
The Changing Face of Mega Cities in Asia's Emerging Economies —Rising Competitiveness and Expanding Markets—

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Summary

1. This article examines the changing structures, characteristics and roles of mega cities in Asia's emerging economies, using Shanghai, China and Bangkok, Thailand as case studies.
2. Urbanization has advanced more rapidly in East Asia than in any other region. In China and the ASEAN countries, which are classed as emerging economies, the transition from rural to urban societies has been accompanied by the rapid expansion of cities resulting from massive inflows of population from rural areas.
3. Until the second half of the 1980s, mega cities in these emerging economies were characterized as densely populated areas suffering from low productivity and were regarded as different from cities in developed countries. However, investment by foreign companies has since turned the areas around these mega cities into export production bases, allowing them to absorb surplus labor force and achieve dramatic improvements in productivity. Today these production bases have evolved into industrial clusters and are playing a key role in Asia's expanding division of labor structures.
4. At the same time, the merger of mega cities and industrial clusters is leading to the formation of mega economic spheres that are expanding into mega-regions. The center of gravity of industrial structures in mega cities is meanwhile shifting toward the service industries as they evolve into nerve centers for economic spheres. There has also been a corresponding shift from manufacturing to services as the main focus of investment by foreign companies.
5. Another consequence of this economic development has been the rapid expansion of consumer markets in mega cities. Household annual incomes in both Shanghai and Bangkok are now above \$10,000, which is equivalent to about 60% of the level in Japan using conversions based on purchasing power parity exchange rate. Changes in the composition of spending, including increased expenditure on transportation and recreational services, indicates that lifestyles are also beginning to resemble those in developed countries. Diffusion rates for durable consumer goods, such as televisions, refrigerators and washing machines, are now close to 100%, and computers and air conditioners are starting to become more common. Furthermore, the annual household incomes of the top 20% of households are already comparable to incomes in Japan, and the number of people in this category is expected to reach 2-3 million in both Shanghai and Bangkok.
6. Asia has entered a new era of competition and cooperation among mega cities. Divisions of labor formed by mega cities in emerging economies are evolving from structures designed to take advantage of differences in the development stages of countries into structures that reflect the characteristics of clusters in each city. Mega cities are expected to play an increasingly important role as economic development engines for their countries and regions. However, we also need to be aware that this situation will frustrate efforts to reduce disparity with other areas including rural areas.

Introduction

Mega cities in China and ASEAN countries, such as Beijing, Shanghai, Bangkok and Kuala Lumpur, have undergone remarkable development in recent years, and their cityscapes also compare favorably with cities like Tokyo, Seoul and Taipei. Per capita GDP in these cities is now over \$10,000, which places them in the same category as developed countries according to the World Bank's definition⁽¹⁾.

With the advance of economic globalization, these mega cities have gained prominence as export production bases. In recent years, interest has also focused on their potential for growth as consumer markets⁽²⁾. This is especially true in Japan. With little hope of significant growth in domestic markets because of population decline, a falling birth rate and demographic aging, the establishment of a presence in Asian consumer markets has become a core priority for the growth and business strategies of Japanese companies. Needless to say, the mega cities are the main sources of this buoyant consumer demand.

In continuing economic globalization, combined with the signing of free trade agreements (FTAs) and other factors, causes further acceleration of flows of people, goods, money and information, these cities can be expected to achieve even greater development. Observation of changes occurring in mega cities has become an essential requirement for any analysis of the current state of or future outlook for Asian economies.

In this article we will examine the changes that are occurring in mega cities in Asia's emerging economies in the context of new trends in trade and investment. We will focus in particular on the new characteristics and roles of mega cities in these countries, using Shanghai, China and Bangkok, Thailand as case studies.

In Part 1 we will examine the current level of urbanization in Asia, focusing in particular on the rapid exodus of population from rural areas and the resulting emergence of numerous cities with populations of one million or more. In Part 2 we will see how investment by foreign companies has lifted productivity in the mega cities of emerging

economies since the second half of the 1980s, and how export production bases have evolved into industrial clusters. In Part 3 we will look at the formation of mega economic areas through the convergence of mega cities and industrial clusters, and the subsequent expansion of these areas. We will also examine the growing importance of service sectors in the industrial structures of the mega cities at the core of these areas, and the role of the cities as nerve centers for economic areas. In Part 4 we will look at the rapid rise in household incomes in the consumer markets of mega cities, the achievement of lifestyles comparable to those in developed countries, and the emergence of a wealthy stratum. In Part 5 we will see that Asia has entered an era of competition and cooperation among mega cities, and that it is becoming increasingly difficult to reconcile efforts to strengthen the competitiveness of mega cities with the alleviation of disparity with other areas including rural areas.

1. Asian Cities and Urbanization

(1) Accelerating Urbanization in East Asia

The population of the world has soared from 2.5 billion in 1950 to 6.0 billion in 2000. Because of this doubling of population in the space of just 50 years, the 20th century became known as the century of the population explosion. If we analyze population growth in the rural and urban sectors separately, however, we find the rural population increased less than two times, from 1.8 billion to 3.3 billion, between 1950 and 2000, while the urban population quadrupled from 700 million to 2.8 billion. This means that the population explosion occurred not in rural areas, where birthrates are higher, but in urban areas.

Falling birthrates have brought a gradual decline in the rate of increase in world population, and the average yearly increase between 2000 and 2005 was 1.2%. While the urban population growth rate is also in decline, it remains high at 1.9%. While the population explosion has started to wind down at the global level, the urban population explosion is still continuing.

This situation is reflected in a rapid rise in the urbanization ratio, which is the urban population as a percentage of total world population. In 1950 the urbanization ratio was 28.8%. However, it rose steadily in subsequent decades and was over 50% by 2008. The world has made the transition to a city-led society in which the urban population now forms the majority. The urbanization ratio is expected to show continued growth, reaching 70% by 2050. Of course, the urbanization ratio is higher in developed countries, where it reached 75.2% in 2010. However, the ratio for developing countries is certainly not low at 45.1%.

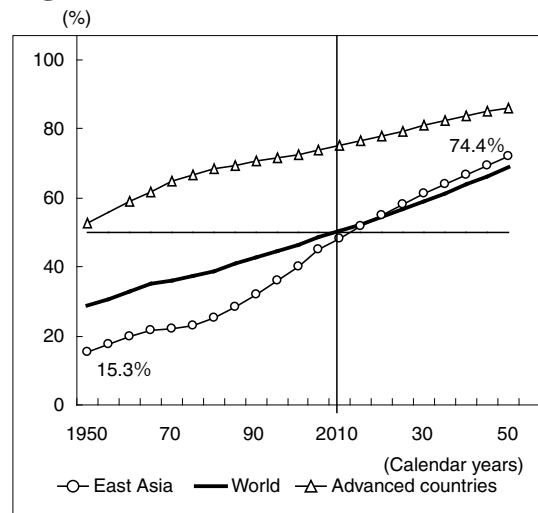
There is some variation in the pace of urbanization according to the country or region. The region in which urbanization is occurring most rapidly is East Asia. The combined urbanization ratio for East Asia, including Japan, China, South Korea, Taiwan, Hong Kong, Singapore, Thailand, Malaysia, Indonesia, the Philippines and Vietnam, has climbed from 15.3% in 1950 to 48.8% in 2010. The ratio is expected to exceed 50% within five years, and to reach 74.4% by 2050 (Fig. 1).

Table 1 shows urbanization ratios in 1975 and 2010 and per capita GDP in 2009. There is wide divergence in the urbanization ratios for 2010, from 100% for Singapore and Hong Kong down to 30.4% for Vietnam.

Care is needed when making comparisons based on United Nations urbanization statistics, since they are based on country's definitions of cities. However, we can place countries and regions into two broad groups. The first group consists of high income economies, such as Japan, South Korea, Taiwan, Hong Kong and Singapore, which have already evolved into urbanized societies. The other group consists of China and the ASEAN countries, where urbanization ratios are rising but rural populations are still generally high. Economies in this group are still in transition from rural to urban societies⁽³⁾.

The following analysis examines cities in the emerging economies of China and ASEAN countries (Group 2).

