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Transforming the Philippine Economy: "Walking on Two Legs"

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ADB Economics Working Paper Series



Transforming the Philippine Economy: “Walking on Two Legs”

Norio Usui

No. 252 | March 2011



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Transforming the Philippine Economy: “Walking on Two Legs”

Norio Usui

March 2011

Norio Usui is Senior Country Economist in the Philippines Country Office, Asian Development Bank (ADB). The original paper was published in October 2010 as a Philippines Country Office Policy Note presented in the plenary session of the 48th Annual Meeting of the Philippine Economic Society on 12 November 2010, and later at an ADB Brown Bag Seminar on 31 March 2011. The paper was prepared under the overall guidance of Neeraj Jain, Country Director, Philippines Country Office. The author appreciates comments and suggestions by ADB's Joao Farinha, Utsav Kumar, Maria Socorro Bautista, Muhammad Ehsan Khan, and Rowena Cham. The author accepts responsibility for any errors in the paper.

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Contents

Abstract	v
I. Introduction—The Philippines' Development Puzzle	1
II. Structural Transformation—Aggregate Productivity Growth	5
III. Structural Transformation—Evolution of the Product Space	11
IV. Service-Led Growth—Is the BPO Industry the Savior?	16
V. Concluding Remarks	20
Appendix 1: Labor Productivity, 1980–2007	22
Appendix 2: Labor Productivity—Manufacturing, 1980–2006	23
Appendix 3: Thailand's Evolution in the Product Space	24
Selected References	25

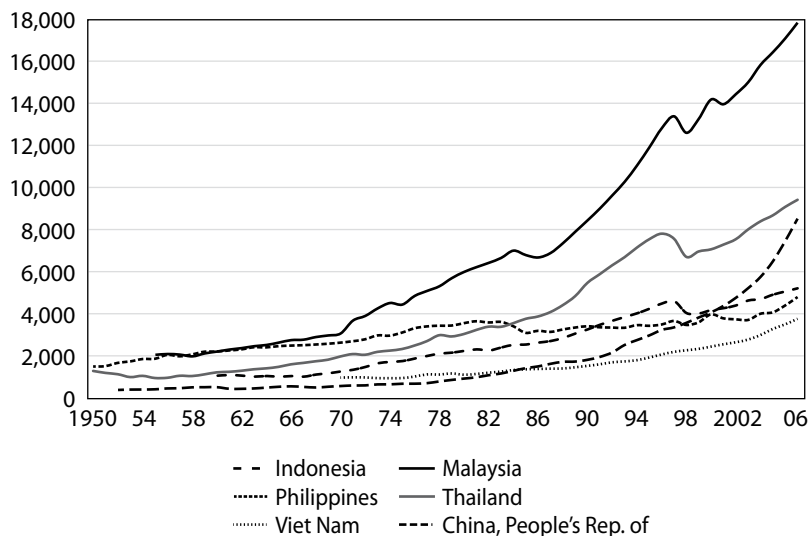
Abstract

With a strong recovery from the global crisis, the Philippines' policy focus will shift again to a long-term development agenda. Despite favorable initial conditions, the Philippines' long-term growth performance has been disappointing. Over the decades, the economy has suffered from high unemployment, slow poverty reduction, and stagnant investment. Why could the Philippines not enjoy high growth as its neighbors? What are the main causes of its chronic problems of unemployment, poverty, and underinvestment? This paper argues that the Philippines' poor growth performance is to be attributed to low productivity growth due to slow industrialization, especially in manufacturing. The chronic problems of high unemployment, slow poverty reduction, and low investment are reflections of slow industrialization. Initial success in electronics had enabled the economy to accumulate capabilities for productive diversification. However, incentives to utilize the accumulated capabilities have been weakened by persistent underprovision of basic infrastructure and weak business and investment climate. The paper also analyzes the growing services sector, in particular the booming business process outsourcing industry, in terms of its impact on job creation. The key conclusion is that, instead of "leapfrogging" over industrialization, the Philippines needs to "walk on two legs", to develop both industry and services, to generate job opportunities for the growing working-age population.

I. Introduction—The Philippines' Development Puzzle

The Philippines is a major development puzzle. With one of the highest per capita incomes in East Asia in the 1950s and 1960s, the country was an early leader with a relatively advanced manufacturing sector and well-developed human capital. Yet despite favorable initial conditions, the country's long-term growth performance has been disappointing (Figure 1). Between 1960 and 2008, real gross domestic product (GDP) grew at a rate of 4.0% per annum. With a relatively high population growth of 2.5%, per capita GDP increased only by 1.5% (Figure 2). Over the same period, neighboring economies in the Association of Southeast Asian Nations (ASEAN) such as Indonesia, Malaysia, and Thailand (ASEAN-4) grew at a rate of around 4% in per capita term. Even if focus is on the last 2 decades (1990–2008) during which a series of reforms made the economy one of the most open to trade and capital inflows, the overall story of the Philippines' lagged growth remains. By the end of the 1990s, the Philippines' per capita GDP has dropped to the bottom in the ASEAN-4, and now even the gap with Viet Nam is narrowing. Contrary to popular belief, the Philippines' high population growth is not necessarily to blame, since other countries such as Malaysia had a similar population growth over the period.

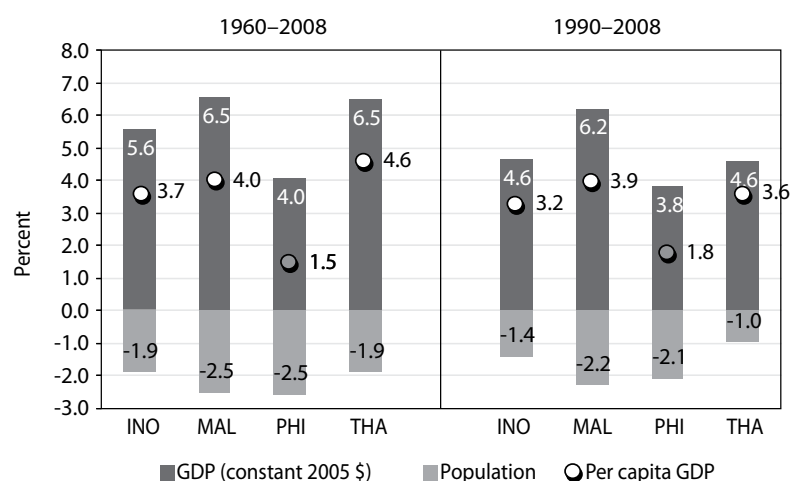
Figure 1: From the Top to the Bottom, 1950–2007
(GDP per capita, constant 2005 \$ prices)



GDP = gross domestic product.

Source: Penn World Table 6.3 (Heston et al. 2009).

Figure 2. Decomposition of Per Capita GDP Growth (annual average)



INO = Indonesia, GDP = gross domestic product, MAL = Malaysia, PHI = Philippines, THA = Thailand.

Note: Population growth rate is shown as negative.

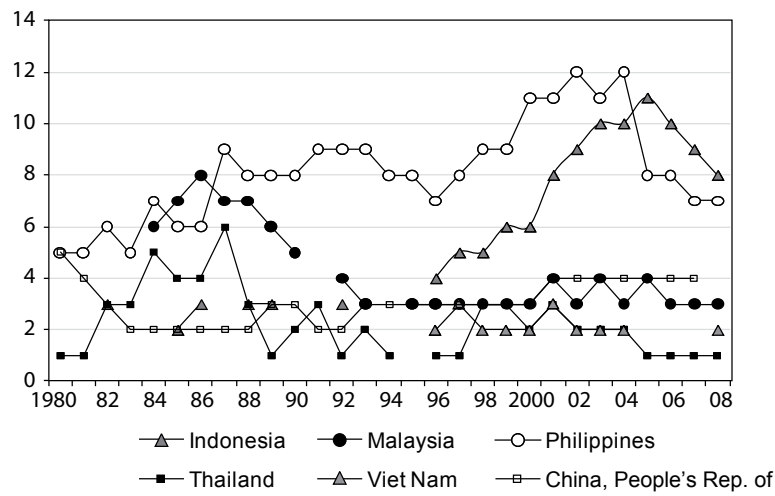
Source: Author's calculation from Penn World Table 6.3 (Heston et al. 2009).

Most researchers raise three issues as central challenges of the Philippine economy, namely, high unemployment, slow poverty reduction, and stagnant investment. Indeed, the country's unemployment rate has remained high relative to other countries in the region over the past 3 decades (Figure 3). Reflecting the limited job opportunities, the pace of poverty reduction in the Philippines has been slower than that of neighboring countries (Figure 4). Even during the recent growth episode (2002–2007 with average 5.5% growth), the economy suffered from high unemployment (average 9.8%) and underemployment (average 19.2%).¹ This means that over one fourth of the country's labor force was not fully utilized even during this period of high growth. It was thus not surprising that the country's poverty incidence increased to 26.4% in 2006 from 24.9% in 2003.² Many workers are condemned to low-productivity jobs that do not pay enough to lift themselves and their families out of poverty. Fixed investment has also stagnated in real terms and decreased its share in GDP (Figure 5). In 2008, gross fixed capital formation dropped to 14.7% of GDP, far below the regional average of over 25%.

¹ Defined as employed persons seeking additional employment.

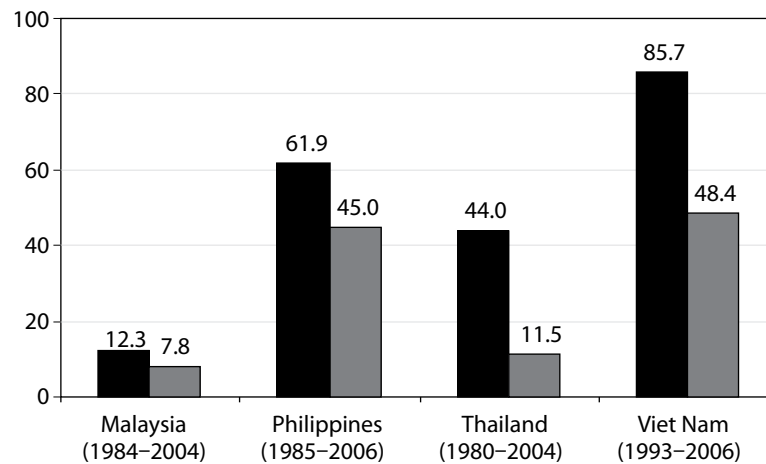
² Based on National Statistical Coordination Board (2011).

