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Bank of Japan

**A Next Growth Model for Asian Economy:  
Beyond "the Workshop of the World"**

*Speech at 2017 Northeast Asia International Conference  
for Economic Development in Niigata*

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(English translation based on the Japanese original)

## **Introduction**

Thank you very much for inviting me to the Northeast Asia International Conference for Economic Development. I am honored to have the opportunity to speak to all the participants who have long devoted themselves to economic revitalization in Asian countries. I would like to extend my heartfelt gratitude to Representative Director Dr. Masahiro Kawai for giving me this valuable opportunity.

In 1993, when the Economic Research Institute for Northeast Asia was established, the world began to search for a new global landscape after the end of the Cold War. I think it was much to the point the reason for the establishment of this institute which focused on Northeast Asia, where former Eastern and Western bloc countries neighbor each other, and which attempted to develop together in a new partnership. Since 1993, as a result of the cooperation among northeast Asian countries, Asia has developed and become "the workshop of the world," leading the global economy.

However, the Asian growth model as "the workshop of the world" may have reached a turning point. The growth rate of the Asian economy has slowed since the global financial crisis of the late 2000s. The global trade slowdown works as a headwind to the export-driven growth in Asian countries. The side effects of globalization have also been widely discussed.

Today, I will express my thoughts about the Asian economy at this turning point from the medium- and long-term perspective. First of all, I will briefly look back on the development of the Asian economy and review how it has enjoyed growth as "the workshop of the world" over the course of building global value chains (GVCs) after the Cold War. Then, I will point out that this growth model is stumbling at the moment. Finally, I will explain that, in establishing a next growth model for Asian economy, it is important to improve the productivity of the service sector as the next driver of growth.

## **I. Current State of the Asian Economy**

Let me start with the current state of the Asian economy. Chart 1 shows the growth rate of real GDP for nine Asian countries excluding Japan. The Asian economy had grown at

approximately 8 percent per year on average until the middle of the 2000s except for 1998, when the currency crisis hit the economy. However, the growth rate has slowed since the late 2000s and dropped to about 6 percent in 2015. Comparing it with the growth rate of other regions after the late 2000s, the degree of slowdown in the Asian economy is the second largest after that of the Middle East economy, which faced the drop of oil prices and political destabilization. This fact indicates that the slowdown of Asian growth is noticeable even from the global perspective.

The decline in the growth rate has brought about a slowdown in the progress toward a high income country in many Asian countries. Chart 2 shows per capita gross national income (GNI) which is one of the barometers of economic development. The World Bank defines those countries with GNI of more than about 12,000 U.S. dollars as "high income countries." At present, many Asian countries are still below this level, in the middle income group.

According to research by the World Bank, among 101 middle income countries in 1960, only 13 became high income ones, and the rest remain at the middle income level even today, i.e., more than 50 years later.<sup>1</sup> This situation, where a country cannot get out of the middle income level, is called the "middle income trap." Some economies in Asia, such as Singapore, Hong Kong, and Korea, escaped this trap and joined the "high income country club." These economies took about 20 years on average to graduate from being middle income countries. Many Asian countries stay at a middle income level for more than 20 years, raising concerns that they may have fallen into the middle income trap.

Next, I will talk about how the Asian economy made its fortune as "the workshop of the world," in order to explore the reasons why the growth rate has recently slowed.

## **II. Economic Growth as "the Workshop of the World"**

### ***Economic Globalization***

Let me review the historic transition of "the workshop of the world" in the waves of

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<sup>1</sup> See World Bank (2013), *China 2030: Building a Modern, Harmonious, and Creative Society*, Washington, DC: World Bank.

economic globalization to see the current standpoint of Asia.

The term "the workshop of the world" was originally used to refer to the United Kingdom in the 19th century, which had overwhelmed the world with its industrial power. Then, at the beginning of the 20th century, people began to call the United States "the workshop of the world," rather than the United Kingdom. The United Kingdom and the United States, as "the workshops of the world," had accomplished innovative developments such as steam engines and the telephone, and had created mass production systems by constructing modern factories based on these developments. They also established a manufacturing trade in which they imported materials from all over the world and exported industrial products. The volume of global trade increased as free trade was promoted by "the workshop of the world." Today, though the term "globalization" is widely used in a variety of fields, economic globalization had its origins in the 19th century.

Richard Baldwin, a professor of economics at the University of Geneva, points out that in the period of globalization led by the United Kingdom and the United States, people started to trade goods all over the world because the cost of trade had declined due to innovation, and wealth had concentrated in "the workshop of the world."<sup>2</sup> From the 1970s to the end of the 1980s, Japan and Germany caught up with them, took over the role of "the workshops of the world," and accumulated wealth rapidly.

