

Chapter 3 Rapid change in the Chinese economy

Section 1 Macroeconomic trends

In this section, before conducting multifaceted analyses of the rapidly changing Chinese economy in the following section and thereafter, we will first take a look at an overview of recent macroeconomic trends in China and then examine changes in the Chinese industrial structure from the long-term perspective. Finally, we will look at matters requiring response if China is to continue its economic growth, including the disappearance of factors that have supported the high growth until now and the emergence of distortions associated with rapid growth.

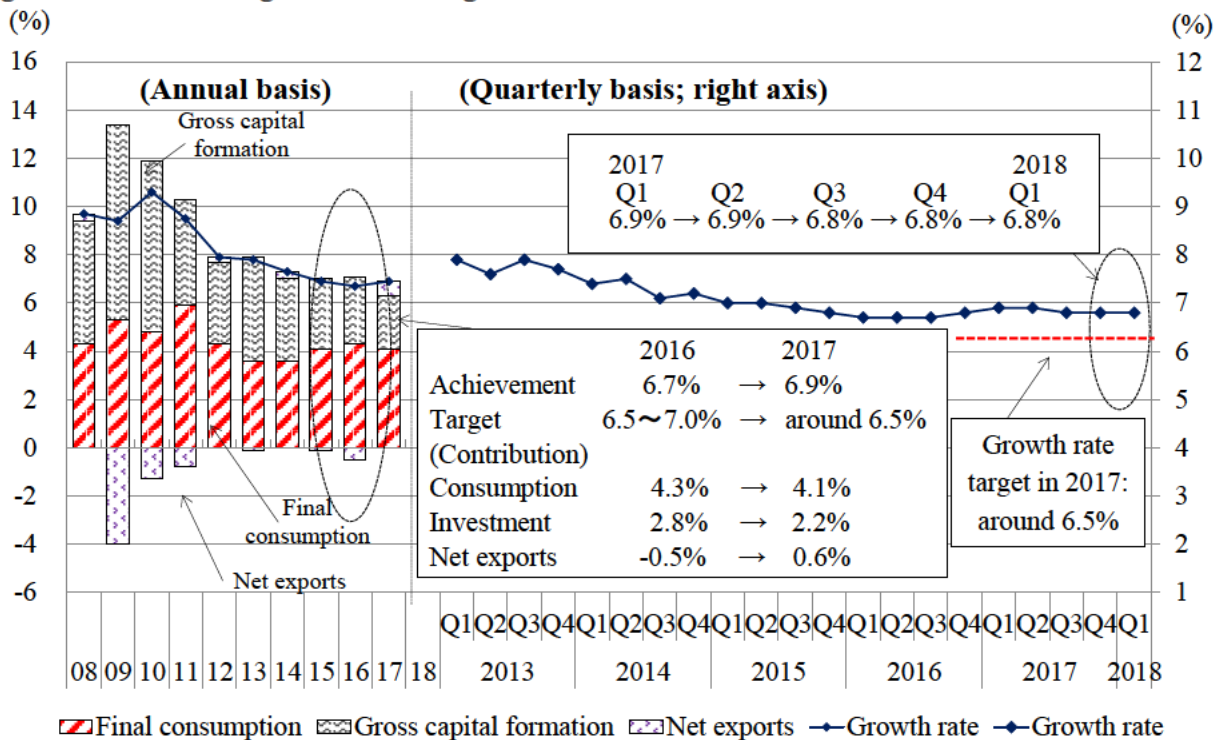
1. Macroeconomic trends

(1) Chinese economy in 2017

China's real GDP growth rate in 2017 was 6.9%, which was higher than the government's growth rate target and which represented the first growth in seven years on an annual basis (Figure II-3-1-1). A look at contributions to the growth by individual factors shows that in 2017, the turnaround of net exports from negative to positive had a significant impact. The contribution by investment was smaller than in the previous year. Although consumption also made a slightly smaller contribution, it continued to be the main pillar of growth, accounting for more than half of the overall growth.

By industry, the tertiary industry recorded higher growth than the secondary industry, indicating a shift in the industrial structure to the tertiary industry (Table II-3-1-2). The tertiary industry already accounts for more than half of GDP in terms of value, and its quarterly real growth rate gradually accelerated in 2017. In particular, services industries, including "information transmission, software and information technology services" and "renting and leasing activities and business services," achieved double-digit growth.

Figure II-3-1-1 Changes in real GDP growth rates in China



Notes: For a quarterly basis, breakdown of demand is not released. (Only a breakdown of cumulative contribution of demand is released, which does not correspond to quarterly GDP growth.)

Source: National Bureau of Statistics of China, CEIC Database.

Table II-3-1-2 Changes in real GDP growth rates in China by industry

(Unit: Billion yuan, %)

	Economic scale (2017)		Real growth rates						
	Value	Composition ratios	2016	2017	2017/Q1	2017/Q2	2017/Q3	2017/Q4	2018/Q1
Total	82,712	100.0	6.7	6.9	6.9	6.9	6.8	6.8	6.8
Primary industry	6,547	7.9	3.3	3.9	3.0	3.8	3.9	4.4	3.2
Secondary industry	33,462	40.5	6.3	6.1	6.4	6.4	6.0	5.7	6.3
Industry	28,000	33.9	6.0	6.4	6.5	6.6	6.3	6.2	6.5
Construction	5,569	6.7	7.2	4.3	5.3	5.4	4.0	3.1	5.4
Tertiary industry	42,703	51.6	7.7	8.0	7.7	7.6	8.0	8.3	7.5
Transport, storage, and post	3,680	4.4	6.6	9.0	8.7	9.6	9.1	8.6	7.7
Wholesale and retail trade	7,774	9.4	7.1	7.1	7.4	7.1	7.1	6.9	6.8
Accommodations and restaurants	1,459	1.8	7.4	7.1	7.4	7.0	7.1	7.0	7.1
Finance	6,575	7.9	4.5	4.5	4.4	3.2	5.6	4.0	2.9
Real estate	5,385	6.5	8.6	5.6	7.8	6.2	3.9	4.8	4.9
Information transmission, software and information technology services	2,745	3.3	(-)	26.0	19.1	23.0	29.0	33.8	29.2
Renting and leasing activities and business services	2,216	2.7	(-)	10.9	10.2	9.3	11.8	11.8	10.0
Others	12,868	15.6	9.3	7.1	6.9	7.2	6.7	7.2	6.1

Notes:

1. The term “Industry” includes the mining, manufacturing and electricity, gas, and water industries.
2. The figures for the economic scale in 2017 are nominal values.
3. The figures for “Information transmission, software and information technology services” and “Renting and leasing activities and business services” have been released since 2017.

Source: National Bureau of Statistics of China, CEIC Database.

(2) Results in 2017 and policy targets in 2018

The Report on the Work of the Government issued at the National People’s Congress (NPC) that was held in March summarized past economic activities and disclosed major targets for 2018 (Table II-3-1-3). The target for the GDP growth rate in 2018 was set at around 6.5%, the same as the target in 2017, indicating that China aims to achieve high quality growth, rather than recording a higher growth rate.⁶⁸ On the demand side, while

⁶⁸ The Report on the Work of the Government in 2017 referred to efforts to achieve better results than the target in practice, and the actual growth rate was 6.9%, higher than the target of 6.5%. The Report on the Work of the Government in 2018 included no reference to such efforts, and it has been pointed out that this omission indicates

the target for retail sales in 2017 was achieved under the policy of shifting from investment to consumption, the target for fixed asset investments was not attained. The target for retail sales in 2018 was set at a double-digit rate, around 10%, as the target in 2017 was, but no target was set for fixed asset investments. Regarding imports and exports in 2018, the policy of making stable improvements was indicated. However, the government had already ceased to set a target for imports and exports in 2017. As for the financial sector, although the balance of aggregate financing to the real economy was in line with the target, the target for money supply was not achieved, suggesting that the financial stance was relatively tight. No target for 2018 was set for either the balance of aggregate financing to the real economy or money supply. Regarding employment, the targets for the number of new employees and the registered unemployment rate in urban areas were achieved in 2017, and the targets for 2018 were set at the same levels as the targets for 2017. In addition, a new target for the surveyed unemployment rate in urban areas including migrant workers was set for the first time.⁶⁹

Among the priority areas for government action in 2018 are not only economic matters, such as supply-side structural reform, response to excess production capacity and excess debts, promotion of innovation, reform of state-owned enterprises and prevention of financial risks, but also various other matters, such as the narrowing of regional inequality between urban and rural areas, eradication of poverty, environmental measures, and securing of livelihoods for people (Table II-3-1-4). Regarding external relations, the report stated that the government will promote the “One Belt, One Road” initiative, promote inward direct investments, hold the first China International Import Expo, and lower import tariffs on automobiles and daily products.

Table II-3-1-3 Major economic targets in China

	2017		2018
	Target	Achievement	Target
Real GDP growth rates	Around 6.5%	6.9%	Around 6.5%
Consumer price index	Around 3%	1.6%	Around 3%
Nominal fixed asset investment	Around 9%	7.2%	-
Nominal total retail sales of consumer goods	Around 10%	10.2%	Around 10%
Nominal imports and exports	-		(Policy of making stable improvements)
Scale of fiscal deficits (as a percentage of GDP)	3% as a percentage of GDP (2.38 trillion yuan)	3% as a percentage of GDP (2.18 trillion yuan)	2.6% as a percentage of GDP (2.38 trillion yuan)
Money supply (year-on-year)	Around 12%	8.2%	-
Balance of aggregate financing to the real economy (year-on-year)	Around 12%	12%	-
Number of new employee in urban areas	11 million or more	13.51 million	11 million or more

the stance of placing priority on the quality of economic growth.

⁶⁹ The registered unemployment rate in urban areas, which has been published since earlier times, covers people with a family registry in urban areas but excludes migrant workers, so it has been pointed out that this indicator does not accurately reflect the actual situation.

Registered unemployment rate in urban areas	Within 4.5%	3.9%	Within 4.5%
Surveyed unemployment rate in urban areas (including migrant workers)	-	-	Within 5.5%

Source: *Report on Government Activities* (National People’s Congress), National Bureau of Statistics of China, CEIC Database.

Table II-3-1-4 Fields on which China placed emphasis in 2018

<ul style="list-style-type: none"> ◦ Promote supply-side structural reform <ul style="list-style-type: none"> - Engage in: removal of three excesses (production capacity, real-estate inventories, and debts); one reduction (company costs); and one reinforcement (vulnerable elements in society, such as the issue of poverty); develop new dynamos (big data, AI, internet Plus) ◦ Accelerate construction of an innovative nation <ul style="list-style-type: none"> - Thoroughly implement policies for encouraging innovations; Promote public-oriented startups and innovations ◦ Enrich reforms in important fields as bases <ul style="list-style-type: none"> - Promote the reform of state-owned companies; Encourage private companies to develop business ◦ Address three persistent challenges (“three major robust forts”) <ul style="list-style-type: none"> - Prevent financial risks, remove poverty and address environmental problems ◦ Vitalize rural areas <ul style="list-style-type: none"> - Expand income of farmers; Improve infrastructures in rural areas ◦ Harmonize development levels between regions <ul style="list-style-type: none"> - Provide equalized basic public services; Reduce differences in development levels between urban and rural areas or between regions ◦ Proactively expand consumption and promote effective investment <ul style="list-style-type: none"> - Expand consumption in line with changes in public demand; Promote investment to optimize supply structures ◦ Relationships with overseas countries <ul style="list-style-type: none"> - Promote international cooperation through the One Belt, One Road initiative; Promote inward direct investment; Enhance stable trade; Hold the first China International Import Expo; Lower import tariffs on automobiles and daily products ◦ Secure civilian lives <ul style="list-style-type: none"> - Raise people’s income levels; Improve quality of insurance, medical care, foods and medicines

Notes: These data on the fields on which China placed emphasis were compiled based on the Government Activity Report.

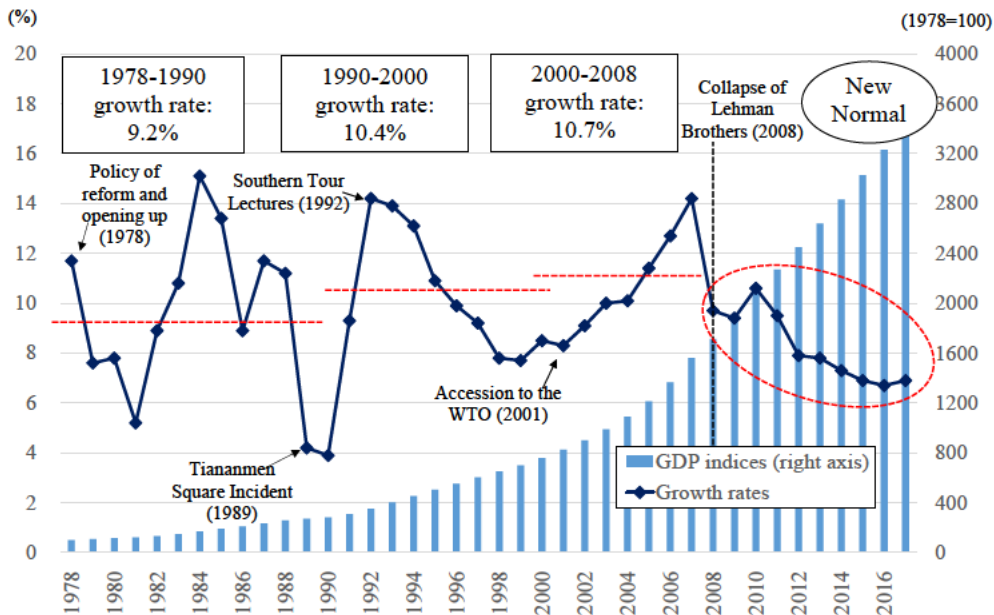
Source: *Government Activity Report* (National People’s Congress of China).