Fig. 1 Urbanization Ratio for East Asia



Source: United Nations, *World Urbanization Prospects: The 2009 Revision*

Table 1 Urbanization Ratios for East Asian Economies

	(% , US\$)		
	1975	2010	Per capita GDP (2009)
Japan	56.8	66.8	39,731
Singapore	100.0	100.0	37,597
Hong Kong	89.7	100.0	30,088
South Korea	48.0	83.0	19,141
Taiwan	43.9	58.6	17,024
Malaysia	37.7	72.2	6,955
Philippines	35.6	48.9	1,745
China	17.4	47.0	3,678
Indonesia	19.3	44.3	2,249
Thailand	23.8	34.0	3,972
Vietnam	18.8	30.4	1,052

Source: Urbanization ratios are based on United Nations, *World Urbanization Prospects: The 2009 Revision*. ADB Key Indicators for 1975 and 2008 were used for Taiwan. GDP figures are based on national statistics.

(2) Asia's Expanding Cities

In addition to this rapid rise in the urbanization ratio, another feature of urbanization in Asia is the rapid proliferation of cities with populations in excess of one million. As shown in Fig. 2, the number of million-plus cities in East Asia has ris-

en from 19 in 1950 to 44 in 1980 and 126 in 2010. Over the same period, the number of cities with populations of 3 million or higher has increased from three in 1950 to 12 in 1980 and 34 in 2010. The corresponding figures for cities with 5 million people or more are one, seven and 17.

The expansion of cities in China has been especially conspicuous. In 1980 China had 14 million-plus cities, of which two had populations of 3 million or more. By 2010 the number had risen to 51, including 15 with more than 3 million people.

This increase in the urban population is caused by three factors: (1) population growth within urban areas (natural growth), (2) migration from non-urban areas (social growth), and (3) the expansion of urban areas through changes in administrative divisions. The relative strength of each factor varies according to the country or region. For example, in Latin America high birth rates in urban areas have strong influence on urbanization rates, while in Asia migration has played a bigger role (Kono [2000: 166-168], Hayase [2000:191-199]).

We can confirm the strong influence of migration on urbanization in Asia using the social growth index, which is calculated by dividing growth resulting from migration (the social growth rate) by the population growth rate (natural

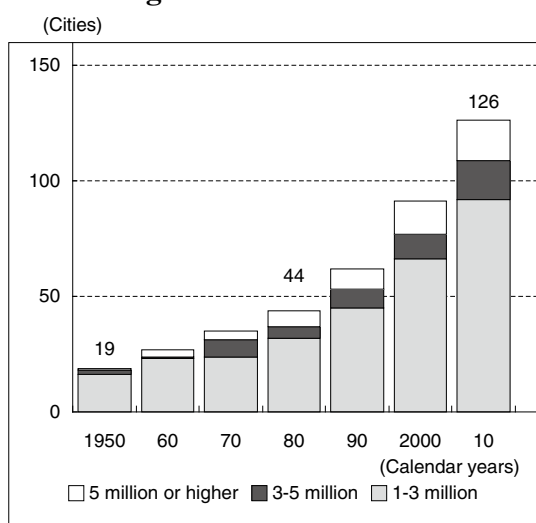
growth rate) of an urban area (Fig. 3). An index greater than 1 indicates that social growth in the form of migration has a stronger influence on the growth of the urban population. An index smaller than 1 shows that the natural growth rate plays a stronger role.

However, it is generally difficult to obtain data showing natural and social urban population growth rates. For the sake of convenience, we have therefore assumed that the natural urban population growth rate will be the same as the national population growth rate and used the difference between the urban population growth rate and the national population growth rate to represent the social urban population growth rate, using the formula shown in the lower half of Fig. 3.

In Table 2 we have used United Nations urban population statistics to calculate social growth indices. Since 1980, the only regions with social growth indices greater than 1 have been East Asia and Europe. However, the United Nations uses a broader definition of Asia that also includes Middle Eastern countries. If we recalculate the figures for East Asia, we find that its index has been above 2 since 1995. This indicates that migration has played a major role in the growth of urban populations in East Asia. This is especially true of China, where the social growth index reached 3.3 in 1995-2000, 5.0 in 2000-2005 and 3.2 in 2005-2010. The high level of China's ratio reflects the important role played by rural migrant workers, known as *nong-min-gong* (peasant workers), in the expansion of cities.

Of particular interest when studying urbanization is the fact that while the level of urbanization increases in step with economic development, urbanization does not necessarily lead to economic development. The appearance of mega cities in

Fig. 2 Changes in the Number of Mega cities in East Asia



Source: United Nations, *World Urbanization Prospects: The 2009 Revision*

Fig. 3 The Social Growth Index

$$\text{Social growth index} = \frac{\text{Social growth rate of urban population}}{\text{Natural growth rate of urban population}} = \frac{(\text{Urban population growth rate} - \text{National population growth rate})}{\text{National population growth rate}}$$

Table 2 Social Growth Indices by Region

	World			Africa	Asia		Europe	S. America	N. America	Oceania
	Advanced countries	Developing countries	East Asia							
1950-1955	0.8	0.9	1.1	1.2	1.1	1.4	1.1	0.7	0.6	0.3
1955-1960	0.8	1.0	1.0	1.2	1.1	1.5	1.1	0.6	0.5	0.3
1960-1965	0.6	0.9	0.8	1.1	0.8	0.9	1.1	0.6	0.4	0.3
1965-1970	0.3	1.1	0.5	0.8	0.4	0.1	1.4	0.5	0.5	0.3
1970-1975	0.3	0.8	0.5	0.7	0.5	0.3	1.3	0.5	0.0	0.1
1975-1980	0.5	0.8	0.8	0.6	0.9	1.2	1.3	0.5	0.0	▲0.0
1980-1985	0.5	0.6	0.9	0.5	1.0	1.6	1.0	0.5	0.2	▲0.1
1985-1990	0.5	0.6	0.8	0.5	0.9	1.5	0.8	0.5	0.2	▲0.0
1990-1995	0.6	0.6	0.8	0.5	1.0	1.9	0.8	0.4	0.4	▲0.0
1995-2000	0.6	0.8	0.9	0.4	1.1	2.2	▲6.2	0.4	0.4	▲0.0
2000-2005	0.8	0.9	0.9	0.5	1.3	2.8	3.1	0.5	0.4	▲0.0
2005-2010	0.6	1.0	0.8	0.5	1.0	2.0	3.4	0.4	0.4	▲0.0

Social Growth Indices for East Asian Countries/Regions

	Japan	South Korea	Hong Kong	Singapore	China	Thailand	Malaysia	Indonesia	Philippines	Vietnam
1950-1955	1.5	1.4	0.0	0.0	1.8	0.6	1.1	1.0	0.4	1.3
1955-1960	2.3	0.8	0.0	0.0	2.1	0.6	0.9	0.8	0.4	1.0
1960-1965	1.9	1.3	0.1	0.0	1.1	0.2	0.8	0.7	0.3	0.9
1965-1970	1.9	2.3	0.2	0.0	▲0.3	0.2	0.9	0.7	0.3	0.9
1970-1975	1.0	1.7	0.2	0.0	0.0	1.0	1.0	1.1	0.6	0.2
1975-1980	1.0	2.2	0.1	0.0	1.5	1.1	1.0	1.3	0.4	0.2
1980-1985	0.5	1.8	0.2	0.0	2.4	0.5	0.7	1.7	1.1	0.1
1985-1990	2.2	2.2	1.6	0.0	1.8	0.6	0.6	1.8	1.0	0.3
1990-1995	1.3	1.5	0.1	0.0	2.7	0.5	0.9	2.0	▲0.1	1.0
1995-2000	0.9	0.5	0.0	0.0	3.3	0.8	0.9	2.5	▲0.1	1.3
2000-2005	1.9	0.9	0.0	0.0	5.0	0.7	0.9	0.4	0.0	1.7
2005-2010	▲3.7	1.0	0.0	0.0	3.2	1.5	0.8	0.5	0.2	1.9

Source: United Nations, *World Urbanization Prospects: The 2009 Revision*

Asia today resembles that of cities in developed countries, but until the mid-1980s those cities were seen as densely populated areas with low productivity and were placed in a different category from their counterparts in developed countries.