### ***GVCs and the Economic Growth of Asia***

A new era of globalization started at the end of the 1980s as the Cold War ended. Foreign direct investment increased globally mainly due to the large capital inflows into the former Eastern bloc countries such as China and those in the former Soviet Union and in East Europe. Also, the establishment of the World Trade Organization (WTO) in 1995 strengthened the institutional framework of free trade. Over this period, many multinational companies, which already had hubs in various regions, evolved their production systems even more. They segmented the process, from planning and development of products to the production of parts, assembly, and sales. They optimally decentralized locations for the production process and services all over the world by seeking economics of scale and

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<sup>2</sup> See R. Baldwin (2016), *The Great Convergence: Information Technology and the New Globalization*, The Belknap Press of Harvard University Press, Cambridge, Massachusetts.

comparative advantage. By the middle of the 2000s they had constructed a network of international specialization in a finely meshed pattern, which is called GVCs.

The development of IT greatly contributed to the establishment of GVCs. This is because IT enables firms to collectively manage and control a large number of geographically dispersed processes. Professor Baldwin, whom I mentioned earlier, notes that the lower cost of information processing due to the development of IT since the 1980s had made it easy to share information between developed and emerging countries, and had therefore fostered the rapid growth of emerging countries. As a result, the share of emerging countries in the world GDP increased while that of G7 countries declined to around 50 percent in the latter half of the 2000s from two-thirds in 1990.

The volume of global trade has increased greatly due to the formulation of GVCs. Chart 3 shows the global trade volume relative to the world real GDP. It basically continued to be flat during the 1980s, which means the growth rate of the global trade volume had been almost the same as that of the economy. However, it has soared since the 1990s, and the global trade volume increased faster than real GDP. Multinational companies demand and supply a wide variety of goods internationally to produce final goods under GVCs. So the growth rate of the trade volume is higher than that of the demand for final products. Moreover, they constructed production bases in various regions of the world in forming GVCs. Therefore, the increase in the trade of capital goods, such as machine tools and construction machines, also contributed to the increase in trade volume. You might have noticed that, in Chart 3, global trade volume kinked after the global financial crisis in the late 2000s and became flat again. We will come back to this point later.

Asia is the heart of GVCs and, as you know, China has come to be called "the workshop of the world." Multinational firms established the production system, where China is the final place for assembling a product, and the surrounding Asian countries supply capital goods and parts. They chose Asia as a manufacturing base because they can mass-produce and export products at low cost due to the inexpensive and abundant labor force and industrial sites. Also, they expected Asia to become a prospective market of consumer goods, because of its large population. Another reason, I think, is that governments in Asia eased

restrictions on foreign investment in the manufacturing sector in order to attract direct investment.

So how did the GVCs affect economic growth in Asia? Firms in developed countries have arranged development and production bases through GVCs by seeking the efficiency of each process to reduce production costs and increase value added. Hence, Asian countries became the production bases of GVCs induced by foreign direct investment, and acquired high technology and know-how. On this point, they are different from the cases of the United Kingdom and the United States, which used to be "the workshops of the world." While production in the United Kingdom and the United States was based on their own innovations, Asia, which specializes in the production process, enhanced their technology by introducing the technologies of developed countries. This means that they acquired technologies embedded in imported capital goods and intermediate goods, and shared technologies and knowledge through IT from the firms in developed economies.

Asian countries raised their income level by increasing exports based on the increased investment and innovations related to the GVCs after the Cold War ended. Consequently, people in Asia became middle-income consumers and domestic consumption expanded. The increase in the income level and domestic consumption changed Asia into not just a place for production but also a final destination for consumption goods, to which major global companies pay attention. This was the growth pattern of Asian economy after the end of the Cold War.

### ***Global Trade Slowdown***

The Asian growth model based on GVCs seems to have stumbled after the global financial crisis of 2008. One of the main reasons is that the growth of trade has slowed down globally. I mentioned earlier that the global trade volume in the chart kinked after the late 2000s and became flat again. The global trade volume had increased faster than the growth rate of the global economy before the financial crisis, but that has not been the case since the crisis.

This may be attributable to the slowdown of global GDP growth. This means that the growth rate of demand for the final goods slows down and growth of the demand for parts

of the final goods slows down accordingly. Consequently, the growth of trade slows synergistically. I said earlier that trade volume growth is likely to be higher than economic growth under GVCs, but it is conceivable that the opposite happened after the financial crisis. If that was the case, global trade will pick up again as the growth rate of the global economy increases. Nevertheless, it is not likely that global trade will resume the high pace of growth enjoyed before the financial crisis. This is because structural factors other than cyclical factors are likely to have contributed to the slowdown of global trade.

