



**ADB Working Paper Series**

**PROSPECTS FOR DECENT WORK  
IN SERVICES**

---

Sameer Khatiwada and  
John Paul Flaminiano

No. 940  
April 2019

**Asian Development Bank Institute**

Sameer Khatiwada is an economist at the Economic Research and Regional Cooperation Department (ERCD) of the Asian Development Bank in Manila, Philippines. John Paul Flaminiano is a former ERCD consultant.

The views expressed in this paper are the views of the author and do not necessarily reflect the views or policies of ADBI, ADB, its Board of Directors, or the governments they represent. ADBI does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequences of their use. Terminology used may not necessarily be consistent with ADB official terms.

Working papers are subject to formal revision and correction before they are finalized and considered published.

The Working Paper series is a continuation of the formerly named Discussion Paper series; the numbering of the papers continued without interruption or change. ADBI's working papers reflect initial ideas on a topic and are posted online for discussion. Some working papers may develop into other forms of publication.

Suggested citation:

Khatiwada, S. and J. P. Flaminiano. 2019. Prospects for Decent Work in Services. ADBI Working Paper 940. Tokyo: Asian Development Bank Institute. Available: <https://www.adb.org/publications/prospects-decent-work-services>

Please contact the authors for information about this paper.

E-mail: [skhatiwada@adb.org](mailto:skhatiwada@adb.org)

Excellent research assistance was provided by Gerald Pascua. The living wage analysis presented in the paper is based on the work done by Arturo Martinez, Rhea Molato Gayares, and Mia Kim Maceda Veloso at the Economic Research and Regional Cooperation Department (ERCD) at ADB. Thanks to Rana Hasan, Director of Development Economics and Indicators Division of the ERCD for his valuable comments and feedback.

Asian Development Bank Institute  
Kasumigaseki Building, 8th Floor  
3-2-5 Kasumigaseki, Chiyoda-ku  
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500  
Fax: +81-3-3593-5571  
URL: [www.adbi.org](http://www.adbi.org)  
E-mail: [info@adbi.org](mailto:info@adbi.org)

© 2019 Asian Development Bank Institute

**Abstract**

This paper examines how the services sector could provide decent and gainful employment in developing Asia. Using living wages as a reference point, this paper reports that a significant portion of the workforce in developing Asian economies, the majority of which are employed in the agricultural sector, are not living wage earners. On the other hand, manufacturing, and to a larger extent, services, are able to provide their workforce with good jobs. Economies that are more successful at moving workers from low- to high-productivity sectors have done better on job creation accompanied with improved productivity, higher wages, and large reductions in poverty. Recent developments of information and communication technology industries, as in the case of India and the Philippines, is a striking example of how developing economies can open up business opportunities through global outsourcing of tradable labor. This paper highlights the importance of improving human capital through education and upskilling, as well as physical and digital infrastructure, to address the large supply of low-productivity and informal sector workers in developing Asia, and to provide new and gainful employment opportunities.

**Keywords:** decent jobs, modern services, living wages, technology, tradability

**JEL Classification:** L80, J30, O14, O40, O47, O53

## Contents

1.	INTRODUCTION .....	1
2.	DEFINING GOOD JOBS .....	2
2.1	Deriving Living Wages.....	2
2.2	Good Jobs in Services .....	4
3.	THE ROLE OF SERVICES IN DECENT JOB CREATION .....	7
3.1	Tradability of Modern Services .....	7
3.2	Technology and Tradability .....	9
3.3	Case Study: Decent Jobs in the IT-BPM Services Sector.....	13
4.	CHALLENGES .....	19
4.1	Upskilling Toward More Highly-valued Services .....	19
4.2	Improving Physical and Digital Infrastructure .....	21
5.	CONCLUSION .....	22
	REFERENCES .....	23

## 1. INTRODUCTION

The current development paradigm in developing Asia is characterized by vibrant economic growth. However, despite the increase in the number of the working middle class people holding higher-productivity jobs, some reports suggest that the region is still home to more than 800 million workers living below USD 2 a day (Martinez et al., 2016). If left unaddressed, this can have adverse consequences on the region's long-term growth prospects. Since employment and job quality play a pivotal role in shaping the standard of living in developing Asia, it is crucial for policy makers to design regulatory systems that encourage the creation of good jobs. Moreover, the provision of good jobs would also help sustain the growth trajectory of developing Asia.

Developing Asia constitutes half of the world's population and half of the world's labor force (World Bank, WDI). Furthermore, the labor force in developing Asia has increased by half a billion from 1990 to 2015, and is projected to grow at an annual rate of 0.49% from 1.9 billion in 2015 to 2.13 billion in 2030 and 2.25 billion by 2050. The current labor market trend is a shift in employment away from agriculture and into higher-productivity sectors such as trade services and business services, which also pay higher wages. Previous editions of Key Indicators (KI) for Asia and the Pacific (ADB)—particularly 2013 and 2015—examined many of the issues relevant for creation of good jobs. In 2013, the KI looked at structural transformation and industrialization, while in 2015, it looked at the role of education and skills development. This paper compliments these studies by looking at a few targeted sub-sets that are important for good job creation.

Unfortunately, the concept of decent jobs lacks a standardized definition. Various organizations have different characterizations of good jobs that focus on diverse dimensions. Although the terminologies and elements that characterize good jobs may differ, some dimensions are consistent among what various international organizations characterize as good jobs. The definitions of Decent Work and Quality Jobs by the ILO and OECD respectively would help us construct a definition of good jobs. The Decent Work framework of the International Labour Organization (ILO) provides a good reference for understanding what a decent job is. Although the framework spans ten themes believed to be core elements of a decent job, the framework can be classified into four major themes. These include (i) international labor standards and rights at work, (ii) employment creation (adequate earnings and productive work), (iii) social protection, and (iv) social dialog and tripartism (voice and representation) (ILO, 2013).

Another reference that could help characterize a good job is the Quality Jobs framework of the OECD. The OECD highlights three main elements that comprise quality jobs, namely (i) earnings quality, (ii) labor market security, and (iii) quality of working environment (OECD, 2016). Although the terminologies and elements that characterize good jobs may differ, some dimensions are consistent among what various international organizations characterize as good jobs. The definitions of Decent Work and Quality Jobs by the ILO and OECD respectively would help us construct a definition of good jobs.

Economies that are more successful at moving workers from low- to high-productivity sectors have done better on job creation accompanied with improved productivity, higher wages, and large reductions in poverty (ADB, Asian Development Outlook, 2018, page 49). The long-standing challenge among developing economies of today is to provide new and gainful employment to exhaust the large supply of low-productivity and informal sector workers. Services, which now account for more than two-thirds of the world's Gross Domestic Product (GDP) and more than half of the world's

employment in 2015 (World Bank, WDI), promises to be a significant driver in generating decent jobs.

This paper presents a method of defining and determining good jobs in Section 2 and examines whether there are good jobs in developing Asia's service sector in Section 3. The drivers of good jobs are further discussed in Section 4, while the challenges for decent work in services are discussed in Section 5. Section 6 concludes the paper.

## **2. DEFINING GOOD JOBS**

This paper bases the definition of a good job on the living wage rates, which are the level of wages that a worker needs to earn to be able to support a family's minimum living standard (Anker, 2006). Living wage rates for developing Asia were estimated at USD 254.28 per month for Option 1 (i.e., anchored on the absolute poverty line) and USD 414.88 per month for Option 2 (i.e., anchored on the moderate poverty line). The absolute and moderate poverty lines are from the USD 1.9 and USD 3.2 per day thresholds set by the World Bank, respectively (World Bank, 2018). The derivation of living wage rates is summarized as follows:

### **2.1 Deriving Living Wages**

The derivation for living wage rates is summarized as follows: First, a minimum cost of living is specified. Values are anchored on the poverty line—USD 1.9 for absolute poverty and USD 3.2 for moderate poverty—and inflated by 10% to allow for savings and discretionary income. In general, living wage is based on a specified poverty line or cost of basic living, both of which consist of two basic components: (i) food cost and (ii) cost of other basic needs. Food cost is usually based on a model diet that follows a certain nutrition standard (e.g., 2,100 calories per day). This model diet is then priced using relevant information about the prices and consumption patterns of each country. Non-food cost is commonly estimated by extrapolating from household expenditure survey data. Conceptually, the living wage in a specific area should be higher than its corresponding poverty line since the former should allow for a small margin for savings to provide for unexpected events and for discretionary income.

Second, the cost of living is multiplied by the size of the family to be supported. The average household size in Asian countries lies between 3.5 to 7 (Table 1). This paper assumes an average family size of four. By multiplying the cost of basic living by 4, this implicitly assumes that the living wage should be enough to support a family of four, consisting of two adults and two children (Anker, 2006).

Third, the maximum number of work hours per week is set at 48 to leave the worker with time for leisure. A good job should pay a living wage while providing a worker with adequate time for leisure and relaxation. Table 2 summarizes the average work hours of various Asian countries based on latest year household surveys.

**Table 1: Average Household Size (AHS), by Country**

Country	AHS
Bangladesh	4.7
Cambodia	4.6
India	4.7
Indonesia	4.5
Malaysia	4.2
Nepal	4.9
Pakistan	6.7
Philippines	4.6
Thailand	3.8
Viet Nam	3.8
Sri Lanka	3.9

Sources: Various country Household Income and Expenditure Surveys.

**Table 2: Number of Working Hours, by Country**

Country	Hours Worked		Statutory Hours
	Year of Latest Available Data	Average	
Bangladesh	2010	46	48
Cambodia	2010	47	48
India	2006	46.9	48
Indonesia	2013	37	40
Malaysia	2014	46	48
Nepal	2008	38.7	48
Pakistan	2015	47.4	48
Philippines	2014	40.8	48
Sri Lanka	2014	41.6	45
Thailand	2014	44.9	48
Viet Nam	2014	43	48

Sources: ILO Working Conditions Laws Database and country profiles.

Fourth, spatial price differences across regions or provinces within a country are determined by adjusting the national living wage rate through the ratio of regional/provincial poverty line to the national poverty line. Spatial adjustments to the national-level wage rate are calculated from specifying the length of work hours using the following formula:

$$Living\ wage_j = Living\ wage_{national} * \frac{z_j}{z_{national}}$$

where  $z_j$  is the poverty line of the  $j^{th}$  province for a specific time period and  $z_{national}$  is the national poverty line.