2. Changes in the Chinese industrial structure

Here, we will look at changes in the Chinese industrial structure from the long-term perspective. First, we will look at long-term changes in economic growth. Since China’s shift to the policy of reform and opening up, the Chinese economy has maintained growth of around 10% on average. In particular, after China’s accession to the WTO, the growth accelerated and the scale of the Chinese economy expanded rapidly (Figure II-3-1-5). Until immediately before the collapse of Lehman Brothers, the Chinese economy continued to record growth of higher than 10%. However, since the collapse of Lehman Brothers, the economy has shifted to the

“new normal,” with its growth rate moderately slowing down except during the period of the four-trillion-yuan economic package.⁷⁰

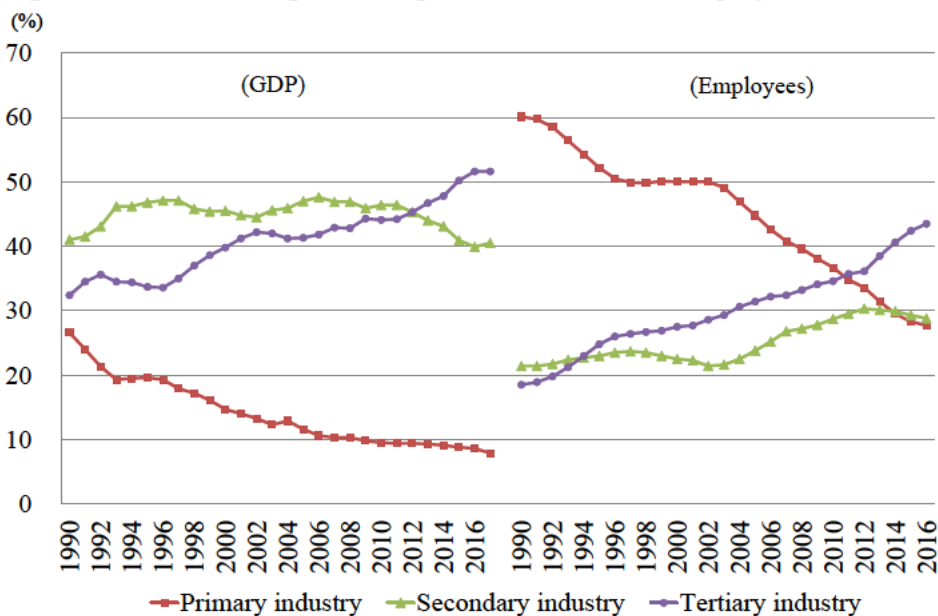
Figure II-3-1-5 Historical changes in real GDP growth rates in China



Source: National Bureau of Statistics of China, CEIC Database.

Looking at changes in the Chinese industrial structure over the years, while the share of the primary industry shrank, a shift to the secondary and tertiary industries proceeded (Figure II-3-1-6). In particular, the tertiary industry achieved a remarkable expansion, with its share of GDP surpassing 50% in 2015. Recently, the secondary industry also started shrinking, indicating a shift to the tertiary industry.

Figure II-3-1-6 Changes in composition of GDP and employees in China by industry

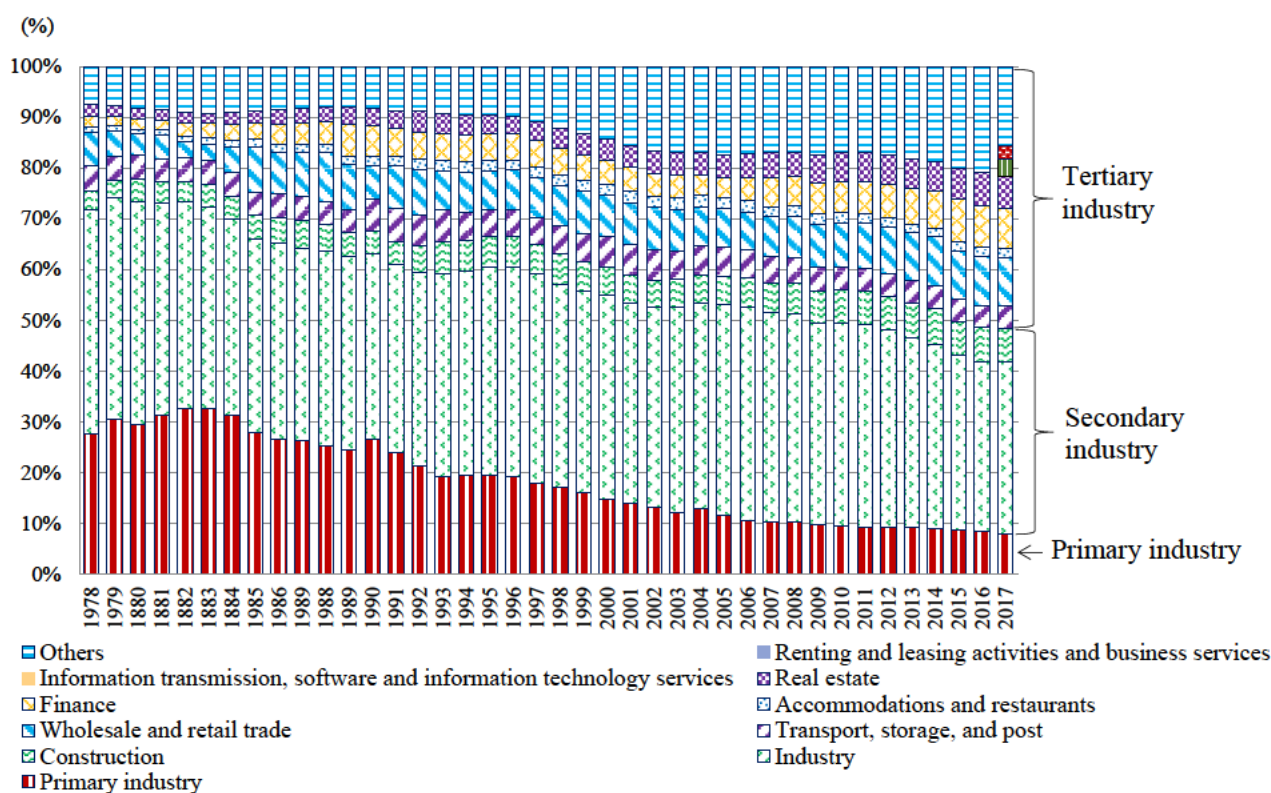


Source: National Bureau of Statistics of China, Ministry of Human Resources and Social Security, CEIC Database.

70 The use of the term “new normal” has become widespread since General Secretary Xi Jinping used it in 2014. The term refers to a new economic state in which the growth rate has declined.

In the tertiary industry, wholesale and retail trade, finance and real estate expanded. Among other sectors that recorded high growth are “information transmission, software and information technology services” and “renting and leasing activities and business services” (Figure II-3-1-7) as was already described.⁷¹

Figure II-3-1-7 Changes in composition of GDP in China by industry



Notes: The composition rates are calculation results based on nominal yuan. The graph bars in red represent the primary industry, those in green represent the secondary industry and those in blue and purple represent the tertiary industry.

The figures for “Information transmission, software and information technology services” and “Renting and leasing activities and business services” have been released since 2017.

Source: National Bureau of Statistics of China, CEIC Database.

In the secondary industry, there was a change in the lineup of growth sectors. In terms of sales share, the share of the textile sector continuously declined in the 2000s, while the share of the automobile sector mostly continued to expand⁷² (Figure II-3-1-8). The shares of the mining, steel and metals sectors continued to expand until around the collapse of Lehman Brothers but declined thereafter.

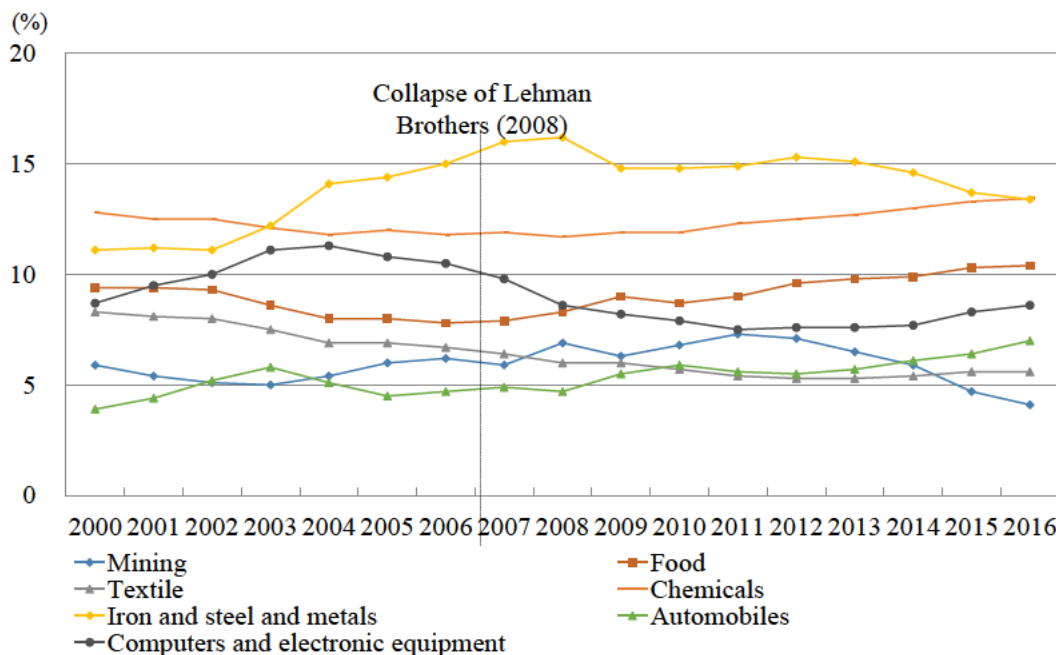
If GDP is looked at from the viewpoint of demand, the shares of gross capital formation and net export expanded in the 2000s until the collapse of Lehman Brothers, while the share of private consumption shrank. However, after the collapse of Lehman Brothers, the share of gross capital formation shrank following the four-trillion-yuan economic package and the share of private consumption grew moderately (Figure II-3-1-9). If these trends are examined based on the breakdown of contributions to the real GDP growth rate, the contribution by investment has declined since the collapse of Lehman Brothers, while consumption has become

71 Both “information transmission, software and information technology services” and “renting and leasing activities and business services” are new industry categories that were introduced into GDP statistics in 2017 for the first time. Until 2016, both items were included in the “others” category.

72 As GDP statistics do not publish a sub-sector breakdown concerning the manufacturing industry, sales figures were used here as a reference.

the pillar of growth (Figure II-3-1-10). In that sense, the economy is gradually shifting from investment-led growth to consumption-led growth.

Figure II-3-1-8 Changes in sales share of the major sectors in the industrial sectors in China

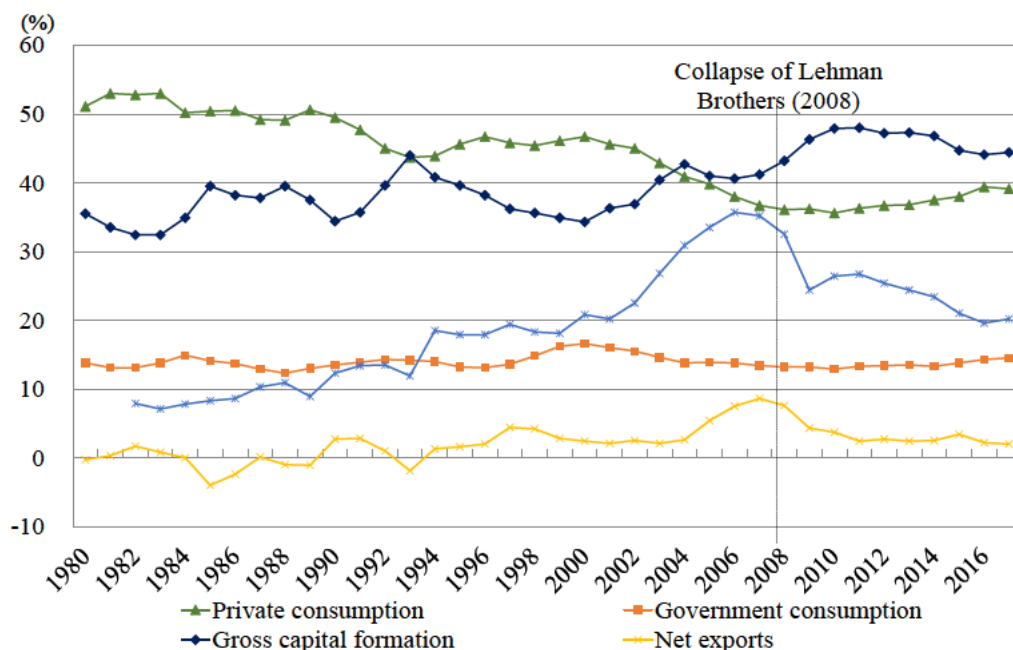


Notes:

1. The figures show the share of target sectors in industry (mining, manufacturing and electricity, gas and water supply).
2. The data show the major sectors.

Source: National Bureau of Statistics of China, CEIC Database.

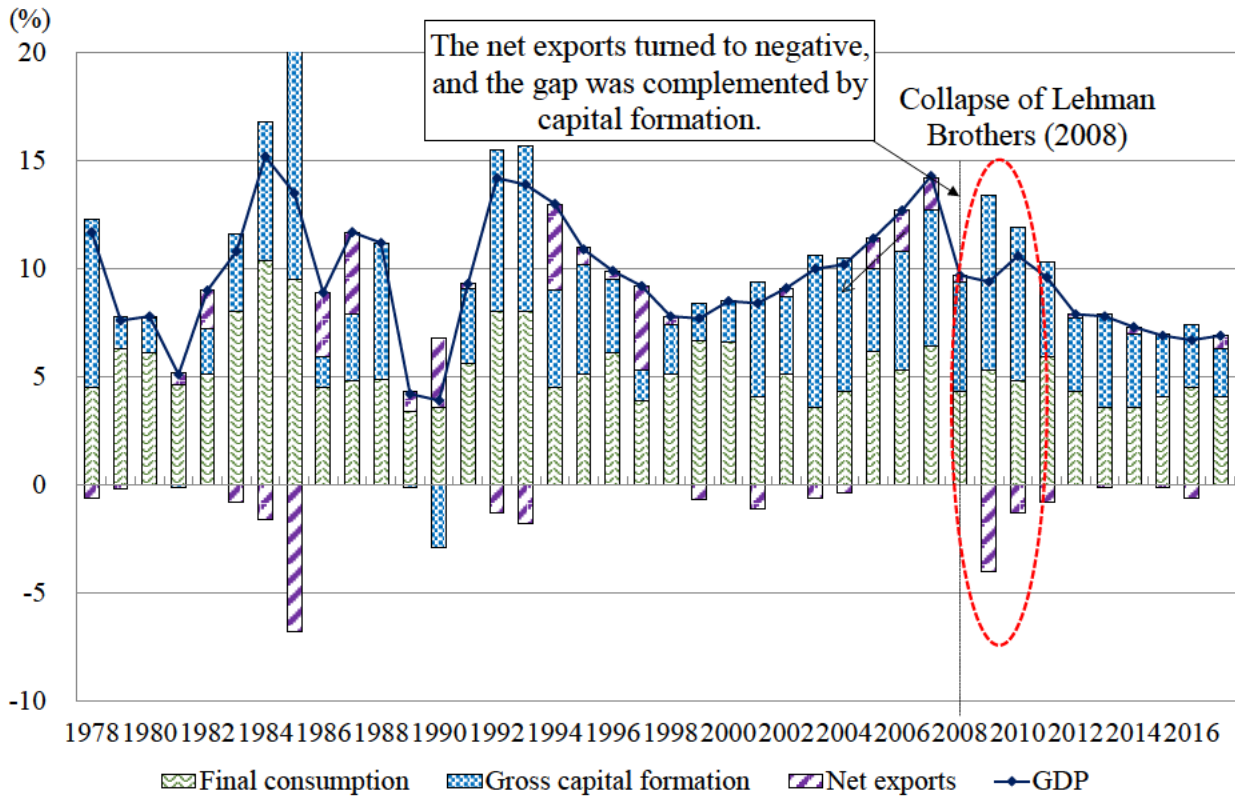
Figure II-3-1-9 Changes in composition rates of GDP in China by demand



Notes: Regarding the statistics on GDP, the breakdowns of imports and exports in terms of net exports are not released. Accordingly, the data on exports shown here are the data on dollar-based goods and services balance of statistics on balance of payment in yuan equivalents.