The first structural factor is that the expansion of GVCs has likely paused. Major global companies had mostly finished building up GVCs and development of frontiers with an even cheaper and more abundant labor force and a prospective market of consumption goods by the middle of the 2000s. So the related trade may have been subdued. Chart 4 shows the contribution of each region and each category of goods to the slowdown. A darker shadow shows a larger contribution to the total slowdown. The decline in the growth of capital and intermediate goods in China and the NIEs-ASEAN economies is noticeable. This is consistent with the argument that most global firms had built GVCs by the middle of the 2000s.

The second structural factor behind the global trade slowdown is the expansion of in-house production in China. China, which used to not have high-end manufacturing skills, relied on other countries for the supply of high-end parts and specialized in assembling them by making the final goods with the inexpensive labor force. However, this situation is largely changing. Recently, firms in China have been able to produce sophisticated parts as their domestic technologies have improved. Thus, they can complete the production of some final goods, from production of the parts to assembly only in China. Another reason for the change is the fact that Chinese government, setting a goal of being a strong manufacturing country, thoroughly supports business activity through the tax system and subsidies.

Owing to this, the other Asian countries which have so far supplied parts to China have missed their major export market, and trade volume has decreased. This is what is behind the decline in the import of intermediate goods in Asia. This may be a factor which requires countries in Asia which have grown thanks to exports to China to rethink their growth

model.

The third structural factor is that trade liberalization has become sluggish. For example, the world average tariff rate, which was 14 percent in 1990, dropped to 4 percent in 2011 but picked up to about 5 percent in 2013. The IMF points out that the number of non-tariff barriers has been increasing since the financial crisis and protectionism is gradually rising.<sup>3</sup>

### **III. Service Sector Expected as the Future Leading Industry**

#### ***Low Productivity of the Service Sector in Asia***

If the volume of global trade does not increase at its past high pace, Asian countries need to modify their economic growth model. I believe the service sector holds the key to this new growth model.<sup>4</sup> This is for the following three reasons. First, the rise of per capita income tends to shift the demand from goods to services. The phenomenon in which an economic development accompanies an increase in the GDP share of the service sector is known as Petty-Clark's law. Further, the saving rate in many Asian countries is high because of insufficient social security and other factors. If improving social security induces a decline in the savings rate and an increase in consumption, demand for services may expand significantly.

Second, the service sector plays an important role in the production of higher value-added export goods through making the GVCs more sophisticated. I will mention later that manufacturing firms essentially need to input services in order to produce higher value-added goods and differentiate themselves from competitors.

Third, the global trade volume in services still has ample room for expansion, even if the global trade growth in goods remains slow.

Let me review the situation of the service sector in Asian countries excluding Japan. The left panel of Chart 5 shows the share of the tertiary sector, or service sector, in the nominal

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<sup>3</sup> See C. Constantinescu, A. Mattoo, and M. Ruta (2015), "The Global Trade Slowdown: Cyclical or Structural?," IMF Working Paper, No. 15/6.

<sup>4</sup> For discussion of productivity and trade in the service sector, see M. Morikawa (2016), *Theory of Service-Intensive Country: Frontier for Activating a Mature Economy*, Nikkei Publishing Inc. (available in Japanese).



GDP. Contrary to popular belief about Asian countries being manufacturing-dominated, the share of the tertiary sector has increased gradually to almost 50 percent in 2014. The share of the tertiary sector in Asian countries is smaller than that in developed countries, which reached around 60 percent, but this shows that the Asian industrial structure is not extremely biased in favor of the manufacturing sector. Therefore, it is evident that Petty-Clark's law also applies to Asian countries whose per capita income has increased steadily.

It is, however, somewhat concerning that labor productivity in the tertiary sector is significantly lower than that in the secondary sector in Asian countries. The right panel of Chart 5 shows the ratio of labor productivity in the tertiary sector to that in the secondary sector. In general, labor productivity in the manufacturing sectors tends to be higher than that in the service sectors due to the rapid progress of technology. In developed countries, the productivity in the tertiary sector is around 90 if that in the secondary industry is set equal to 100. However, in China and the NIEs economies such as Korea, productivity in the tertiary sector is around 70, and that in ASEAN countries such as Thailand and Indonesia is around 60.