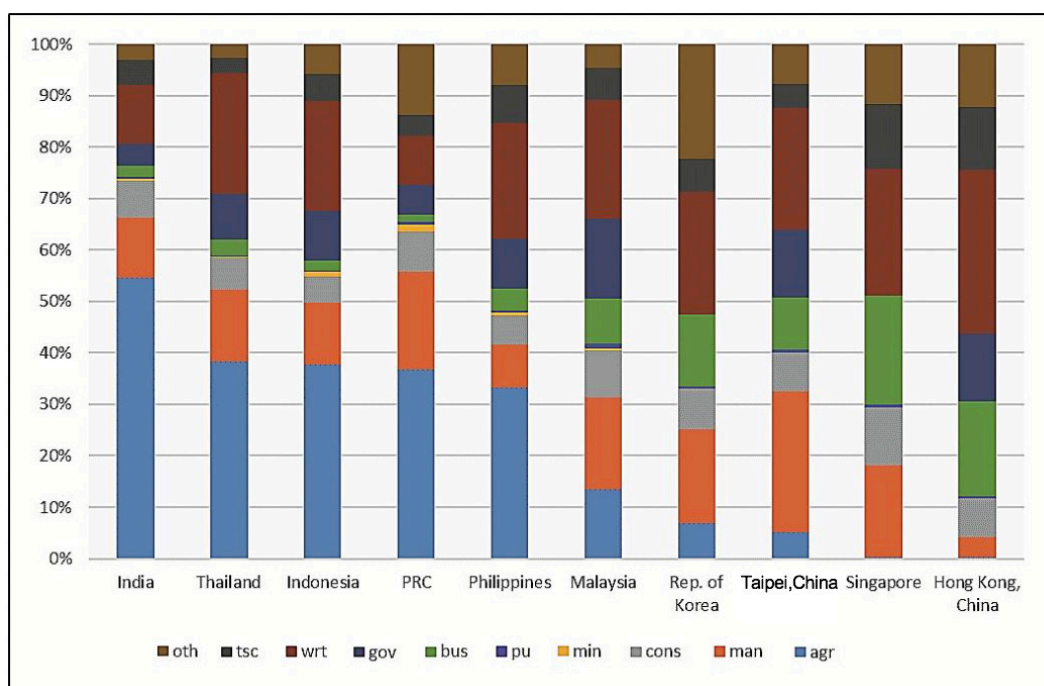
## 2.2 Good Jobs in Services

This section examines the possibility of securing good jobs in the services sector using the concept of living wage rates as a reference point. Although living wage rates may come across as a bare minimum criterion, it is nonetheless a benchmark for determining what a good job is, especially considering the lack of a formal, universally-agreed upon definition in the existing literature. Thus, a job that pays at least the living wage rate could be viewed as a lower-bound standard of what a good job is.

Employment distribution is very diverse across Asia. In 2010, developing Asian economies still have a large proportion of its workforce employed in agriculture (Figure 1). More than half of the workforce in India is still employed in agriculture. Indonesia, the Philippines, the PRC, and Thailand have more than one-third of their workforces employed in agriculture. On the other hand, industrialized Asian economies, such as the Republic of Korea; Taipei, China; Singapore; and Hong Kong, China have more than half of their workforce employed in services. Close to 70% of the workforce in Singapore, and almost 90% in Hong Kong, China are in services.

Although a significant portion of the workforce in developing Asian economies is still employed in agriculture, services also account for a sizable chunk of total employment. The composition of employment in services may be diverse, although there are some trends in terms of employment type. With the exception of Bangladesh (2010), business services are comprised of mostly wage workers, while trade services are largely composed of self-employed workers (Figure 2).

**Figure 1: Employment Distribution in Some Asian Economies, by Sector, 2010**

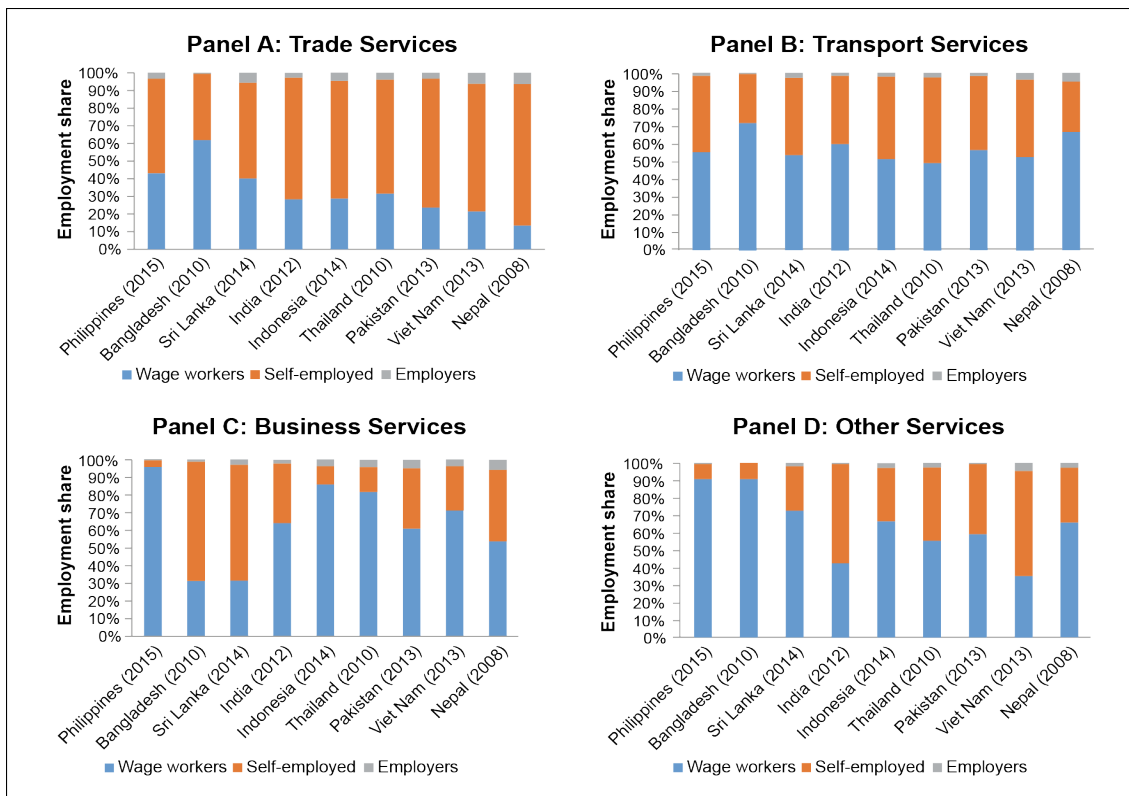


Notes: PRC refers to the People’s Republic of China. agr: agriculture, man: manufacturing, cons: construction, min: mining, pu: public utilities, bus: business services, gov: government services, wrt: trade services, tsc: transport and communication services, oth: other services.

Source: Authors’ calculations based on Groningen Growth and Development Centre (GGDC) 10-Sector Database.

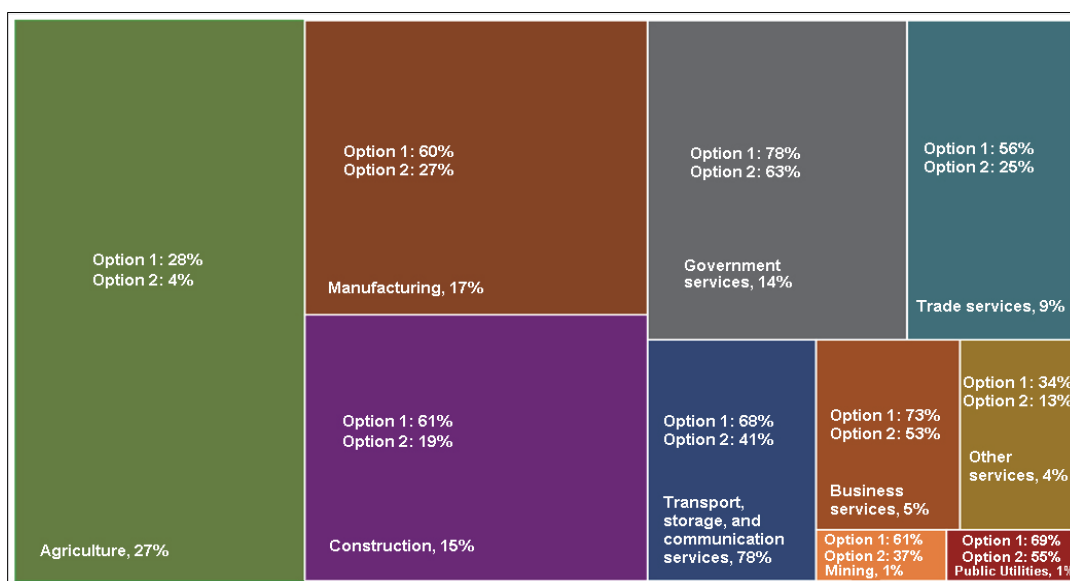


**Figure 2: Employment Type within Services in Some Asian Countries, by Sector, Collected from Various Years**



Source: Authors' calculations based on LFS data, except for Bangladesh which used HIES.

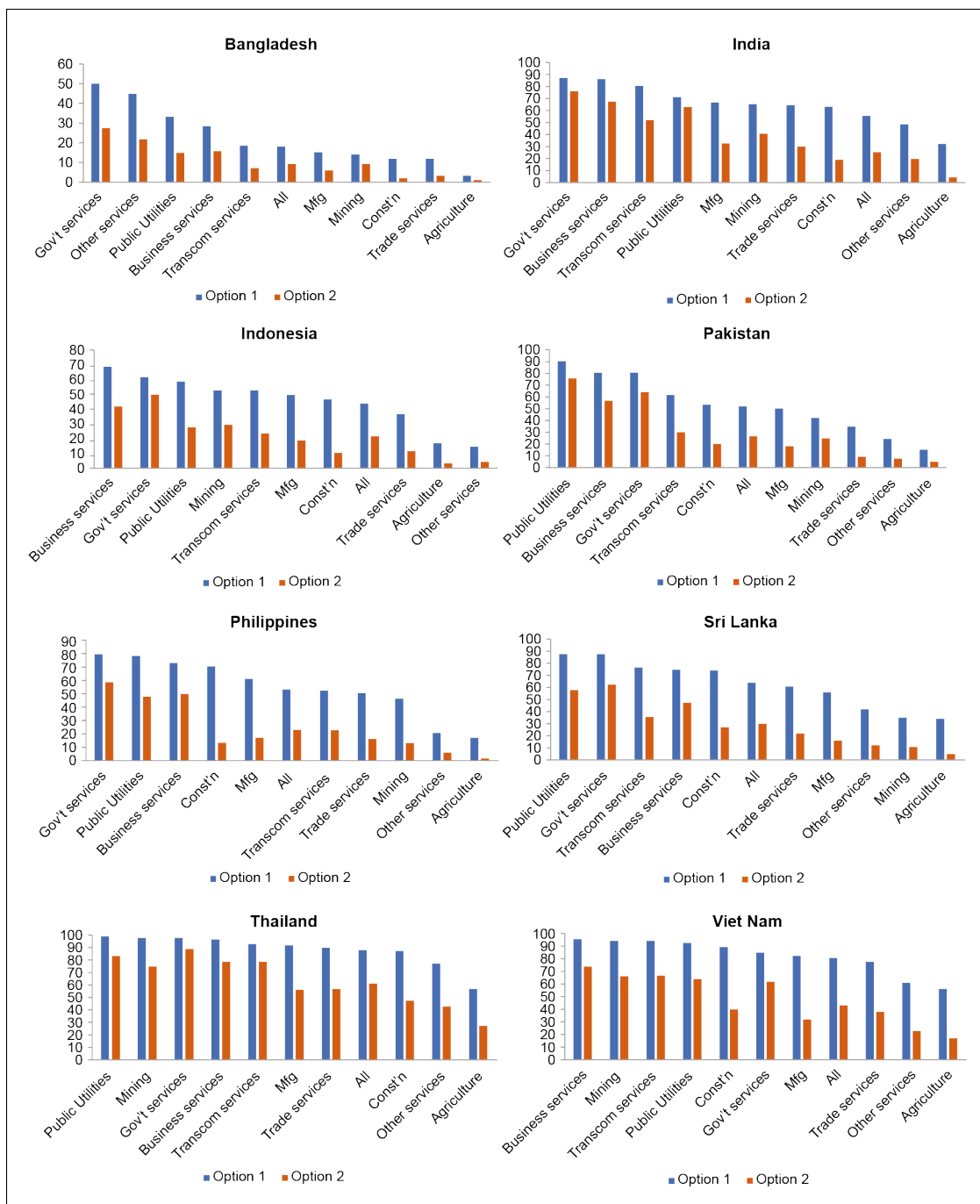
**Figure 3: Share of Wage Earners Earning a Living Wage in Some Asian Countries, by Sector, Collected from Various Years**