Figure 3: Unemployment Rate, 1980–2008
(percentage of total labor force)



Source: World Development Indicators (World Bank, various years).

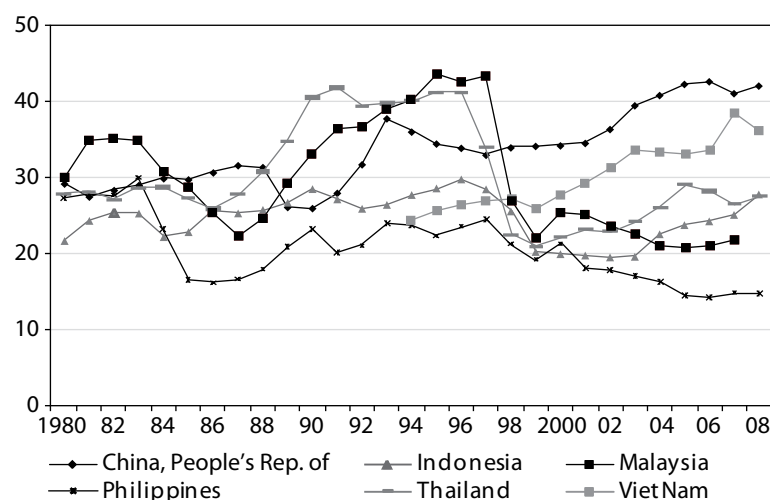
Figure 4: Progress of Poverty Reduction
(headcount ratio at \$2 a day PPP, percentage of population)



PPP = purchasing power parity.

Source: World Development Indicators (World Bank, various years).

Figure 5: Growth of Investment, 1980–2008
(gross fixed capital formation, percentage of GDP)



GDP = gross domestic product.

Source: World Development Indicators (World Bank, various years).

Despite being located in fast-growing East Asia, why could the Philippines not achieve similar growth as enjoyed by the neighbors? What are the main causes of the perennial problems of the economy, namely, high unemployment, slow poverty reduction, and stagnant investment? This paper assesses the impacts of the growing services sector in terms of its effect on job creation, and discusses if the country can really “leapfrog” the process of industrialization. The paper aims to complement growth diagnostics studies (ADB 2007, Bocchi 2008) that have identified several binding constraints to growth and development in the Philippines, by focusing on the process of structural transformation in the country in the regional context.

The rest of the paper proceeds as follows. Section II analyzes aggregate productivity growth in the country through the lens of structural transformation. Section III analyzes structural transformation in the Philippines using the new tools of Hausmann and Klinger (2006) and Hidalgo et al. (2007). Section IV discusses the booming business process outsourcing (BPO) sector in terms of its impact on job creation. A brief summary is provided in the last section.

II. Structural Transformation—Aggregate Productivity Growth

The main growth engine of East Asian economies has been dynamic structural transformation. The growth miracle in East Asian countries started in the 1970s when they shifted their development strategy toward export promotion and attracted foreign direct investment. This process was accelerated in the 1980s when foreign firms actively relocated their production bases across the region. Structural transformation in these countries had three dimensions: first, output shifted from low-productivity goods into high-productivity ones, particularly manufacturing goods (Table 1); second, the labor force moved from traditional activities in the primary sector to modern industry; and third, the export basket diversified toward more sophisticated products. The industrial sector has continually raised its productivity through product diversification and sophistication, and has absorbed the labor force from low-productivity sectors. The dynamic structural transformation both in production and employment structures has sustained growth and reduced poverty by creating affluent job opportunities.

Rodrik (2006) challenge the conventional view that structural transformation is a passive process that can be developed automatically once economic fundamentals—macroeconomic stability and well-functioning markets—are in place. He analyzes recent empirical evidence and finds several new stylized facts that place industrial development in the driving seat of growth and development. The new stylized facts he found include: (i) economic development requires diversification, not specialization; (ii) rapidly growing countries are those with large manufacturing sectors; (iii) growth acceleration is associated with structural changes in the direction of manufacturing; (iv) countries that promote exports of more sophisticated goods grow faster; and (v) some specialization patterns are more conducive to others in promoting industrial upgrading. He emphasizes the centrality of industrial development and structural change for achieving high and sustained growth in the long term.

Table 1: Structural Change, 1980–2007

	Indonesia			Malaysia			Philippines			Thailand		
	1980	2007	Change	1980	2007	Change	1980	2007	Change	1980	2007	Change
Output Structure (% of GDP)												
Agriculture	24.0	13.7	-10.3	22.6	10.2	-12.4	25.1	14.2	-10.9	23.2	10.7	-12.6
Industry	41.7	46.8	5.1	41.0	47.7	6.7	38.8	31.6	-7.2	28.7	44.7	16.0
Manufacturing	13.0	27.1	14.1	21.6	28.0	6.4	25.7	22.0	-3.8	21.5	35.6	14.1
Services	34.3	39.5	5.1	36.3	42.0	5.7	36.1	54.2	18.1	48.1	44.6	-3.4
Employment Structure (% of total employment)												
Agriculture	56.4	41.2	-15.2	37.2	14.8	-22.4	51.8	36.1	-15.7	70.8	41.7	-29.1
Industry	13.1	18.8	5.7	24.1	28.5	4.4	15.4	15.1	-0.3	10.3	20.7	10.4
Manufacturing	9.0	12.4	3.4	16.1	18.8	2.7	10.8	9.1	-1.7	7.9	15.1	7.1
Services	30.5	40.0	9.5	38.7	56.7	18.0	32.8	48.8	16.0	18.9	37.6	18.7

GDP = gross domestic product.

Sources: World Development Indicators (World Bank, various years) and LABORSTA (International Labour Organisation, various years).

In contrast, the Philippines' industry sector has stagnated for years and even decreased its share in GDP from 38% in 1980 to 32% in 2007. Labor force employed in the industry has remained stagnant at around 15% over the same period. Trade liberalization in the 1990s, and even in the recent high growth period, did not trigger a rising share of industry, particularly manufacturing. As of 2007, the manufacturing sector accounts only for 22% of GDP and less than 10% of employment. This is in marked contrast with neighboring economies where the share of manufacturing has steadily increased both in output and employment. In the Philippines, the decline in labor share of agriculture has been entirely absorbed by the growing services sector, which accounts for over 54% of GDP and employs 49% of total workers as of 2007. Reflecting the structural changes in the direction of services, which are less capital-intensive, the country's fixed investment has decreased its share in GDP.

The growth of the services sector has accelerated since the mid-1990s when the Philippines started enjoying high remittance inflows (12% of GDP in 2008) and service exports mainly through the BPO industry (3.2% of GDP). Despite stagnant investment, the economy keeps growing thanks to strong private consumption backed by soaring remittance inflows. However, the booming services sector has not translated into higher employment. Informal activities and emigration are the major outlets for underutilized labor. Quality labor continues to seek job opportunities abroad or takes over relatively low-wage and low-skill jobs. A serious mismatch between labor supply and demand is observed, which includes educated maids, educated taxi drivers, and top university graduates who work for contact centers. The deployment of overseas workers and high underemployment mask the extent of domestic unemployment.

Economywide labor productivity growth is a key measure in capturing a country’s ability to improve its standard of living over time. The Philippines’ lagged growth performance with the neighbors is reflected in a huge gap in aggregate labor productivity growth. Over 1980 and 2007, the Philippines’ aggregate labor productivity increased only by 10% (annual average growth rate was only 0.4%), while Indonesia, Malaysia, and Thailand more than doubled (Figure 6 and Appendix 1). What are major causes of this gap? A decomposition of aggregate productivity growth provides a picture of how changes in sector productivity and sectoral reallocation of labors affect aggregate productivity.³ Although the contribution of the different components has been uneven, aggregate productivity of neighboring economies was fueled by within-sector productivity growth, but also, quite importantly, by the reallocation of workers from less to more productive sectors. The cross term (dynamic structural transformation effect) was also positive since workers shifted toward sectors that are growing productively. In the Philippines, all three components did not make any significant contributions to economywide productivity growth.

Sectoral decomposition of the aggregate productivity growth shows that industry, and, to a lesser extent, services, are two main engines of productivity growth in the neighboring countries (Figure 7). Both sectors increased their own productivity and absorbed more workers from agriculture, which led to the dramatic jump of aggregate productivity. In the Philippines, sector productivity for all sectors has stagnated over 3 decades.⁴ Industry and agriculture contributed negatively to aggregate productivity growth, and only a

³ Aggregate labor productivity growth can be decomposed into three components. The first, “static structural reallocation effect (SSRE)”, captures the changes in productivity associated with the reallocation of employment from low-productivity to high-productivity sectors. The second, “within-sector productivity growth effect (WSPGE)”, measures how much of the changes in aggregate productivity can be explained by the change in labor productivity within an individual sector. The last term, “dynamic structural reallocation effect (DSTE)”, is an accounting term that reconciles growth in the aggregate with the SSRE and WSPGE. The DSTE is calculated by multiplying the change in each sector’s labor productivity times each sector’s change in employment share. It is negative for any given sector if either the change in labor productivity or the change in employment share is negative. It is positive for a sector if employment increases (decreases) in that sector and productivity is also increasing (decreasing) in that sector; it is negative for a sector if employment increases (decreases) in that sector and productivity decreases (increases) in that sector. If the three components are aggregated for each sector, we can analyze each sector’s contribution to aggregate productivity growth. The decomposition can be written as:

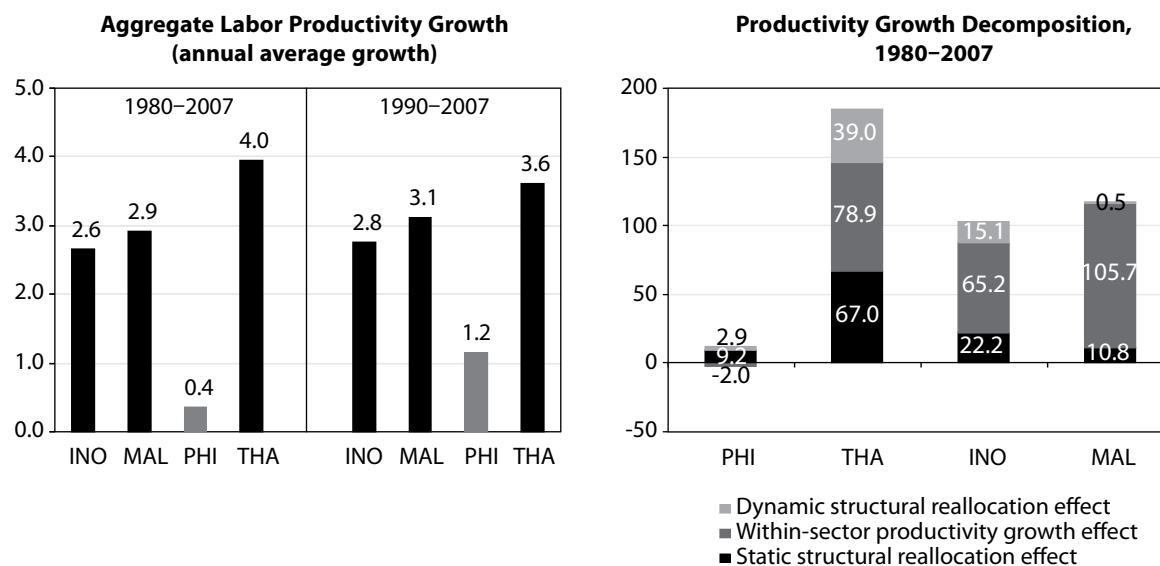
$$\begin{aligned}
 \frac{dy_T^1}{y_T^0} &= \frac{1}{y_T^0} \left[\sum_i y_i^0 \cdot (s_i^1 - s_i^0) \right] && \text{Static structural reallocation effect (SSRE)} \\
 &+ \frac{1}{y_T^0} \left[\sum_i s_i^0 \cdot (y_i^1 - y_i^0) \right] && \text{Within-sector productivity growth effect (WSPGE)} \\
 &+ \frac{1}{y_T^0} \left[\sum_i (s_i^1 - s_i^0) \cdot (y_i^1 - y_i^0) \right] && \text{Dynamic structural reallocation effect (DSRE)} \\
 &= \frac{1}{y_T^0} \sum_i \left[y_i^0 \cdot (s_i^1 - s_i^0) + s_i^0 \cdot (y_i^1 - y_i^0) + (s_i^1 - s_i^0) \cdot (y_i^1 - y_i^0) \right] && \text{Contribution by sector}
 \end{aligned}$$

where, i : sectors (agriculture, industry, services), 0: base year, 1: final year, y_T : aggregate labor productivity, y_i : labor productivity of sector i , and s_i : share of sector i in total employment.

⁴ The stagnant productivity of Philippine agriculture also forms a striking contrast with neighboring countries where increasing agricultural productivity enabled labor to shift to other sectors without decreasing agricultural production. This may reflect the failures in agricultural policies including land reform.

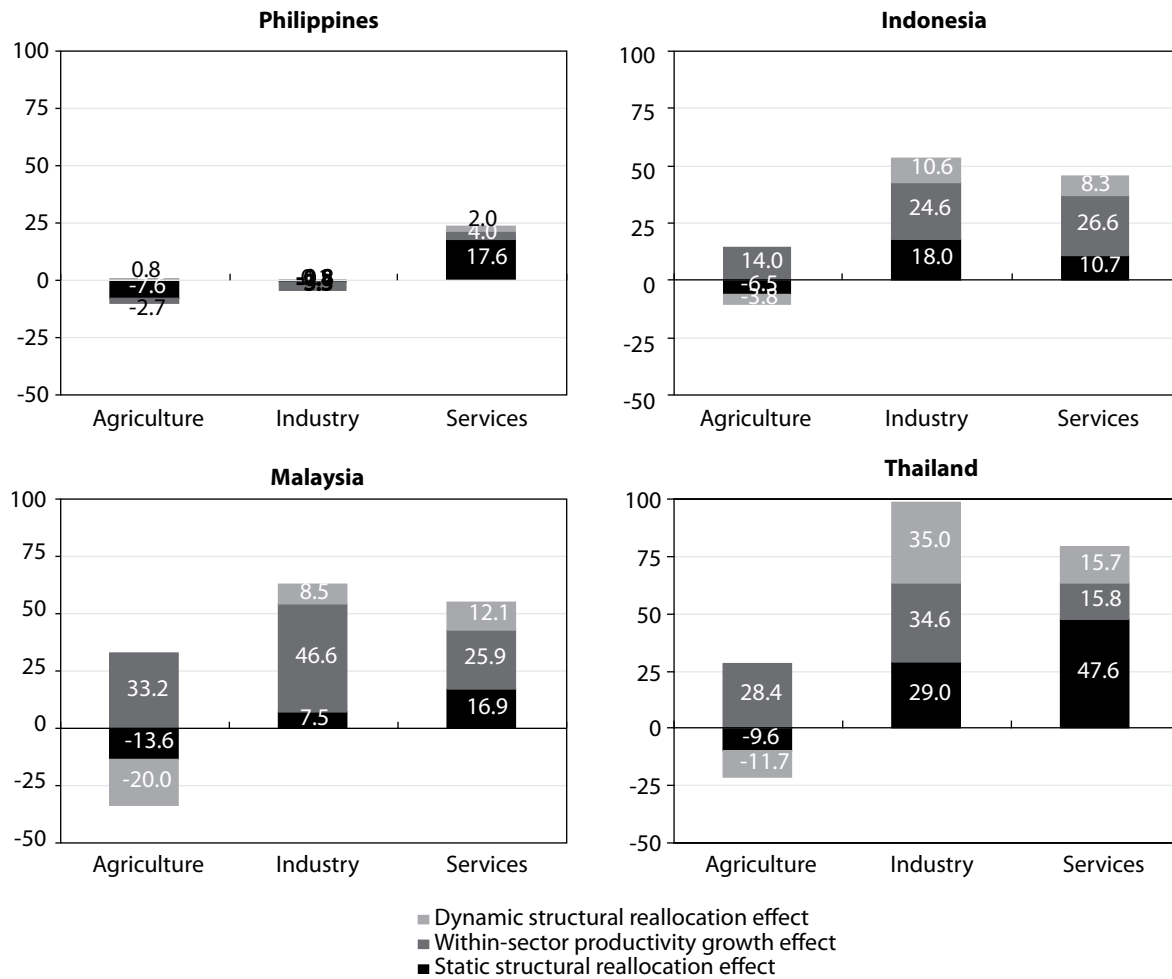
minor contribution was made by services. The services sector absorbed workers without improving its own productivity. Overall, the assessment of aggregate labor productivity growth suggests that, behind the poor growth performance over the last 3 decades, the country's productivity grew only slightly through a labor shift from agriculture to services, a sector with low productivity growth. The industry sector, the key growth engine in the neighbors, did not contribute to the growth of economywide productivity.

Figure 6: Economywide Productivity Growth and its Decomposition (percent)



INO = Indonesia, MAL = Malaysia, PHI = Philippines, THA = Thailand.
 Source: Author's calculation.

The regional neighbors raised the labor productivity of their manufacturing sector by increasing productivity within each subsector (Figure 8 and Appendix 2). Although there were differences across the countries, the biggest contributors were chemicals, petroleum, coal, rubber and plastic (code 35); and fabricated metal, machinery and equipment, including electronics products (code 38). In contrast, the labor productivity of the Philippines' manufacturing sector remained stagnant over the same period. Trade liberalization in the 1990s led to the infusion of foreign electronics investments in the Philippines, and electronics and related products now account for nearly three fourths of total export earnings. However, the contribution of the electronics industry to sectorwide productivity growth has been limited compared to that of neighboring countries.

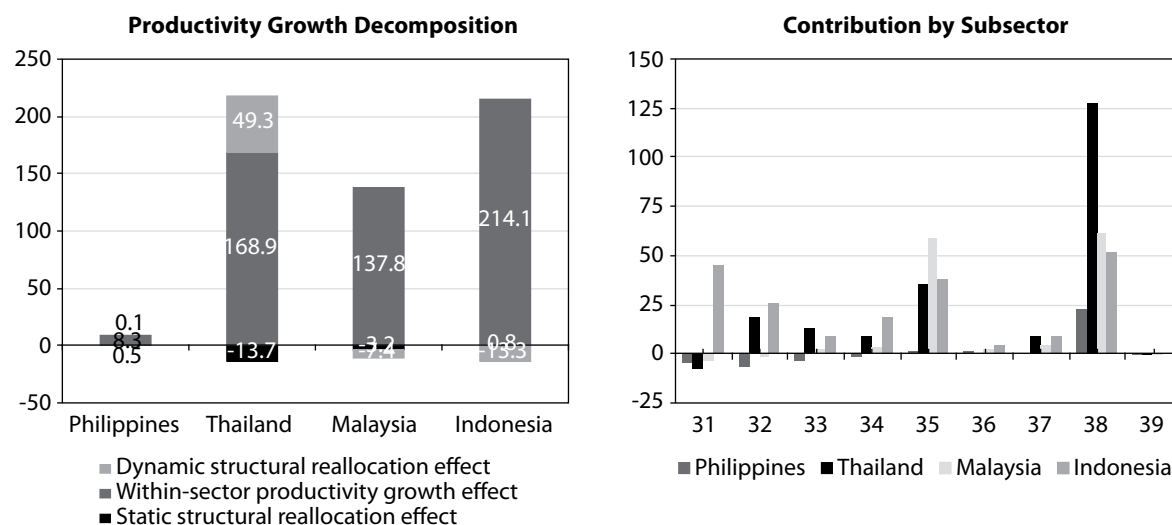
Figure 7: Sector Contribution to Economywide Productivity Growth, 1980–2007 (percent)

Source: Author's calculation.

The Philippines' electronics industry is concentrated in the lowest segment of the value chain, assembly and testing (Reyes-Macasaquit 2009). Several studies show a negative picture of high dependency on electronics exports by the focus on low value addition and weak backward linkages with the rest of the economy. Indeed, electronics production in the Philippines highly depends on imports, which suggests that simple assembly dominates electronics production. However, at least judging from the data, there is no clear evidence that the Philippines' electronics industry has extremely high import content (Figure 9). Other countries in the region that initiated electronics production at an earlier stage also have a high import ratio. A key difference with the Philippines is that they could diversify their production structure toward a wider range of manufacturing products and develop a large manufacturing sector.