An increase in the share of the service sectors with lower productivity than manufacturing sectors dampens productivity in the overall economy, which brings about a decline in economic growth rate. This is a phenomenon known as Baumol's cost disease, in which advanced countries tend to be trapped. Asian countries are probably in the same situation.

### ***GVCs and Modern Services***

I will now discuss the current situation of the service sectors in Asia in detail. The left panel of Chart 6 splits the share of service sector into two categories: "traditional services" and "modern services." Traditional services consist of daily necessary services such as the retail and wholesale industries and administrative services. Modern services are those services in demand by people with higher income, such as restaurants, education, financial intermediation, and medical services. Modern services are generally said to be higher value-added than traditional services, although the degree of value added differs by country and by type of service. Chart 6 indicates that the share of traditional services in Asian

countries is almost same as that in developed countries. On the other hand, the share of modern services in Asian countries is considerably lower than that in developed countries.

It is considered that the lower productivity in Asia's service sectors is due to the fact that modern services have not yet fully expanded. The right panel of Chart 6 describes modern services in detail. It indicates that the share of medical services and business services in Asian countries is considerably lower than that in developed countries. It is likely that the lower share of medical services results from the insufficient health care system in Asia.

Business services consist of any service accompanying a business activity such as legal, accounting, consulting, and design services. The lower share of business services in Asia is probably related to the development of GVCs which I mentioned earlier.

The production process is not composed of only a simple manufacturing process to assemble the parts of a product. Production of final goods consists of not only a manufacturing process but also service inputs like R&D, design, and market research, before the manufacturing process. Further, it needs service inputs such as advertising, sales promotion, and maintenance after the manufacturing process. Service inputs before and after the manufacturing process are important components in the production process.

Moreover, this service input largely determines the value-added of final goods. It is generally said that service input, not the manufacturing process, produces the largest amount of value-added in final goods. This is known as the "smile curve," that is, the relationship between the degree of value-added and production process is a U-shaped curve. GVCs made full use of comparative advantages by segmenting each production process. As a result of the development of GVCs, a service process other than a manufacturing process stays in developed countries, while the manufacturing process moved into Asian countries. I think the difference in the share of business services in modern services between developed and Asian countries is a result of whether the production process in each country has a service process to create high value-added and whether business service sectors have evolved enough to support production activities.

At the present time when there are many high value-added goods in the world, service inputs become more and more important, and therefore the so-called "servitization of manufacturing" is in progress. Asian countries have realized high economic growth by taking on the responsibility of the world's manufacturing process as "the workshop of the world." However, in the service sector, Asian countries are still behind developed countries. The key element for the next growth of Asian countries is to promote service sectors and produce higher value-added goods.

### ***Required Infrastructure Improvement***

An improvement in infrastructure is essential for raising the labor productivity of service sectors and expanding the share of them in the Asian economy. Infrastructure means a broad range of infrastructures including not only tangible infrastructure, such as electric power, roads, and railroads, but also intangible infrastructure, such as legal restrictions and educational systems.

In countries with a higher quality of broadly-defined infrastructure, the productivity of the service sector tends to be higher. Chart 7 shows indices quantifying the strength of legal restrictions, the years of schooling, and the accumulation of social capital in Asian economies, with each country in order of higher labor productivity in the service sector. A colored cell indicates the indices inferior to developed countries, and the deeper the color is, the lower the degree of infrastructure improvement is.

The chart suggests several points. First, like developed countries, highly productive economies such as Singapore and Hong Kong have well-developed infrastructure. On the other hand, countries located on the lower end, that is those with lower productivity in service sectors, tend to have more colored cells, which indicate that insufficient infrastructure may lead to low productivity.

Second, viewing each category in the chart, we can find out that such countries as Indonesia and the Philippines have room for building more tangible infrastructure such as roads, railroads, and electric power. Improving tangible infrastructure will raise the productivity of administrative service sectors, which directly make use of them such as the energy and

transportation sectors. It will also contribute to the enhancement of the productivity of the overall service sector through strengthening the function of metropolitan areas with a concentrated population.

Third, most Asian countries can improve intangible infrastructure, such as legal systems and regulations. Regulation on service sectors is generally strict because service industries include many public-oriented sectors such as energy, financial, and communication services. Furthermore, many countries impose restrictions on foreign investment in service sectors to protect domestic industries. This situation in the service sector is quite different from that in the manufacturing industry, for which regulations have been loosened in order to acquire foreign currency and create jobs. The service trade restrictiveness index made by the OECD on the left side of Chart 7 indicates that some Asian countries impose stricter limitations than those in developed countries. Other indices assess as inferior elements of infrastructure (i) a lack of conformity with a law or practice, for example, frequent corruption and deterioration of public order, and (ii) violation of intellectual property rights. In addition, an inadequate social security system such as public health care and pension may bring about increased uncertainty, which disturbs growth driven by domestic demand.