Cities in developing countries have high natural growth rates, and employment growth is unable to keep pace with the rapid influx of migrants from rural areas. In addition, life support capital, including housing, schools and public health facilities, was inadequate. This situation was referred to as “over-urbanization” (Watanabe [1986: 159-157]). Low-wage jobs in the informal sector were the only employment opportunities for surplus labor, and growing squatter populations led to the formation of slums.

Governments responded to over-urbanization in Asian countries invariably included two policies. First, birth control was used to limit urban

population growth. Second, steps were taken to restrict migration into cities and to disperse urban functions. In China, the government sought to limit the population by introducing “the one-child policy,” and whenever urban unemployment became a problem, it would relocate urban youth into rural areas. In addition, the Chinese government introduced urban and rural household registration systems⁽⁴⁾ to restrict migration from rural to urban areas (Marukawa [2002]). In Thailand, the government sought to limit population growth through compulsory family planning measures. It also encouraged the dispersion of urban functions by providing incentives for the establishment or relocation of factories [Nitaya [2008]].

2. Improving Productivity through Export-Oriented Production

(1) Formation of Export Production Bases through Direct Investment by Foreign Companies

Apart from the two policy responses described above, the factor that allowed mega Asian cities to overcome the problems of over-urbanization and low productivity was an accelerating influx of foreign businesses, starting in the second half of the 1980s.

The fall in the value of the dollar against the yen and the local currencies of the NIEs (South Korea, Taiwan, Hong Kong, Singapore) after the Plaza Accord of 1985 caused companies from Japan and the NIEs to move into China and the ASEAN countries at an accelerating rate. Foreign direct investment in the ASEAN 5 (Thailand, Malaysia, Indonesia, the Philippines, Vietnam) surged from \$1.2 billion in 1985 to \$18.0 billion in 1997 (balance of payments basis). Investment in China also increased dramatically over the same period, rising from \$1.4 billion to \$40.0 billion.

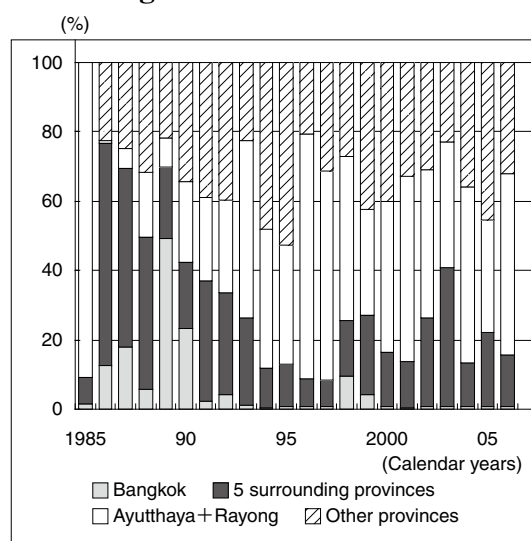
Foreign investment was concentrated mainly in areas around mega cities. Of course, they did not move into the central areas of cities like Bangkok and Shanghai, where sites big enough for production facilities were no longer available. Governments developed infrastructure on the outskirts of mega cities and established export processing zones and industrial parks. They also sought to diversify investment locations by offering tax incentives and other benefits to companies that moved into certain areas. The construction of export processing zones and industrial parks and the provision of tax incentives were policies introduced at the national level. However, the only locations chosen by foreign companies for their facilities in the countries concerned were export processing zones and industrial parks near mega cities. Areas on the outskirts of mega cities offered key advantages, including access to low-cost labor, and the availability of the infrastructure and administrative services needed for manufacturing and exporting. We will now look at developments in Thailand as

an example of this pattern.

In Fig. 4, BOI approval data for investment by Japanese companies in each Thai province have been aggregated geographically for (1) Bangkok, (2) the five provinces around Bangkok (Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon, Nakhon Pathom), (3) Ayutthaya and Rayong Provinces, and (4) other provinces. The provinces in areas (2) and (3) are all located near to Bangkok, but those in area (3) are nearby those in area (2).

The total for areas (1), (2) and (3) has consistently accounted for around 70% of all investment approvals, indicating that investment by foreign companies has been concentrated in the vicinity of Bangkok. In the second half of the 1980s, investment was channeled mainly into area (1) (Bangkok) and area (2) (the five surrounding provinces). By the 1990s, investment in area (3) (Ayutthaya and Rayong) was also increasing. This trend resulted less from investment diversification measures and more from the expansion of the investment area centered on Bangkok. This shift of production facilities from Bangkok into sur-

Fig. 4 Approvals for Japanese Investment in Thailand and the Distribution of Investment by Region



Notes: The five surrounding provinces are Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon and Nakhon Pathom.

Source: Compiled using Thai Board of Investment (BOI) statistics

rounding provinces encompassed not only foreign companies but also many local companies (Suehiro [1997]).

Manufacturing industries in Bangkok and the surrounding areas accounted for 76.3% of national production in 1990. While this ratio has tended to decline, reaching 69.5% in 2000 and 66.9% in 2007, it is still high. Thailand's total exports have meanwhile expanded from \$23.1 billion in 1990 to \$67.9 billion in 2000 and \$175.2 billion in 2008, with exports of manufactured goods reaching \$15.0 billion (64.9% of the total), \$59.8 billion (88.1%) and \$156.4 billion (89.3%) in the same years. Thailand's manufactured exports consist predominantly of items produced in Bangkok and the surrounding areas, which have clearly played a central role in the export-led economic development of Thailand.

A similar pattern can be observed in Shanghai. Foreign direct investment in Shanghai increased dramatically after Deng Xiaoping's 1992 "speeches during a visit to the south," in which he signaled the government's intention to implement an open-door policy. Approvals increased from just under \$200 million in 1991 to \$4.8 billion in 1997 (Fig. 5). By 2008, the cumulative total of foreign direct investment in Shanghai had reached \$294.0 billion, or 12.7% of the national total of

\$2,324.1 billion. The extent to which investment by foreign companies has been concentrated in Shanghai can be gauged from the fact that Shanghai accounts for only 1.4% of China's population and 0.1% of its area. As in Bangkok, however, manufacturing facilities have shifted from central Shanghai into the suburbs, and from there into the neighboring provinces of Jiangsu and Zhejiang.

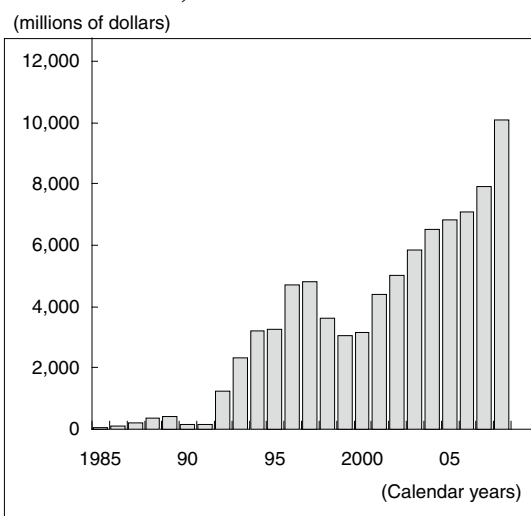
This influx of foreign companies has been paralleled by a rapid increase in Shanghai's exports, from \$5.3 billion in 1990 to \$25.3 billion in 2000 and \$169.3 billion in 2008. Because manufacturing facilities are now being established mainly in Jiangsu and Zhejiang Provinces, those areas now export more than Shanghai. Even so, Shanghai still accounted for 11.8% of China's total exports in 2008.

(2) Evolution from Export Processing Zones into Industrial Clusters

These export production areas survived the Asian currency crisis and economic crisis and have continued to develop in the 21st century. By the early 21st century, there was growing support for the "China threat" view that export production areas in the ASEAN countries would not be able to maintain their competitiveness against China with its vast labor resources⁽⁵⁾. In reality, however, there has been no decline in the exports of the ASEAN countries. In fact, exports from the ASEAN 5 have risen steadily, from \$281.9 billion in 2000 to \$656.3 billion in 2008. Of particular interest is the rapid growth of exports to China, which was seen as a rival. From \$10.8 billion, or 3.8% of total exports to China increased to \$66.9 billion, or 10.2% of the total. A breakdown of export statistics shows that the growth occurred in the areas of raw materials, parts and intermediate goods, indicating that the ASEAN 5 have supported the growth of China's exports to the world (Miyajima, Oizumi [2008]).