Source: National Bureau of Statistics of China, CEIC Database.

Figure II-3-1-10 Changes in contributions of real GDP growth in China



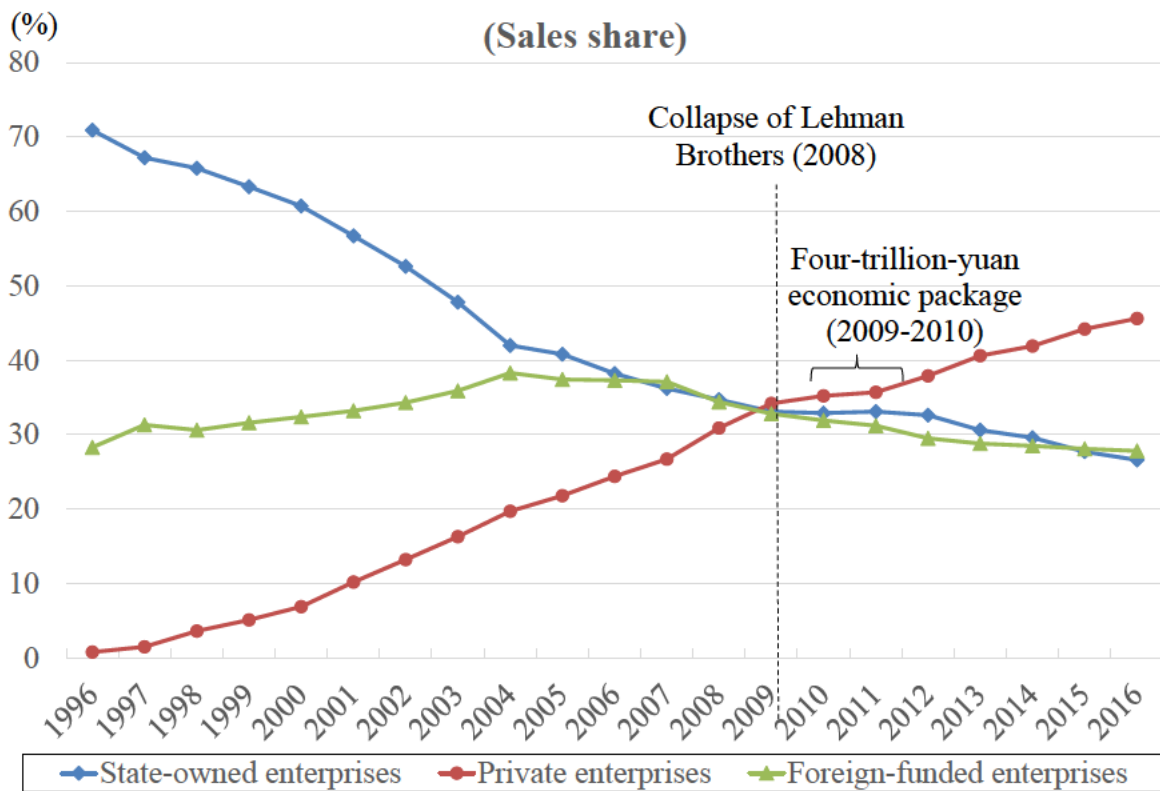
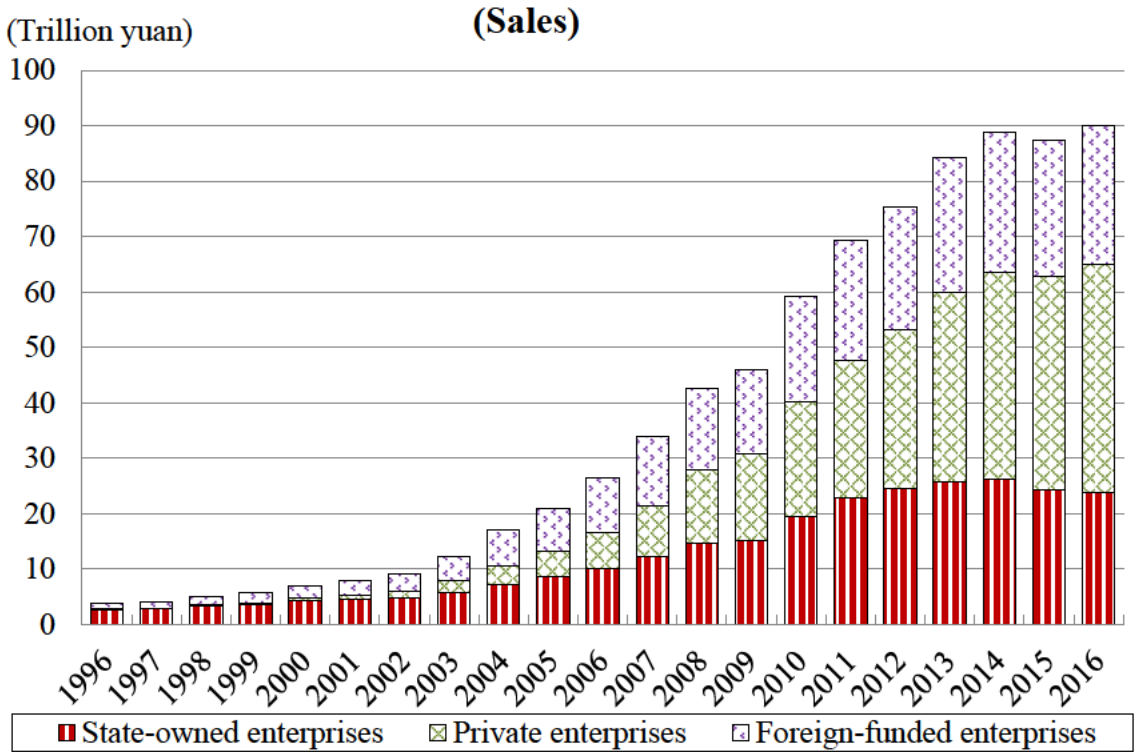
Notes: Regarding the contributions of final consumption, the data on the breakdowns by government consumption and those by private consumption are not released.

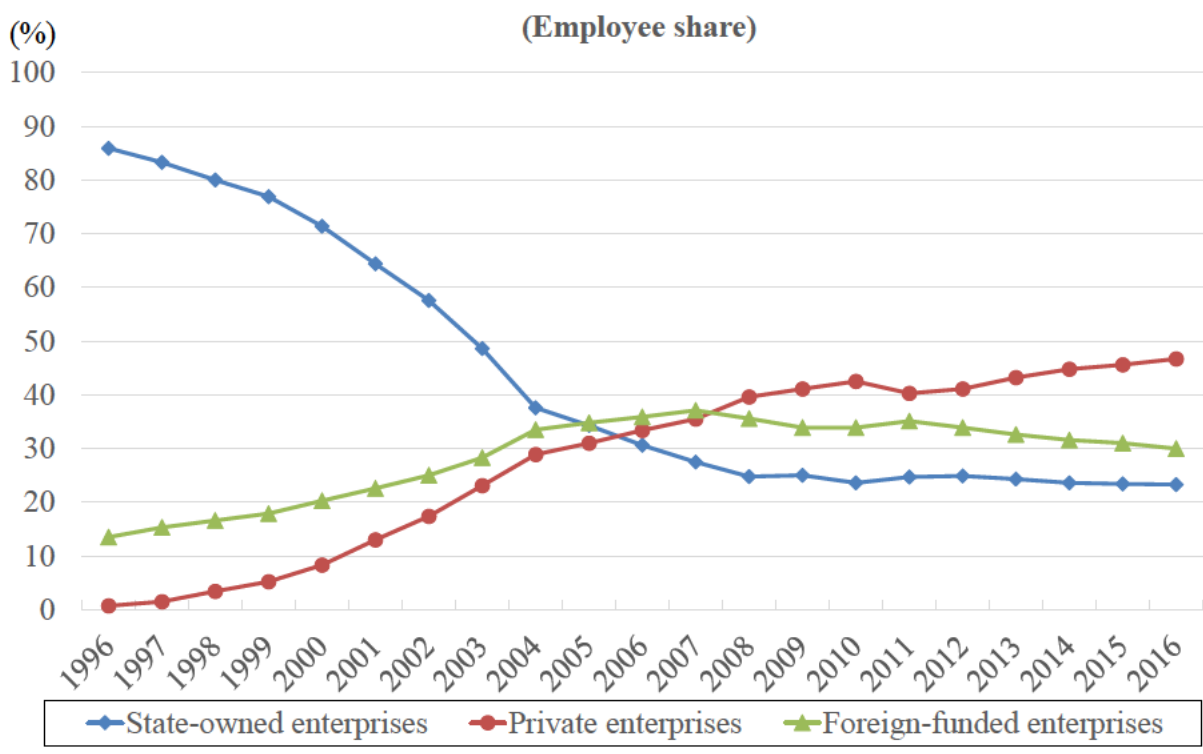
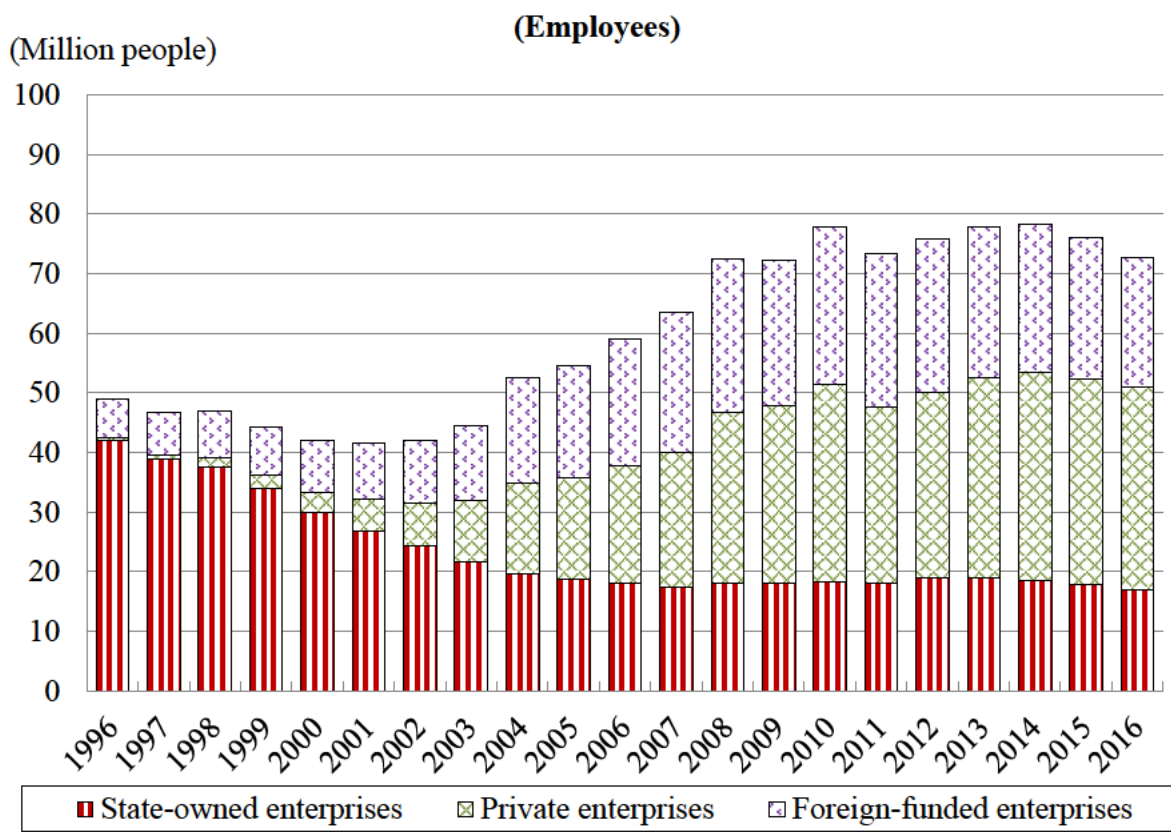
Source: National Bureau of Statistics of China, CEIC Database.

If enterprises are classified by status of registration, namely state-owned, foreign-funded and private enterprises, private enterprises have been gradually growing, with their share in economic activity expanding.⁷³ For example, regarding changes in the share in the industrial sectors, state-owned enterprises had a share of around 70% around the middle of the 1990s compared with around 30% for foreign-funded enterprises and almost zero for private enterprises (Figure II-3-1-11). However, afterwards, the share of private enterprises increased, surpassing the share of state-owned enterprises in the middle of the 2000s, and recently, it has reached around 50%. The trend in the share in employment was similar.

⁷³ Regarding the mining and industrial sectors, the National Bureau of Statistics of China publishes statistics classified by company type--state-owned enterprises, private enterprises and foreign-funded enterprises--so, we used them. Here, state-owned enterprises are enterprises in which the state has an exclusive or majority investment share, or in which the state is the largest shareholder when its share falls short of the majority. Private enterprises are enterprises which are controlled by domestic capital and which involve no state capital. Foreign-funded enterprises are enterprises controlled by foreign capital, including joint ventures with domestic capital. Enterprises controlled by capital from Hong Kong, Macau and Taiwan are included among foreign-funded enterprises.