Finally, I will touch upon some issues for education. Many Asian countries have raised the enrollment rate of elementary school, which is over 90 percent at present. However, in some Southeast Asian countries, the enrollment rate of secondary school and higher education is still low, which results in fewer years of schooling. Further, according to research on academic ability by the OECD, the rankings of Singapore and Hong Kong are among the best in the world but those of some Southeast Asian countries are below the world average.<sup>5</sup> The source of value-added in services is the skill of workers as well as buildings and equipment. Improving education is one of the most important issues for enhancement of productivity in the service sector.

## **Conclusion**

Today I talked about the growth model and current issues in the Asian economy and presented the importance of raising productivity and competitiveness in the service sector as

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<sup>5</sup> See OECD (2016), "PISA 2015 Results in Focus," *PISA in Focus*, No. 67, OECD Publishing, Paris.

one of the keys for the next growth model.

Whatever the next growth model is, it is necessary for Asian economic growth to keep the free trade system. GVCs, which have brought about prosperity in Asia, are still an important growth engine, although growth in the volume of global goods trade may not be able to recover the past high pace. The labor cost rises in Asian countries where per capita income increases rapidly, and this means that Asia may not continue to be the best place for manufacturing. In fact, some firms have already moved their production bases to other countries in order to reduce production costs. Taking this opportunity of reorganizing GVCs, Asian countries should make an effort to create new comparative advantages by expanding investments and increasing production efficiency. The major premise of this effort is to keep the free trade system, which has supported the growth of the world economy to date.

The role of service sectors is important for the world economy to enjoy the fruits of the free trade system. IT developments make it easier to trade services internationally, which results in the "servitization of manufacturing." Consequently, the global trade volume in services tends to expand more than that of goods. These movements, however, are still led by developed countries. The share of Asian countries in global service trade is less than 20 percent, while that in goods reaches around 30 percent. Further, in most Asian countries including China, the trade balance in services remains in deficit.

As the level of income in the developing countries increases, the demand for services is expected to grow. In addition, services still have more room for trade liberalization than goods. If the trade liberalization of services is promoted, trade in services will expand between developed and developing countries or between the developing ones, which is expected to contribute to raising productivity and competitiveness in Asia.

I feel encouraged by the remarkable IT development in Asia, which is the key for expansion of GVCs including service inputs. Shenzhen, which is known as "China's Silicon Valley," is a very innovative city, where many young Chinese start businesses, and where 270 of the world's largest firms which are listed in the Fortune Global 500 have established business

sites, such as research and development centers.<sup>6</sup> The Philippines, which is known as a global voice message service site, which includes call centers, is undertaking a large amount of overseas business by using its high proficiency in communicating in English. In addition, using its high level of digital literacy, India has expanded the business process outsourcing such as system development and data management. As a result, it is worth noting that both countries record a service trade surplus.

The Asian economy has played a role as a driver of global economic growth to date. It is desirable that, in the future, the Asian economy will lead the global economy in a different way than before and ensure progress toward high-income countries. I hope that the Economic Research Institute for Northeast Asia contributes to further development in Asia through its various activities such as research, economic interchange, and this conference. Thank you for your attention.

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<sup>6</sup> See C. H. Kwan (2016), "Shenzhen Emerging as China's Leading Innovation Hub: Private-Sector Companies as the Driving Force," <http://www.rieti.go.jp/en/china/16060801.html>.