The fact that the ASEAN countries have been able to maintain export growth even as China has moved ahead economically, and the formation of divisions of labor between production bases in ASEAN and China indicate that production bases

Fig. 5 Foreign Direct Investment in Shanghai (Implementation Basis)



Source: National Bureau of Statistics of China, *China compendium of statistics 1949-2008*

in ASEAN have achieved significant improvements in their productivity. This reflects a change in the role of production bases in ASEAN, from mere processing bases where imported raw materials, parts and intermediate goods and exported goods, into industrial clusters capable of attracting numerous manufacturers of related parts and intermediate goods.

An industrial cluster is a geographical concentration of companies and organizations involved in a particular sector. Ministry of Economy, Trade and Industry (METI), Japan, attributes the formation of industrial clusters in Asia to a virtuous circle in which the establishment of plants by foreign-owned assemblers encouraged parts manufacturers to move into the same areas, and the resulting concentration of parts manufacturers in turn led more assemblers to establish facilities. In other words, clustering encourages more clustering (METI [2000:28]).

Other factors that contributed to the formation of industrial clusters include the gradual development of local businesses, and government measures to assist the development of supporting industries. The growth of industrial clusters was also supported by the ability of production bases near mega cities to recruit skilled human resources from those cities, and the fact that mega cities provide markets for consumer goods produced in the clusters.

China is the clear leader in Asia in terms of the level of development of industrial clusters, whether measured by number or size, and Shanghai is the symbol of this leadership. According to METI, the factors that have driven Shanghai's evolution as an industrial cluster include its large population and consumer market, its history as a flourishing industrial center with a wide range of local companies, the presence of a large pool of highly educated workers, and its accumulation of money and technology. The METI analysis describes how these factors have resulted in industrial clustering in a wide range of industrial sectors since the second half of the 1990s, including electrical appliance and machinery manufacturers from Japan, and European and American manufacturers of communications equipment, motor vehicles and

semiconductors. Other factors in Shanghai's favor are its location on China's coast and its role as a center transportation and distribution in mainland China via for maritime, rail and road links and other forms of transportation (METI [2000:28-29]).

One of the best-known industrial clusters in ASEAN is the cluster of automotive industries in Rayong Province on Thailand's east coast. Factors that contributed to the development of this cluster include the growth of motorized transport in Thailand ahead of other ASEAN countries, and an influx of foreign manufacturers resulting from a government policy requiring a transition to domestically produced motor vehicle parts by the 1980s. When the government eased regulations and introduced incentives in the 1990s, motor vehicle manufacturers responded by positioning Thailand as an exporting base (Suehiro [2005]). The government began to develop the east coast as an industrial region, and by the mid-1990s over 500,000 motor vehicles were being sold each year in Thailand, which had become the biggest market in Southeast Asia. This situation prompted secondary and tertiary processing manufacturers to move into Thailand.

Thailand offers conditions and policies that are favorable to manufacturing and a domestic market in which profits can be earned. Since 2000, many foreign motor vehicle manufacturers have identified Thailand one of global manufacturing and export bases. Thailand has become the world's leading producer of pick-up trucks, in part because of strong demand for this type of vehicle in provincial and rural areas.

3. The Evolution of Mega Cities as Mega-regions, Service Industry Bases and Nerve Centers

(1) Mega-Region Formation

In recent years, the development of roads, railroads and other transportation infrastructure is resulting in the formation of mega-regions through the integration of mega cities with industrial clusters in surrounding areas.

With the completion of Highway 32, the traveling time by road from Bangkok to an IT-related industrial cluster in Ayutthaya Province has been reduced to less than one hour, while the completion of Highway 34 means that an automotive cluster in Rayong can be reached in less than two hours (Fig. 6).

Shanghai is moving toward integration with industrial clusters in the neighboring provinces of Jiangsu and Zhejiang. Infrastructure currently under development will allow access across a 200km radius from central Shanghai within one hour.

With the integration of mega cities and industrial clusters, mega-regions are evolving from points to lines, and from lines to areas. This process has also resulted in higher income levels in areas between mega cities and industrial clusters. In recent years, these economic areas centering on mega cities have become the focus of increasing interest. They are referred to as mega-regions (Florida [2009]) or “mega-urban regions” (Jones & Douglass [2008]).

These mega-regions are gradually expanding. In Fig. 7, colors are used to show differences in per capita GDP levels within each area. Fig. 7-1 shows how Shanghai has become a center of a mega-region with parts of Jiangsu and Zhejiang,

while Fig. 7-2 shows the inclusion of surrounding provinces into a mega-region centering on Bangkok.

Asian governments see the formation and expansion of economic zones centering on mega cities as a driving force for growth. In its 11th Five-Year Plan (2006-2010), the Chinese government identifies the Yangtze Delta region centering on Shanghai, the Pearl Delta region and the Beijing-Tianjin-Hebei region as regions with flourishing groups of cities and calls for the improvement of competitiveness in this regions through divisions of labor and cooperation among their cities (Oizumi, Sano [2009]).

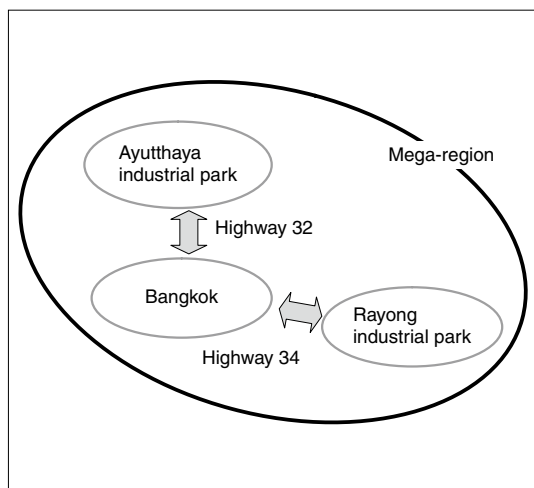
In 1990, the Thai government designated Bangkok, together with Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon, Nakhon Pathom and Samut Songkhram Provinces, as the Bangkok Metropolitan Region. It also created the Extended Bangkok Metropolitan Region, which in addition to these five provinces also includes Ayutthaya, Chon Buri and Chachoengsao Provinces (Jarunon et al. [2008:63]).

(2) Reinforcing Services and Nerve Center Functions in Mega Cities

As their urban areas have expanded into regions, both Shanghai and Bangkok have also assumed new roles as nerve centers for their economic areas. That evolution has included the prioritized reinforcement of transportation infrastructure to allow these mega cities to function as interfaces between their economic areas and the rest of the world. Shanghai’s air gateway functions were expanded with their transfer from Shanghai Hongqiao International Airport to Shanghai Pudong International Airport, which was opened in 1999. Similarly, in Thailand Don Mueang International Airport was replaced as Bangkok’s main air gateway with the opening of Suvarnabhumi International Airport in 2006. Shanghai completed a subway line in 1995, while Bangkok opened its Sky Train elevated rail system (BTS) in 1999 and a subway line in 2004⁽⁶⁾.

