India, the United States and Pakistan, in terms of users of Freelancer.com, a global freelancing and crowdsourcing marketplace platform.[34] Unfortunately, there are no official data on the extent of platform work among Filipinos and no assessment yet of the outcomes of any programme conducted to advance young people's skills in platform work. The Department of Information and Communications Technology (DICT) recently embarked on a national ICT survey to assess the extent of ICT activities among Filipino households. The survey will inform DICT's policies and plans, which may affect the environment for platform work. Research is also needed on the characteristics of workers involved in the platform economy, the benefits and costs of such involvement and how policies can improve people's access and minimize the risks.

[32] Philippine Development Plan 2017-2022, Abridged Version, available online at www.neda.gov.ph/wp-content/uploads/2017/12/Abridged-PDP-2017-2022_Final.pdf, retrieved July 28, 2019

[33] https://www.philstar.com/business/technology/2019/01/31/1889736/filipinos-are-worlds-heaviest-internet-users-2018-report-says

[34] https://business.inquirer.net/262675/freelancing-alive-and-well-in-ph

Addressing constraints on economic growth

At the macroeconomic level, an application of the "growth-diagnostics" approach developed by Hausmann, Velasco, and Rodrik (2008) will be useful as a guide to identifying relevant constraints on growth and poverty reduction in the Philippines in the medium term. Within this framework, output growth is understood primarily as an outcome of investment, so that explaining low levels of investment is tantamount to explaining what hinders the growth of income or of output itself. Policy recommendations to sustain the economic performance maintained since 2010 can then readily be identified. From the results of a project funded by the Millennium Challenge Corporation (MCC) in the Philippines, the following major constraints were identified:[35]

(i) Government coordination and implementation capacity

The proliferation of bureaucracy and often rapidly changing and uncoordinated regulation affect not only the government's ability to operate at the national and local levels, but also firms' ability to navigate and comply with the rules and regulations that govern their operations. This constraint manifests itself in several ways: (i) the deficit in the capacity to plan and implement investments and operations at the national, provincial, and other local levels of government, despite the availability of financial resources; (ii) weak coordination between local and national governments and between agencies due to misaligned incentives, which can deter investment; (iii) frequent policy changes and geographically inconsistent rule-making at the local level; and (iv) outdated and time-consuming voluminous procedures that impose a high burden of compliance.

(ii) High cost of logistics and transport

While no individual cost related to transportation is particularly high, the geography of the Philippines often necessitates multiple modes of transportation of goods along a supply chain; each additional link adds costs and erodes profitability and competitiveness. Roads, ports, and airports all rank among the lowest quality in the ASEAN region, and much of the infrastructure is utilized at over-capacity. This high cost limits access to markets and growth potential, especially by geographically dispersed producers.

(iii) High cost of electricity

The cost of electricity in the Philippines is the highest among its comparator countries, while some islands in the archipelago periodically experience shortages of electricity. This has implications for energy-intensive manufacturing, whose presence in the country has diminished. The energy sector has been privatized and unbundled, but inefficient and unclear regulations hinder the ability of investors and private producers to respond fully to the market demand for power. High costs compared with nearby competitors discourages businesses from locating in the Philippines, although lower prices in neighbouring countries are also due in large part to unsustainable government energy subsidies.

(iv) Market failures that affect the rural economy in particular

A continuing challenge facing rural markets is the difficulty of coordinating actors. In large part, this can be attributed to the long-drawn-out implementation of agrarian reform and related restrictions on land markets, which make it more difficult to consolidate farm operations and negatively affect agricultural productivity. This is a major factor influencing the country's persistently high poverty rates. Besides land policy, a variety of other factors

[35] The remarks on constraints on economic growth in the Philippines are quoted from an unpublished report prepared in support of a Second Compact between the Philippine Government and the Millennium Challenge Corporation (Washington, DC). Principally responsible for the preparation and contents of this report are Emmanuel S. de Dios and Celia M. Reyes.

limit coordination of supply and demand, such as poor penetration of infrastructure and geographical separation between agricultural production and processing. Unconsolidated production and disorganized input markets limit the ability of value-added agro-processers to obtain sufficient raw materials, restrict farmers' access to markets and credit, and hinder their efforts to maximize productivity. Coordination failures may exist in other value chains besides agriculture, but this constraint is most visible in the rural context, where agriculture dominates and is affected by a complex of constraints.

Policies designed to address these four constraints will have a direct impact on the ability of the Philippines to achieve the SDGs. It is beyond the scope of this chapter to present a comprehensive set of policies in each area. Other studies have done this (Balisacan and Hill, 2003; Clarete, Esguerra and Hill, 2018). However, there are specific policies that deal directly with the labour market.