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Chart 1

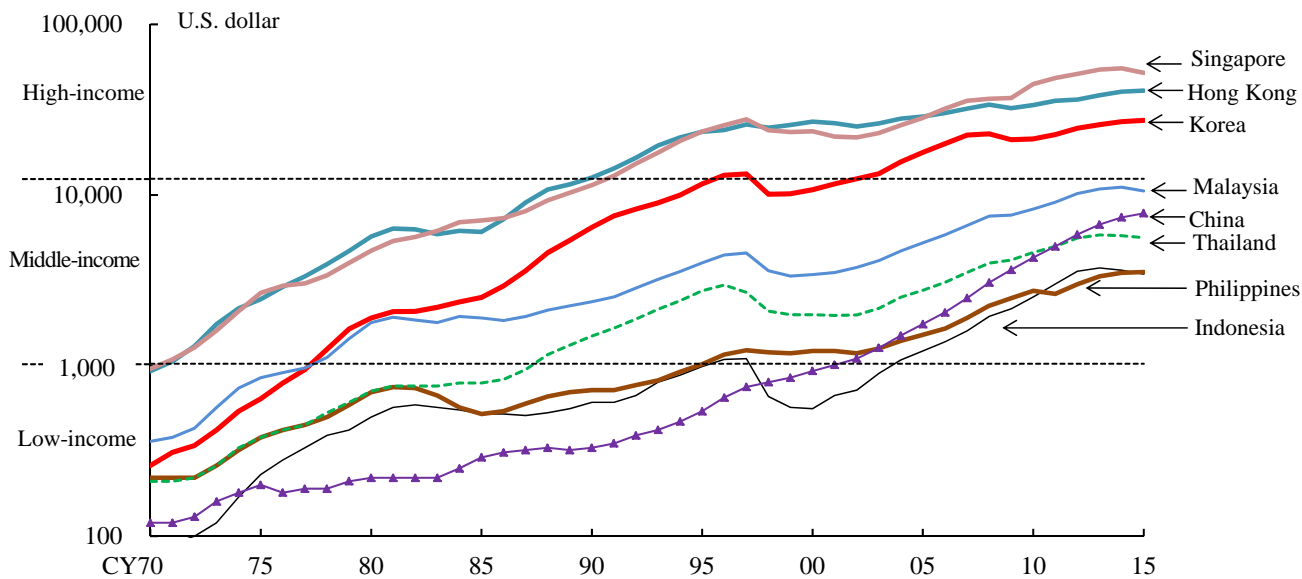
## Asian Real GDP Growth Rate



Note: The latest data are as of 2015. Asia is the average of China, NIEs (Korea, Taiwan, Singapore, and Hong Kong), and ASEAN (Indonesia, Thailand, Malaysia, and the Philippines).

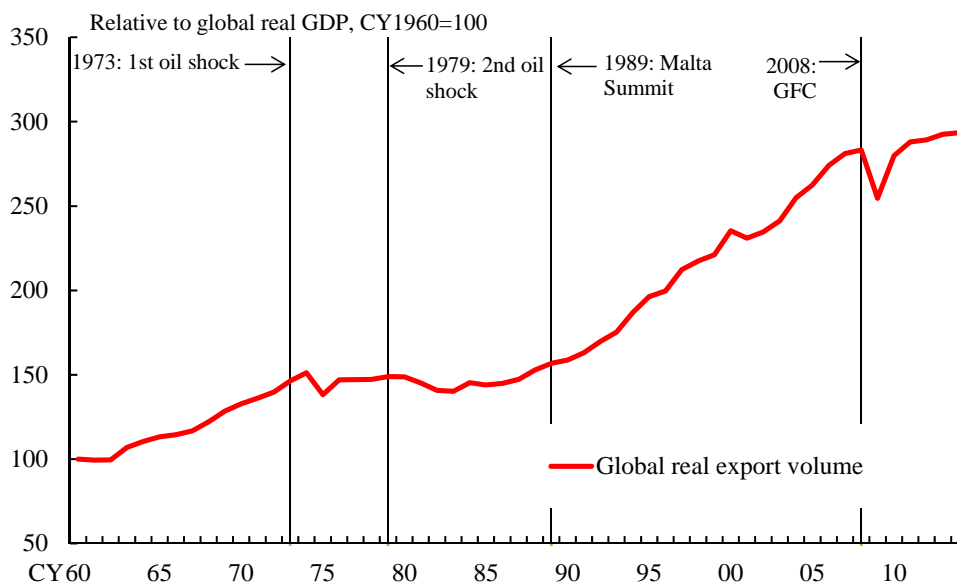
Source: IMF.

## GNI per capita in Asian Economies



Note: The latest data are as of 2015.  
Sources: HAVER; World Bank.

## Global Trade Volume



Note: The latest data are as of 2014.  
Source: WTO.