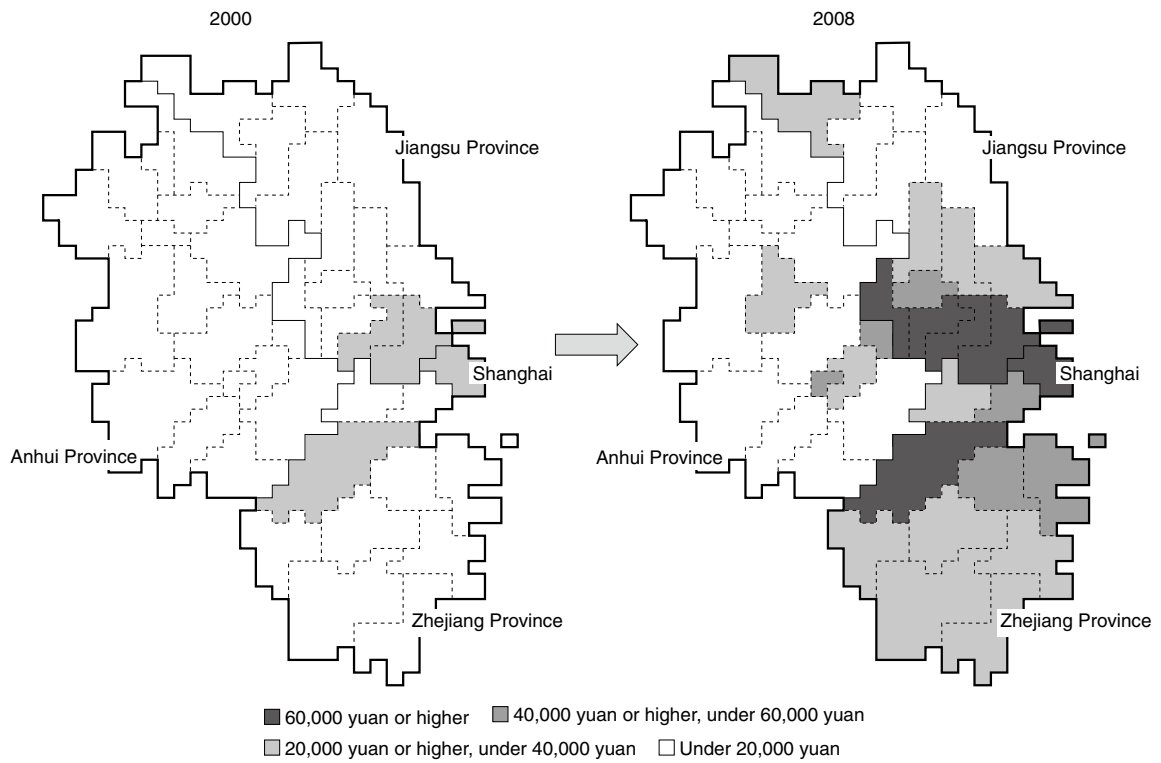
Another important change in Shanghai and Bangkok is a shift in their industrial structures to-

Fig. 6 Mega-Region Formation through the Integration of Mega Cities with Industrial Clusters



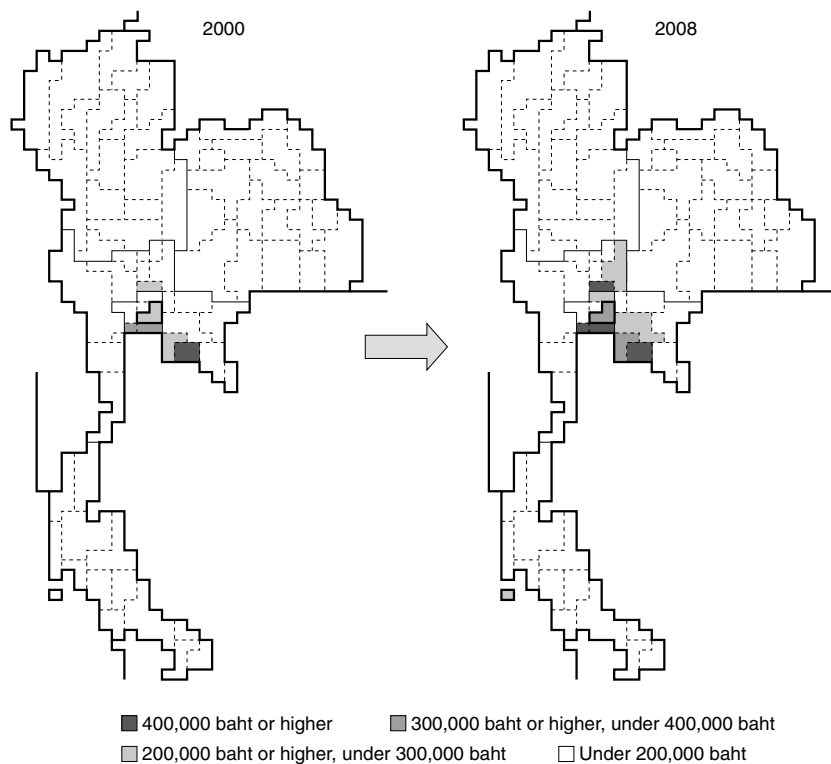
Source: Japan Research Institute

Fig. 7-1 Expansion of the Shanghai Mega-Region



Source: Compiled using statistical yearbooks for each province

Fig. 7-2 Expansion of the Bangkok Mega-Region

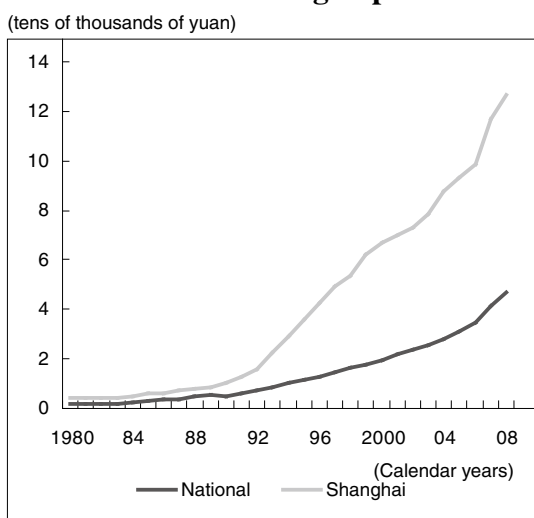


Source: Compiled using NESDB data

ward service industries.

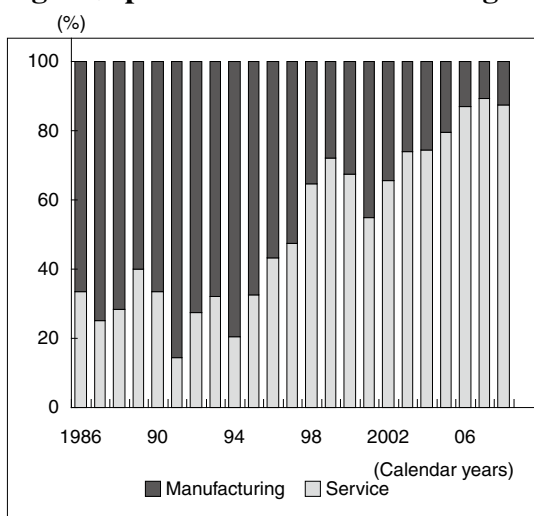
In Shanghai, the service sector's contribution to GDP has risen from 30.9% in 1990 to 52.1% in 2000 and 53.1% in 2008, and the per capita GDP of service sector workers from 10,000 yuan in 1990 to 67,000 yuan in 2000 and 127,000 yuan in 2008. This is about three times higher than the na-

Fig. 8 Per Capita GDP of Tertiary Sector Working Population



Source: China Statistical Yearbook

Fig. 9 Japanese Investment in Shanghai



Source: Toyo Keizai Shinposha, *Kaigai Kigyo Shinshutsu Ichiran 2008* [Overview of Overseas Investment by Companies, 2008]

tional average (Fig. 8). Given that the service sector working population is likely to include large numbers of migrant workers, the productivity of key service industries, such as finance, distribution and real estate, is likely to be even higher than this level.

There has been a similar rise in the service sector's contribution to GDP in Bangkok, from 67.6% in 1990 to 72.3% in 2000 and 74.1% in 2008. In the same years, the per capita GDP of service sector workers reached 320,000 baht, 520,000 baht and 570,000 baht. The 2008 figure is about three times higher than the national average.

In both Shanghai and Bangkok, the focus of investment by foreign companies has also shifted to nerve center functions and services. By 2005, tertiary sector industries in Shanghai received more foreign direct investment than secondary sector industries, and in 2008 investment in the tertiary sector reached \$6.8 billion, compared with \$3.2 billion for the secondary industry.

The same pattern is evident in investment by Japanese companies. If we use Toyo Keizai Shinposha's *Kaigai Kigyo Shinshutsu Ichiran 2008* [Overview of Overseas Investment by Companies 2008] to separate investment by manufacturing and service industries, we find that the service sector accounted for 90% of investment in 2008 in terms of the number of projects (Fig. 9). The same is true of Bangkok.

