Chapter 2 The impact of China's industrial development on trade and investment

Amid the globalization that followed the end of the Cold War, it is China that has affected the change in the global trade structure most. Baldwin et al. pointed out that China had built up outstanding production capacity in manufacturing industries at an unprecedented pace and expanded exports and described China as "the world's sole manufacturing superpower."[195] The mechanisms of China's industrial development, its industrial policies, and the evolution of its trade and investment relationships, including the trade conflicts in recent years is attracting more and more attention. In particular, countries in the neighborhood of China are facing the difficult challenge of how to manage their respective external economic relationships amid changes in the international environment, including the expansion of exports and outward foreign direct investments from China and the U.S.-China conflict.

This chapter will attempt to comprehensively identify China's domestic industrial fundamentals and industrial policies, and their effects on trade and investment relationships. First, let us examine, based on data, the domestic industrial fundamentals of the manufacturing industry that China has developed at an unprecedented pace and scale. Then, we will present the factors that realized China's rapid industrial development from multiple angles by providing an overview of academic discussions on China's industrial development mechanisms. In addition, we will compare the reality with the academic discussions by conducting case studies regarding the implementation of China's industrial policies and the development processes in specific industrial sectors. Next, we will analyze the effects of China's industrial development on global trade and investment and examine their implications for the rules-based international trade system. Finally, regarding the ROK, ASEAN, and India, which are Asian economies directly affected by the expansion of Chinese exports and investments, we will analyze how the changes in the international environment, including the U.S.-China conflict and China's industrial development, are transforming those countries' trade and investment relationships.

Section 1 China's industrial fundamentals

Here, we will provide a data-based overview of the industrial fundamentals of China, which has achieved rapid development, from the viewpoints of five basic elements—economic scale (market and production capacity), industrial sectors and enterprise attributes, competitive environments, technologies, and industrial financing.

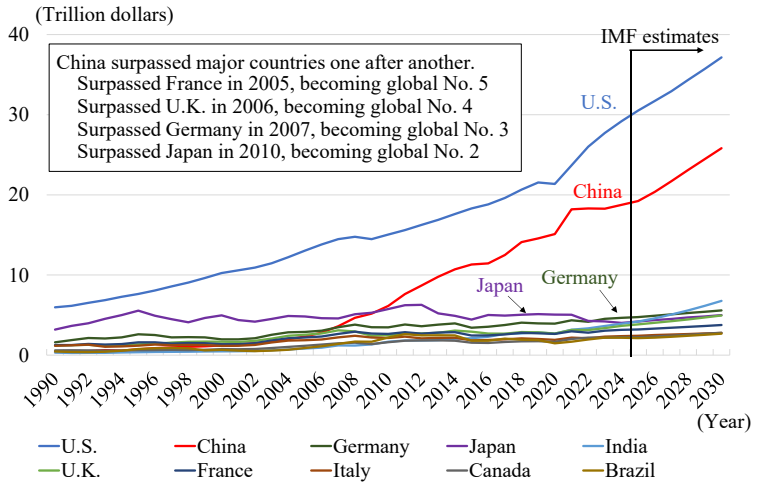
1. Economic scale (market and production capacity)

First, what is noteworthy about China's production fundamentals is that the country's economic scale expanded rapidly in a short period after the launch of the reform and opening-up initiative. In the 2000s, China surpassed major European countries one after another in economic scale, and in 2010, it overtook Japan, becoming the global No. 2 economy, after the United States (Figure II-2-1-1). On the production side, the expansion of GDP means an increase in China's production capacity. On the demand side, it has made China more attractive, as an expanded domestic market for domestic products and also as a larger market for foreign companies. The amount of increase in China's GDP in just one

[195] Baldwin et al. (2024)

year from 2023 through 2024 is equivalent to the entire size of the GDP of an Asian country like the Philippines, Viet Nam, or Bangladesh in 2024, and that scale of growth has been repeated year after year in China over a long period of time (Table II-2-1-2). Although China's growth rate has been declining in recent years, the creation of a huge market like this is very significant for companies in and outside China.

Figure II-2-1-1. Changes in GDP by major country and region



Note: This figure retrospectively shows the data on the top 10 countries in 2024.
Source: *WEO* (April 2025) (IMF).