Notes: Figures next to the sector labels represent the employment share of a particular sector. The data refer to the following countries, with year in parentheses: Bangladesh (2010), India (2012), Indonesia (2014), Nepal (2008), Pakistan (2013), Philippines (2013), Sri Lanka (2014), Thailand (2010), and Viet Nam (2013). Calculations using each country's LFS data and HIES data for Bangladesh.

Source: Authors' calculations based on LFS data, except for Bangladesh, which used HIES.

**Figure 4: Share of Living Wage Earners by Services Sector, per Country, Collected from Various Years**



Source: Authors' calculations based on LFS data, except for Bangladesh which used HIES

Most workers in agriculture do not earn the living wage while manufacturing, and to a larger extent, services, are able to provide its workforce good jobs, as measured by the living wage (Figure 3). Only 28% of wage workers in agriculture earn at least the Option 1 living wage. The issue of inadequate pay in agriculture is further amplified when we refer to Option 2, which is based on the USD 3.2 per day threshold for moderate poverty. The percentage of wage workers in agriculture earning Option 2 is a trivial 4%. More than half of all wage workers in manufacturing, construction, mining, and public utilities earn at least living wage Option 1; however, services, which accounts for almost 40% of total employment, is by far the sector which provides its workers with a greater share of good jobs. Among the services sub-sectors, the good jobs are predominantly concentrated in government services and business services. About 78% of wage workers in government services earn at least living wage Option 1, and 63% earn at least living wage Option 2. In business services, 73% of wage workers earn at least Option 1, and 53% earn at least Option 2. An adequate percentage of wage workers in other services sub-sectors, such as transport and communication and trade services earn the living wage. However, these two sub-sectors only account for a combined 16% of total employment. On the other hand, fewer wage workers in other services, which are mostly comprised of personal services, earn the living wage than in manufacturing.

In general, government services, business services, and to some extent, transportation and communication services have the highest proportion of living wage earners among wage workers. In contrast, a lot fewer wage workers in trade services and other services are found to earn the living wage (Figure 4).

### **3. THE ROLE OF SERVICES IN DECENT JOB CREATION**

Economies that are more successful at moving workers from low- to high-productivity sectors have done better on job creation accompanied with improved productivity, higher wages, and large reductions in poverty (ADB, Asian Development Outlook, 2018, page 49). The long-standing challenge among developing economies of today is to provide new and gainful employment to exhaust the large supply of low-productivity and informal sector workers. The services sector, which now accounts for more than two-thirds of the world's Gross Domestic Product (GDP) and more than half of the world's employment in 2015 (World Bank, WDI), promises to be a significant driver in generating decent jobs. More so, services-led growth is seen as an alternative to the traditional path from agriculture to manufacturing with services emerging only in the later stages. A review of recent literature on services shows mechanisms through which the sector can create better and more favorable employment opportunities. These can be broadly summarized as follows: tradability and technology.

#### **3.1 Tradability of Modern Services**

Services have been long regarded as non-tradable because many services require personal interaction and are difficult to be transported or provided across distances.<sup>1</sup> However, better understanding of the sector shows that services consist of a diverse set of industries which render generalizations difficult. Eichengreen and Gupta (2009)

---

<sup>1</sup> Tradability of Services is a recently studied concept. A theoretical model for cross-border tradability of services was done by van der Marel and Shepherd in 2013. For further reading on this topic, see van der Marel and Shepherd 2013.

differentiate between two waves of services: traditional services (such as lodging, housecleaning, meal preparation, etc.); and modern services (such as financial, communication, computer, technical, legal, advertising, and business). Modern services are more receptive to the adaptation of new technology and are increasingly more tradable across borders (page 18). Eichengreen and Gupta report that productivity growth is highest with modern services that are consumed by households and corporate sectors (page 17). One important factor explaining the wage premium in tradable business services is the skills intensity. Modern services occupations are often offered to medium- to high-skilled workers with corresponding secondary to tertiary educational attainment requirements, respectively.

Jensen (2013) focused on business services,<sup>2</sup> which closely resembles Eichengreen and Gupta's modern services, and found that the tradability of the sector makes it a key player in expanding export growth and is associated with higher levels of average earnings (pages 3–4). Workers in tradable activities earn more than 30%, on average, than workers in non-tradable activities (page 16). However, because business services are skill-intensive, the relatively low levels of educational attainment in developing Asia play a crucial role in the development of the business service sector in the region (page 5). Increasing productivity in the business service sector necessitates investment in educational development.

The growing significance of tradable services is observed in a related study by Ghani (2010) on South Asian economies where the modern service sector created jobs faster than the traditional sector over the past two decades and can potentially help absorb a larger proportion of the growing workforce in the region (pages 76–77). Gonzales et al. (2012) report similar trends with larger share of employment and higher wage returns than manufacturing in their sample economies: Chile, France, India, UK, and US. Business services have the highest wage rates in all of our sample countries, and the wage premium is highest in Chile followed by India, while the wage premium is the lowest in France and the United Kingdom (pages 180–181). An empirical analysis by Gervais and Jensen (2013) on US services and manufacturing industries report that 20% of aggregate value added is produced in industries classified as tradable, of which service sector accounts for almost half of tradable value added. Furthermore, workers in tradable industries are about 30% more productive and receive 30% higher wages compared to workers in non-tradable industries, on the average (pages 27, 30–31).

Policy makers, especially from developing economies, therefore need to pay attention to business services as a source of both job creation in well-paid jobs, as well as export earnings. Citing India's case, Ghani (2009) attributes India's emergence as an exporter of modern tradable services from a combination of factors: market integration; availability of education and skilled labor force; better institutions that impact day-to-day running of service business; and improved availability and quality of infrastructure supportive of service growth (page 82). Focusing on education, Ghani notes:

Limitations to growth in modern impersonal service are mostly on the supply side, and in particular the availability of employees with education and skills that meet the requirements of the global service market. The globalizing market for skills, however, allows developing countries to take advantage of their cost advantage in terms of labor and to make investments in expanding the skills of their labor forces in order to

---

<sup>2</sup> Jensen (2013) follows the definition of business services activities as categorized in the North American Industrial Classification System categories. These activities, which closely resemble modern services as defined by Eichengreen and Gupta (2009), include the information sector, finance and insurance, real estate, professional, scientific, and technical services, management, and administrative support and waste remediation services (page 3).

make them suitable for employment in the fast-growing global IT and ITES industries (page 83).

As cited in Bosworth and Maertens (2010), educational requirements are substantially higher in the services sector. In South Asia, years of schooling required are roughly 50% higher than for the economy as a whole and more than twice that of agriculture. Particularly in the modern services industries, employment requires a minimum of a secondary level certificate and often a university-level degree. In support of Gupta's argument, the authors posit that even though India has a low general level of educational attainment, it has a small minority of persons with unusually high levels of schooling. The availability of such workers has been an important contributor to the expansion of business services in India, but their relative scarcity is beginning to be reflected in a widening of the wage premiums for secondary and university-level graduates (as cited in Bosworth, Collins, and Virmani 2007). As cited in Psacharopoulos and Patrinos (2004), there is average return to additional schooling across countries of about 10%, both overall and for the sub-group of Asian economies (page 114). These results indicate that improvements in educational attainment are an important pre-requisite of growth in some services-producing industries.

### **3.2 Technology and Tradability**

Advancing technology increases the facilitation of more tradable and productive services. Gonzales et al. (2012) posit that provision of modern services requires state-of-the-art technology to continue on a path of rapid development. In the case of developing economies, services are needed both as an engine of job creation and as a facilitator of job creation in other sectors. State-of-the-art services are needed for manufacturing firms to connect to global value chains and to further enhance the tradability of skill-intensive activities along the value chain (pages 176–177).

The relation between tradability and technology is described by Jensen and Kletzer (2007) as follows: advancing technology will continue to increase the feasibility of providing services from remote locations (page 333). Mishra et al. (2011) proposed a two-step mechanism through which services sophistication—or productivity in services exports—can generate gainful employment from tradability and technology:

Service exports sophistication matters for growth. The revolution in ICT technologies has, for example, made services more productive. The distinctiveness of higher service export sophistication and growth is twofold: (1) traditional service activities gain in productivity from technology, transportability and tradability; and (2) there is a host of new service activities that have emerged due to unbundling and new technological innovations (pages 23–24).

Mishra et al. (2011) cited numerous literature tracing India's services led growth to investments in high human capital, infrastructure, and good telecommunication policy, among others (pages 3-4). Noland et al. (2012) provided a case on how a productive ICT service sector induces positive externalities and host productivities to other sectors of the economy. Efficient ICT infrastructure and transportation can promote productivity across the entire economy. A strong modern service sector, in particular for business services such as design, prototyping, and marketing, can help middle-income Asian countries move up the value chain and thus escape the much-feared middle-income trap (page 22). The authors further report that growth of services output is more highly correlated with the reduction of poverty (page 27).

Gayá (2017) reported how knowledge-based services (KBS)—services that use high technology and have the relatively highly skilled workforce that is required to benefit fully from technological innovations—gained relevance in the Argentinian economy and became a strategic sector for three main reasons: the creation of high quality jobs in terms of skills, formality, and higher wages; good export performance; and potential to foster regional development through decentralization of economic activity to provinces. Business, professional and technical services represent 70% of KBS exports and Wages in KBS are 9.3% higher than the country's average wage (page 50).