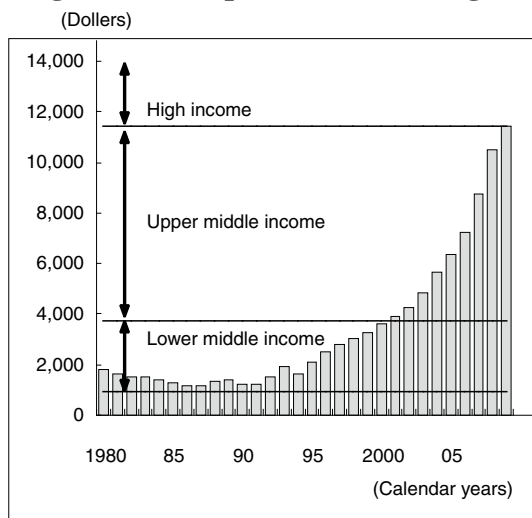
4. Expansion of Consumer Markets

(1) Rising Income Levels and Changing Consumer Spending Patterns

As noted earlier, export expansion driven by foreign investment has brought a dramatic improvement in the productivity of these mega cities. In Shanghai, per capita GDP has risen from 5,911 yuan (\$1,236) in 1990 to 30,047 yuan (\$3,630) in 2000 and 77,556 yuan (\$11,403) in 2008 (Fig. 10).

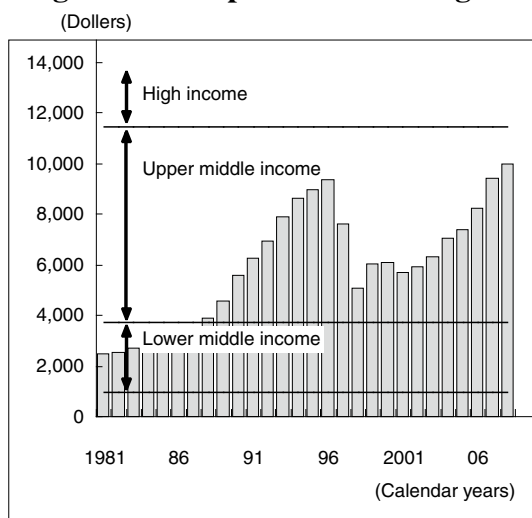
Similarly, Bangkok's per capita GDP more than doubled, from 142,675 baht (\$5,576) in 1990 to 226,002 baht (\$9,966) in 1996 (Fig. 11). It then fell to 209,647 baht (\$5,067) in 1998 under

Fig. 10 Per Capita GDP in Shanghai



Notes: High income: \$11,456 or more, upper middle income: \$3,706-11,455, lower middle income: \$936-3,705 (World Bank [2009], *World Development Indicators 2009*)
 Source: Compiled using data from the *Shanghai Statistical Yearbook*

Fig. 11 Per Capita GDP in Bangkok



Source: Compiled using NESDB, Gross Regional and Provincial Products

the impact of the economy recession triggered by the currency crisis and the economic crisis. However, it subsequently returned to an upward trend, reaching 334,053 baht (\$10,012) in 2008. In both Bangkok and Shanghai, per capita GDP is now over \$10,000 and approaching the \$11,455 threshold for the World Bank’s definition of high-income countries.

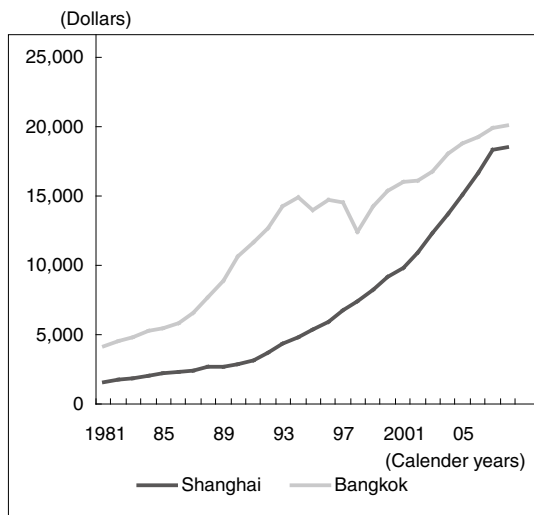
As illustrated by the example of Bangkok, dollar-based per capita GDP is influenced to some extent by exchange rates. We also need to take account of the low cost of living in Shanghai and Bangkok compared to advanced countries. Calculations based on purchasing power parity exchange rates, which exclude the effect of exchange rates and price levels, show that per capita GDP has risen almost consistently since 1980, and that by 2008 it had reached levels similar to that of developed countries at \$20,000 in Bangkok and \$19,000 in Shanghai (Fig. 12). These figures are equivalent to about 60% of Japan’s per capita GDP in 2008 (\$34,000).

We will look next at changes in household income levels and the consumer spending patterns. The results of annual household surveys in Shanghai are included in the *Shanghai Statistical Yearbook* are divided into urban and rural figures. For the purposes of this article, we will use the urban statistics. These show that annual per capita disposable income in the urban sector has risen from 2,183 yuan (\$456) in 1990 to 11,718 yuan (\$1,415) in 2000 and 28,883 yuan (\$4,443) in 2009). On a household basis, the 2009 figure is equivalent to over \$13,000, or over \$20,000 using conversion rates based on purchasing power parity.

Household surveys for Bangkok are included in the household socio-economic survey, which is a national survey conducted every two or three years rather than annually. Unfortunately there are no regional figures relating just to Bangkok, which is included in “Bangkok Metropolis,” together with Samut Prakan, Pathum Thani and Nonthaburi Provinces. Annual per capita disposable income in Bangkok Metropolis has climbed from 140,688 baht (\$5,496) in 1990 to 302,904 baht (\$7,554) in 2000 and 420,084 baht (\$12,176) in 2007. As in Shanghai, income rises above \$20,000 when calculated using exchange rates based on purchasing power parity.

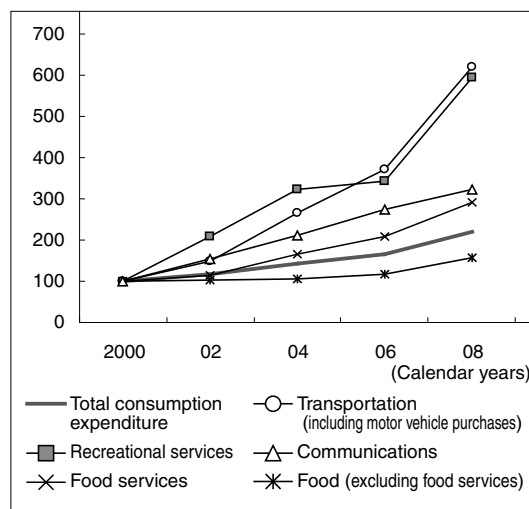
It is very significant that household incomes have risen to \$10,000 in nominal terms and \$20,000 on a purchasing power parity basis. Bangkok Metropolis has a population of around 9 million, while Shanghai’s population is about 19 million. Both Bangkok and Shanghai have be-

Fig. 12 Per Capita GDP in Shanghai and Bangkok (Based on Purchasing Power Parity Exchange Rates)



Source: Compiled using *Shanghai Statistical Yearbook*, NESDB, *Gross Regional and Provincial Products*, IMF, *World Development Outlook Database*

Fig. 13 Changes in Expenditure Items in Urban Shanghai (2000=100)



Source: Compiled using data from the *Shanghai Statistical Yearbook*

come giant consumer markets, not on a national basis but in their own right as cities.

(2) Changing Expenditure Patterns

We need to focus not only on the changes in the size of consumer markets in these mega cities, but also on qualitative changes. The following analysis uses consumption expenditure data from household surveys to trace lifestyle changes.

In urban Shanghai, total consumption expenditure (indexed at 100 in 2000) had doubled to 219 by 2008. However, expenditure on food services and communications was around three times higher at 291 and 323 respectively, while expenditure on recreational services and transportation, including the acquisition of motor vehicles, showed a six-fold increase to 594 and 619 respectively (Fig. 13). Consumption expenditure patterns have changed more gradually in Bangkok. As in Shanghai, however, there has been substantial growth in spending on transportation and communications. These trends are indicative of a shift to lifestyles similar to those in developed countries.