## Deviation from the Pre-Crisis Trend

	% points							
	US	Euro area	UK	Japan	China	NIEs ASEAN	Latin America	Total
Fuels	-0.10	-0.10	-0.06	0.02	0.02	0.02	0.01	-0.2
Primary materials	-0.00	-0.03	-0.00	-0.02	-0.12	-0.02	-0.01	-0.3
Intermediate goods (Processed materials)	-0.01	-0.06	0.00	-0.03	0.04	-0.03	-0.01	-0.7
Intermediate goods (Chemical processed materials)	-0.05	-0.06	-0.02	-0.03	-0.07	-0.07	-0.02	-0.9
Intermediate goods (Parts and accessories)	-0.03	-0.07	-0.01	-0.01	-0.22	-0.27	-0.01	-0.9
Intermediate goods (Transport parts and accessories)	0.02	0.02	-0.00	0.00	-0.02	-0.04	-0.01	-0.2
Capital goods (except Transport equipment)	-0.14	0.08	-0.07	-0.04	-0.18	-0.20	-0.07	-1.7
Capital and consumer goods (Transport equipment)	0.08	-0.04	0.04	0.01	0.02	-0.03	-0.06	-0.3
Consumer goods (Durable)	-0.08	0.02	-0.04	-0.04	-0.02	-0.05	-0.01	-0.6
Consumer goods (Nondurable)	0.01	-0.00	-0.01	-0.02	0.01	-0.01	-0.00	-0.2
Total	-0.2	-0.3	-0.2	-0.2	-0.5	-0.7	-0.2	-6.1

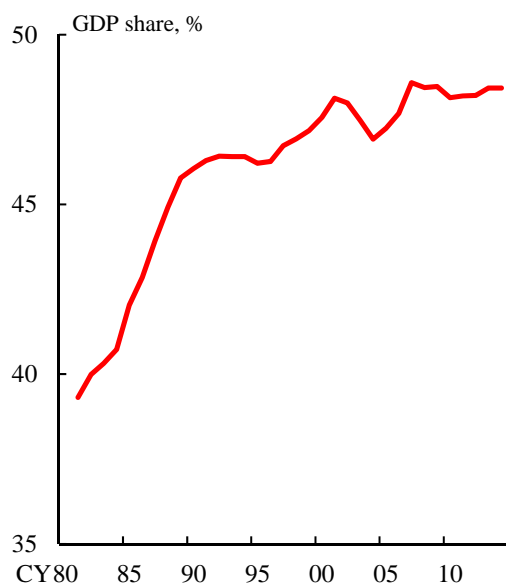
Note: Based on the elasticity of real import volume to GDP during the period of 2003-2006 for each region, we extrapolate the pre-crisis trend for the period of 2012-2014. The figures show the contributions of the deviation of the realized import growth from the pre-crisis trend. A darker shadow indicates a larger negative contribution to the total deviation.

Sources: UN Comtrade; HAVER.