Figure II-3-1-11 Changes in sales and employees by status of registration in the industrial sectors in China



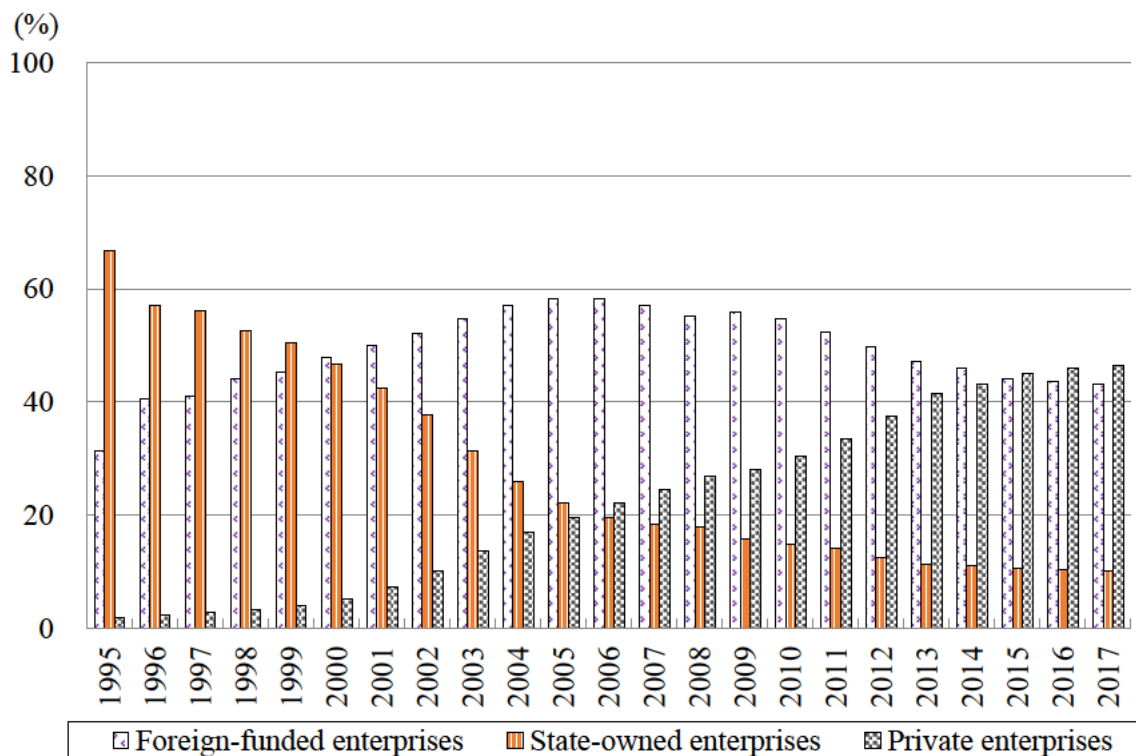


Source: *China Statistical Yearbook* (National Bureau of Statistics of China), CEIC Database.

In terms of share in Chinese exports, the share of state-owned enterprises declined, while the share of foreign-funded enterprises continued to grow until around the middle of the 2000s, reflecting their significant role in exports (Figure II-3-1-12). However, private enterprises have gradually grown as exporters, and their share in exports has recently surpassed the share of foreign-funded enterprises. Regarding the trade balance, while private and foreign-funded enterprises have recorded some surpluses, state-owned enterprises have

stayed in deficit since around the middle of the 2000s (Figure II-3-1-13).⁷⁴

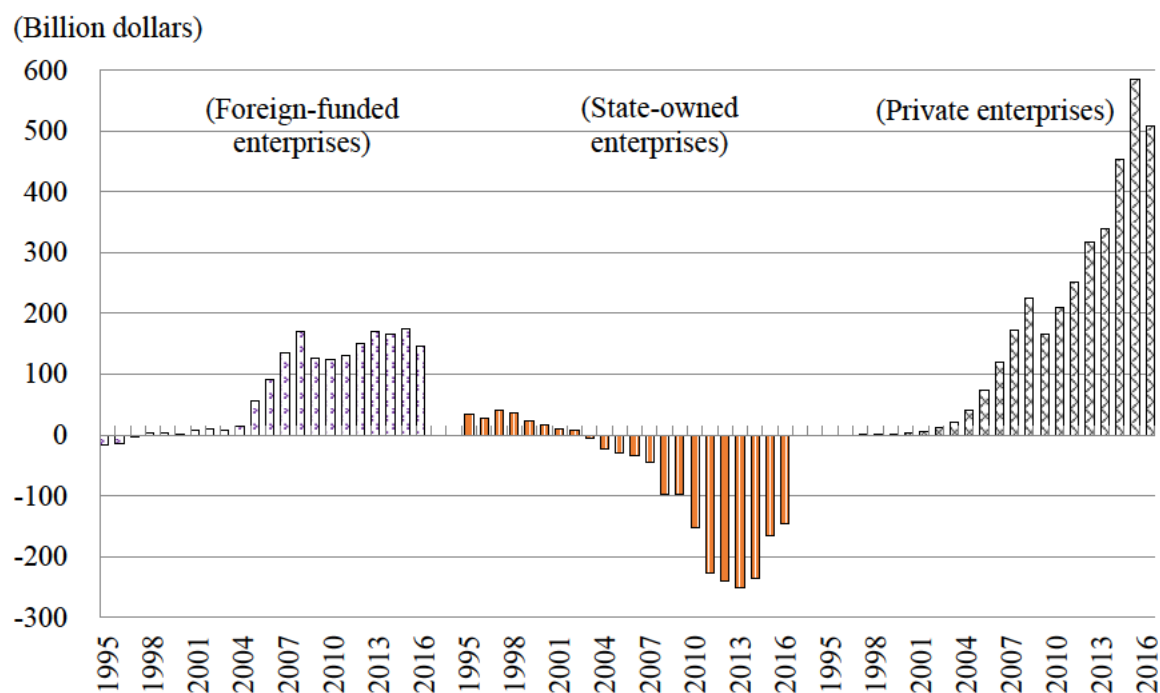
Figure II-3-1-12 Share in exports in China by status of registration



Notes: The foreign-funded enterprises include fully-owned foreign-funded enterprises and joint-venture enterprises run by foreign-funded enterprises and domestic funded enterprises.

Source: General Administration of Custom of China, CEI Database, Global Trade Atlas.

Figure II-3-1-13 Trade balance in China by status of registration



74 However, this may be partly because major state-owned enterprises are responsible for importing crude oil and other natural resources.

Notes: The foreign-funded enterprises include fully-owned foreign-funded enterprises and joint-venture enterprises run by foreign-funded enterprises and domestic funded enterprises.

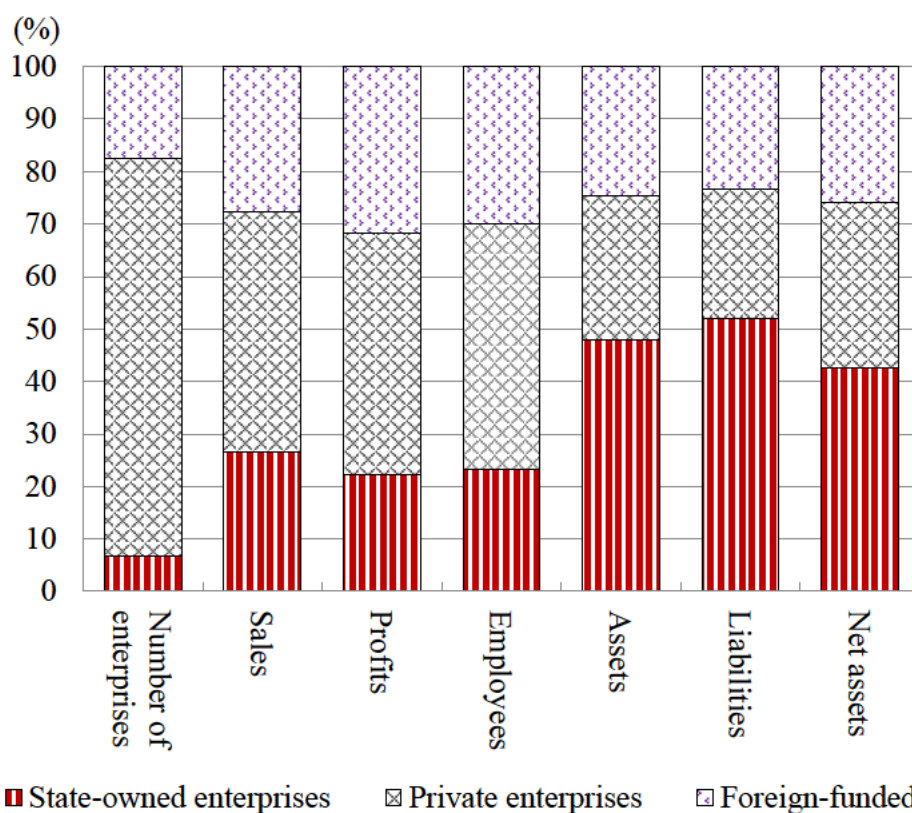
Source: General Administration of Custom of China, CEI Database, Global Trade Atlas.

Column 3 Reform of Chinese state-owned enterprises

In China, the reform of state-owned enterprises is being addressed as a major challenge. As was earlier described, privatization was promoted from the late 1990s onwards, mainly with respect to small and medium-size state-owned enterprises, so the share of state-owned enterprises in the overall number of enterprises and overall sales declined. However, the share of state-owned enterprises in the Chinese economy still remains large. For example, although state-owned enterprises account for less than 10% of the total number of enterprises in the industrial sectors, they have a share of 20-30% in the overall value of sales and profits and the total number of employees and hold around half of the assets and liabilities (Column Figure 3-1). By sector, state-owned enterprises have a large share in the energy and heavy industry sectors, including electric power, automobiles, oil/coal, steel, and non-ferrous metals.

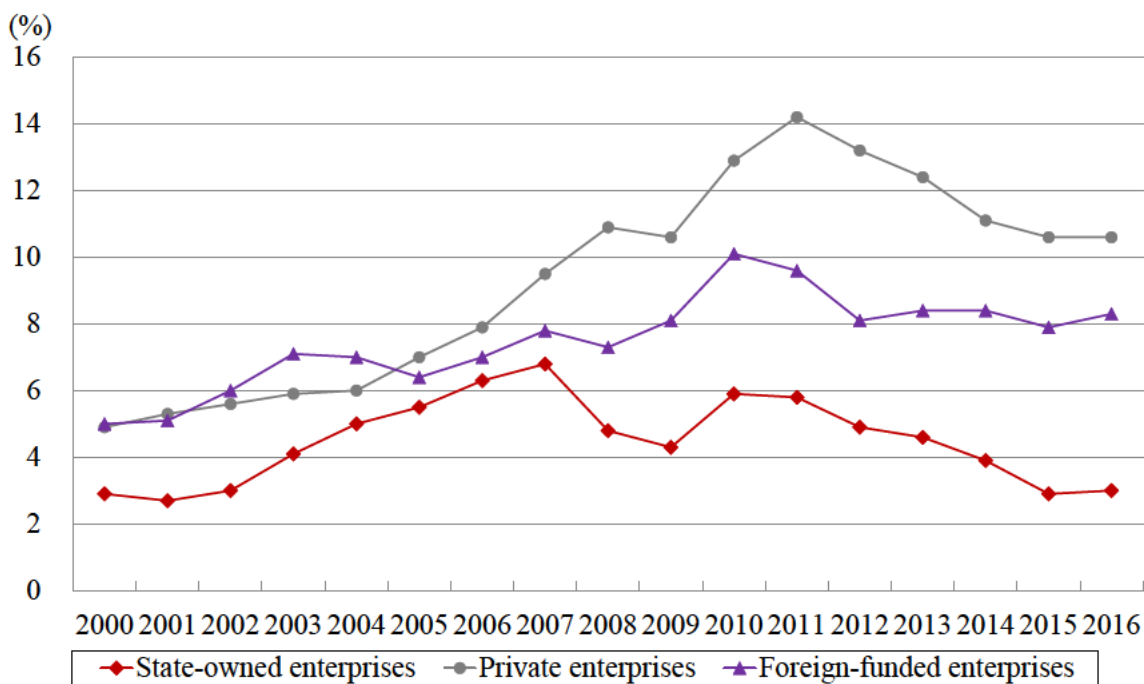
As a background factor of the reform of state-owned enterprises, their low efficiency has been pointed out. For example, a comparison in terms of the return on assets shows that the profit margin of state-owned enterprises is smaller than that of private enterprises (Column Figure 3-2). By sector, although state-owned enterprises have a profit margin comparable to that of private enterprises in some sectors, including the automobile sector, their profit margin is generally lower, especially in sectors facing an excess production capacity problem, such as mining and steel, with the profit margin in negative territory. (Column Figure 3-3).

Column Figure 3-1 Share in the industrial sectors in China by status of registration (2016)



Notes: The figures represent the share of total value of state-owned, private and foreign-funded enterprises.
 Source: *China Statistical Yearbook* (National Bureau of Statistics of China), CEIC Database.

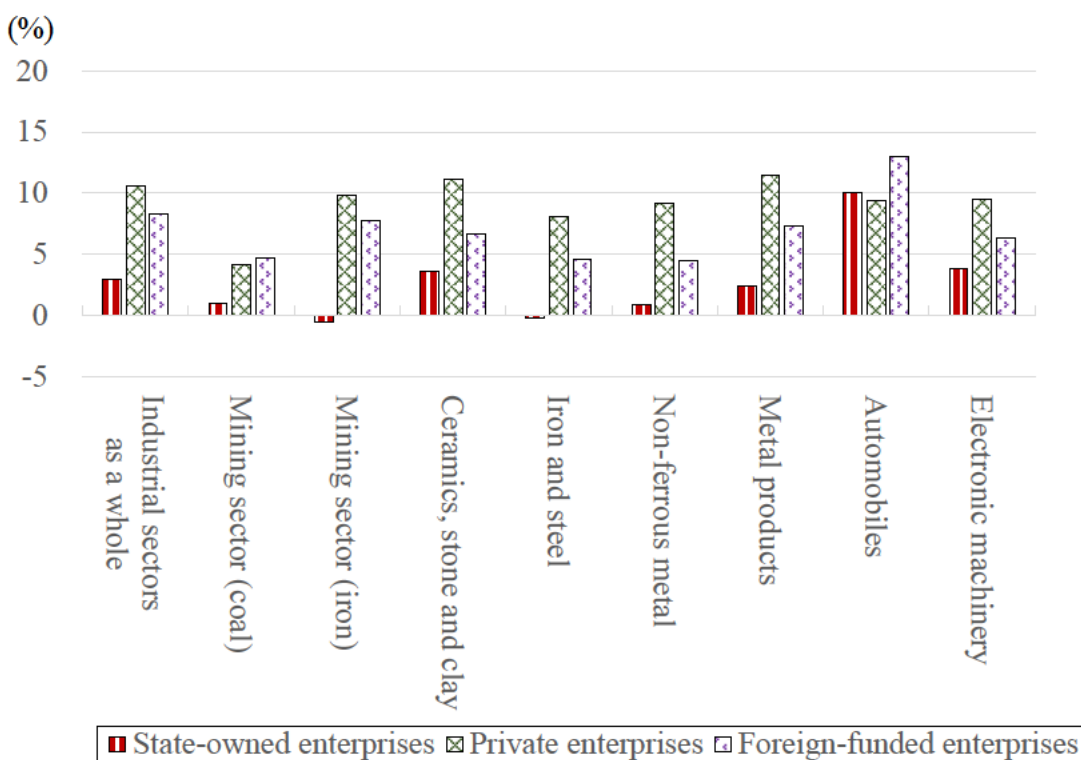
Column figure 3-2 Ratio of profits of enterprises in the industrial sectors in China



Notes: The figures are the results of the calculation using the formula: profit margins = total profit amount / total asset amount.

Source: National Bureau of Statistics of China, CEIC Database.

Column Figure 3-3 Ratio of profits in the industrial sectors in China by status of registration (2016)



Notes: The figures are the results of the calculation using the formula: profit margins = total profit amount / total asset amount.

The total profit amount is net profit after tax.

Source: *China Statistical Yearbook* (National Bureau of Statistics of China).