Labor productivity growth in services brings about structural change and more decent work opportunities to developing economies. Foster-McGregor and Verspagen (2016) studied the relationship between structural change and productivity growth in Asia and found that the sectors in which more developed countries tend to allocate more labor than developing countries, tend to offer better opportunities for reaching high-productivity levels. Market services sectors, such as trade, transport and communication, and FIRBS,<sup>3</sup> will be the vehicle of economic growth, increasingly so when countries progress along the path from middle-income to high-income levels (page 21).

Automation and new technology have long been the harbinger of increased productivity in manufacturing and other capital-intensive sectors, but with the onset of Industry 4.0, also known as the “4th industrial revolution,” the impact of new technology is felt across all sectors, including services (ADB, Asian Development Outlook, 2018, page 58). New technology will also create jobs in new growth sectors and the net job creation will be positive. Most of these jobs will benefit high-skilled workers, but since large parts of Asia are developing, medium- and low-skilled jobs will also continue to increase. Moreover, technology will affect workers and countries differently— the main challenge going forward is how to ensure that workers are engaged in productive employment while harnessing opportunities from new technology and innovations in management practices to generate good earnings.

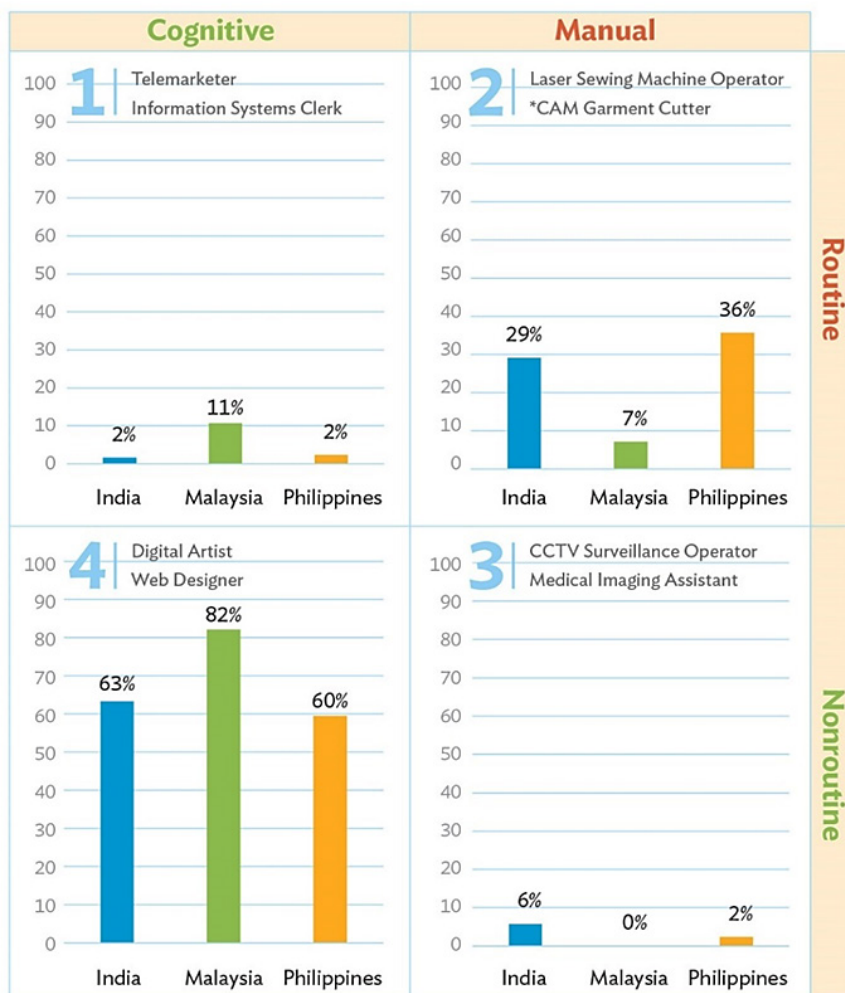
Jobs in services have been growing across developing Asia. The highest growth has been in the services and sales workers occupation category. Among the highest growth rates of employment share across all occupation categories are that of Viet Nam and Nepal, while the overall growth of employment shares in the Philippines has been dampened by employment share declines in the trades and plant operators occupation categories. Nevertheless, the general trend in developing Asian economies is that of job growth in services. Technology leads to new occupations, which tend to be in the non-routine cognitive category. Managers, researchers, digital artists, and web designers may be classified under this category. Tasks performed in non-routine cognitive occupations include managing others, as well as applying expertise.

Comparing the National Classification of Occupation (NCO) codes of India, the Philippines, and Malaysia determines new job titles that have emerged in each of these three developing Asian economies between two different time periods. The majority of the new job titles that emerged in developing Asia are in non-routine, cognitive positions (Figure 5). In India, over 60% of the new job titles are in non-routine cognitive positions from 2004 to 2015. New job titles in the Philippines from 1990 to 2012 have also been largely concentrated in the non-routine cognitive category, where about 60% of the new job titles emerged. However, among the sample of developing Asian economies, the highest proportion of new job titles in the non-routine cognitive category has been in Malaysia, where 82% of all new job titles from 1998 to 2008 are classified as non-routine cognitive.

---

<sup>3</sup> FIRBS stands for finance, insurance, real estate, and business services sectors.

**Figure 5: Distribution of New Occupations by Job Type, Various Years**



\*Computer Aided Manufacturing.

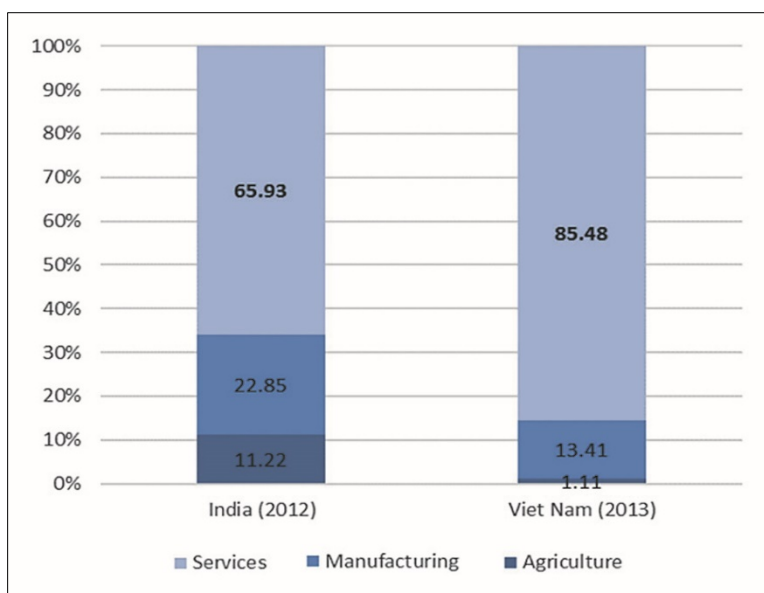
Source: Khatiwada, S., and Veloso, M. K. (forthcoming).

A more systematic analysis using NCOs in conjunction with Labor Force Surveys for India and Viet Nam, reveals that the majority of new occupations are in services (Figure 6). Viet Nam presents an interesting case, where an astonishing close to 86% of all new occupations are in the services sector. Manufacturing accounts for about 13% of all new occupations, while the remaining 1% is in agriculture. The sectoral distribution of new occupations is a little more spread-out in India, although the majority of new occupations are also in services. About two-thirds of all new occupations are in services, while manufacturing accounts for 23% of new occupations in India. Unlike Viet Nam, where only 1% of new occupations are in agriculture, India’s agriculture sector is still accountable for about 10% of new occupations.

Going beyond industry trends and taking the analysis a step further by using logit regressions, the predicted probabilities that workers enter into emerging occupations can be estimated. Preliminary results indicate that the probability of entering emerging occupations is higher for workers in services (Figure 7). In Viet Nam, estimates indicate that for the case of a single, male, college-educated, urban-dweller between the ages 25 and 34, the predicted probability for a worker possessing the aforementioned characteristics is much higher for those employed in services than for their counterparts

in manufacturing or agriculture. The results hold for both 2009 and 2013 in Viet Nam. Similar trends persist in India over the three time periods analyzed—1994, 2000, and 2012. In the case of India, the predicted probability for a single male, college-educated, urban-dweller between the ages 35 and 44 is also the highest for workers in the services sector in India.

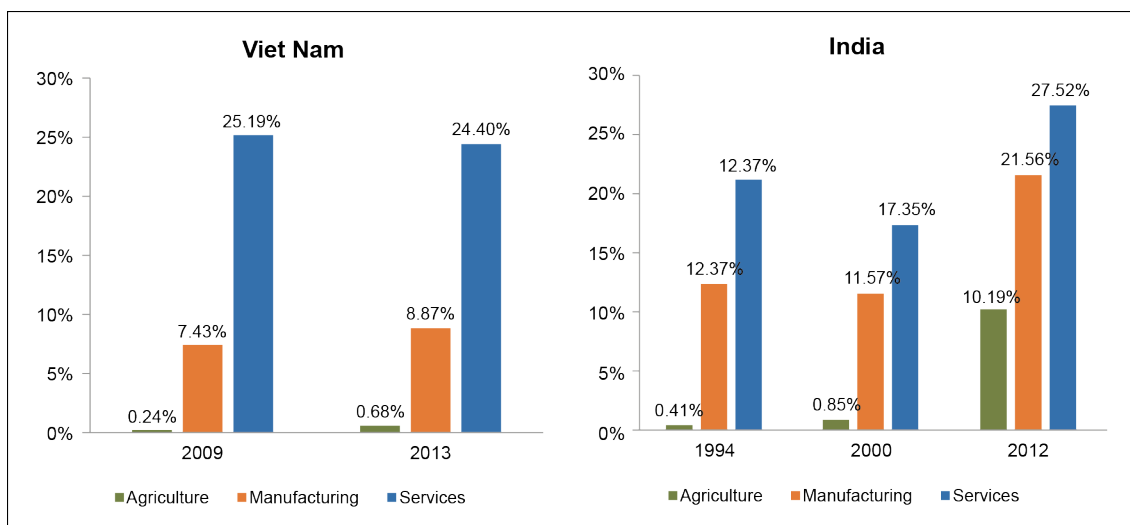
**Figure 6: Share of New Occupations in Viet Nam (2013) and India (2012), by Sector**



Notes: In case of India, the total number of people employed in new occupations is 15.2 million, while in case of Viet Nam it is slightly less than a million.

Source: Khatiwada and Veloso (forthcoming).