For example, the empirical results presented in Section 4 indicate that improving conditions in the rural sector will reduce the share of the population described as NEE and not in the labour force (NILF). Addressing market failure in the rural economy entails

> linking the economy's growing sectors with lagging ones and leading firms with small farmers and their associations. Markets can be promoted in principle through the reduction of transaction costs, which include physical logistics costs, but also the costs of information, contracting, and coordination. Only by reducing these barriers can small firms and farmers participate in modern markets, deal with lead firms and investors on an equal footing and take advantage of economic opportunity.[36]

Appropriate economic structure[37]

SDG 8 mandates that decent work has to be available for all Filipinos seeking employment. The economy is at a crossroads in terms of establishing a labour market structure that can be sustained. The debate on whether economic growth should be led by the manufacturing sector or services should be revisited.

The phenomenon of "development progeria" has prompted many analysts to advocate "abandoning" the manufacturing sector and reallocating resources instead to the services sector, in which the Philippines has a more distinct comparative advantage. The recommendation is that the country leapfrog the conventional sequence and gear its policies toward supporting the services sector: in other words, normalize development progeria. This would entail conscious shifts in education policy, infrastructure projects, trade and industrial policy, budget allocation, and other important areas.

The crucial issue is whether the services sector can be the main source of high and sustained economic growth – defined as 7 to 10 per cent GDP growth – for an extended period, usually 10 years. The answer lies in both economic theory and historical experience.

Evidence, particularly from South Asian economies, seems to show that countries with high growth in services also have high overall economic growth (Ghani and Kharas 2010). The advantage of services-led growth is explained as follows:

> The trend over time to a higher services sector share in GDP shows that higher real growth in services has not been offset by price declines. There is no Dutch disease, whereby the price of a service falls with an increase in its supply. India has a higher share of services and more rapid growth in its services sector than does China, although the latter is richer and has grown faster.

[36] Quoted from the unpublished MCC report.

[37] This section is based largely on the 2010 PIDS Economic Policy Monitor, https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsbk11-epm2010.pdf

> That fact suggests that services are responding not simply to domestic demand (which would be higher in China), but also to export opportunities. India's experience shows that growth has been led by services exports, that labour productivity levels in services are above those in industry, and that productivity growth in services sectors in India match labour productivity growth in manufacturing sectors in China. Furthermore, services-led growth has been effective in reducing poverty in India.

Ghani and Kharas further argue that services-led growth is sustainable because the current globalization of services is only the tip of the iceberg. This sector is the largest in the world, accounting for more than 70 per cent of global output. The so-called "Service Revolution" has altered the characteristics of services. Services can now be produced and exported at low cost. The traditional view of services as non-transportable, non-tradable, and non-scalable no longer holds for a host of modern impersonal services that are moved across borders over the Internet, digitized and stored electronically, and scaled into giant global businesses. Developing countries can sustain services-led growth because there is enormous space for catching up and convergence.

On the other hand, an Asian Development Bank (ADB) report (2005) reiterated the relationship between economic development and industry growth. Two major reasons were given to justify why the manufacturing sector came to be referred to as "the engine of growth". The first is that there are increasing returns to scale in industry, which are of two types: (i) those derived from large-scale production, which induce lower average costs; and (ii) those derived from the fact that output growth has an effect on capital accumulation and the embodiment of new technological progress in capital. Labour productivity also increases as output grows through "learning by doing". The second main reason is that if activities outside industry are subject to diminishing returns (with the marginal product of labour less than the average product) and if resources are drawn from these activities into industry as the latter expands, then the average product of labour will rise in non-industrial activities.

A crucial issue is whether latching on to regional production networks remains a viable option for expanding the manufacturing sector in the Philippines. Tables 3 and 4 show that the economy is far behind its neighbours in terms of FDI and exports. However, the gap can also be interpreted as an opportunity for the Philippines to catch up, with the manufacturing sector at the helm. The main areas of improvement include addressing major constraints that deal directly with physical infrastructure: improving logistics and transportation, and lowering the cost of electricity.

There is, of course, an easy way out of this debate and that is to support not only both these sectors, but agriculture, too. Many of the policies for achieving the SDGs are cross-cutting in nature. Moreover, the relatively large labour force can support all three major economic sectors. It is a matter of enhancing human and physical capital to sustain the growth in labour productivity, in particular, and the economic turnaround in 2010, in general.

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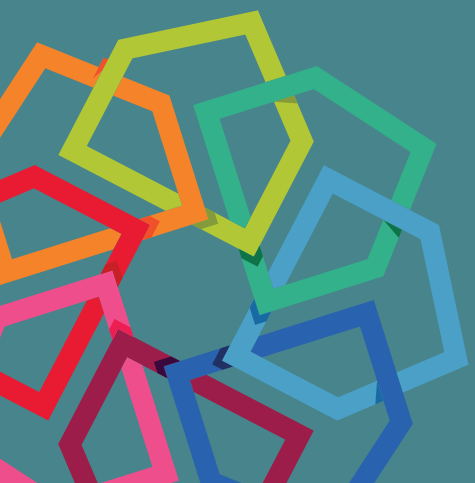

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