A real mystery of the Philippines' industrialization is why its initial success in electronics could not spill over to other industrial products. Countries in the region have diversified their production structure toward more skill- and research-intensive segments of electronics and even more sophisticated industrial products such as machinery and chemicals. As a result, they are now engaged in a broad range of industrial activities. The continual shifts toward more sophisticated products have been the key growth engine in their productivity growth. A key challenge therefore for the Philippines is how to make its success in electronics products lead to industrial upgrading and diversification.

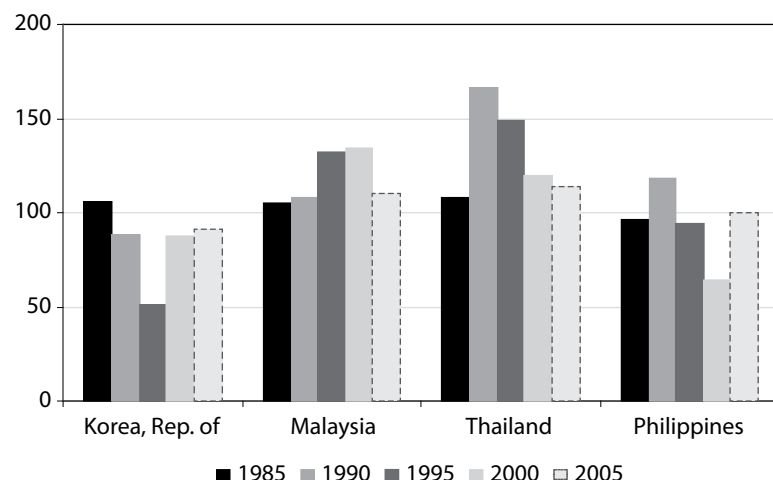
Figure 8: Productivity Growth and Its Decomposition—Manufacturing, 1980–2006 (percent)



Note: Subsector classification is based on the ISIC revision 2: code 31 (food, beverages, and tobacco); 32 (textile, wearing apparel, and leather); 33 (wood and wood products, including furniture); 34 (paper and paper products, printing, and publishing); 35 (chemicals and petroleum, coal, rubber, and plastic); 36 (nonmetallic mineral products); 37 (basic metal); 38 (fabricated metal, machinery and equipment); and 39 (other manufacturing).

Sources: Author's calculation from INDSTAT3 2005 and INDSTAT4 2010 (United Nations Industrial Development Organization, various years).

Figure 9: Import to Export Ratio of Electronics Products (percent)



Note: Products classified in code 77 in SITC (revision 2).

Source: Author's calculation from Comtrade database (United Nations, various years).

III. Structural Transformation—Evolution of the Product Space

Structural transformation has been the central issue of development. Lucas (1993, 263) mentions that “a growth miracle sustained for decades involves the continual introduction of new goods, not merely continued learning on a fixed set of goods.” Hausmann and Klinger (2006) and Hidalgo et al. (2007) show that growth and development are the result of structural transformation, and that, crucially, an economy grows with diversification of its export basket toward sophisticated products. Imbs and Wacziarg (2003), on the other hand, show that, as incomes increase, economies first become less specialized and more diversified and then, at high income levels, they tend to specialize. These arguments confirm that “upgrading of export products through diversification” is the key for long-term growth.

Hausmann and Klinger (2006) analyze the implication of export sophistication for economic growth. They find that GDP per capita grows with the level of sophistication of export baskets,⁵ and that export sophistication robustly predicts subsequent growth. These findings matter: the goods that developing countries export today do affect their future growth. Figure 10 shows the level of sophistication of export baskets (EXPY) of the Philippines and regional comparators. The Philippines has performed well on the EXPY score since the late 1970s even compared with the neighbors. This corresponds to the infusion of foreign electronics industries into the country. The country’s high concentration on electronics and related products, which have relatively high PRODY scores, in its export basket led to the increasing EXPY. However, the Philippines’ industrial sector has stagnated and could not become the key growth engine for the last 3 decades. This

⁵ Following Hausmann and Klinger (2006), the level of sophistication of a country’s export baskets (EXPY) is measured in two steps. For each product, compute the weighted average of real per capita incomes (GDPPC, in constant 2000 \$) of the countries exporting that product with comparative advantage, where the weights are Balassa’s revealed comparative advantage (RCA) index in that product of exporting countries. This index is called PRODY, which gives us the income or productivity level associated with a product. The EXPY for a country is then computed as the weighted average of the PRODY of the country’s export basket, where the weights are the share of each product in the country’s total exports.

PRODY (of product i) and EXPY (of country C) are defined as:

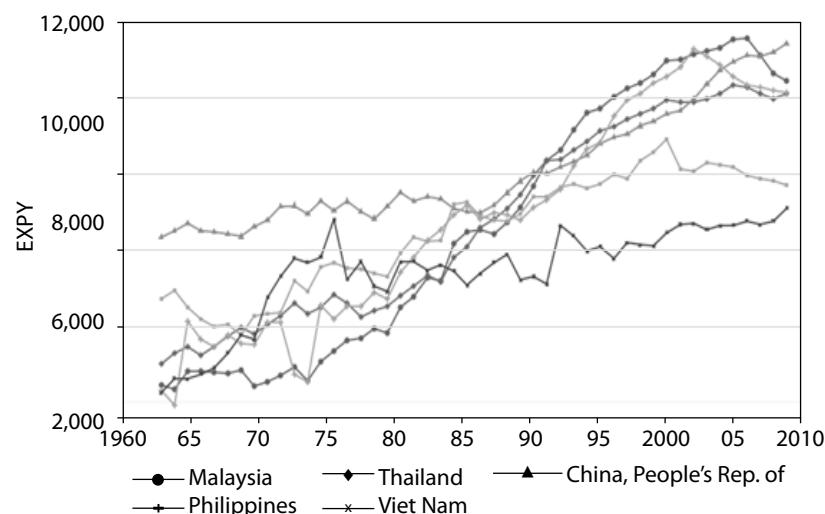
$$PRODY_i = \sum_c \left[\frac{xval_{ci} / \sum_i xval_{ci}}{\sum_c \left(xval_{ci} / \sum_i xval_{ci} \right)} \right] \times GDPPC_c \quad EXPY_c = \sum_i \left(\frac{xval_{ci}}{\sum_i xval_{ci}} \times PRODY_i \right)$$

where $xval_{ci}$ is the export value of product i by country C . Using trade data from UN Comtrade and GDP per capita data from the World Bank’s World Development Indicators, PRODYs are calculated for 773 products (defined in the SITC revision 2 at 4 digit aggregate level) for the period 2004–2006. The average PRODY from 2004 to 2006 is then used to construct the EXPY index.

finding contradicts with the argument that a country with a sophisticated export basket can grow faster. To fill the gap, we need to analyze another key aspect of structural transformation, product diversification.

Hausmann and Klinger (2006) examine the key determinants of product diversification. They argue that each product requires highly specific inputs, such as knowledge, physical assets, intermediate inputs, labor training requirements, infrastructure, property rights, regulatory requirements, and other public goods. But this specificity is relative. For example, human, physical, and institutional capabilities for producing cotton trousers are similar to those needed to produce cotton shirts; and significantly different from those needed to produce computer monitors. Cotton trousers and shirts may involve similar capabilities, but trousers and computer monitors involve very different ones.⁶ Hidalgo et al. (2007) apply network theory and develop the concept of “product space” to visualize “distance” between products by their relative similarities in needed capabilities.

Figure 10: Level of Sophistication of Export Baskets (EXPY)



Source: Author's calculation.

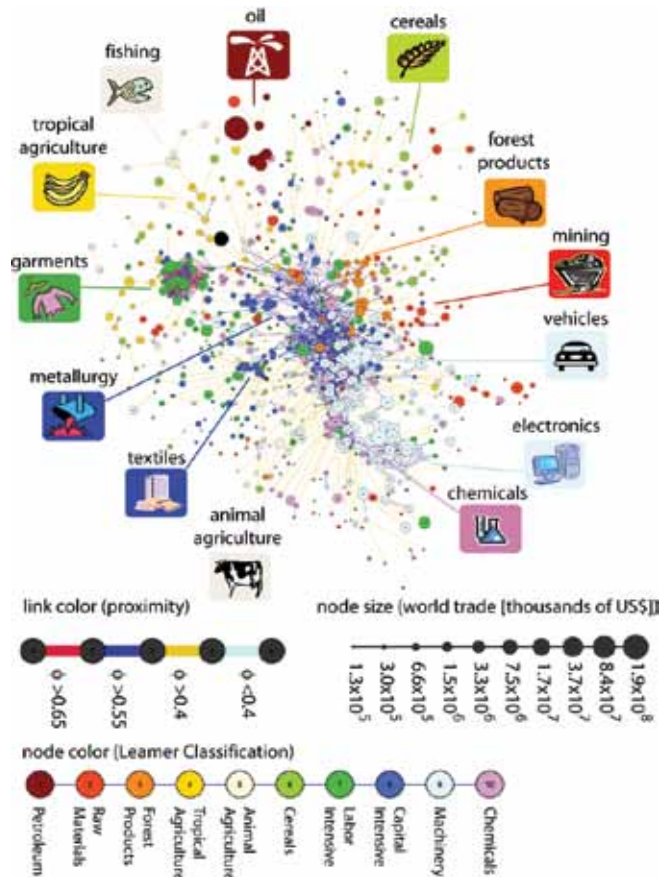
⁶ Hidalgo et al. (2007) capture this notion of similarity between a pair of products, called “proximity”, by observing trade outcomes rather than by looking at physical similarities between products or their inputs. If every country that exports a product also exports another product, then these two products must involve similar capabilities. On the other hand, if every country that exports a product does not export another product, then these two products must involve different capabilities. This led to the use of conditional probabilities to measure the similarity between the two products. “Proximity” is measured as the minimum between the probability that countries export product i given that they already export product j ; and the probability that countries export product j given that they already export product i . The reason for taking the minimum of the two probabilities is to create a symmetric measure of distance for a pair of products. Formally, the proximity between products i and j is defined as:

$$\phi_{ij} = \min\{P(x_i = 1 | x_j = 1), P(x_j = 1 | x_i = 1)\},$$

where $x_i=1$ implies that, for every country C and commodity i , $RCA_{Ci} > 1$.