**Figure 7: Logit Regressions for Entering Emerging Occupations, Viet Nam and India**

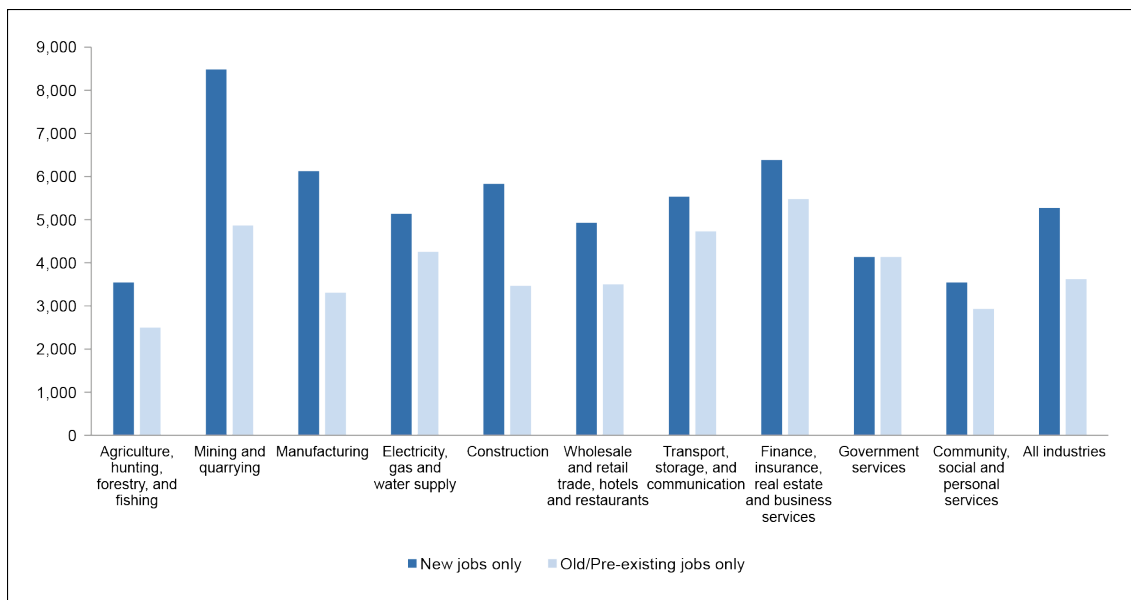


Source: Khatiwada and Veloso (forthcoming).



Evidence from Viet Nam further suggests that new jobs pay better than old jobs (Figure 8). Across all industries, average monthly wages in new jobs are higher than that of old jobs. The wage gap is most apparent in mining, manufacturing, and construction. Even in agriculture, where wages have been persistently low, new jobs pay much better than old jobs. On average, new jobs pay 1.5 times more than old jobs in Viet Nam.

**Figure 8: Average Monthly Wages in New Versus Old Work in Viet Nam (in VND)**



Source: Khatiwada and Veloso (forthcoming).

The positive impacts of new technology on the labor market in Asia are undeniable. The vast majority of emerging occupations are in services, where productivity is higher than in other sectors. These emerging occupations are predominantly non-routine cognitive in nature, and pay higher wages than existing occupations. However, these emerging occupations are not equally accessible to workers in all sectors. Those employed in services have a much higher chance of selecting into emerging occupations.

### 3.3 Case Study: Decent Jobs in the IT-BPM Services Sector

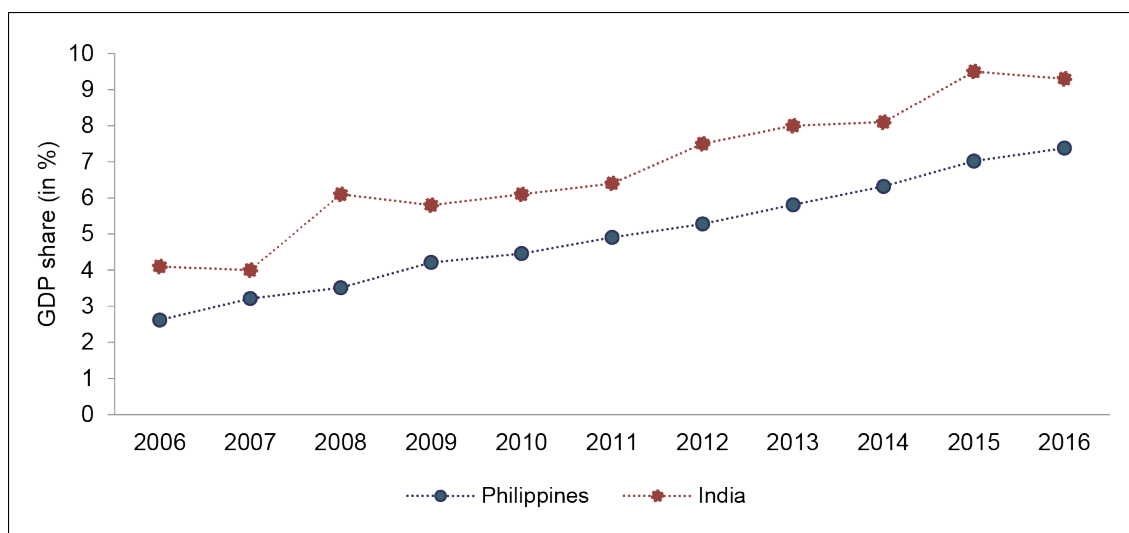
International outsourcing of services has emerged as a business model only in the last couple of decades but has become a significant source of income for developing countries such as India and the Philippines. Information technology enabled services (ITES) such as business process outsourcing (BPO) and business process management (BPM) grew out of enhanced and more affordable internet connectivity, technological advancement, and businesses' need to reduce cost of delivering services to customers. Being home to the majority of the global labor force, developing countries emerged as service providers to European and North American firms. These countries have the attractiveness of cost-effective labor, favorable labor market conditions, and government policies backed by tax incentives. It can be posited that the growing ITES-BPO industries in developing countries such as India and the Philippines played a key role in weathering the economic crises in these countries.

**Table 3: Review of Recent Literature on the Role of Services in Generating Decent Jobs**

Author	Factor/ Contributor to Decent Jobs Creation	Relevant Findings	Methodology	Coverage
Jensen, Bradford J. (2013)	Tradability	There appears to be a positive relationship between the service sector's share of economic activity and living standards (page 2). Workers in tradable service activities are, on average, more educated and skilled. Moreover, workers in tradable activities have significantly higher earnings, on average, than workers in non-tradable activities.	Follows after the methodology by Jensen (2011) who developed the concept of "tradability," then applied it on select services sectors (page 10).	United States, following the results of Jensen (2011) (page 16); PRC, 2008 (pages 17–18).
Noland, Marcus; Park, Donghyun; and Estrada, Gemma (2012)	Technology	Services account for a large share of output, growth, and jobs. Complementary investments in physical infrastructure and human capital will also be necessary to achieve a strong service sector (page vi).	Multivariate regression (page 25). Controlling for initial conditions, poverty change is regressed against growth in services, agricultural, and manufacturing outputs.	56 Asian countries, of which 17 are developing Asian economies, covering the period 1990–2010 (page 25).
Mishra, Surabh; Lundstrom, Susanna; and Anand, Rahul (2011)	Tradability	Service exports sophistication matters for growth and it is a good predictor of more gainful employment and subsequent growth particularly in low and middle-income economies (page 23-24).	Services Export Sophistication is a measure constructed using productivity of service exports. A panel regression analyzes the relationship between commercial services productivity and economic growth (page 11).	The data includes dynamic Commercial Service of up to 103 countries over the time span of 1990–2007 (page 17).
Ghani, Ejaz (2010)	Tradability	The modern service sector created jobs faster than the traditional sector over the past two decades. Wage growth has been higher in the services sector than in manufacturing and agriculture in recent years (page 76–77).	Cross-section regression of India and the PRC's employment shares of industry and services in total employment, 1991, 2005 (pages 72–75).	India and the PRC, years 1991 and 2005 (page 73).
Bosworth, Barry and Maertens, Annemie (2010)	Tradability	Growth in services contributes to improvements in productivity and job creation. Services contribute the largest share of growth in overall output per worker over the period of 2000-06. On the employment side, services have been the major source of job growth since 1990 in both India and Pakistan (page 100).	Cross-section analysis on Sources of Growth in Output per Worker, Labor Productivity Levels, and Educational Attainment by Sector of Employment (page 108, 110, 112, 116).	South Asian economies (Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, Sri Lanka), 1980–2006 (page 108).

Table 3 *continued*

Author	Factor/ Contributor to Decent Jobs Creation	Relevant Findings	Methodology	Coverage
Gayá, Romina Eliana (2017)	Technology	Knowledge-based services (KBS)— services that use high levels of technology and/or have the relatively highly skilled workforce that is required to benefit fully from technological Innovations— gained relevance in the Argentinian economy.	Policy analysis (pages 50–51).	Argentina, 1996 to 2006 (pages 50–51).
Eichergreen, Barry and Gupta, Poonam (2009)	Tradability, technology	There is evidence of an increase in the share of services in GDP at all levels of income after 1970 and, in addition, of a further increase in the share of services in countries with relatively high per capita incomes (page 18).	Regression analysis (pages 39–40, 43–44, 46–49).	Shares of agriculture, industry, and services in GDP covering the period 1950–2005, with country-specific case studies for Japan, Germany, the UK, and the Republic of Korea (page 13–15).
Foster- McGregor, Neil and Verspagen, Bart (2016)	Tradability, technology	The transition from low-income, developing to high-income, developed country involves a deep process of structural transformation in which the productive structure of an economy changes (page 1).	Sectoral decomposition (page 9).	This analysis is based on a broad global sample of countries for the period 1950–2011, including many developing countries. Most recent estimates make use of Asian economy statistics, 1990–2011 (pages 11–13).
Gervais, Antoine and Jensen, Bradford J. (2013)	Tradability	Accounting for tradable service industries nearly doubles the international exposure of the US economy. Labor productivity and wages are higher on average for tradable industries, and potential welfare gains from trade liberalization in the service sector are sizable (page 1).	Gravity model of international trade, to include multiple industries and increasing returns in production (page 8).	Dataset on the distribution of output and demand across regions of the United States to estimate trade costs for 969 service and manufacturing industries (page 15).
Gonzales, Frédéric; Jensen, Bradford J.; Kim, Yunhee; and Nordás, Hildegunn Kyvik, (2012)	Tradability, technology	Tradable business services employ mainly high- to medium-skilled workers who earn higher wages than in non-tradable services. State-of-the-art business services are, however, essential for the competitiveness of high-to-medium technology manufacturing. Access to such services through imports would help middle-income countries strengthen their comparative advantage in these manufacturing industries and move up the value chain (page 175).	Statistical analyses (page 180–182).	Labor force surveys in Chile, France, India, the United Kingdom and the United States, as well as the OECD input-output database (page 184).

**Figure 9: IT-BPO/BPM Industry Revenue Share, as Percent GDP, 2006–2016**

Sources: Philippine Statistics Authority (2016) for the Philippines and National Association of Software and Services Companies (NASSCOM) for India.