Table II-2-1-2. The annual amount of increase in China's GDP

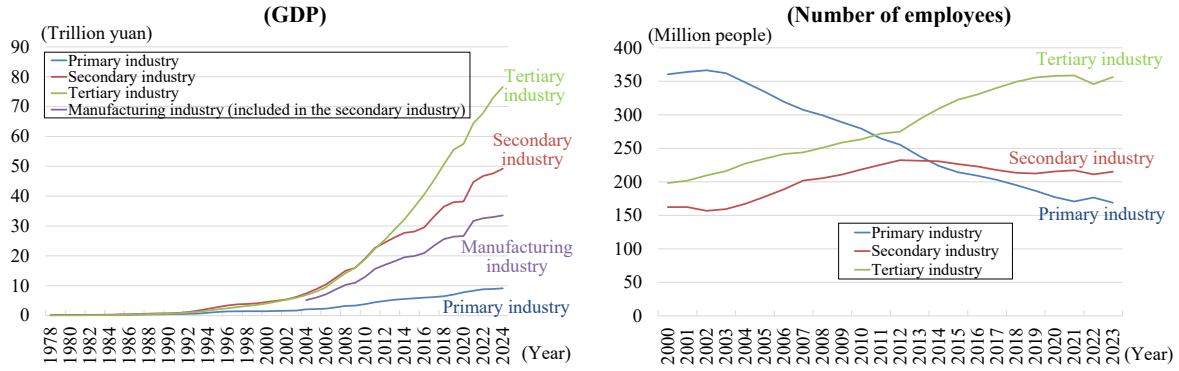
China's GDP (billion dollars)	
2023	18,270
2024	18,748
Increase	478

Countries whose GDP size is close to the amount of increase (billion dollars)	
Norway	484
Philippines	462
Viet Nam	459
Bangladesh	451

Source: *WEO* (April 2025) (IMF).

Let us look at how China's industrial fundamentals have changed on an industry-by-industry basis. The primary industry's shares of both GDP and the number of employees have declined, reflecting a shift to the secondary and tertiary industries. The tertiary industry's share of GDP increased and its production recorded significant growth, but the secondary industry, particularly the manufacturing industry, still has a large share in China, compared with many developed countries. In terms of the number of employees, while the shift of employment to services came to a halt due to sluggish growth in the tertiary industry, the secondary industry has continued to occupy an important position, as its growth has stayed almost flat since the first half of the 2010s. It is clear that China's manufacturing industry, with a production capacity expanded through an export-driven growth, still has a considerable presence in the domestic economy (Figure II-2-1-3).

Figure II-2-1-3. Changes in GDP and the number of employees by industry in China



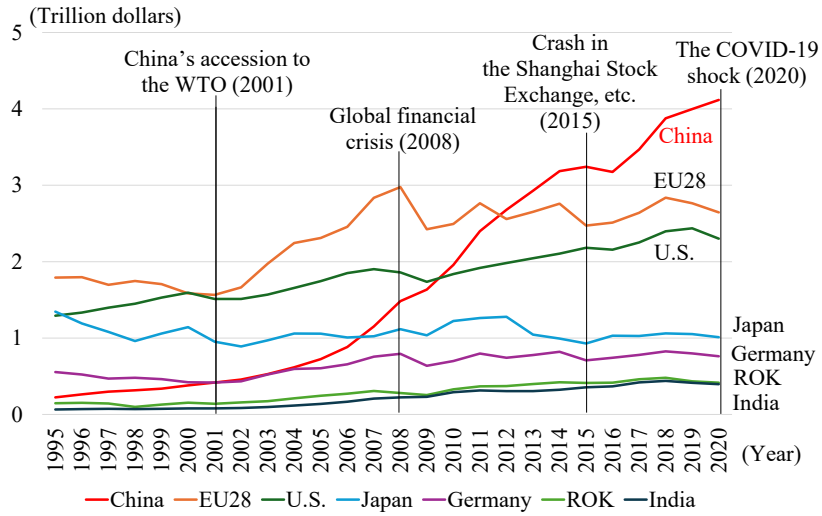
Note: The GDP figures are in nominal terms and on a Chinese yuan basis. The publication of the GDP value of the manufacturing industry started in 2004. Until then, the manufacturing industry was included in the GDP value of the secondary industry. The secondary industry also includes the mining industry, the electricity, gas, and water supply industry, and the construction industry, in addition to the manufacturing industry.