The product space is shown in Figure 11. The different circles (nodes) represent products, and the node size is proportional to world trade value. Colors represent different product groups according to factor intensity. The colors of the lines that connect the nodes represent the distance (proximity) between a pair of products.⁷ The product space is highly heterogeneous: in the dense part (or the core part), many products, particularly machinery, chemicals, and other capital-intensive products, are closely connected to each other; while in the periphery, products such as natural resources and primary products are only weakly connected to others. There are some groupings among the peripheral products, such as petroleum products (the large red nodes on the upper left side of the network), garments (the very dense cluster at the middle left), and raw materials (upper right). The heterogeneity means that products in the core part involve capabilities that can be redeployed to produce many other products, but those in the periphery cannot. Thus, countries that have already established comparative advantage in a well-connected part of the product space can move to other products with much more ease than those that have export products in the periphery.

Figure 11: Product Space

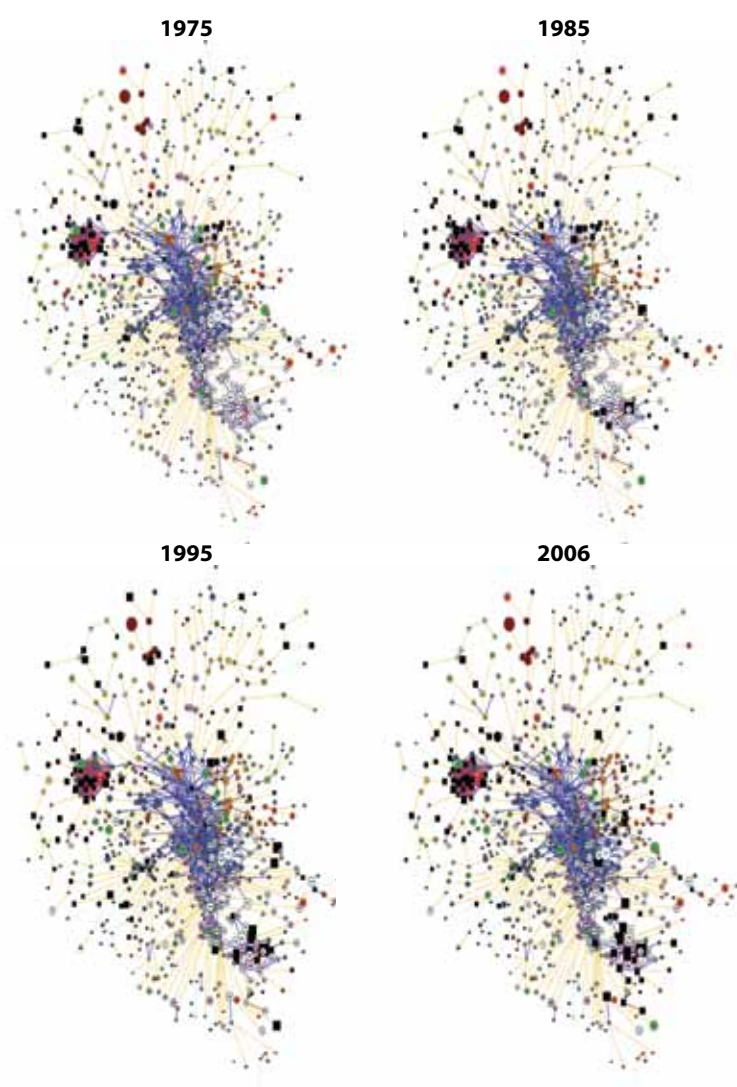


Source: Hidalgo et al. (2007).

⁷ Red line shows the closest link, followed by dark blue, yellow, and light blue. Each product is connected to its closest neighbor and to all others that are at distances that correspond to either red or dark blue lines.

To visualize the degree of structural transformation of the Philippine economy, we highlight, using black squares, the products in which the country has comparative advantage in 1975, 1985, 1995, and 2006 (Figure 12). By 1975, the Philippines had developed comparative advantage in most garment products in addition to the traditional agricultural and forest products. In the following decade, the country acquired comparative advantage in a few electronics products by attracting foreign investors. The country has continued to establish comparative advantage in more electronics products in the next 2 decades. However, even in 2006, there were only a few new black squares in the core area of the product space, which supports the previous argument that success in electronics has not spilled over to more sophisticated industrial products. Since 1995, the number of products with comparative advantage in the Philippines has decreased to 111 in 2008, of which the number of core products is limited to 40 (Figure 13).

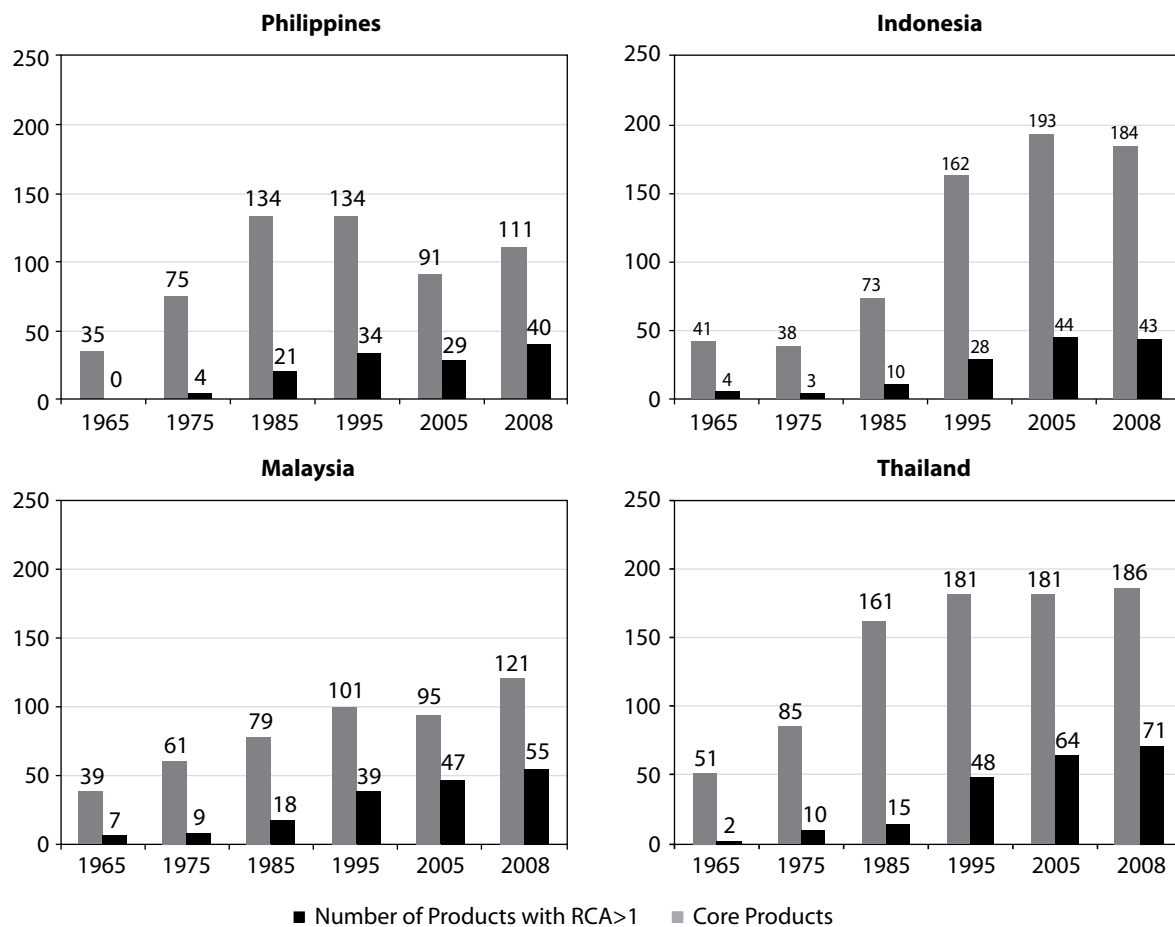
Figure 12: The Philippines' Evolution in the Product Space



Source: Author's calculation.

Other countries in the region, for example Thailand, had comparative advantage in fewer garment products except agricultural and forest products in 1975. However, the process of product diversification accelerated in the following decades, acquiring comparative advantage in garments, textiles, electronics, and even some core products, such as machinery and chemicals (Appendix 3). As a result of product diversification, Thailand is now engaged in 186 products with comparative advantage, of which 71 belong to the core area of the product space. This product diversification toward sophisticated products enabled a continuous increase in labor productivity of the industry sector, and subsequently higher aggregate productivity through absorption of workers into the sector. A similar diversification process is observed in other countries in the region.

Figure 13: Product Diversification—Number of Products with Comparative Advantage



RCA = revealed comparative advantage.

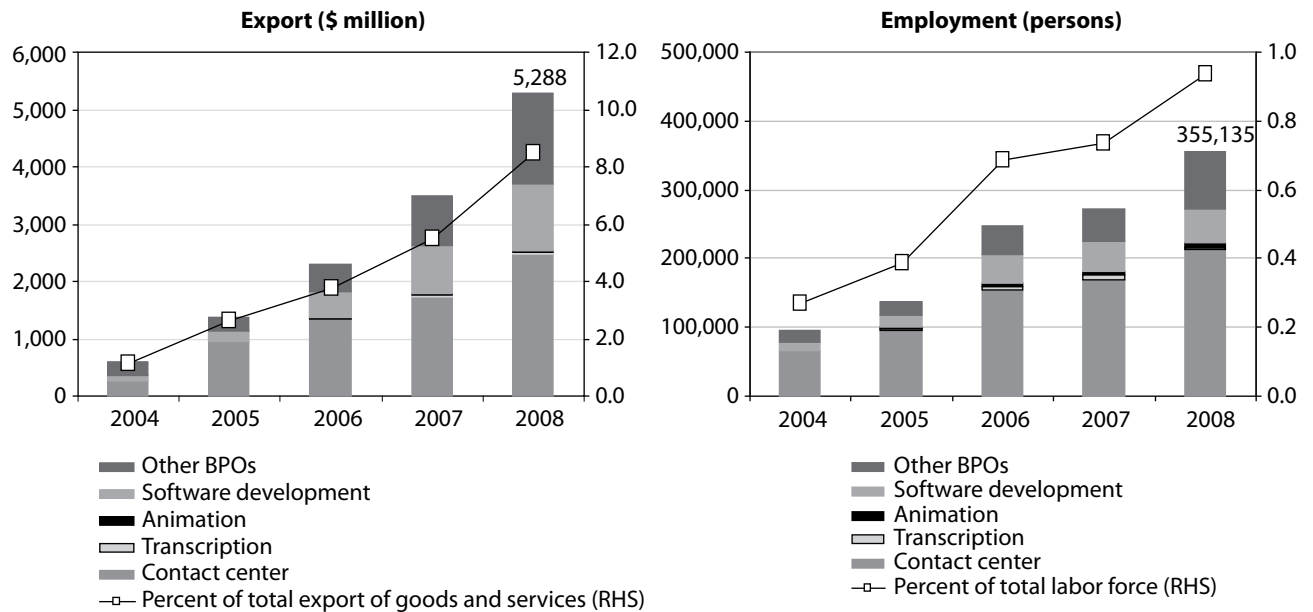
Note: The core products are composed of machinery, metal products, and chemicals.