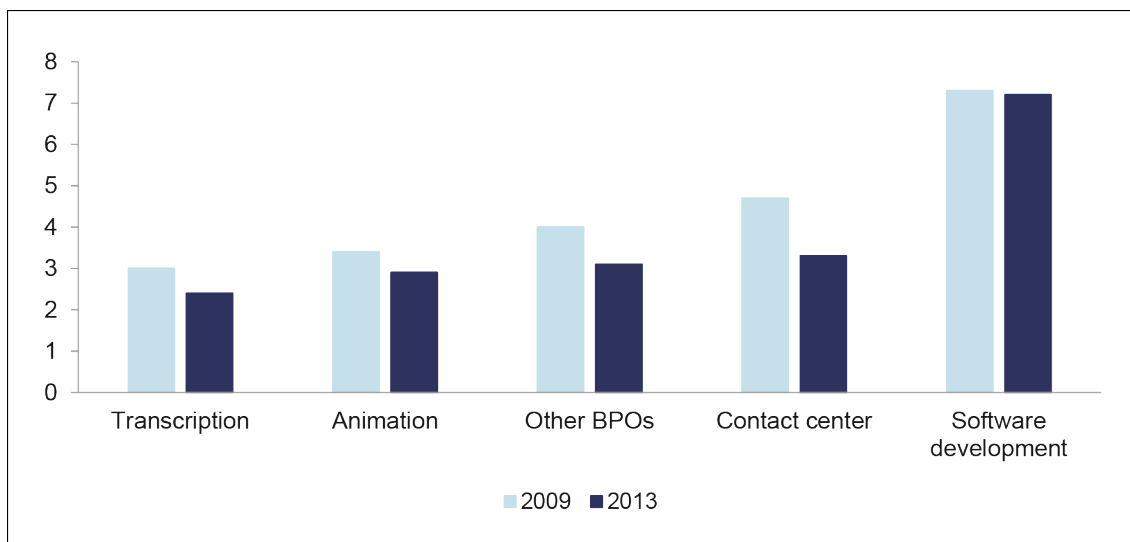
In the Philippines, the IT-BPO sector began in the early 1990s, enabled by initiatives such as the passing of the Republic Act 7916 or the Special Economic Zone Act of 1995. This allowed floors in buildings where BPO companies operate to be considered as special economic zones that are exempt from paying national and local taxes. In the following decade, IT-BPO industry revenue increased seven-fold from USD 3.2b or 2.7% of the country's GDP in 2006, to an estimated USD 22.9b or approximately 7.5% of the Philippines GDP in 2016 (Figure 9). This has more than doubled the country's share in the business offshoring market from 9% in 2004 to 19% in 2013. Industry roadmaps envision the industry will grow 9.2% from 2016 to 2022, with revenues reaching USD 38.9b.

The IT sector in India around the same decade as in the Philippines, when US-based companies began to outsource work on India's low-cost and skilled talent pool. The industry's revenue grew from USD 37.4B in 2006 to USD 143B in 2016, comprising around 9% of its GDP. The country has remained a key player in the country's economy and the global IT community, representing more than 30% of the global offshore market share since 2004. Trade Council India projects the industry to grow to USD 225b by 2020 while the National Association of Software and Services Companies (NASSCOM) envisions it to reach USD 350b by 2025.

Software development is the highest paying sector in the Philippine IT-BPO industry, as observed in the 2013 Survey of IT-BPO Services conducted by the Bangko Sentral ng Pilipinas (BSP). Software development has a monthly average compensation of PHP 65,272, followed by contact center operations at PHP 30,309. Nevertheless, all sectors pay higher than the national average. In 2013, software development paid more than seven times the national average,<sup>4</sup> while contact centers pay more than three times (Figure 10). This wage premium remains high, but has decreased over the years.

<sup>4</sup> Average monthly wage rates in the Philippines and India were collected from the ILO Global Wage Report 2016/2017, with the most recent estimates available for 2015. For the Philippines, average rates for the succeeding years are projected assuming a 5% annual growth rate in average wages.

**Figure 10: Wage Premium of IT-BPO Sectors in the Philippines, 2009 and 2013**



Source: BSP (2013), Results of the 2013 Survey of IT-BPO Services. Note: Wage premium is determined as the average annual wage in BPOs over average annual wage in the Philippines.

Occupational Wages Survey (OWS) conducted by the Philippine Statistics Authority reports that computer engineers and programmers earn the highest in the IT-BPO industry. In 2016, engineers earn PHP 49,335 in the call center sector and PHP 18,305 in the medical transcription sector. Programmers earn PHP 17,423 and PHP 37,865, respectively. In both sectors, wages are still observed to be higher than the national average, even for the relatively unskilled occupations. However, the premium has decreased over the years. Computer engineers, who, under software development, used to earn more than seven times the national average in 2013, earned only four times the national average in 2016. Customer service representatives earn almost twice the national average, compared to more than three times in 2013.

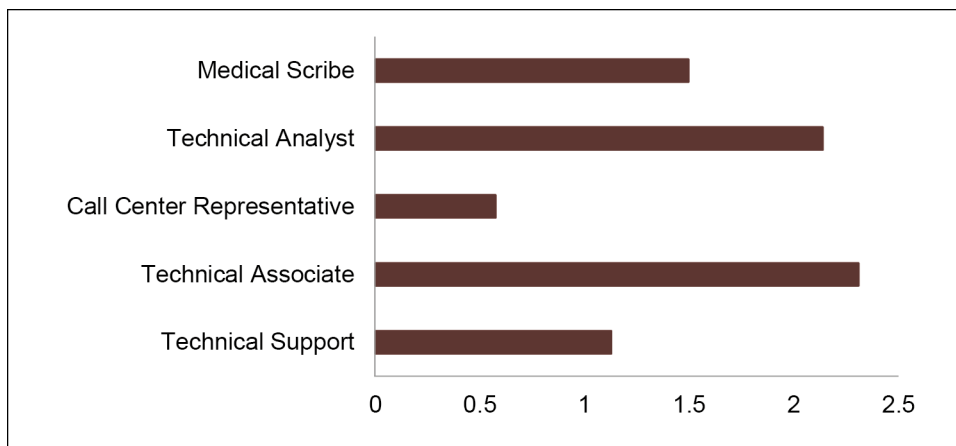
Despite the observed decrease in wage premium, IT-BPO jobs in the Philippines remain among the highest paid. In the 2016 OWS, computer programmers, system analysts, and designers, as well as computer engineers, belong to the top ten highly-paid occupations (PSA, 2016). Jobstreet, one of Southeast Asia's largest online employment companies, reinforce this observation as it likewise reports IT and Technical customer service jobs to be among the highest paid for both junior and managerial levels.<sup>5</sup> For the years 2015 to 2017, IT-related work is offered, on average, at the rate of PHP 37,000 among junior executives (more than three times the national average), PHP 65,000 for junior supervisors, and above PHP 85,000 for managerial positions.

The same trends observed in the Philippines' IT-BPO industry can be depicted in India's IT-BPM wage records. Salary records generated from online job search page Indeed, the most frequently visited job site in the world, report that technical analysts and associates have the highest salary offers with more than twice the average national wage. Wage premiums for medical transcriptionists (or scribes) are comparable to that of the Philippines; however, entry-level wages for call center representatives are lower

<sup>5</sup> JobStreet's Annual Salary Reports are determined through the identification of the average salary of all specializations per position level, based on actual salaries posted by employers on their website. Basic salaries used did not include other forms of compensation such as leave credits, medical benefits, insurance, and incentives.

than the national average. Salary information comes from 5,775 data points collected directly from employees, users, and past and present job advertisements on Indeed in the past 36 months (Figure 11).

**Figure 11: Wage Premium of IT-BPO Occupations in India, Entry-level, 2018**

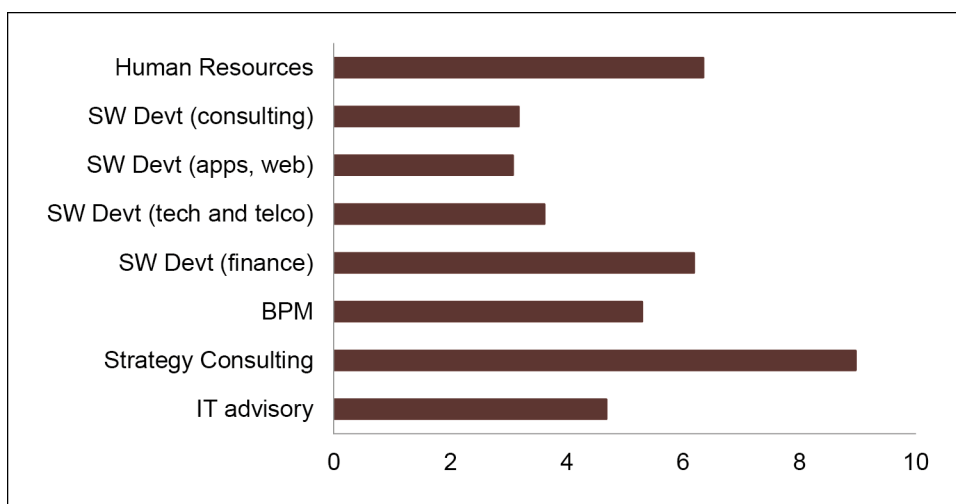


Note: Salary information comes from data points collected directly from employees, users, and past and present job advertisements on Indeed in the past 36 months. Average monthly wage was pegged at INR 19,492 from the Labour Bureau – Ministry of Labour and Trading Economics, March 2017.

Sources: BPO sector salaries generated in Indeed website, 2018.

As expected, premiums become higher in senior-level positions. A salary-benchmarking study conducted by Emolument in 2016 analyzed and compared 3,071 senior-level salaries and bonuses in India and the United Kingdom. Focusing on the salaries reported for India’s IT-BPM occupations shows that strategy consulting earned the highest, at about nine times the national average. Software development premiums vary according to specialization, with the highest observed on finance and telecommunications. BPM earns more than five times the national average (Figure 12).

**Figure 12: Wage Premium of IT-BPM Occupations in India, Senior-level, 2016**



Note: Emolument analyzed and compared 3,071 senior-level salaries and bonuses in India and the United Kingdom. Median salaries from the report are used to determine wage premium values.

Sources: IT-BPM total salaries from Emolument benchmark study, 2016.

A 2006 study of offshore and nearshore IT/BPO salary reports compares the wages of BPO industries across countries, including India and the Philippines. The ITO industry primarily includes application development, maintenance, systems integration, infrastructure management, and IT consulting services. BPO services are broken down into: voice-based BPO, which includes call centers, contact centers, customer support, and sales; and non-voice BPO, which includes transaction processing, human resources, and procurement. The study made use of data from Tier-1, Tier-2, and Tier-3 cities, at three levels of experience. Compared to the Philippines, India has higher wage premiums across all work levels, while wages are, on average, higher in the ITO sector than the BPO sectors. Comparing the premiums derived in 2006 to more recent statistics reinforce the observation that: (1) wage premiums in the IT-BPO sectors remain higher than national average wages in the Philippines and India, but have decreased over the years; (2) a higher wage premium is observed for IT sector work, which includes software development and management, as well as consulting services, which merit more specialized skills; and (3) a higher wage premium also comes along with greater work experience.