Regarding the relationship between state-owned and private enterprises (or the relationship between the public-sector and non-public sector economies), at the Third Plenary Session of the Central Committee of the Communist Party of China in 2013, it was stated that China would have the market economy play a “decisive role” but also that it would maintain the public-sector economy, indicating the policy of simultaneously promoting the public-sector and non-public-sector economies. In line with the decisions made at the Third Plenary Session, guiding opinions⁷⁵ were jointly issued in 2015 by the Communist Party of China and the State Council. The guiding opinions advocated a mixed ownership system, a modern enterprise system, and enhancement of governance. The opinions also set the strengthening of state-owned enterprises as the objective of the reform and indicated the policy of developing them into world-class multinational enterprises. The mixed ownership system is intended to enhance corporate governance by making use of management knowhow through the introduction of private capital into state-owned enterprises and improve efficiency by separating government and enterprises. Meanwhile, regarding the enhancement of state-owned enterprises, mergers between major state-owned enterprises controlled by the central government have been implemented one after another under the slogan of “stronger and larger.” However, if huge state-owned enterprises created out of mergers dominate the market, it may become difficult to enhance competitiveness because sound competition is undermined, or the development of private enterprises may be undermined contrary to the objective. It is necessary to keep a close watch as to whether or not the reform of state-owned enterprises will run counter to the trend of placing priority on market principles.

75 “Guiding Opinions on Deepening State-Owned Enterprise Reform, September 2015”, *Zhong Fa* [2015] No. 22.

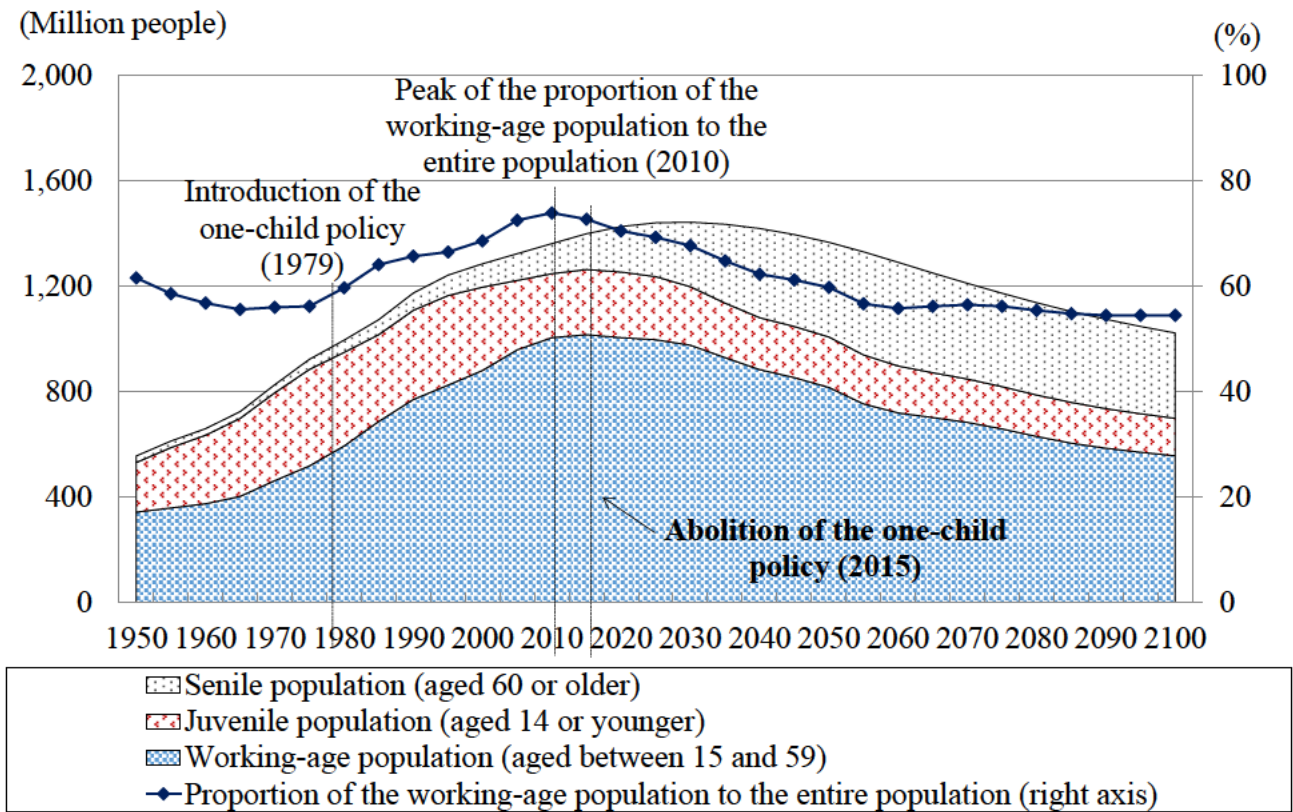
3. Economic challenges under the “new normal”

Here, we will examine challenges that must be resolved amid the slowdown of China’s economic growth in order to maintain the growth in the future, including the loss of factors that have supported high growth until now and the distortions associated with growth.

(1) Response to a decline in the working-age population and a rise in wages

China enjoyed so-called demographic dividends, which refer to the economy-expanding effect of growth in the working-age population, but it is now facing a labor force decline as the working-age population is considered to have peaked out around 2010 (Figure II-3-1-14). From now on, in addition to the aging of the population, the social security system is expected to emerge as a major issue. Although the government of China has already abolished the one-child policy, it is difficult to restore the labor force quickly. Therefore, it is expected to be inevitable for China to shift to the demographic onus phase.⁷⁶

Figure II-3-1-14 Projections for population distribution in China (UN estimates)



Notes:

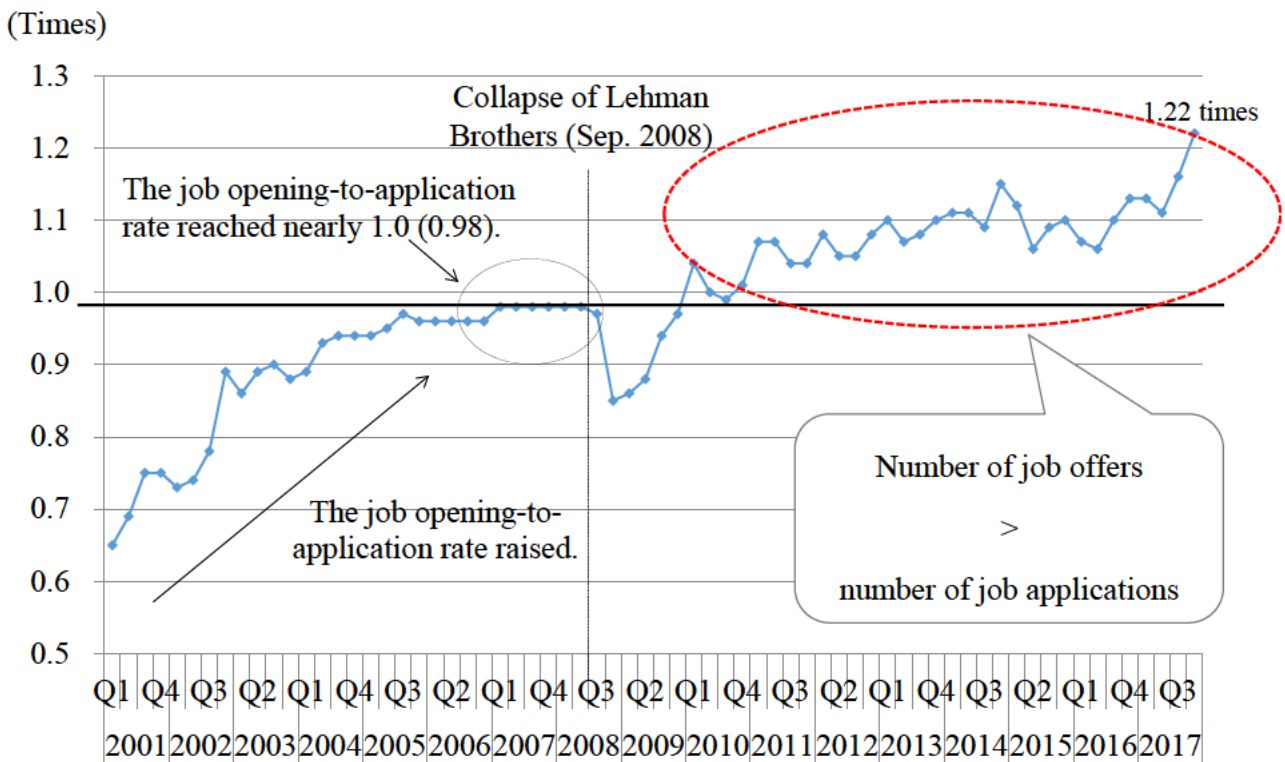
1. The figures are UN estimates. There are several assumptions for birth rates, and the figures show median estimates.
2. The UN releases the estimates by five-year period. Meanwhile, the government of China annually releases achievement-based data on the population and shows that the working-age population peaked out in 2011.

Source: *World Population Prospects 2017* (UN).

⁷⁶ As the one-child policy has been abolished, married couples are now allowed to have up to two children. However, it has been pointed out that not all married couples necessarily wish to have a second child. In addition, while the working-age population is tentatively defined here as people aged 15 or older, it will take time for newly born children to reach that age, which means that it is difficult to devise demographic policy measures that bring quick results. The United Nations World Population Prospects assume five cases classified by fertility assumption (median-fertility, high-fertility, low-fertility, constant fertility and constant population). As in the median-fertility assumption case, which is shown in Figure II-3-1-14, even in the high-fertility assumption case, the working-age population will continue to decline until the middle of this century.

It is said that the surplus labor that used to exist in inland rural areas is declining at the same time as the working-age population in the whole of China has started to shrink, resulting in a rise in the job opening-to-application rate in urban areas. Since the beginning of the 2010s in particular, as the job opening-to-application rate has stayed above 1.0, securing a labor force has become a challenge (Figure II-3-1-15). Under these circumstances, personnel costs have risen in manufacturing and many other industries, including wholesale and retail trade. The rise is particularly conspicuous in the financial industry⁷⁷ (Figure II-3-1-16). By region, the labor cost rise is remarkable in Beijing and Shanghai, as well as in Guangdong Province, where many manufacturers exporting products, including Japanese enterprises, are located. The current wage level in China has surpassed the levels in major ASEAN countries, such as Thailand and Malaysia, and it is pointed out that a rising labor cost lowers international competitiveness through an increase in production cost (Figure II-3-1-17). If China is to maintain competitiveness in the future, it is considered to be necessary to improve productivity through labor-saving measures and develop new products and explore new fields through industrial sophistication.

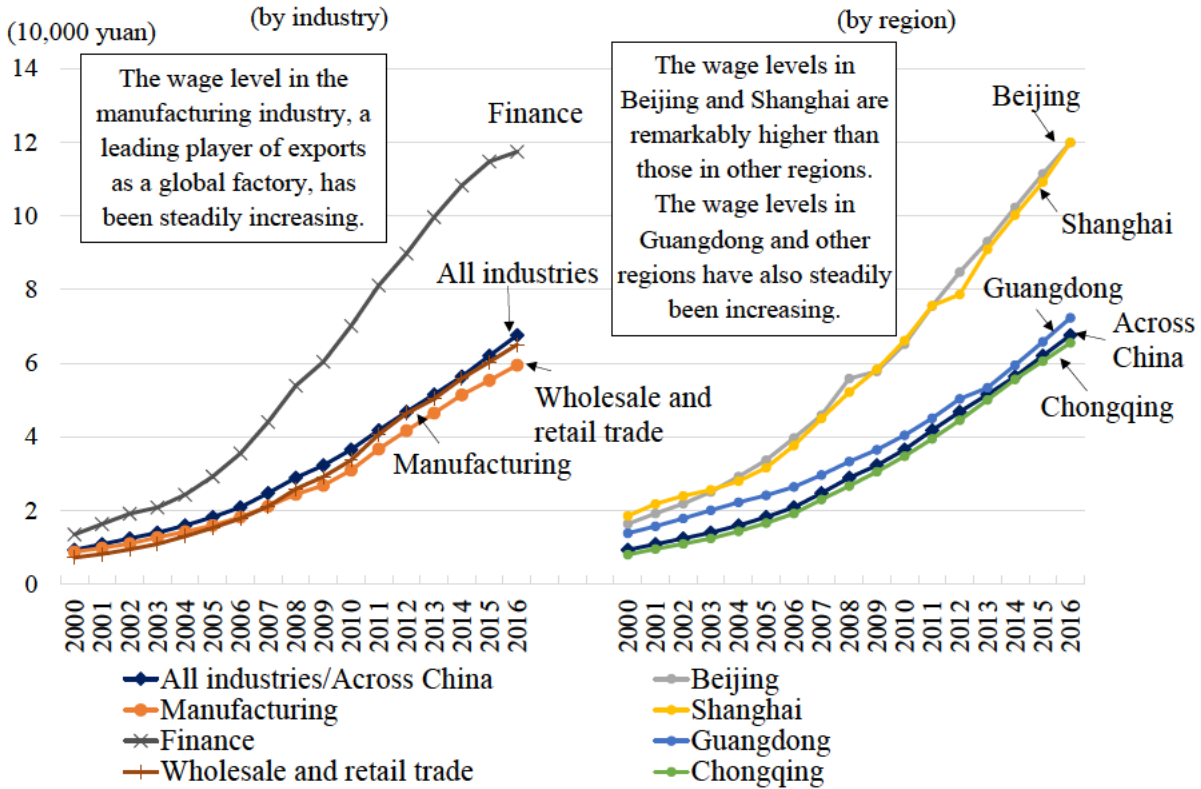
Figure I-3-1-15 Changes in job opening-to-application rates in urban areas in China



Source: Ministry of Human Resources and Social Security of China, CEIC Database.

⁷⁷ Shown here are changes in the average wage at non-private enterprises in urban areas, for which long-term data are available. Non-private enterprises include not only state-owned enterprises but also foreign-funded and other enterprises. The average wage at private enterprises is also published. In 2016, the average wage at private enterprises was 43,000 yuan, lower than 68,000 yuan at non-private enterprises in urban areas, but it is also gradually rising.