Source: Author's calculation.

Why could the Philippines not follow a similar diversification process as its neighbors? Why could its success in electronics products not create a dynamic path of product upgrading and diversification? There are several growth diagnostics exercises for the Philippines. ADB (2007) and Bocchi (2008) list several different constraints impeding growth in the Philippines. Major constraints identified in these studies can be consolidated into four key issues: (i) persistent underprovision of basic infrastructure, among others, inadequate transport and electricity infrastructure, due to serious fiscal pressure; (ii) weak business and investment climate due mainly to governance concerns; (iii) inability to address market failures for industrial upgrading and diversification; and (iv) “elite capture” in the traditional sectors such as agriculture, sea and air transport, power, cement, mining, and banking. These problems are likely to weaken entrepreneurs’ incentives to utilize the accumulated capabilities for product diversification.

IV. Service-Led Growth—Is the BPO Industry the Savior?

Over the decades, the Philippine economy has been led by services, which now accounts for over 50% of total output and employs about half the total workforce. Since the early 2000s, the external services industry, notably BPO, has flown into the economy. BPO exports have continued to grow at a double-digit rate (over 50%) and reached \$5.3 billion (8.5% of the country’s total exports of good and services) in 2008 (Figure 14). The Philippines is now the third largest BPO destination after India and Canada. Although traditional voice services (contact centers) still comprise over 50% of the total BPO exports, a wide range of higher-value services such as software development, finance, animation, engineering, medical transcription, and architectural services are also provided. The authorities offer fiscal and nonfiscal incentives to attract foreign investment in the BPO industry as part of the Investment Priorities Plan.

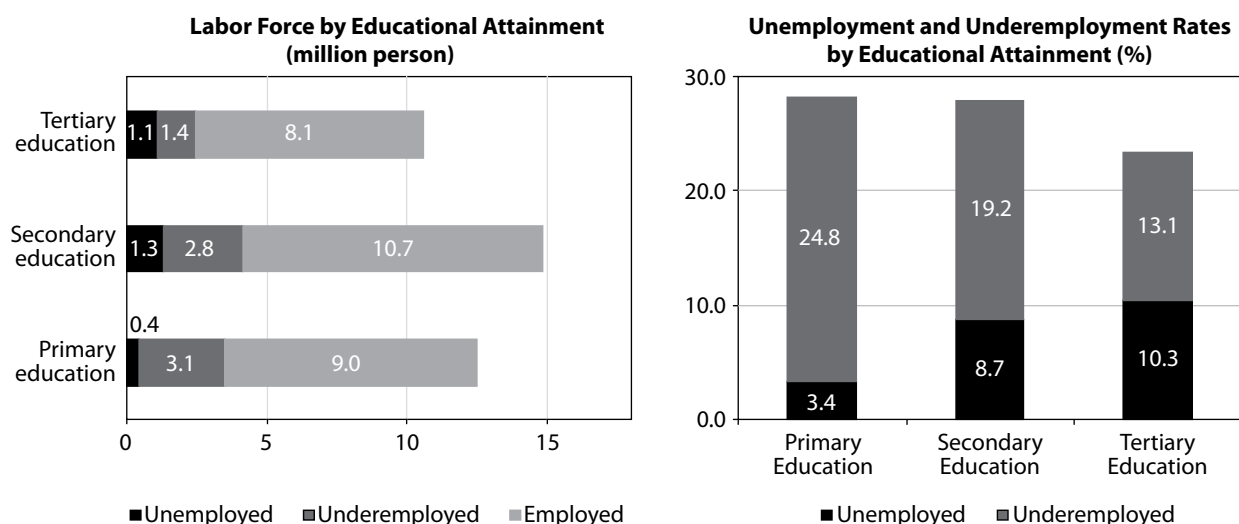
Figure 14: Booming Business Process Outsourcing

BPO = business process outsourcing, RHS = right hand side.

Note: "Other BPOs" include backroom operations, data processing, database activities, online distribution of electronic content, financial and accounting services, and business and management consultancy services.

Sources: Survey of IT and IT-enabled services (Bangko Sentral ng Pilipinas 2007 and 2008).

With the sharp increase in exports, the BPO industry has also contributed to job creation. Total employment in the BPO industry reached to 0.36 million in 2008 from less than 0.1 million in 2004. Contact centers remain the top employer among the BPO categories, accounting for 60% of total employment. However, the BPO industry still employs less than 1% of the total labor force of the country, where about 7.5% of the total labor force (2.8 million workers in 2008) are unemployed and 18.9% are underemployed (7.2 million workers). Since one of the minimum qualifications for employment in the BPO industry is a college degree, job opportunities in the BPO industry can benefit workers with tertiary education. There are 1.1 million unemployed and 1.4 million underemployed workers with tertiary education in 2008. However, it must not be overlooked that the Philippines has a total of 7.6 million workers with primary and secondary education who have been suffering from limited job opportunities as well (Figure 15). Further, it is estimated that the country's labor force will increase to 52 million in 2030 from 38 million in 2008 (Felipe and Hasan 2006, Brooks 2002). The BPO industry cannot answer the huge employment needs of the unskilled labor.

Figure 15: Employment Status, 2008

Source: Author's calculation based on Labor Force Survey (NSCB 2008).

Another aspect of assessing the BPO industry is its linkages with the rest of the economy. Even if the BPO industry cannot make a direct contribution to job creation, it may induce job opportunities in other sectors in the economy through forward and backward linkage effects. Forward linkages measure the relative importance of the BPO industry as a supplier to other sectors, whereas backward linkages capture its importance as a demander for other sectors. Ramos et al. (2007) estimated the linkage effects of the BPO sector based on the 2000 input–output (I-O) table⁸ and found that the industry's forward and backward linkage indices are 0.04 and 0.45, respectively. These are substantially lower than that of other sectors, suggesting the limited linkage effect of the BPO industry in both directions.

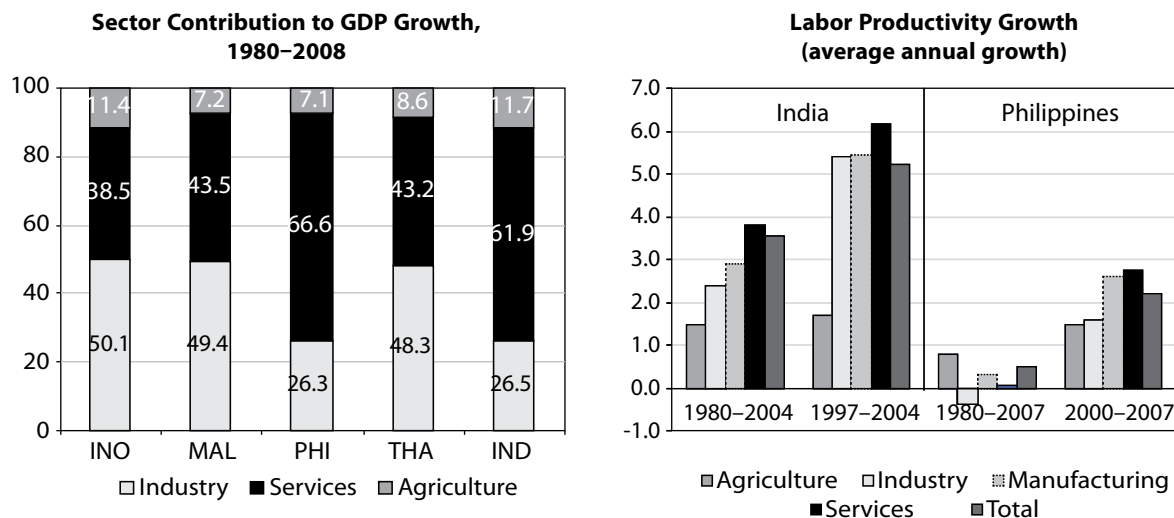
The manufacturing sector has the highest intersectoral linkages (forward and backward linkage indices are 2.9 and 1.3, respectively) in the economy. This implies that manufacturing is the leading sector that can stimulate growth in other sectors. If manufacturing could have a higher share, an expansion of the sector would create higher growth through its strong linkage effects with other sectors. Unfortunately, the Philippine economy has shifted toward services and the share of manufacturing has declined over the years.

India's steady growth (by about 6% per year over 2 decades) has been focused since the growth has been driven more by services than by industry. While industry's share of GDP remained at around 25%, services' share jumped to 57% from 38% over the

⁸ The latest input-output (IO) table for the Philippines is 2000, which covers the 240 by 240 industries and commodities. The 2000 IO table includes several new industries such as the semiconductor industry, call centers, and computer hardware and software development.

last 3 decades.⁹ In terms of employment, India is an agricultural economy since over 60% of the total labor is still in agriculture as of 2004. Industry and services increased its employment shares from 11% to 16%, and 17% to 22%, respectively, for the period 1980–2004. The services sector made an over 60% contribution to overall GDP growth, which is comparable with that of the Philippines. However, a key difference with the Philippines is that India's services sector has the highest labor productivity in the economy and continuously led aggregate productivity growth over the years. Although the Philippines' services sector has achieved the highest productivity growth in recent years, the pace of the productivity growth is not comparable to that of India's services sector (Figure 16).

Figure 16: Service-Led Growth in the Philippines and India (percent)



IND = India, INO = Indonesia, MAL = Malaysia, PHI = Philippines, THA = Thailand.

Source: Author's calculation.