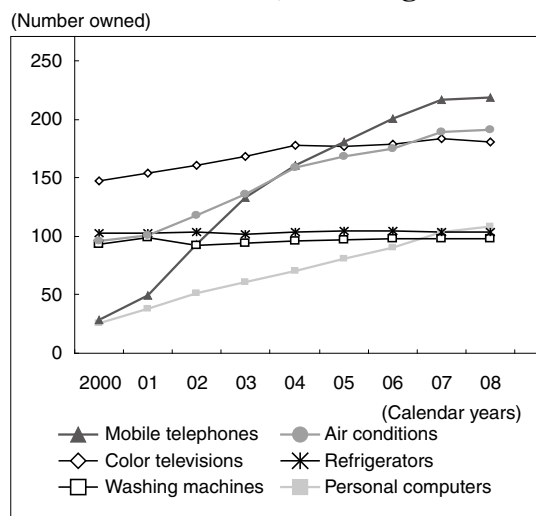
In recent years, these lifestyle changes have been reflected in dramatic changes in the distri-

bution markets of these mega cities. In Thailand, major supermarket chains like BigC, Tesco Lotus and Carrefour have accelerated the opening of new large-scale outlets, and there are numerous convenience stores, including 7-Eleven and FamilyMart outlets. The number of 7-Eleven outlets in Thailand has increased from 1,521 in 2000 to 4,778 in 2008, and the number of items on sale per 100 square meters of sales area is similar to the level in Japan at 2,000-2,500 (Suehiro [2009:107]). These are national figures, and the numbers for metropolitan Bangkok will obviously be even higher (Endo [2010]).

Further evidence of lifestyle changes can be found in changes in the numbers of durable consumer goods owned. In Shanghai, the numbers of televisions, refrigerators and washing machines owned now exceed the number of households, and ownership of mobile telephones, air conditioners and personal computers has started to expand (Fig. 14).

There are no data suitable for measuring ownership of durable consumer goods in Bangkok. However, the number of personal computers owned has reached 56.1 per 100 households, which is substantially higher than the national average of 24.8. The diffusion rate for mobile telephones has reached 72.7% of the population aged

Fig. 14 Ownership of Durable Consumer Goods (Per 100 Households) in Shanghai



Source: Compiled using data from the *Shanghai Statistical Yearbook*

six and older (NSO, Thailand [2010]).

(3) Emergence of High-Income Stratum

There is wide income disparity between the urban and rural sectors, and also within the urban sector, in China and the ASEAN countries. In 2008, the disposable incomes of the top 20% in Shanghai were 4.6 times higher than those of the lowest 20%. This is significantly higher than the 2000 ratio of 2.9 times.

The per capita disposable incomes of the top 20% quadrupled from 19,992 yuan (\$1,944) in 2000 to 53,733 yuan (\$7,787) in 2008. This is equivalent to over \$20,000 per household, or almost \$50,000 using purchasing power parity exchange rates. This is the same as the average income in Japan. If we simply multiply the percentage by the population, we find that Shanghai's population includes over 3 million people with incomes equal to or higher than income levels in Japan.

The situation in Bangkok is similar. In 2007, 70.5% of households had annual incomes of over 360,000 baht (\$10,500), while 35.0% were earning over 600,000 baht (\$17,400). By multiplying the total population by this ratio, we find that over 3 million people are in this income group. There

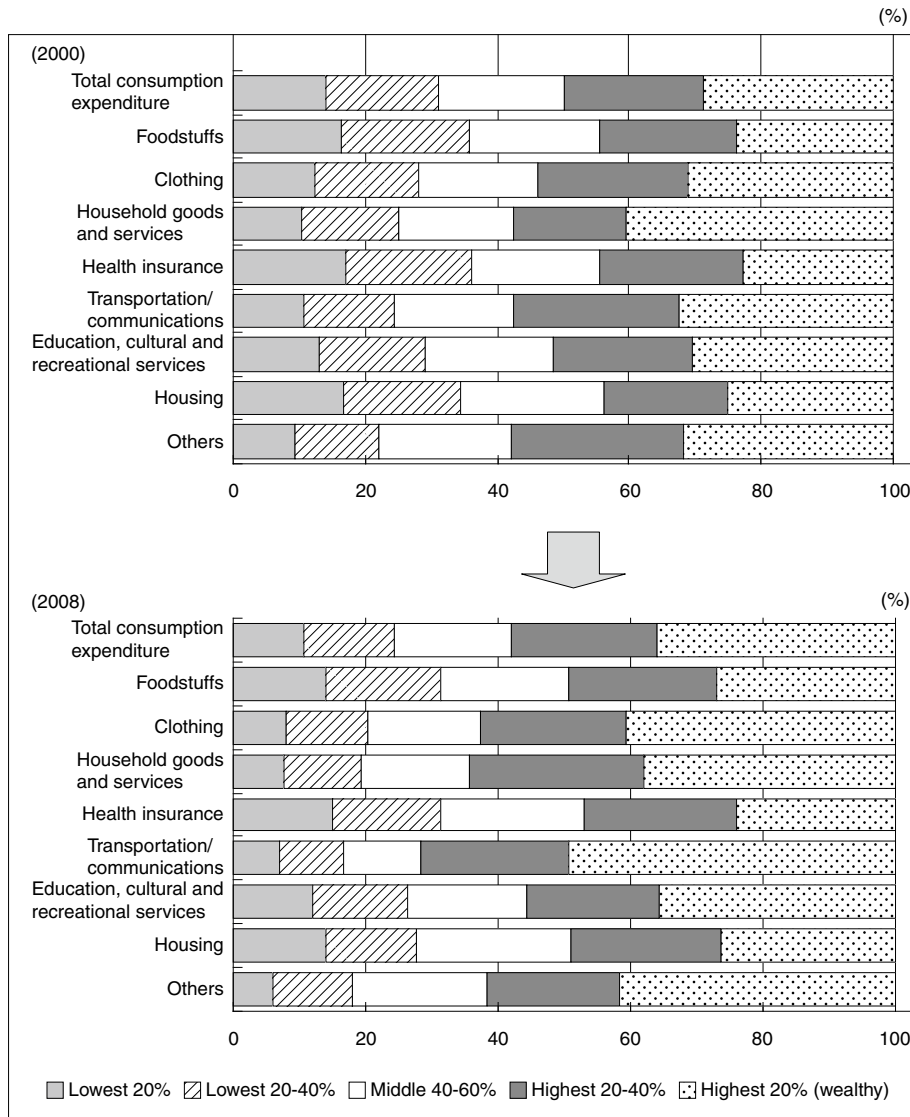
are also 4.5%, or 1 million people, with incomes over 1.2 million baht (\$34,800).

The lifestyles of the wealthy are becoming very similar to lifestyles in developed countries, and this group has become the main market driver. Fig. 15 compares each income group's shares of markets in Shanghai in 2000 and 2008. The top income group's share of expenditure on transportation and communications has risen from 32.6% in 2000 to 49.3% in 2008, indicating that the expansion of the motor vehicle and mobile telephone markets over the past few years has depended heavily on the spending power of the wealthy. The top group's share of spending on apparel has increased from 31.1% to 40.8%, and its share of spending on educational, cultural and recreational services from 30.4% to 35.6%.

If we assume that aggregate households expenditure equates to the size of the consumer market in Shanghai, the total market has expanded by a factor of 2.7 times in recent years, from 87.5 billion yuan in 2000 to 236.0 billion yuan in 2008. The market for spending by the wealthy has increased 3.4 times over the same period, from 25.0 billion yuan to 84.6 billion yuan, while this group's share of the market has risen from 28.6% to 35.8%. The aggregate market for spending by the lower 20-40%, the middle 40-60% and the top 20-40% has meanwhile increased from 50.0 billion yuan to 123.6 billion yuan over the same period, but while the population of this group is three times greater than that of the top income group, the increase in its spending is only 1.3 times higher.

In recent years companies have tended to focus on the "volume zone (middle income class)" of Asian consumer markets, since this group, with annual household incomes in the \$5,001-35,000 range, makes up a large percentage of the population⁽⁷⁾. However, we also need to be aware of changes in the markets of mega cities, including the emergence of a high-income group with consumption patterns identical to those in developed countries.