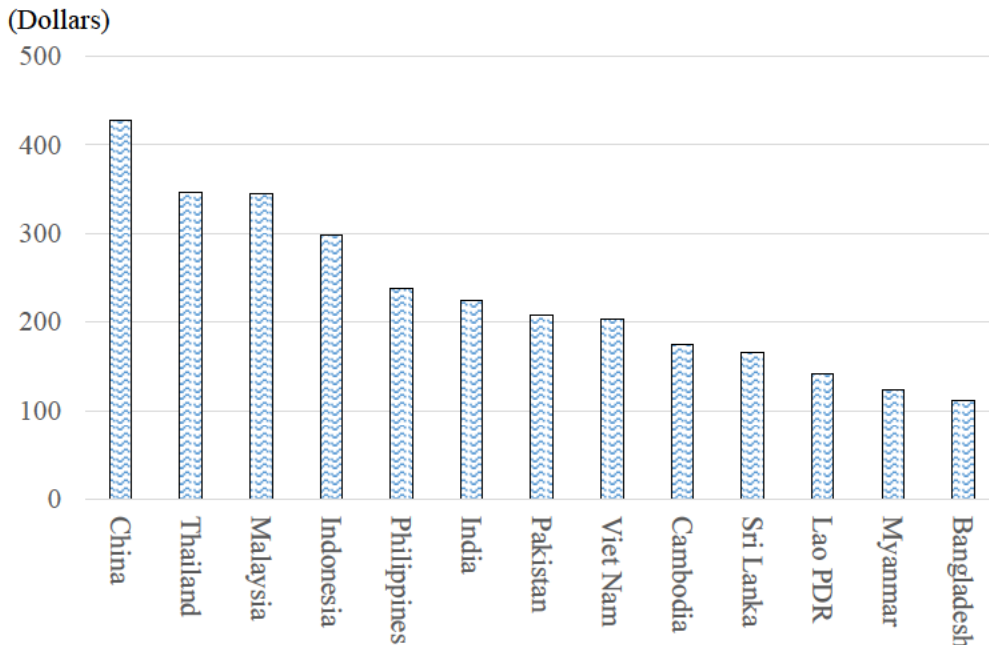
Figure I-3-1-16 Changes in average wages in China



Notes: The figures show annual average wages of non-private enterprises.

Source: National Bureau of Statistics of China, CEIC Database.

Figure II-3-1-17 Wage levels of Japanese companies in Asia
(Workers in the manufacturing industry / base wage per month)



Notes:

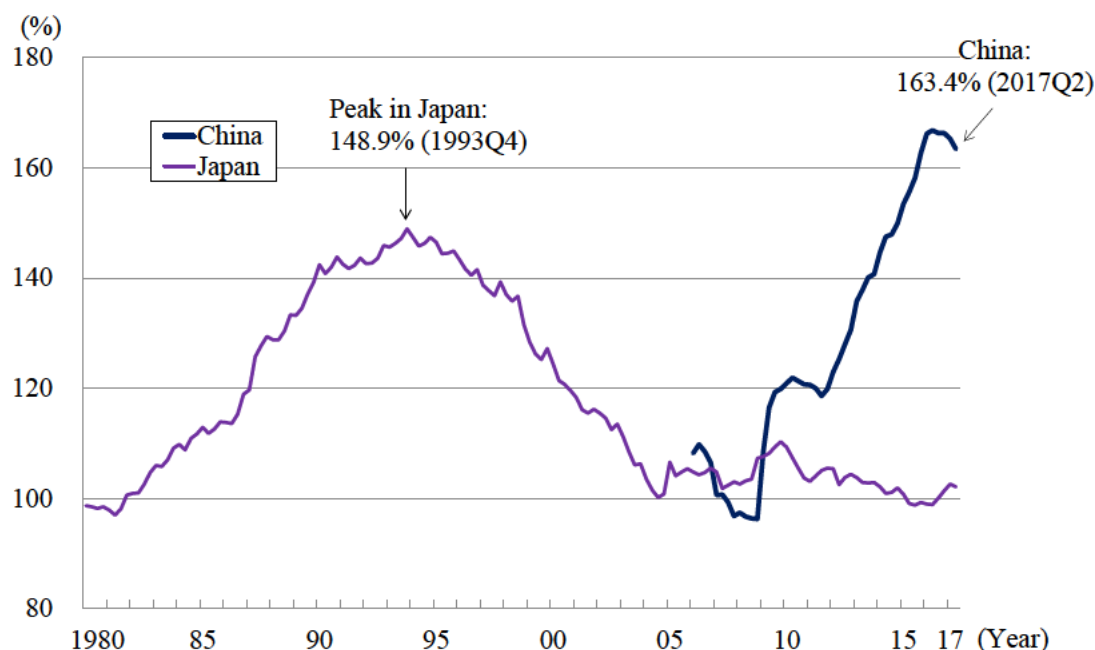
1. The term “base wage” refers to the wage excluding some allowances as of Oct. 2016 (Sep. 2016 for China)
2. The term “workers” refers to those who are full-time general workers with three years or so of experience, excluding contract-based workers and workers on probation.

Source: 2016 Survey on Business Conditions of Japanese Companies in Asia and Oceania (JETRO).

(2) Reduction of excess debts owed by non-financial companies

In China, the amount of debts owed by non-financial corporations has rapidly grown and surpassed the peak level reached in Japan after the collapse of the economic bubble, raising concerns about financial risks. The level of debts relative to GDP in China started to rise following the four-trillion-yuan economic package implemented after the outbreak of the collapse of Lehman Brothers, and the rise continued until around the middle of 2016 (Figure II-3-1-18). The higher pace of growth in debts than the pace of economic growth in China, which indicates that economic growth is increasingly dependent on debts, has been pointed out as a risk factor by international organizations.⁷⁸ Although the level of debts relative to GDP has been gradually declining after peaking in 2016, it still remains high, requiring careful attention on future developments.

Figure II-3-1-18 Ratios of credit to non-financial corporations to GDP



Source: *Credit to the Non-financial Sector Data* (BIS website).

Debts in China are considered to include not only regular loans provided by banks but also debts associated with shadow banking,⁷⁹ which refers to lending activities that are not recorded on balance sheets.⁸⁰

78 The Bank for International Settlements cites the level of private debts relative to GDP as an indicator of financial vulnerability and warns that when this figure has deviated far from the long-term trend, a financial crisis arises in many cases. The BIS Quarterly Review report (March 2018) pointed out that according to the risk evaluation based on data concerning major countries that were available as of June 2017, the risk for China remains high. On the other hand, it is also said that regarding the financial crisis risk, the unique circumstances of China (e.g., the large amount of domestic savings, the current account surplus, and the past records of the disposal of non-performing loans) should be taken into consideration.

79 In the Global Shadow Banking Monitoring Report 2015 (November 12, 2015) by the Financial Stability Board, shadow banking is defined as financial intermediation partly or wholly involving activities and entities outside of the regular banking system, in short, financial intermediation through non-bank channels. However, there is not necessarily an international consensus on the specific scope of shadow banking. In China's case, shadow banking means credit intermediation functions other than regular bank loans and includes a broad range of items, such as wealth management products, which are high-return asset investment products sold over bank counters and loan and investment products using capital collected by securities companies, trust companies and funds from investors. Although shadow banking activities themselves are legitimate, risk management is lax because of loose regulation by the authorities. Therefore, problems have been pointed out. For example, funds often flow to projects for which it is difficult to obtain regular bank loans, such as projects in industries facing excess investment problems and real estate projects. The authorities are strengthening regulations on shadow banking.

80 In the Global Financial Stability Report (April 2018), the IMF pointed out that the Chinese banking system is closely related to shadow banking through off-balance-sheet transactions, which are not recorded on balance sheets. The report noted that products not recorded on balance sheets involve not only banks but also securities

Wealth management products⁸¹ and asset investment products categorized as shadow banking products are issued by securities, insurance and other companies in addition to banks, and the supervisory jurisdiction is dispersed across the People’s Bank of China, the China Banking Regulatory Commission, the China Securities Regulatory Commission, and the China Insurance Regulatory Commission. Therefore, promoting coordination across different areas of jurisdiction has been regarded to be necessary.

The government of China has already expressed its readiness to address excess debt problems faced by corporate sector (Table II-3-1-19). One major development in 2017 was the decision to establish the Financial Stability and Development Committee under the State Council as an organization responsible for overseeing supervisory agencies across different areas of jurisdiction. In addition, it was decided to strengthen the role of the People’s Bank of China by adding wealth management productions to the scope of products subject to macro-prudential evaluation, which is conducted by the bank on a quarterly basis to examine the financial conditions of commercial banks.

Table II-3-1-19 Policies of the government of China for addressing excess debt problems

<p>- Opinions of the State Council on Vigorously, Steadily and Properly Reducing Corporate Leverage Ratios (State Council; October 10, 2016)</p> <p>The document proposes merger and reconstruction of companies, full preparation of corporate governance, revitalization of existing corporate assets, optimization of the debt structure of enterprises, transfer of banks’ debt to equity, and equity financing, as one of the five major missions that the supply side should achieve in reducing corporate leverage ratios.</p> <p>- Government Activity Report (National People’s Congress of China; March 5, 2017)</p> <p>The report states remove of excess debts as an effort under the 2017 Prioritized Activities and Missions. It also states reduction of corporate debts to a reasonable level by revitalization of existing corporate assets, asset securitization, transfer of debts to equity and promotion of equity financing. It also mentions that the systemic risk is generally controllable so far, but non-performing loans, defaulting, shadow banking and internet financing should be strictly watched.</p> <p>- National Financial Conference (the central government; July 14 and 15, 2017)</p> <p>The conference proposed support measures for financial real economies, prevention of financial risks and further enriching of financial reforms, as three major missions that the financial industry should achieve. As for the prevention of financial risks, the conference decided on the enhancement of the role of the People’s Bank of China under the framework of the macro-prudential policy and also on establishment of a Financial Development and Stability Committee under the State Council.</p> <p>- National Economic Conference (the central government; December 18 to 20, 2017)</p> <p>The conference decided to solve the three major challenges (control of financial risks, overcoming poverty and prevention of pollution) by priority, aiming to achieve a moderately prosperous society by 2020.</p>
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companies, insurance companies and funds, which, acting as investors, creditors, debtors and guarantors, form a non-transparent structure through their intricately connected relationships. Therefore, it is difficult for the authorities to enforce supervision. As a result of the recent strengthening of regulations by governments, banks’ involvement in investment products has decreased, but the risk remains high, with small and medium-size banks facing a particularly harsh situation.

81 Wealth management products are asset investment products that offer higher returns than bank deposits. They are close in nature to investment trusts. While the benchmark interest rate on bank deposits is indicated by the People’s Bank of China, the growth rate of consumer prices is often higher than the deposit interest rate. Therefore, wealth management products are popular as more favorable asset investment products. Basically, most wealth management products do not guarantee principal repayment, so investors invest in the products at their own responsibility. Problems have been pointed out with respect to risk management and accountability to investors. In principle, unless banks guarantee principal repayment, wealth management products are not reflected on their balance sheets.

- Government Activity Report (National People's Congress of China; March 5, 2018)

The report states that China should continue to tackle three solutions: excess debts, excess production capacity and excess inventories. It also states that China should advance efforts for preventing and solving serious risks, while also expressing that the economic and financial risk is generally controllable, but China should advance acceleration of transfer of debts to equity as well as merger and reconstruction of companies, enhanced internal control of risks of financial institutes and strengthening of integral adjustment of efforts for monitoring and managing financial institutes.

Column 4 Trends in non-performing loans of Chinese banks

A look at the management conditions of banks shows that while the amount of non-performing loans is increasing, the total loan amount is also growing. As a result, the non-performing loan ratio has remained almost flat (Column Figure 4-1).

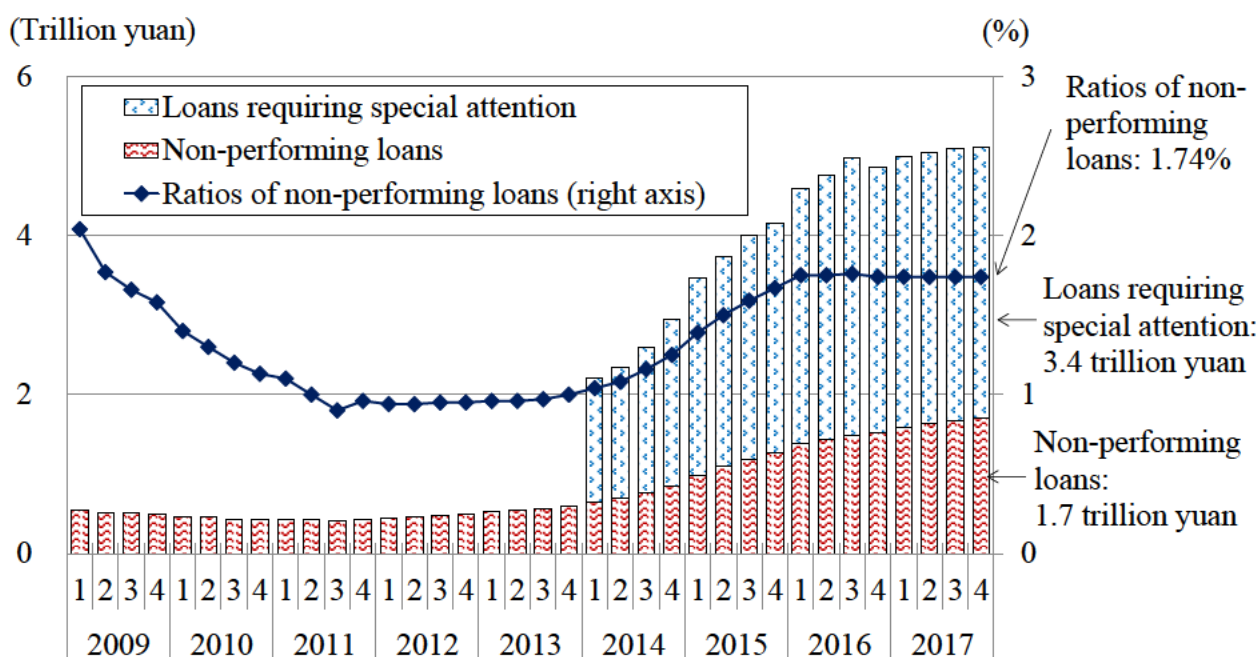
On the other hand, regarding the off-balance-sheet portion of assets, although the balance of wealth management products which are sold by banks but which are not reflected in their balance sheets has not declined, the growth has been restrained (Column Figure 4-2).

In addition to large commercial banks (five major banks), which account for around 40% of the total assets, there are 12 joint-stock commercial banks, about 130 city commercial banks, and more than 3,000 small rural financial institutions in China (Column Table 4-3). We will look at non-performing loans at these banks and their capacity to manage non-performing loans.

While the profitability of financial institutions fell, the non-performing loan ratio rose. However, in the past one year or so, although the profitability has declined, the non-performing loan ratio appears to have been prevented from rising. Even so, the profitability and non-performing loan loss ratio of rural commercial banks have continued to deteriorate compared with the figures for other types of banks (Column Figure 4-4).

Looking at the capacity to manage non-performing loans by type of bank, all types of banks are meeting the required levels of the loss provision ratio and capital-to-asset ratio, and the rise in the non-performing loan ratio of rural commercial banks is conspicuous, while the banks' loan loss provision ratio is approaching the minimum required level (Colum Figures 4-5 and 4-6).