## **4. CHALLENGES**

Services-led growth is poised as an alternative mechanism to move workers from low- to high-productivity sectors. This paper points two primary challenges toward this strategy: first, enabling workers to transition from providing traditional services to modern services; and second, supporting this transition with the necessary physical and digital infrastructure that will facilitate developing economies to move up to higher-value services chains.

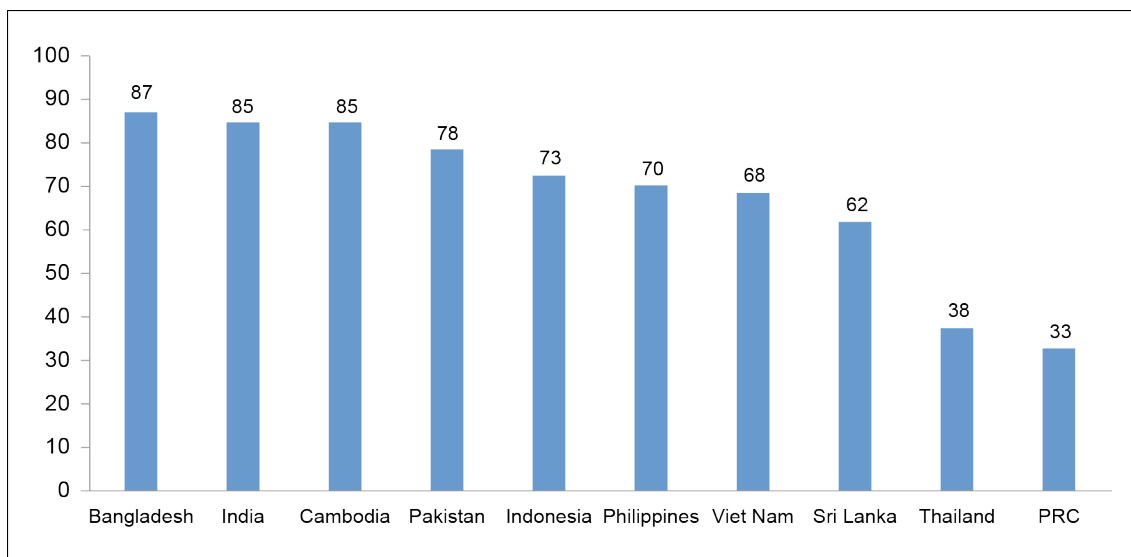
### **4.1 Upskilling Toward More Highly Valued Services**

The previous sections have highlighted that that improvement in educational attainment is an important pre-requisite of growth in high-value services industries. The recent development of information and communications technology (ICT) industries, as in the case of India and the Philippines, is a striking example of how developing economies can open up business opportunities through global outsourcing of tradable labor. The modern services industry is gradually becoming the backbone of inclusive growth, but prerequisites must be met, such as availability of highly skilled workers, and the use of a common global language, like English. Further training and upskilling of workers in the traditional services sectors can address generating more a more skilled workforce as well as mitigating unemployment. Provisions for technical and vocational education and training (TVET) programs, for example, can meet the development aspirations of the country, thereby improving workforce productivity and economic competitiveness in the global economy. Improved quality of education standards leads up to higher wage-premium in the labor market, as well as increased quality of job perception and satisfaction for employees and employers alike. Benefits of the aforementioned sectors can thus generate gains to the macroeconomy brought by higher labor productivity for the industries where more educated labor force will be employed. Highlighting the importance of human capital as a contributor to ICT services growth in India, Goyal (2015) notes:

Poor human capital in the services-exporting country hinders technology transfer and learning, and has been shown to hamper export growth and diversification in low-income countries (Hausmann, Hwang and Rodrik, 2006; Briggs, Shah and Srivastava, 1996). The empirical literature confirms that services sector performance critically depends on human capital, the quality of the telecommunications network, and the quality of institutions (Shingal, 2010, page 119).

Upskilling of workers can also be seen as a way to deal with the persistence of informal employment in developing Asia. The persistence of informal employment in developing Asia has also been a massive roadblock to the growth of wages and productivity. Despite the structural transformation in recent decades that has brought about the movement of labor from agriculture to manufacturing and services, informal employment is still prevalent across developing Asia. Using the latest available data, up to 87% of non-agricultural employment in Bangladesh is informal (Figure 13). The employment situation is not much different in India and Cambodia either, where 85% of non-agricultural employment is informal. Informality is also well over 70% in Pakistan, Indonesia, and the Philippines. In addition, over 60% of workers in non-agriculture sectors in Viet Nam and Sri Lanka are informal. Among the sample of ten economies in developing Asia, only Thailand (38%) and the PRC (33%) have less than half of their respective non-agriculture workforces in informal employment.

**Figure 13: Informal Employment as a Share of Total Non-agricultural Employment in Some Asian Countries, in %**

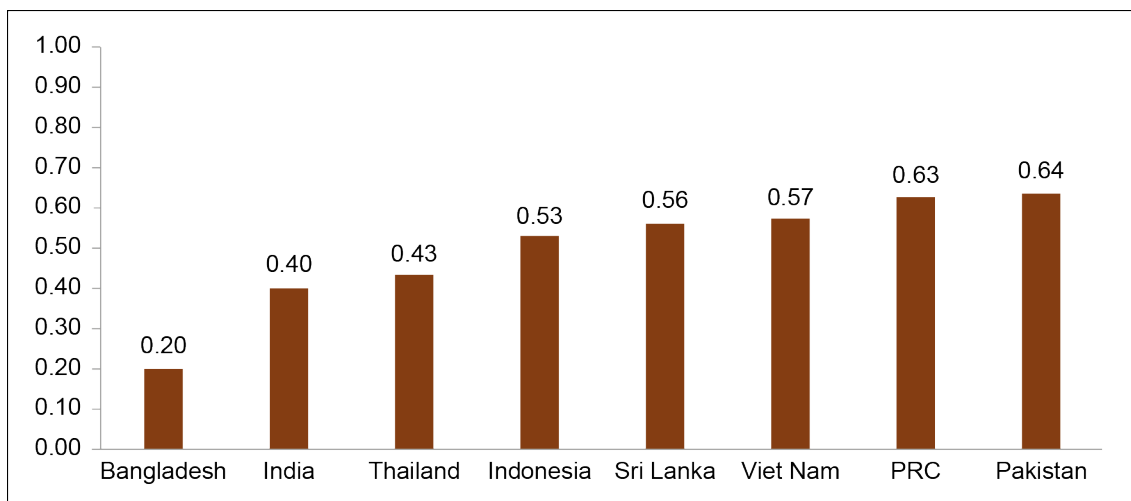


Source: Latest year available from the ILO statistics, 2018. The PRC figure is from ILO statistics, 2015, and based only on six urban cities. Bangladesh is from ILO Bangladesh based on LFS (2010). Cambodia is from ILO (2006).

In Bangladesh, where 87% of workers in non-agriculture sectors are informal, workers in the informal sector on average earn as little as one-fifth of what their counterparts earn in the formal sector. The average wages of workers in the informal sector in India and Thailand are also less than half of their respective counterparts in the formal sector. In the sample of eight developing Asian economies, none of the average wages of workers in the informal sector even reached two-thirds of what their counterparts earned in the formal sector (Figure 14).



**Figure 14: Informal to Formal to Monthly Wage Ratio in Some Asian Countries, Various Years**



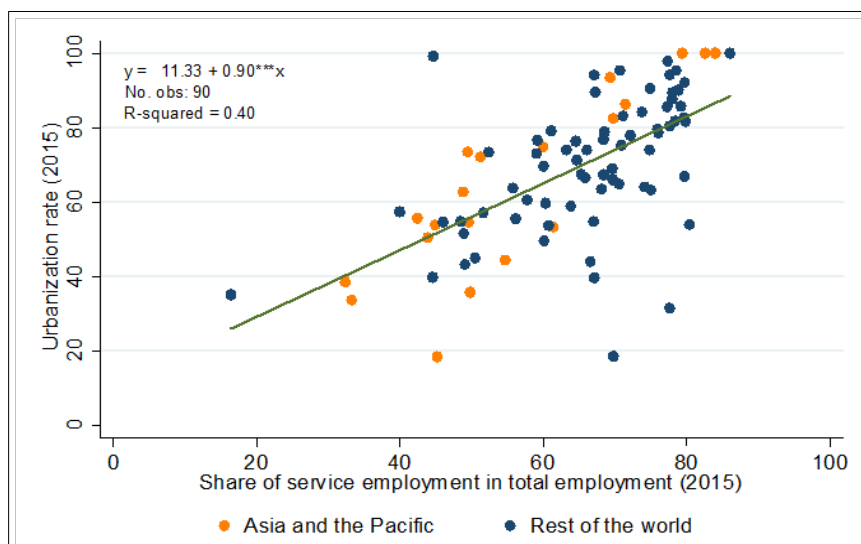
Notes: Indonesian figures are based on 2009 Yogyakarta and Banten wages.

Sources: Infran (2008) for Pakistan, Guifu and Shigeyuki (2009) for the PRC, Viet (2010) for Viet Nam, Gunatilaka (2008) for Sri Lanka, ADB (2011) for Indonesia, Dasgupta et al. (2015) for Thailand, and Unni (2005) for India.

## 4.2 Improving Physical and Digital Infrastructure

Developing economies should also expand their infrastructure investments to increase their capacity for providing modern services. To sustain the rapid growth of services exports, it is necessary to have well-functioning infrastructure, including electric power, road, and rail connectivity, telecommunications, air transport, and efficient ports. Infrastructure can further encompass financial and related systems that facilitates the education, training, and export of skilled labor. Similar to human capital, empirical studies also support the positive relationship between infrastructure, development and service export performance (Eichengreen and Gupta, 2012; Nasir and Kalirajan, 2014).

**Figure 15: Urbanization Rate and Share of Service Employment in Total Employment, 2015**



Source: Authors' computation from the World Bank World Development Indicators.

The conditions for improved infrastructure can be related to the issue of urbanization in developing Asia. Asia is rapidly urbanizing with close to half of the population living in urban areas in 2015. This is projected to increase to 64% by 2050 (UN Population). As urbanization rises, we can expect labor to move from agricultural sectors in rural areas to manufacturing and service sectors in urban areas, where wages are higher. Urbanization is positively correlated to a higher share of employment services across the world as well as Asia and the Pacific (Figure 15).