Fig. 15 Shares of Expenditure by Income Level in Urban Shanghai



Source: *Shanghai Statistical Yearbook* (2001, 2009)

5. Outlook and Risk

(1) The Flattening of Asian Cities

Mega cities in Asia have grown into driving forces for globalization through productivity improvement and the expansion of consumer markets. The continuation of this development in the future also seems assured, thanks to economic globalization made possible by falling communication and transportation costs and advances in information and communications technology.

In his book, *The World Is Flat: A Brief History*

of the Twenty-First Century, Thomas Friedman argued that falling communication and transportation costs and advances in information and communication technology would create a “flat” world in which economic activity would no longer be subject to constraints of location (Friedman [2006]). This prediction is already coming true in Asia’s mega cities. Furthermore, regional liberalization strategies, such as FTAs and EPAs, are accelerating flows of goods, money people and information between cities, leading to the formation of even closer ties.

As we have already seen, the level of develop-

ment achieved in mega Asian cities is far beyond what might be imagined from averaged national indicators. From the viewpoint of Japan's relationships with Asia, we need to be aware that we have entered an era of competition and cooperation between cities.

Since the second half of the 1980s, the relationship between manufacturing and exporting in Asia has been seen in terms of catch-up industrialization, (Suehiro [2000]). As shown in Fig. 16, the concept of catch-up industrialization is the theory that divisions of labor involving countries at different stages of economic development have driven industrialization in all countries. This model remains applicable to China and ASEAN, whose exports still include high percentages of labor-intensive manufactured goods. However, the percentage of high-tech manufactured goods is also rising, so some adjustment may be required.

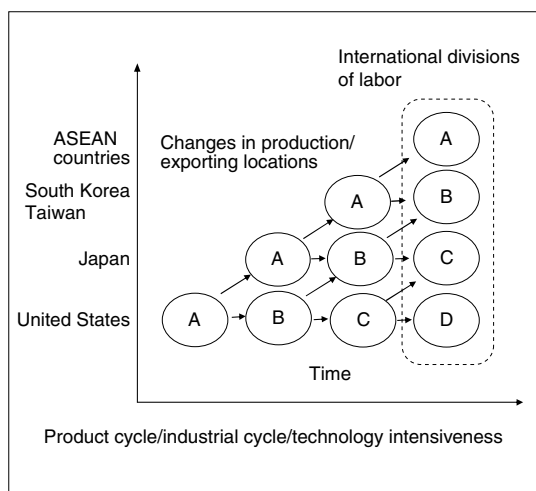
In other words, the transformation of production bases located in mega-regions into industrial clusters is causing vertical divisions of labor to evolve into intra-industry division of labor (Yoshitomi [2003]), and in recent years these divisions of labor have evolved still further to reflect the relative competitiveness of industrial clusters. In

the area of computer manufacturing, for example, Thailand has a competitive advantage for hard disk drives, Malaysia for integrated circuit boards and the Philippines for memory chips. Also significant is the rapid shrinkage of product lifecycles. Shortly after Japanese companies develop and commercialize high-tech products, manufacture of those products is relocated to China or ASEAN countries.

These mega-regions are likely to become even more competitive as more and more FTAs are signed. FTAs currently under negotiation are not limited simply to the liberalization of flows of goods through the removal of tariffs. They also encompass measures relating to exchanges of human and financial capital, including the easing of residence and employment restrictions and regulations concerning capital transactions. There is no doubt that mega cities will reap the greatest benefits from these changes.

Of course, it is also possible that the competitiveness of cities will be affected by future changes to the production structures of foreign-owned companies. For example, companies have been restructuring and consolidating their manufacturing sites in ASEAN since 2000, and in some cases competitiveness has been damaged when foreign-owned companies have retrenched production operations or withdrawn altogether (Sukegawa [2010]).

Fig. 16 Technological Innovation and Changes in Locations for Production and Exporting



Notes: Technology intensiveness increase from A to D.
Source: Suehiro, A. [2000], *Katchiappu-gata Kogyokaron—Aija Keizai no Kiseki to Tenbo* [Catch-up Industrialization—Asia's Economic Miracle and Future Prospects], University of Nagoya Press

(2) New Roles and Challenges for Mega Cities

Mega Asian cities have overcome the problems of over-urbanization and strengthened their positions as global cities. These achievements have also brought major changes in the roles of cities. For example, in 2008, the Asian Development Bank signaled a significant shift in its support for urban development when it announced a new framework called “City Cluster Development” (ADB [2009]).

In the past, urban development support to China and the ASEAN countries focused mainly on measures to counter the effects of over-urbanization through measures to improve infrastructure and mitigate environmental pollution. Under the new

framework, the Asian Development Bank will focus on the improvement of competitiveness in a globalized economic environment in its support for urban development. There is frequent reference to the concept of competitiveness in the national development plans of China and ASEAN countries. Mega cities will obviously be the main drivers of competitiveness.

However, there is still considerable variation between regions in the potential for urban development to make an immediate contribution to socioeconomic development at the national level, and as globalization advances it will become increasingly difficult to correct this disparity. This is because large-scale migration of human capital from provincial and rural areas into the cities has led to depopulation. Furthermore, instead of flowing back into provincial and rural areas, money created in the cities increasingly tends to flow toward other regions that offer higher returns.

China and the ASEAN countries are struggling to correct this disparity through income transfers based on social security systems. However, there are frequent references to problems with the development of these systems⁽⁸⁾. It has proven difficult to secure the money required to support social security systems, which comes from the mega cities in the form of taxes. As more FTAs are signed, there will inevitably be major declines in tariff revenues, and it will be necessary to raise the money through other types of taxation. Yet lower personal tax rates are desirable in terms of improving the motivation of individuals living in cities. Higher personal tax rates could trigger an outflow of human resources. Corporate tax rates also need to be kept low from a business competitiveness perspective, and an increase in tax rates could cause an exodus of foreign-owned companies. Governments are also reluctant to increase consumption taxes because of the need to expand domestic demand, which has been a key policy priority for governments in recent years. This need for social security funding is in direct conflict with urban development strategies.

A final factor that must be taken into account when considering the sustainable development of mega cities is their political and social relation-

ships with provincial and rural areas. While there is still wide regional economic disparity in Asia, this does not mean that provincial cities and rural areas have been entirely left behind by economic development. Income levels have also started to rise steadily in these areas. Despite this, there has been no progress toward the reduction of disparity because of the accelerating pace of development in mega cities. This situation could become a new source of political and social instability in emerging countries. The underlying cause of Thailand's political unrest is not the traditional gap between rural poverty and urban prosperity. This problem should be attributed rather to provincial and rural anger that despite improvements in their living standards, they still lag behind living standards in mega cities. Above all, we need to focus on the growing political influence of provincial and rural forces as a new vocal majority. From this perspective, the political upheavals in Thailand can be seen as a case study demonstrating the fact that stable political and social relationships between mega cities and other regions are absolutely vital to the sustainable development of mega cities in emerging economies.

End Notes

1. High income: \$11,456 or more, upper middle income: \$3,706-11,455, lower middle income: \$936-3,705 (World Bank [2009], *World Development Indicators* 2009)
2. For example, the number of motor vehicles sold in China has increased from 2.09 million in 2000 to 13.64 million in 2009. As a result of this more than six-fold increase, China has overtaken the United States to become the world's biggest motor vehicle market.
3. Malaysia is positioned between Group 1 and Group 2 but will be included in Group 1 for the purposes of this article.
4. To be more precise, the government established non-farming and farming household registration systems.
5. The China threat theory is based on China's low-cost labor resources, as well as the fact that it is more advanced technologically than the ASEAN members.

6. As of 2010, Shanghai's 11 subway lines comprise the largest subway network in the world with a total track length of 420 km, compared with 408 km in London, 370 km in New York and 304 km in Tokyo (Tsusho Koho [Extended Trade Report], May 21, 2010, *Kyu Pitchi de Kensetsu Susumu Chikatetsu Mo—Kensetsu Kosuto wa 20-Nenkan de Hanbun Ika ni* [Subway Construction Proceeding at Fever Pitch—Construction Costs Reduced to Less than Half in Past 20 Years])
7. The population of the volume zone in Asia has increased from 210 billion to 880 million (METI [2009]), but is also worth noting that the majority of people in this group have household incomes between \$5,001 and \$15,000.
8. The development of social security systems is seen as a priority from the perspectives of poverty elimination and adaptation to demographic aging.

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