Column Figure 4-1 Changes in non-performing loans of commercial banks in China

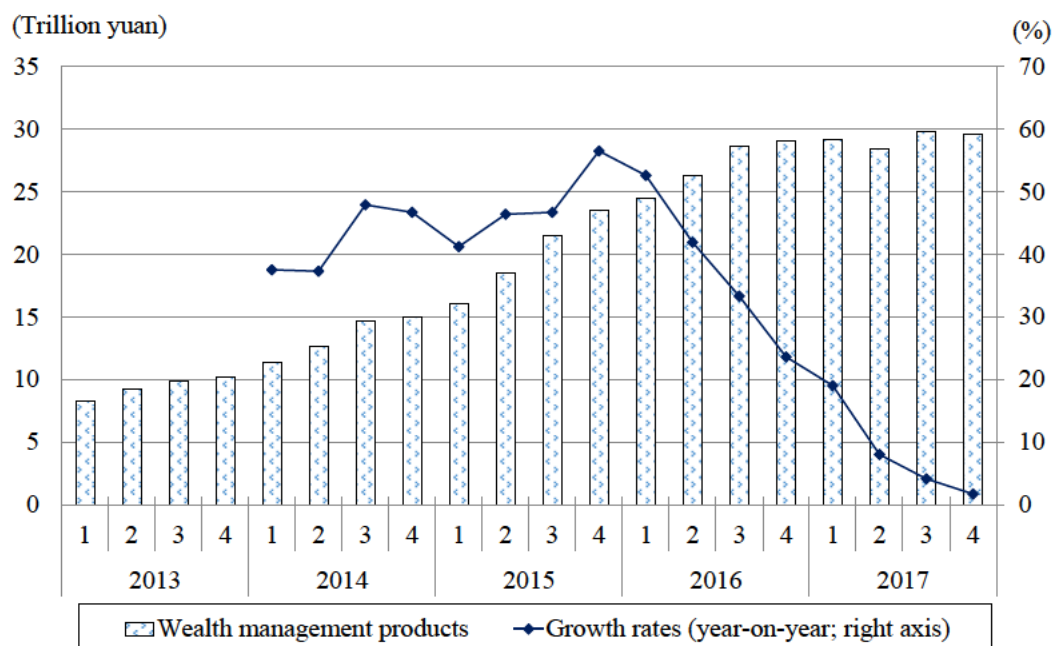


Notes:

1. The ratio of non-performing loans is the share of non-performing loans to balance of loans receivables.
2. Loans requiring special attention have been released since 2014.

Source: China Banking Regulatory Commission (CBRC), CEIC Database.

Column Figure 4-2 Changes in balance of wealth management products of banks in China



Notes: The values in this figure may be less than the total amount of shadow banking since some shadow banking services do not go through banks.

Source: China Central Depository & Clearing Co., Ltd. (CCDC), CEIC Database.

Column Table 4-3 Banks in China (as of the end of 2016)

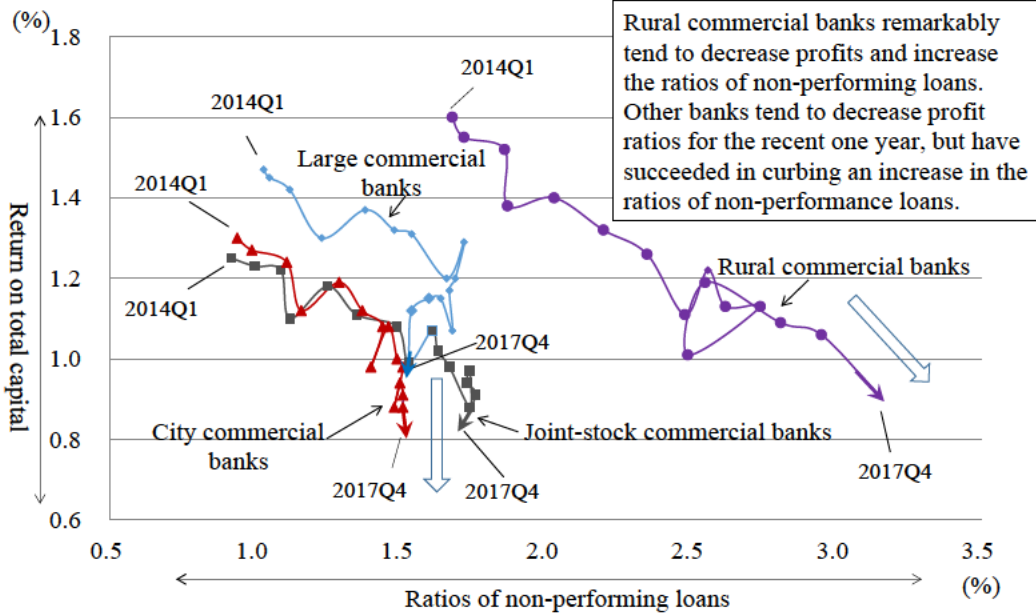
Financial institutes	Total asset		Number of banks (Banks)	Asset amount per bank (Trillion yuan)	Notes
	Value (Trillion yuan)	Share (%)			
Policy banks	23	9.9	3	7.7	China Development Bank, Export-Import Bank of China, Agricultural Development Bank of China
Large commercial banks	87	37.3	5	17.3	Five major banks, e.g., the Bank of China
Joint-stock commercial banks	43	18.7	12	3.6	12 banks, e.g., China CITIC Bank
City commercial banks	28	12.2	134	0.2	Developing business based on each city (not nation-wide). Nearly corresponding to regional banks in Japan
Rural financial institutes	30	12.9	3,722	0.01	Including rural commercial banks, rural cooperative banks and rural credit cooperatives; characterized by the large number in financial institutes and the small scale per bank.
Foreign-affiliated banks	3	1.3	39	0.1	

Others	18	7.8	483	0.0	
Total number of banking financial institutes	232	100.0	4,398	0.1	

Notes: The term “commercial banks” is an expression in contrast to the term “policy banks,” e.g., development banks and export–import banks, and it does not refer to private banks. Rather, many banks in China are state-run banks.

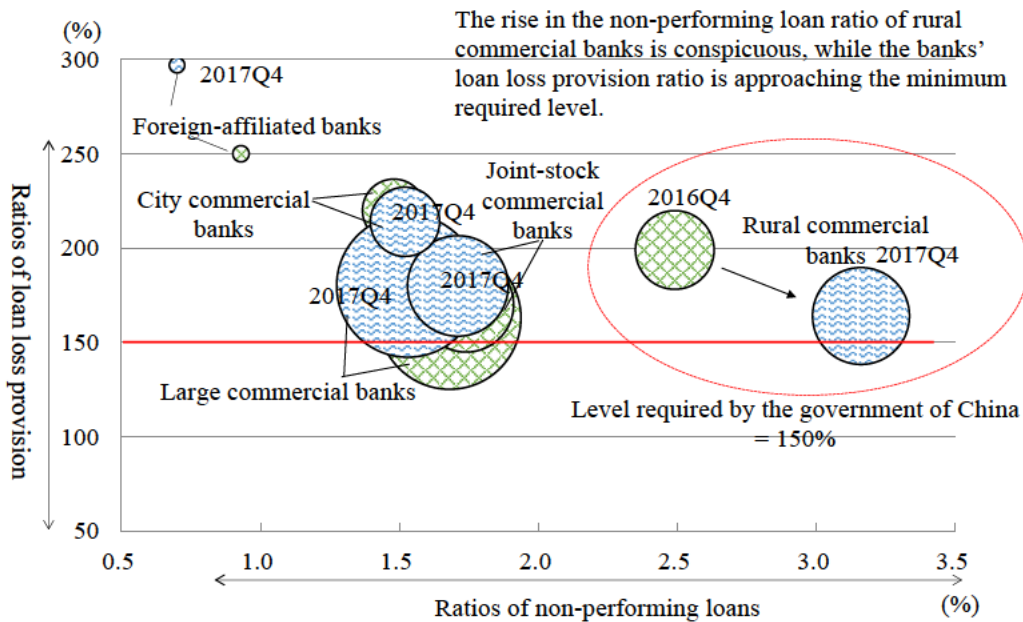
Source: CBRC, CEIC Database.

Column Figure 4-4 Changes in return on asset and ratios of non-performing loans of banks in China



Source: CBRC, CEIC Database.

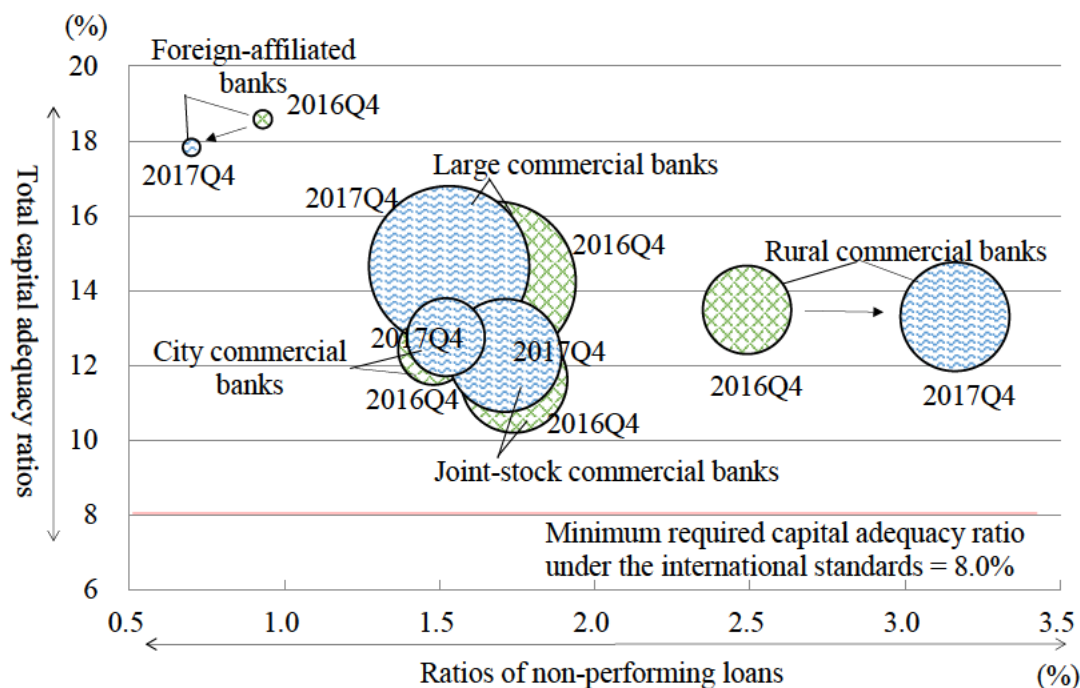
Column Figure 4-5 Ratios of non-performing loans and those of loan loss provision of banks in China



Notes: The size of a circle represents the scale of non-performing loans. The circles in green represent values in the 4th quarter in 2016 and those in blue represent values in the 4th quarter in 2017.

Source: CBRC, CEIC Database.

Column Figure 4-6 Ratios of non-performing loans and those of capital adequacy of banks in China



Notes: The size of a circle represents the scale of non-performing loans. The circles in green represent values in the 4th quarter in 2016 and those in blue represent values in the 4th quarter in 2017.

Source: CBRC, CEIC Database.

(3) Poverty and inequality

As China has vast territorial land in which climate, resources and other natural conditions, population size, and the degree of industrial development differ from region to region, it is difficult to look at the situation of the country on an average basis. While China has achieved high economic growth and a large population of people, mainly in major coastal cities, enjoy high living standards, there is still a population of poor people left behind by the growth in rural areas. Moreover, even in regions which have achieved economic growth, it is said that there are differences in the degree of development between urban and rural areas and across provinces and autonomous regions.⁸² As was earlier described, the government of China indicated the policy of eradicating poverty and narrowing inequality as priority challenges at the National People's Congress in March 2018.

(4) Response to environmental problems

While China has achieved remarkable economic growth, problems such as environmental pollution related to air, water and soil have emerged.

Since establishing the environment preservation law in 1979, the government of China has been addressing environmental problems, but it has been pointed out that environmental regulations have not necessarily been enforced strictly, as economic development was given priority. However, it is said that in recent years, laws have been developed and the enforcement of regulations has become stricter. For example, in 2014, the environmental preservation law was revised for the first time in 25 years to strengthen penalty provisions, and action plans concerning improvements of air, water and soil quality were formulated.⁸³ Under the current 13th

82 Regarding inequality between urban and rural areas in terms of per-capita disposable income (2017), the income level in urban areas, at around 36,000 yuan, is about 2.7 times as high as the income level in rural areas, at around 14,000 yuan. As for inequality between provinces, directly controlled cities and autonomous regions in terms of per-capita GDP, per-capita GDP (2016) in Tianjin at around 115,000 yuan, is about 4.2 times as high as that in Gansu Province, at around 27,000 yuan.

83 Targets for the improvement of the environment were set, and action plans indicating concrete measures to achieve them were formulated. The Action Plan for Air Pollution Prevention and Control (Air Ten) was

Five-Year Plan, which started in 2016, the government indicated the stance of emphasizing preservation of the environment by advocating the five principles of innovation, coordination, green development, opening-up and sharing and set targets concerning energy conservation, CO2 emissions and forest coverage. In addition, following the strengthening of enforcement of regulations, the closure and operation suspension of factories that violated regulations were disclosed.⁸⁴ However, on the other hand, it has been pointed out that China is lacking in environment-related technologies and knowhow and that environmental pollution cannot be resolved quickly, so environmental problems continue to pose a great challenge for China's continued growth in the future.

formulated in 2013, the Action Plan for Prevention and Control of Water Pollution Action (Water Ten) was formulated in 2015, and the Action Plan for Soil Pollution Prevention and Control (Soil Ten) was formulated in 2016.

84 In addition to the national-level standards, there are standards established at the local government level, which have become stricter. As a result, there has been a media report that in some cases, some major Japanese companies are unwittingly violating laws and regulations (“Asia view/China: Strengthening Crackdown on Environmental Pollution--Wave of Anti-corruption among Supervisory Authorities,” an article carried by the morning edition of Nikkei Shimbun on February 16, 2017).

Column 5 China's development of priority industries through "Made in China 2025"

As was mentioned in Chapter 3, Section 2, Paragraph 2, the Chinese economy is gradually shifting from investment-led growth to consumption-led growth. The government of China also aims to shift emphasis in economic development from investment to consumption⁸⁵ in order to promote stable economic growth. Moreover, EC-related and ICT-related Chinese companies leading the shift to a consumption-led economy are achieving rapid growth.

On the other hand, in order to carry out the structural shift to a consumption-led economy, it is essential to develop hardware technologies that support the promotion of consumption, so the government of China has pointed out the need to develop a manufacturing industry possessing advanced technologies and technologies connected through IoT and strengthen international competitiveness.⁸⁶ The government of China also pointed out that as the existing Chinese manufacturing industry creates low value added and is comprised mainly of labor-intensive business sectors, it is essential for China to become a manufacturing powerhouse with a view to strengthening innovation capability, improving companies' efficiency, enhancing quality, developing brands and deepening technologies to integrate the ICT and manufacturing industries in preparation for the Fourth Industrial Revolution.⁸⁷

The government of China's manufacturing powerhouse policy was incorporated into the 12th Five-Year Plan for Economic and Social Development (the period of the plan is from 2011 to 2015; hereinafter referred to as the "12th Five-Year Plan") and the 13th Five-Year Plan (the period of the plan is from 2016 to 2020; hereinafter referred to as the "13th Five-Year Plan").