## **5. CONCLUSION**

Over the last few decades, developing Asia has made ample progress in moving its workforce from low-productivity, low-wage paying sectors, such as agriculture, toward higher productivity and higher wage-paying sectors, such as manufacturing and more notably, services where good jobs are much more prevalent. This paper examines how the services sector could provide decent and gainful employment in developing Asia. Using living wages as a reference point, this paper reports that a significant portion of the workforce in developing Asian economies, the majority of which are employed in the agricultural sector, are not living wage earners. On the other hand, manufacturing, and to a larger extent, services, are able to provide its workforce with good jobs. Recent developments of information and communications technology (ICT) industries, as in the case of India and the Philippines, is a striking example of how developing economies can open up business opportunities through global outsourcing of tradable labor. This paper highlights the importance of improving human capital through education and upskilling, as well as investing in physical and digital infrastructure. These are necessary actions to address the large supply of low-productivity and informal sector workers in developing Asia, and to provide new and gainful employment opportunities.

## REFERENCES

- Anker, R. 2006. A New Methodology for Estimating Internationally Comparable Poverty Lines and Living Wage Rates. Working Paper No. 72. Geneva: International Labour Office.
- Asian Development Bank. 2011. The Informal Sector and Informal Employment in Indonesia. Manila.
- \_\_\_\_\_. 2013. Key Indicators for Asia and the Pacific 2013. Mandaluyong City, Philippines. Retrieved from <http://www.adb.org/publications/key-indicators-asia-and-pacific-2013>.
- \_\_\_\_\_. 2015. Key Indicators for Asia and the Pacific 2015. Mandaluyong City, Philippines. Retrieved from <https://www.adb.org/publications/key-indicators-asia-and-pacific-2015>.
- \_\_\_\_\_. 2018. Asian Development Outlook (ADO) 2018: How Technology Affects Jobs. Mandaluyong City, Philippines. Retrieved from <http://dx.doi.org/10.22617/FLS189310-3>.
- Bangko Sentral ng Pilipinas (BSP). 2013. Results of the 2013 Survey of Information Technology— Business Process Outsourcing (IT-BPO) Services. Manila, Philippines. Retrieved from [http://www.bsp.gov.ph/downloads/Publications/2013/ICT\\_2013.pdf](http://www.bsp.gov.ph/downloads/Publications/2013/ICT_2013.pdf).
- Bosworth, B., Collins, S., and Virmani, A. 2007. Sources of Growth in the Indian Economy. NBER Working Paper Series 12901, National Bureau of Economic Research.
- Bosworth, B. and Maertens, A., 2010, "The role of the service sector in economic growth and employment in South Asia" Ghani, Ejaz, editor, The Service Revolution in South Asia. Oxford University Press, Oxford.
- Dasgupta, S., Bhula-or, R., and Fakhong, T. 2015. Earnings Differentials between Formal and Informal Employment in Thailand. ILO Working Papers 994896403402676, International Labour Organization.
- Eichengreen, B. and Gupta, P. 2011. The Service Sector as India's Road to Economic Growth (No. w16757). Washington DC: National Bureau of Economic Research.
- Foster-McGregor, N., and Verspagen, B. 2016. The Role of Structural Transformation in the Potential of Asian Economic Growth, ADB Economics Working Paper Series No. 479, Asian Development Bank.
- Gayá, R. E. 2017. "Policy Approaches for Knowledge-Based Services in Argentina," Mina Mashayekhi and Bruno Antunes, editors, Services and Structural Transformation for Development, United Nations Conference on Trade and Development.
- Gervais, A., and Jensen, B. J. 2013. The Tradability of Services: Geographic Concentration and Trade Costs, NBER Working Paper Series 19759, National Bureau of Economic Research.
- Ghani, E. 2009. "Is Service-led Growth a Miracle for South Asia?" Ghani, Ejaz, editor, The Service Revolution in South Asia. Oxford University Press, Oxford.
- Ghani, E., and O'Connell, S. D. 2014. Can Service be a Growth Escalator in Low Income Countries? Policy Research Working Paper 6971. Washington, DC: World Bank.

- Gonzales, F., Jensen, B. J., Kim, Y., and Nordås, H. K., 2012. "Globalisation of Services and Jobs," Policy Priorities for International Trade and Jobs, International Collaborative Initiative on Trade and Employment, Organisation for Economic Co-operation and Development.
- Government of Bangladesh. 2005-2006. Bangladesh Bureau of Statistics. Labour Force Survey.  
\_\_\_\_\_. 2010. Labour Force Survey.  
\_\_\_\_\_. 2013. Labour Force Survey.  
\_\_\_\_\_. 2015–2016. Quarterly Labour Force Survey.
- Government of India. 1999-2000. National Sample Survey Office. National Sample Survey—Employment and Unemployment Survey (NSS-EUS).  
\_\_\_\_\_. 2004–2005. National Sample Survey—Employment and Unemployment Survey (NSS-EUS).  
\_\_\_\_\_. 2011–2012. National Sample Survey—Employment and Unemployment Survey (NSS-EUS).
- Government of Indonesia. 2000. Badan Pusat Statistik—Statistics Indonesia. National Labor Force Survey (SAKERNAS).  
\_\_\_\_\_. 2005. National Labor Force Survey (SAKERNAS).  
\_\_\_\_\_. 2008. National Labor Force Survey (SAKERNAS).  
\_\_\_\_\_. 2010. National Labor Force Survey (SAKERNAS).  
\_\_\_\_\_. 2014. National Labor Force Survey (SAKERNAS).
- Government of Nepal. 1998–1999. Central Bureau of Statistics. Labor Force Survey.  
\_\_\_\_\_. 2008. Labor Force Survey.
- Government of Pakistan. 2001–2002. Bureau of Statistics. Labor Force Survey.  
\_\_\_\_\_. 2003–2004. Labor Force Survey.  
\_\_\_\_\_. 2012–2013. Labor Force Survey.
- Government of the Philippines, Philippine Statistics Authority. 2004. Labor Force Survey.  
\_\_\_\_\_. 2009. Labor Force Survey.  
\_\_\_\_\_. 2011. Labor Force Survey.  
\_\_\_\_\_. 2013. Labor Force Survey.  
\_\_\_\_\_. 2015. Labor Force Survey.  
\_\_\_\_\_. 2016. Labor Force Survey.
- Government of Sri Lanka, Department of Census and Statistics. 2004. Labor Force Survey.  
\_\_\_\_\_. 2006. Labor Force Survey.  
\_\_\_\_\_. 2012. Labor Force Survey.  
\_\_\_\_\_. 2014. Labor Force Survey.

- Government of Thailand, National Statistics Office. 2000. Labor Force Survey.  
\_\_\_\_\_. 2005. Labor Force Survey.  
\_\_\_\_\_. 2010. Labor Force Survey.
- Government of Viet Nam, General Statistics Office. 2017. Labor Force Survey.  
\_\_\_\_\_. 2013. Labor Force Survey.  
\_\_\_\_\_. 2015. Labor Force Survey.
- Goyal, A. 2015. "Growth Drivers: ICT and Inclusive Innovations," Agrawal, Pradeep, ed., *Reviving Growth in India*, Cambridge University Press.
- Groningen Growth and Development Centre (GGDC) database. Retrieved from <https://www.rug.nl/ggdc/productivity/10-sector/>
- Guifu, C., and Shigeyuki, H. 2009. Formal Employment, Informal Employment and Income Differentials in Urban China. MPRA Paper No. 17585. Munich: Munich Personal RePEc Archive.
- Gunatilaka, R. 2008. Informal Employment in Sri Lanka: Nature, Probability of Employment and Determinants of Wages. Colombo: ILO.
- Infran, M. 2008. Pakistan's Wage Structure During 1990/1 – 2006/7. Islamabad: Pakistan Institute of Development Economics Quaid-E-Azam University Campus.
- International Labour Organization. 2013. Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators: ILO Manual: Second Version.  
\_\_\_\_\_. 2014–2015. Global Wage Report: Wages and income inequality. International Labour Office – Geneva: ILO, 2015. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/--publ/documents/publication/wcms\\_324678.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/--publ/documents/publication/wcms_324678.pdf).  
\_\_\_\_\_. 2018. ILO Working Conditions Laws Database. Retrieved from <http://www.ilo.org/dyn/travailTRAVAIL>.
- Jensen, B. J. 2013. Overlooked Opportunity: Tradable Business Services, Developing Asia, and Growth, ADB Economics Working Paper Series No. 326, Asian Development Bank.
- Jensen, B. J. and Kletzer, L. "Measuring Tradable Services and the Task Content of Offshorable Services Jobs," Katharine G. Abraham, James R. Spletzer, and Michael Harper, editors, University of Chicago Press, Chicago.
- Khatiwada, S., and Veloso, M. K. (forthcoming). *Emerging Occupations and Technology: Evidence from Developing Asia*.
- LinkedIn Philippines. 2017. Recruiting in the Philippines.
- Martinez, A. Jr., Molato, R., and Flaminiano, J. P. 2016. Asian Development Bank Technical Note: Defining Good Jobs. Manila, Asian Development Bank.
- Mishra, S., Lundstrom, S., and Anand, R. 2011. Service Export Sophistication and Economic Growth, World Bank Research Working Paper, WPS5606, World Bank Group.

- Nasir, S. and Kalirajan, K. 2014. Modern Services Export Performances among Emerging and Developed Asian Economies. ADB Working Paper Series on Regional Economic Integration No. 143, Asian Development Bank.
- Noland, M., Park, D., and Estrada, G. 2012. Developing the Service Sector as Engine of Growth for Asia: An Overview, ADB Economics Working Paper Series No. 320, Asian Development Bank.
- Organization for Economic Co-operation and Development (OECD). 2016. How Good is your Job? Measuring and assessing job quality. Retrieved from <http://www.oecd.org/employment/labour-stats/Job-quality-OECD.pdf>.
- Patrinos, H.A., and Psacharopoulos, G. 2004. Returns to Investment in Education: A Further Update, *Education Economics* 12(2), 111–134.
- Philippine Statistics Authority. 2016. 2013/2014 Industry Profile: Business Process Outsourcing. Labstat updates, volume 20, no. 13. Quezon City, Philippines. Retrieved from [https://psa.gov.ph/sites/default/files/attachments/ird/pressrelease/vol20\\_13.pdf](https://psa.gov.ph/sites/default/files/attachments/ird/pressrelease/vol20_13.pdf).
- Unni, J. 2005. Wages and Incomes in Formal and Informal Sectors in India. *The Indian Journal of Labour Economics*, Vol. 48, No. 2. Pages 311–318.
- van der Marel, E. and Shepherd, B. 2013. International Tradability Indices for Services. World Bank Policy Research Working Paper 6712.
- World Bank. 2018. PovCalNet Methodology. <http://iresearch.worldbank.org/Povcalnet/methodology.aspx>.
- World Bank, World Development Indicators (WDI) database. Labor force, total [Data file]. Retrieved from <https://data.worldbank.org/indicator/SL.TLF.TOTL.IN>.