Some may argue that the Philippines does not need to follow the conventional growth path whereby the share of industry grows at the early stages of development but yields to services at the later stages. According to this view, given the booming BPO industries, it is natural for the Philippines to grow rapidly in services, skip industrialization, and leapfrog into the services sector. However, as discussed, the services-led growth in the country for the past decades could not create enough jobs. Further, despite its big contributions to exports, the BPO industries employ less than 1% of the total labor force. It can easily increase by another 1% within a few years. Without doubt, it is helpful for the Philippines. However, its impact is quite limited considering that about one fourth of the total labor force is not fully utilized, and the majority of jobless workers are unskilled with primary or secondary education. They cannot benefit from the job opportunities in the BPO sector. It

⁹ Sectoral employment data for India for the period 1960–2004 is available from the databases of the Groningen Growth and Development Centre (see www.ggdc.net/index.htm).

should also not be overlooked that the country's total labor force is expected to increase by over 14 million in the next 2 decades.¹⁰

V. Concluding Remarks

This paper analyzes the long-term growth of the Philippine economy to clarify the root causes of the country's lagged growth performance in the regional context through the lens of structural transformation. A decomposition of aggregate productivity growth shows that unlike other countries in the region, both productivity growth in an individual sector and sectoral reallocation of labor did not make significant contributions to economywide productivity growth. Minor growth in the aggregate productivity came from the labor shift from agriculture to services, whose productivity has stagnated but is higher than agriculture. This is a sharp contrast with other countries where economywide productivity increased through continual improvement of sector productivity and labor shift toward high-productivity sectors.

The evolution of the Philippines' product space shows that, despite the increasing level of sophistication of the country's export basket, the process of industrial diversification has stagnated over the years. Although the Philippines was successful in attracting foreign direct investment to the electronics industry, it has not translated into a deepening of industrial capabilities. Indeed, the Philippine economy has accumulated capabilities to jump to more skill- and research-intensive segments of electronics and more sophisticated products such as machinery and chemicals. However, incentives to utilize the productive capabilities for diversifying the production structure toward more sophisticated goods have been weakened by several impediments such as persistent underprovision of basic infrastructure and poor business and investment climate.

The root cause of the Philippines' poor growth performance is a chronic productivity growth deficit due to stagnant industrialization, in particular slow product diversification. The chronic problems of the economy—high unemployment, slow poverty reduction, and stagnant investment—are reflections of this stagnant industrialization. The Philippines' biggest need is employment opportunities for the growing working-age population.

The services-led growth in the Philippines has not created adequate jobs. Over the years, the country has continued to suffer the highest unemployment (and underemployment) rates in the region. Even in the latest growth episode, over one fourth of the total labor force has not been fully utilized. Since the early 2000s, the BPO industry has

¹⁰ India faces the same challenge. Although the services sector has led the rapid growth of the economy, its impact on job creation has been limited, given the large amount of unskilled labor. See, for example, Eichengreen and Gupta (2010), Panagariya (2008), and Subramanian (2008). It is also useful to see a different view on India's services-led growth in Ghani (2010).

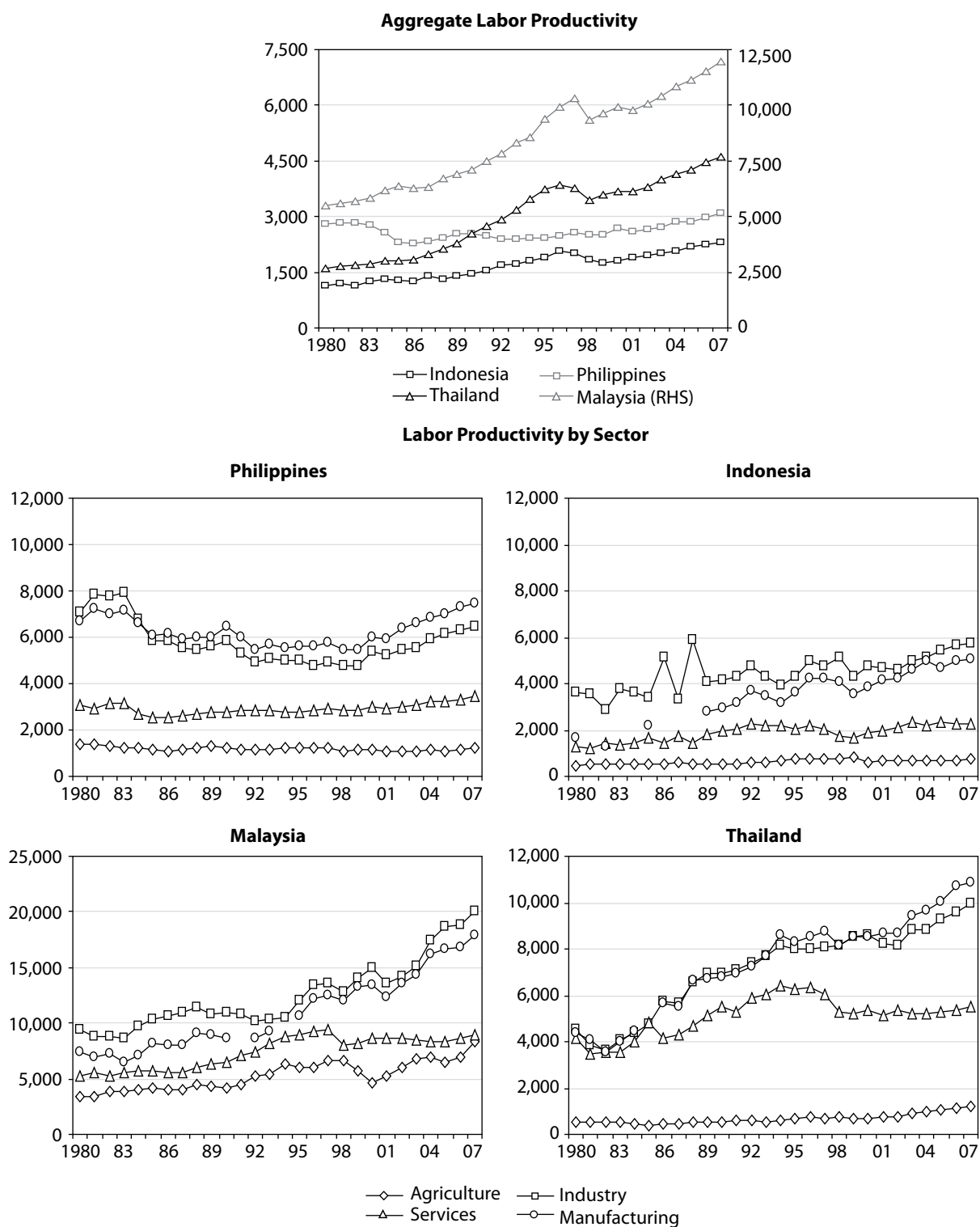
mushroomed and the country has become the third largest global BPO destination. However, the BPO industry still employs less than 1% of the total labor force, and its labor demand is biased toward relatively skilled workers. Given the large amount of underutilized unskilled labor and the prospect of a further increasing labor force in the country, it is difficult to expect the BPO industry to be a savior for the Philippine economy.

In the near term, the Philippines' services-led growth can be sustained thanks to strong consumption backed by remittance inflows and the booming BPO industry. However, a strong growth of manufacturing is essential to deal with the country's long-term development challenges of job creation and poverty reduction. This is not to suggest that the growing services sector, in particular the BPO industry, should not be a centerpiece of the long-term development strategy. To be sure, the BPO industry is helpful. However, it is not realistic to believe that the BPO industry can allow the economy to leapfrog the process of industrialization. Without dynamic industrial development, the country will continue to suffer from the long-standing problems of high employment, slow poverty reduction, and stagnant investment. What the Philippines needs is to "walk on two legs", both industry and services, to pave the way for a higher, sustained, and more inclusive growth.

A first step forward is to push reforms to address the long-standing challenges such as underprovision of basic infrastructure and weak investment and business environment, to ensure that the economy can walk on two legs. Fiscal consolidation is an urgent agenda for increasing spending on infrastructure, since public investment has been constrained by decades of weak revenue performance and poor expenditure management (Usui 2010). The business community has been seriously hindered by cumbersome business procedures and overregulation, weak contract enforcement and property rights, and rigid labor market regulations. Concrete actions to improve the country's business and investment climate are urgent.

The Philippines needs strong and sustainable growth that can create rapidly expanding demand for its workers. Transformation of the economy requires a long-term vision for the economy, and this vision needs to be supported by strong political leadership that places a high priority on growth. The governments in successful Asian countries intervened in their economies with strategic public investments and even direct support to the private sector to reshape their comparative advantages. Competent technocrats designed and implemented appropriate policies to remove constraints impeding the development of the industry sector (Jomo 2001). The Philippines can be an integral part of regional and global production networks. The challenge to industrialize cannot wait.

Appendix 1: Labor Productivity, 1980–2007



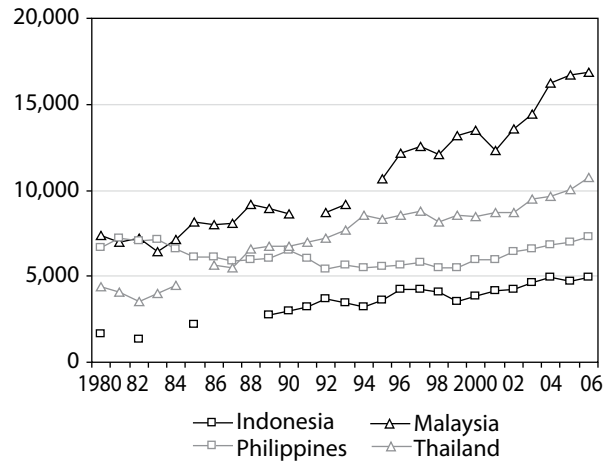
RHS = right hand side.

Note: Values in constant 2000 \$ prices.