The 12th Five-Year Plan newly designated energy conservation/the environment, next-generation information technology, biotechnology, manufacturing of high-end equipment, new energy, new materials, and new energy vehicles as "strategic emerging industries" and stipulated that China should secure competitiveness in these industries.

The 13th Five-Year Plan indicated the achievement of the goals of strengthening innovation capability, improving quality, developing brands, and establishing a new method of developing the manufacturing industry as a cross-industrial policy. The chapter concerning the shift to ICT was upgraded into a part concerning the expansion of digital economy, which is comprised of an existing chapter concerning ICT infrastructure development and network security and new chapters concerning the integration of industry and the internet and big data strategy.

In the past, under the 11th Five-Year Plan (the period of the plan is from 2006 to 2010; hereinafter referred to as the "11th Five-Year Plan"), in addition to the promotion of the development of high-tech industries, the structural adjustment and sophistication of individual industries, including traditional industries such as machinery and textiles, were positioned as major themes. However, under the 13th Five-Year Plan, those matters were downgraded into sub-items. (Column Figure 5-1).

85 Li Keqiang (2014), *Qiushi No. 9*.

86 In the State Council's Report on the Work of the Government, a government initiative to promote sophistication of the manufacturing industry and advanced use of the internet in the manufacturing and other sectors, a notice concerning printing and distribution of "Made in China 2025" (State Council, 2015), and Guiding Opinions on Actively Promoting "Internet Plus" Action (State Council, 2015) were announced.

87 In addition to "Made in China 2025" and "Internet Plus," there is the Guiding Opinions on Deepening "Internet Plus Advanced Manufacturing" and Developing Industrial Internet (State Council, 2017), which focuses attention on the policy for the integration and development of the manufacturing industry and the internet.

Column Figure 5-1 Changes in structures regarding the industry-related part of the Five-Year Plan for Economic and Social Development

The 11th Five-Year Plan

Part 3 Optimization and upgrading of industrial structure	
Accelerate the development of the high-tech industry	
	Promote the electronic information industry
	Foster the biotechnology industry
	Promote the aerospace industry
	Develop the new material industry
Vitalize the machine manufacturing industry	
	Vitalize the major technological facilities
	Upgrade the automobile industry
	Enhance advantages in the shipbuilding industry
Optimize the development of the energy industry	
	Develop the coal industry into a well-organized one
	Proactively develop the power sources
	Accelerate the oil and gas development
	Proactively develop renewable energy
Adjust the industrial structures and raw material structures	
	Optimize the development in the metal industry
	Adjust the structures in the chemical industry
	Promote the healthy development of the building material industry and the construction industry
Upgrade the textile industry level	
	Upgrade the manufacturing level of the light industry
	Encourage the textile industry to add more value to products
Proactively promote informatization	
	Accelerate the introduction of ICT into the manufacturing industry
	Thoroughly develop ICT resources
	Improve ICT infrastructures
	Enhance the secured information security



The 12th Five-Year Plan

Part 3 Transformation and upgrading, enhancing the competitiveness of industrial core	
Improve and promote the manufacturing industry	
	Promote the restructuring of key industries
	Optimize industry layout

Strengthen the technical improvement of enterprises
Guide the merger and reorganization of enterprises
Promote the development of small and medium enterprises (SMEs)
Foster and develop strategic emerging sectors
Promote the leapfrog development of key fields
Implement industry innovation and development projects
Strengthen policy support and guidance
Accelerate the reform of energy production and utilization mode
Promote the development of diversified and clean energy sources
Strengthen the construction of energy transmission channels
Construct comprehensive transportation system
Improve inter-regional traffic networks
Construct inter-city express networks
Give priority to public traffic
Improve traffic service level
Improve the informationization level
Build new-generation information infrastructure
Strengthen network and information security
Promote the development of marine economy
Optimize the marine industry structure
Strengthen integrated marine management



The 13th Five-Year Plan

Part 5 An optimized modern industrial system
Develop China into a manufacturing powerhouse
Fully strengthen industrial foundations
Promote manufacturing development
Promote transformation and upgrading of traditional industries
Enhance quality and brand development
Active and prudent approach to overcapacity
Lower business costs in the real economy
Support developing strategic emerging industries
Enhance support for emerging industries
Foster and develop strategic industries
Establish new developmental pattern for emerging industries

	Better environment for developing emerging industries
	Increase quality and efficiency within the service sector
	Better consumer services
	Better institutions and policies for service sector development

Part 6 The cyber economy	
	Build ubiquitous, efficient information networks
	Complete new generation high-speed fiber-optic networks
	Establish an advanced and ubiquitous wireless broadband network
	Accelerate development and adoption of information network technology
	Promote broadband internet speed and rates
	Develop modern internet industries
	Establish robust foundation for the application of the internet
	Accelerate integration of the internet into multiple fields
	Implement the national big data strategy
	Promote opening sharing of government data
	Promote sound development of big data industries
	Strengthen secured information security
	Better protection of data resources
	Well-conceived cyberspace governance
	Full protection of important information systems

Source: *Five-Year Plans for Economic and Social Development*.

The manufacturing powerhouse policy was further clarified by the State Council’s “Made in China 2025” project, which was announced during the period of the 13th Five-Year Plan. Under “Made in China 2025,” “strategic emerging industries” under the 12th Five-Year Plan were further divided into 10 sectors--advanced ICT, high-end NC machine tools, robotics, aerospace equipment, maritime engineering equipment/high-tech vessels, advanced rail transportation equipment, energy-saving and new energy vehicles, electrical equipment, agricultural equipment, new materials, biomedicine/high-performance medical devices--and these sectors were designated as industries particularly important for the realization of the manufacturing powerhouse. In addition, the Made in China 2025 technology roadmap, a detailed roadmap concerning the policy implementation for these priority industries, was announced by the newly established National Manufacturing Strategy Advisory Committee. According to the roadmap, by increasing the competitiveness of the priority industries, China aims to raise the domestic manufacturing ratio concerning many priority items to 60-80% by 2025 (Column Table 5-2). Furthermore, under “Made in China 2025,” China aims to develop capabilities to lead the world in innovation and raise its status to a medium-ranked manufacturing power by 2035 and to ultimately establish itself as a major manufacturing power by 2049, thereby catching up with the world-leading manufacturing powerhouses in overall capabilities.

Column Table 5-2 Target ratios of domestic manufacturing concerning priority fields through “Made in China 2025” and case examples of target global shares

Priority fields*1		ICT industries				
Priority items		IC and equipment for exclusive use*2	Mobile communication systems and terminals	High-performance computers and servers	OS, industrial software (used for smart industry)	Smart manufacturing
Target ratios of domestic manufacturing	2020	49%	75%	60%>	30%> (40%>)	40%>
	2025	75% (*3)	80%	80%>	50%> (60%>)	60%

Priority fields*1		High-end NC machine tools and robotics		Aircraft or aerospace equipment		
Priority items		High-end machine tools	Robotics	Aircraft	Built-in systems for aircraft	Aerospace equipment (applying cosmic space information)
Target ratios of domestic manufacturing	2020	70%>	50%	5%>	-	60%>
	2025	80%>	70%	10%>	30%	80%>

Priority fields*1		Maritime engineering equipment/high-tech vessels		Advanced rail transportation equipment
Priority items		High-tech ship equipment	High-tech ship systems	Advanced rail transportation equipment
Target ratios of domestic manufacturing	2020	40%	60%	-
	2025	50%	80%	-

Priority fields*1		Energy-saving and new energy vehicles				
Priority items		Energy-saving vehicles	New energy vehicles	In-car batteries and motors	Products for connecting vehicles with technologies through IoT	In-car products for driving support and partial autonomous driving
Target ratios of domestically manufactured products	2020	40%	70%>	80%	50%	40%>
	2025	50%	80%>	-	60%	50%>

Priority fields*1		Electrical equipment		Agricultural equipment
Priority items		Electricity generators	Electricity transmitters and transformers	Agricultural equipment
Target ratios of domestically manufactured products	2020	90%	80%>	90%>
	2025	-	90%>	95%>

Priority fields*1		New materials		Biomedicine/high-performance medical devices	
Priority items		Advanced basic materials	Core strategic materials	Middle-price-range or high-end medical equipment	Core parts of high-performance medical devices
Target ratios of domestically manufactured products	2020	-	70%>	50%	60%
	2025	90%>	80%>	70%	80%

Notes:

1. In some priority fields, specific targets are set, such as qualitative targets, e.g., “basically achieve self-sufficiency,” export-ratio targets, technical-level targets and company-ranking targets.
2. The figures represent local production ratios.
3. Only the ratios are target values in 2030.

Source: *Made in China 2025 technology roadmap* (National Manufacturing Strategy Advisory Committee).

The concrete methods of governmental support for the priority industries under “Made in China 2025” are specified by central government agencies’⁸⁸ plans, guidelines and opinions.⁸⁹

Typical methods of industrial support include the establishment of industrial investment funds (see Part II, Chapter 2, Section 2, Column), the provision of loans by policy banks, the implementation of preferential tax measures, and the provision of subsidies.⁹⁰ The terms of the grant of financial support by the government and the contents of specific support measures are prescribed and promulgated by individual agencies and the Ministry of Finance. For example, according to “Ministry of Finance Tax Policy [2015] No. 6: Notice concerning corporate income tax policy related to further promotion of the development of the integrated circuits industry,” the implementation of preferential tax measures is conditional on the establishment of a domestic facility, the use of domestic workers, and invigoration of research and development on core technology, among other requirements. Integrated circuits-related companies which have met these requirements may be exempted from corporate income tax⁹¹ in some cases.

Local governments also formulate five-year plans on an administrative organization-by-administration

88 The agencies include the Ministry of Industry and Information Technology, the Ministry of Agriculture, and the Ministry of Science and Technology, for example.

89 For example, there are the 12th Five-Year Plan for the Development of the Integrated Circuits Industry, the Guidelines to Promote National IC Industry Development, the 13th Five-Year Plan for National Agricultural Mechanization Development, and a special plan for biotechnology innovation in the 13th Five-Year Plan.

90 Support measures related to research and development, capital investment, business mergers and reorganizations, import of advanced technologies and equipment, training of workers with expert skills, the achievements and results of government projects. For example, see the Guidelines to Promote National Integrated Circuits Industry Development (Ministry of Industry and Information Technology, 2014).

91 So-called corporate tax. This tax is imposed on the value (profit) obtained by deducting costs and losses from gross income in each tax payment year.

organization basis in line with the State Council’s five-year plan.⁹² Five-year plans formulated by local governments tend to exactly follow the priority policies prescribed by the central government’s five-year plan.⁹³ Local governments also formulate support measures for the priority industries prescribed by their five-year plans. For example, the city government of Shanghai cited a great variety of measures as methods of support for the software and integrated circuits industries compared with the support measures advocated by the central government under “Shanghai [2017] Issue No. 23: Policy for the promotion of the development of the software industry and the integrated Circuits industry in Shanghai.” The measures include investment/research and development, purchase of foreign companies’ technologies, human resource development, fees for application for intellectual property rights, subsidy for technology export, provision of funds for participation in government projects, incentive money for technology development, government procurement, preferential treatment of workers with expert skills in terms of housing loans and social security, and simplification of screening of foreign investment (Column Table 5-3). Therefore, it has been pointed out that local governments have a very significant role to play in implementing industrial support measures in China.⁹⁴

Column Table 5-3 Specific case examples of industrial support measures provided by local governments in China

Policies for promoting development of the software and IC industries in Shanghai

Category of policies	Support measures in terms of systems	Support measures in terms of financing
Policies for loan and investment		- Supporting industries in fund raising for business investment, R&D, listing, public offering of stocks, bond issuance, M&A, etc. through industry development funds.
Policies for fostering companies		- Providing subsidies to companies that have achieved a predetermined or more level of operating profits
Policies for R&D	<ul style="list-style-type: none"> - Encouraging industries to enhance cooperation in production, education and research and to promote well-tailored development of industrial chains. - Encouraging industries to conduct joint training between universities/research institutes and highly-skilled personnel in certain municipalities so as to improve the quality of training. - Encouraging industries to construct bases for human resource development equipped with 	<ul style="list-style-type: none"> - Providing industries with discount benefits if they have purchased a technical license or ownership that satisfies the Catalogue of Technologies and Products Encouraged for Import annually specified by the central government. - Providing industries with local funds if they have started a major project involving science and technologies that are significant for China or other national projects. - Providing subsidies to R&D efforts.

92 “ON SIGNIFICANT DISTORTIONS IN THE ECONOMY OF THE PEOPLE’S REPUBLIC OF CHINA FOR THE PURPOSES OF TRADE DEFENCE INVESTIGATIONS,” *COMMISSION STAFF WORKING DOCUMENT* (European Commission, 2017).

93 In *CHUGOKU ARATANA KEIZAI DAIKAKUMEI “KAIKAKU” NO OWARI--SEICHO ENO TENKAN* (Xiao Minjie, 2017) pointed out that local governments in 31 provinces and several cities exactly follow the priority strategies prescribed by the central government’s five-year plan and that all local governments tend to make duplicate investments in mostly the same strategic areas.

94 For example, some annual reports issued by companies indicate the sources of governmental subsidies, showing that large amounts of subsidies are provided by local governments.

	advanced technologies for software and ICs and to foster human resources in the field of engineering.	- Providing incentives to development of core technologies.
Policies for human resources	<ul style="list-style-type: none"> - Formulating related regulations involving guidelines for employment in municipalities. - Supporting industries in issuing residence permissions and housing registration or through other policies. - Encouraging the software and IC industries to build rental apartments, to make a housing plan to attract promising human resources through providing low loan rates and subsidies for rental fees, and to provide a package of benefits to university graduates involving employment. 	<ul style="list-style-type: none"> - Providing highly skilled human resources that have made an outstanding contribution to municipalities with a certain level of funds under the policies for human resources stipulated by the municipalities or with incentives according to the assessment by the central government and municipalities and according to the related criteria. - Securing for highly skilled human resources with an overseas nationality the welfare benefits involving education of their children under the related policies provided by municipalities.
Policies for intellectual property	- Enhancing the enforcement of the industrial and commercial (market monitoring) laws and the cultural laws and establishing a mechanism in which China will swiftly address and investigate infringements of intellectual property rights.	- Providing industries with predetermined subsidies for application fees and maintenance fees concerning filing of patent or trademark registration, software copyrights inside and outside China and rights for designing IC layouts.
Policies for imports and exports	- Improving systems for administrative examinations and approval issuance and integrating overseas industrial technologies through establishing R&D centers in overseas countries and adopting new methods for M&A, thereby promoting strategic arrangement of the countries and regions along the areas subject to the One Belt, One Road initiative.	- Providing subsidies to companies that have exported technologies and reached the predetermined ratios.

Source: *Policies for Promoting Development of the Software and IC Industries in Shanghai* (Shanghai Government).