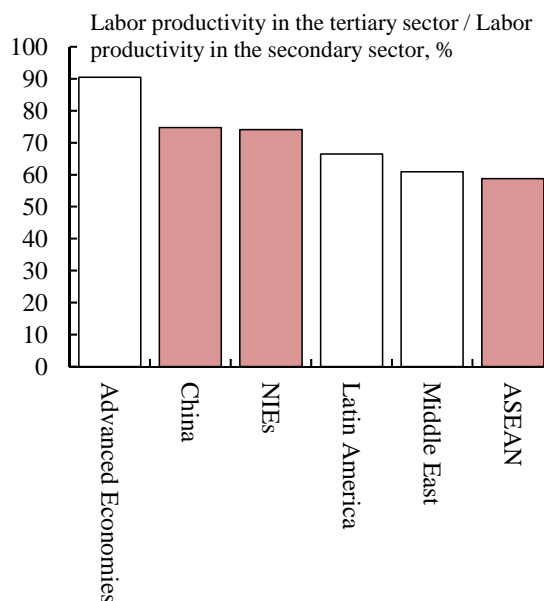
4

## The Tertiary Sector in Asia

*GDP share of the Tertiary Sector in Asia*



*Labor Productivity in the Tertiary Sector*



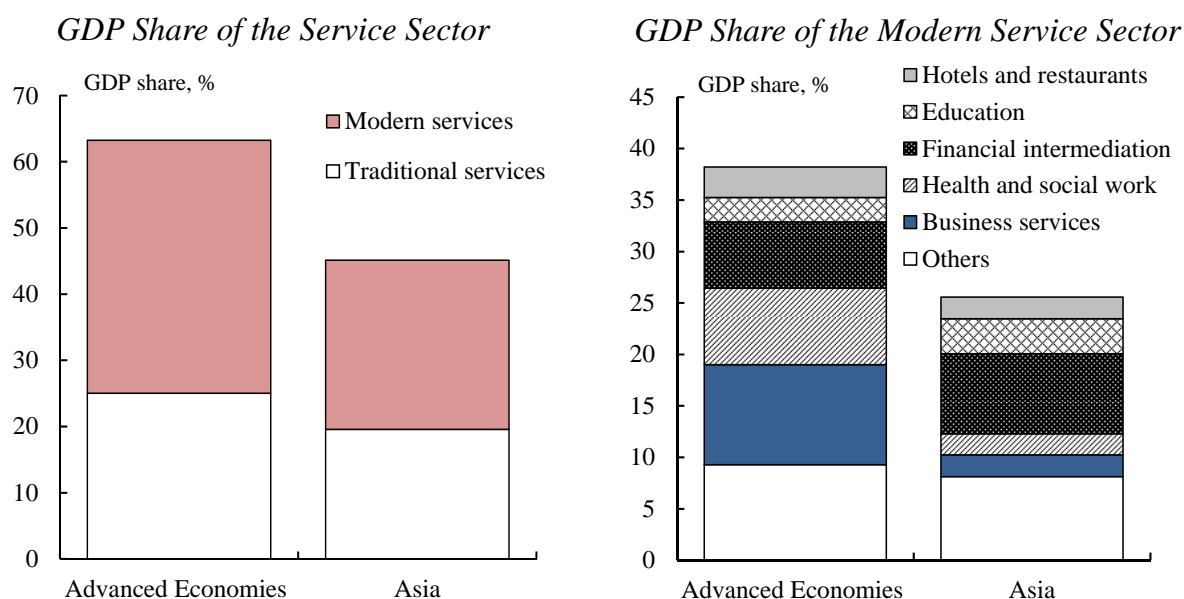
Notes: 1. The latest data of the left graph are as of 2014, and the data of the right graph are as of 2011.

2. Advanced Economies are the average of 27 OECD states. Asia is the average of China, NIEs (Korea, Taiwan, Singapore, and Hong Kong), and ASEAN (Indonesia, Thailand, Malaysia, and the Philippines).

Sources: United Nations; World Bank; Penn World Table.

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## GDP Share of the Service Sector



Notes: 1. Advanced Economies are the average of G7 members excluding Italy and Germany. Asia is the average of China, NIEs (Korea, Taiwan, Singapore, and Hong Kong), and ASEAN (Indonesia, Thailand, Malaysia, and the Philippines).

2. The classification is based on Eichengreen and Gupta (2013).

3. The data are as of 2015 or the latest available year.

Sources: RIETI; CEIC; B. Eichengreen and P. Gupta (2013), "The Two Waves of Service-Sector Growth," *Oxford Economic Papers*, 65(1), 96-123.

## Infrastructure Indices in Asian Economies

Advanced economies=10

Labor productivity in the service sector	Legal system and regulations					Social infrastructure		Education	
	Services trade restrictiveness index <sup>2</sup>	Protection of property rights	Labor market	Business environment		Quality of transportation network <sup>4</sup>	Quality of electricity supply	Years of schooling	
			Firing regulations <sup>3</sup>	Barriers to entry <sup>3</sup>	Corruption <sup>3</sup>				
↑ Higher	Singapore	N/A	11.9	11.8	10.2	12.3	12.1	10.6	9.6
	Hong Kong	N/A	11.5	11.2	10.2	11.4	12.3	10.7	10.1
	Taiwan	N/A	10.8	3.0	10.0	9.4	10.7	9.8	9.8
	Korea	9.9	7.3	3.0	10.0	7.3	10.6	8.8	10.7
	Malaysia	N/A	9.8	5.0	10.1	8.9	10.5	9.1	9.2
	Thailand	N/A	7.0	1.6	9.4	5.9	7.9	8.1	7.1
	Indonesia	6.5	7.5	0.0	8.3	6.1	7.7	6.9	6.7
	China	7.3	7.9	3.0	9.3	6.9	9.0	8.3	7.0
	Philippines	N/A	7.5	3.0	9.0	5.9	6.2	6.6	7.5

Notes: 1. Items below 8 are colored red, and items between 8 and 9 are colored orange.

2. Services trade restrictiveness index approaches 0 as restrictiveness in service trade increases.

3. Firing regulations, Barriers to entry, and Corruption approach 0 as the extent of regulations, barriers, and the level of corruption increases.

4. The average quality of roads, railroads, ports, and air transport infrastructures.

5. Advanced Economies are the average of 27 OECD states.

Sources: OECD; World Economic Forum; R. Barro and J. W. Lee (2013), "A New Data Set of Educational Attainment in the World, 1950-2010," *Journal of Development Economics*, 104, 184-198; J. Gwartney, R. Lawson, and J. Hall (2015), "2015 Economic Freedom Dataset," *Economic Freedom of the World: 2015 Annual Report*, Fraser Institute.