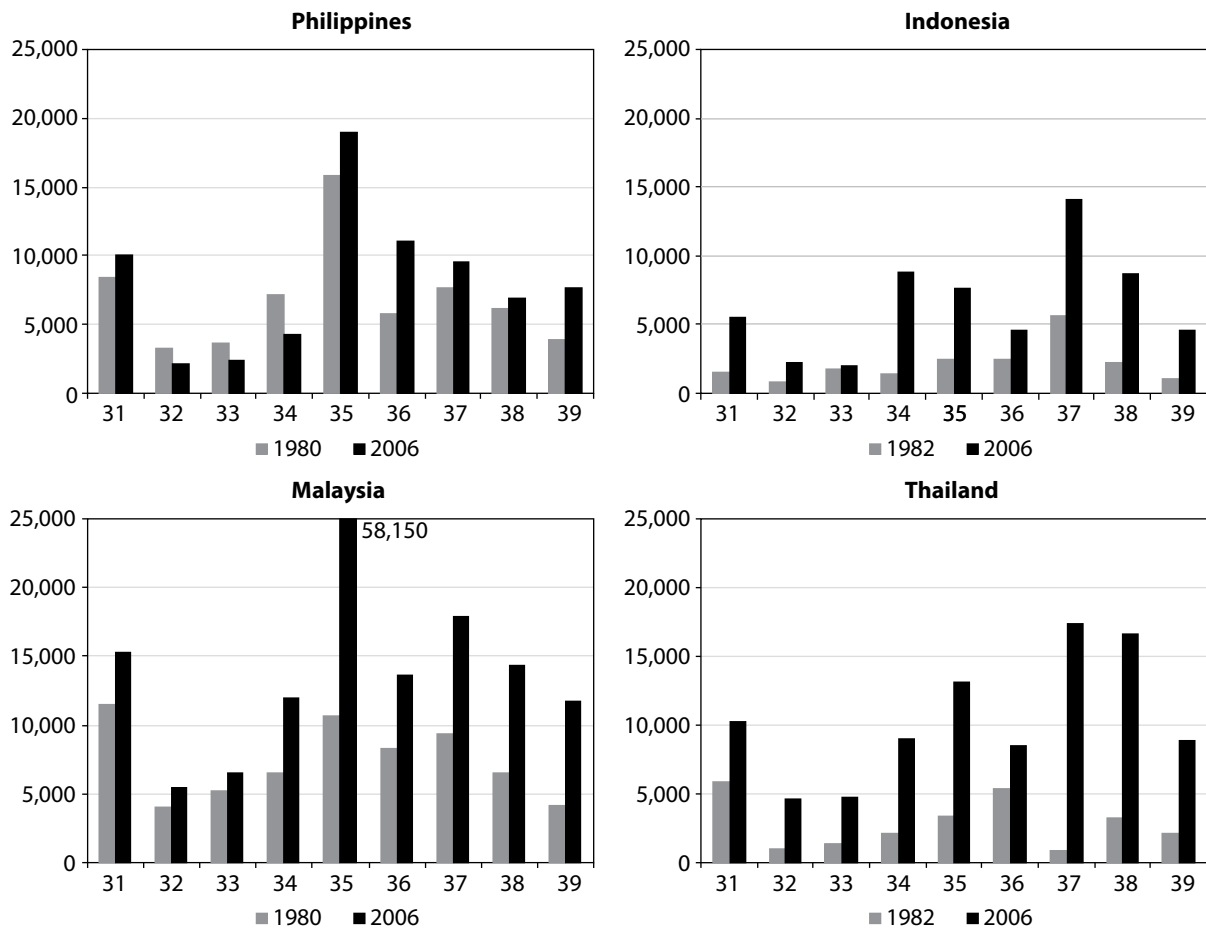
Source: Author's calculation.

Appendix 2: Labor Productivity—Manufacturing, 1980–2006

Labor Productivity of the Manufacturing Sectors



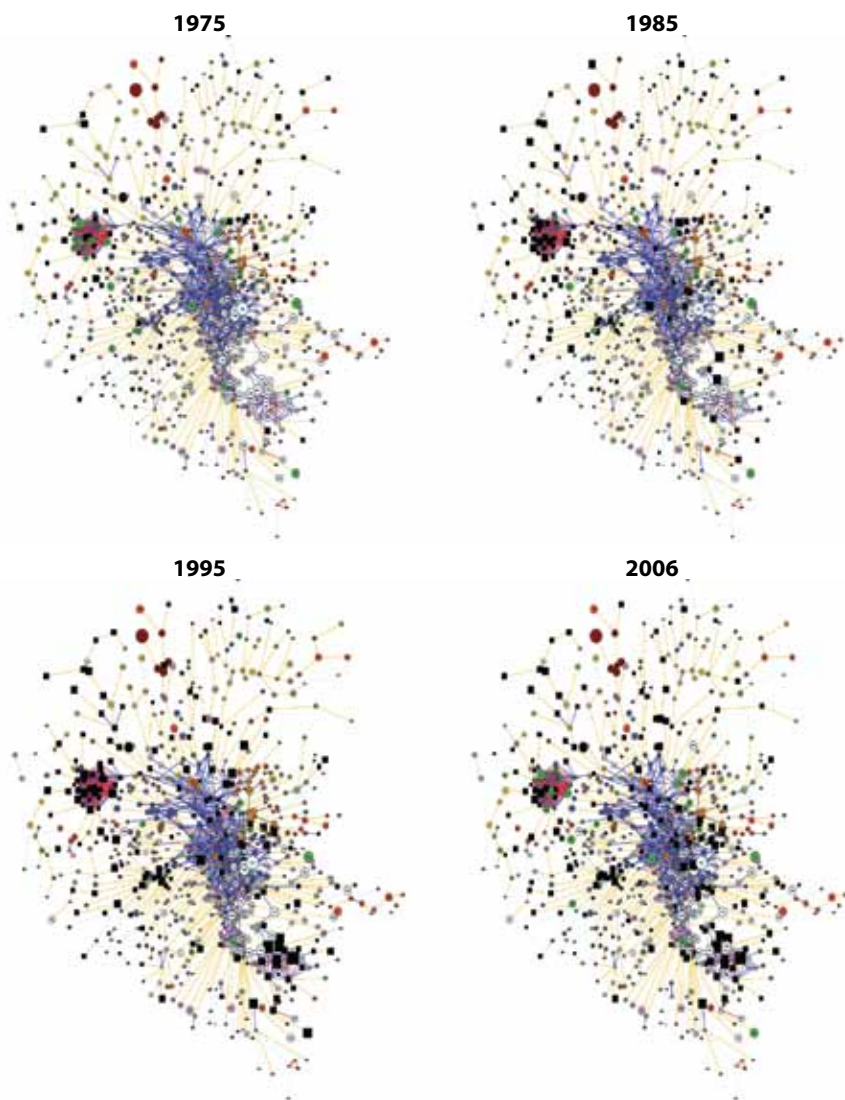
Labor Productivity of Manufacturing Subsectors



Note: Values in constant 2000 \$ prices. Subsector classification is based on the ISIC revision 2: code 31 (food, beverages, and tobacco); 32 (textile, wearing apparel, and leather); 33 (wood and wood products, including furniture); 34 (paper and paper products, printing and publishing); 35 (chemicals and petroleum, coal, rubber, and plastic); 36 (nonmetallic mineral products); 37 (basic metal); 38 (fabricated metal, machinery and equipment); and 39 (other manufacturing).

Source: Author's calculation.

Appendix 3: Thailand's Evolution in the Product Space



Source: Author's calculation.

Selected References

- ADB. 2007. *Philippines: Critical Development Constraints*. Asian Development Bank, Manila.
- Bocchi, M. A. 2008. Rising Growth, Declining Investment: The Puzzle of the Philippines. Policy Research Working Paper 4472, World Bank, Washington, DC.
- Brooks, R. 2002. Why is Unemployment High in the Philippines? IMF Working Paper 02/23, International Monetary Fund, Washington, DC.
- Eichengreen, B., and P. Gupta. 2010. The Service Sector as India's Road to Economic Growth? Indian Council for Research on International Economic Relations Working Paper 249, New Delhi.
- Felipe, J., and R. Hasan. 2006. “Labor Market Outcomes in Asia.” In J. Felipe and R. Hasan, eds., *Labor Markets in Asia: Issues and Perspectives*. London: Palgrave Macmillan.
- Ghani, E. 2010. *The Service Revolution in South Asia*. New Delhi: Oxford University Press.
- Hausmann, R., and B. Klinger. 2006. Structural Transformation and Patterns of Comparative Advantage in the Product Space. CID Working Paper 128, Center for International Development, Harvard University, Massachusetts.
- Heston, A., R. Summers, and B. Aten. 2009. Penn World Table 6.3. Center for International Comparisons of Production Incomes and Prices, University of Pennsylvania.
- Hidalgo, C. A., B. Klinger, A.-L. Barabási, and R. Hausmann. 2007. “The Product Space and its Consequences for Economic Growth.” *Science* 317:482–87.
- Imbs, J., and R. Wacziarg. 2003. “Stages of Diversification.” *American Economic Review* 93(1):63–86.
- Jomo, S. K. 2001. “Rethinking the Role of Government Policy in Southeast Asia”. In J. E Stiglitz and S. Yusuf, eds., *Rethinking the East Asian Miracle*. New York: World Bank and Oxford University Press.
- Lucas, R. E. Jr. 1993. “Making a Miracle.” *Econometrica* 61(2):251–72.
- Reyes-Macasaquit, M. 2009. “Case Study of the Electronics Industry in the Philippines: Linkages and Innovation.” In P. Intarakumnerd, ed., *Fostering Production and Science & Technology Linkages to Stimulate Innovation in ASEAN*. ERIA Research Project Report 2009 No. 7-4, Economic Research Institute for ASEAN and East Asia, Jakarta.
- National Statistical Coordination Board. 2011. *2009 Official Poverty Statistics*. Makati City.
- Panagariya, A. 2008. *India: The Emerging Giant*. London: Oxford University Press.
- Ramos, N., G. E. Estrada, and J. Felipe. 2007. “An Input-Output Analysis of the Philippine BPO Industry.” Paper presented at the 10th National Convention on Statistics, October, Manila.
- Rodrik, D. 2006. “Industrial Development: Stylized Facts and Policies.” Harvard University, Massachusetts. Mimeo.
- Subramanian, A. 2008. *India's Turn: Understanding the Economic Transformation*. London: Oxford University Press.
- Usui, N. 2010. Tax Reforms towards Fiscal Consolidation: Policy Options for the New Administration. PhCO Policy Note July 2010, Philippines Country Office, Asian Development Bank, Manila.
- World Bank. World Development Indicators. Available: <http://data.worldbank.org/data-catalog/world-development-indicators>.

About the Paper

Norio Usui analyzes the long-term growth of the Philippine economy through the lens of structural transformation to clarify the root causes of the country's lagged growth performance in the regional context. The main culprit behind lagging growth is a chronic productivity growth deficit as a result of stagnant industrialization. High unemployment, slow poverty reduction, and stagnant investment are a reflection of stagnant industrialization.

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