Sources: National Bureau of Statistics of China, CEIC.

Here, we highlight the remarkable expansion of China's production capacity in the manufacturing sector and the enormous size of the current production capacity based on comparison with major countries. The data used here is from the Trade in Value-Added database published by the OECD (OECD TiVA).[196] This database, developed based on an international input-output table prepared from national data, provides indicators for major countries and the entire world that are based on the same standards. According to the database, the amount of global value added produced in the manufacturing industry expanded by a factor of around 2.4 from 6.0 trillion dollars in 1995 to 14.3 trillion dollars in 2020, but the scale of change varied from country to country. In the United States and the EU, the increase was relatively small, by factors of around 1.8 and 1.5, respectively, but in China, the expansion was by a factor of as much as around 18.5 (Figure II-2-1-4). Since the beginning of the 2000s, when China acceded to the WTO, the country has expanded production considerably, and it surpassed the United States in terms of production of value added around the time of the global financial crisis. The amount of dollar-denominated value added temporarily decreased due to stock market crashes and declines in exchange rates. However, in 2020, the amount of value added produced in the manufacturing industry in China was around 1.6 times as large as the combined amount of value added produced in the member countries of the EU28 group and was around 1.8 times as large as the amount of value added produced in the United States (which was placed second on a country-by-country ranking).

[196] The 2023 edition of TiVA (OECD) (https://www.oecd.org/en/topics/sub-issues/trade-in-value-added.html) was used. The data covers the period from 1995 to 2020. The data is aggregated by major country, by region (such as the EU and ASEAN), and on a global basis. Data prepared under common standards, such as industry classification, is available for use. In the case of EU28 and other groups whose composition of member countries has changed over years (e.g., a change due to the United Kingdom's departure from the EU), aggregation is also made on the assumption that the composition remained constant throughout the whole of the period under analysis.

Figure II-2-1-4. Changes in the amount of value added produced in the manufacturing industry by major country and region

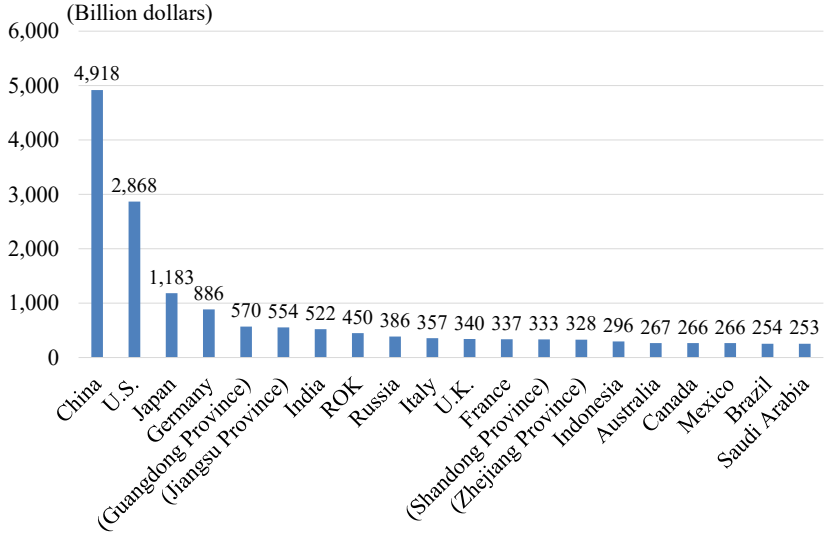


Note: In nominal terms and on a dollar basis.

Source: TiVA (OECD).

Each of the several Chinese provinces with a large economic size boasts mining and industrial production equal in size to those of countries ranked high globally as manufacturing powerhouses.[197] For example, mining and industrial production in each of the Guangdong Province and the Jiangsu Province are larger than that in India, the global No. 5 country. Combined mining and industrial production in those two Chinese provinces is almost equal to production in Japan (Figure II-2-1-5).

Figure II-2-1-5. Economic size of China and other major countries (2020; mining and industrial sector)



[197] Because of reasons associated with province-by-province statistics in China, "industry" as defined by the National Bureau of Statistics of China (mining, manufacturing, and electricity, gas, and water supply) is used for comparison.

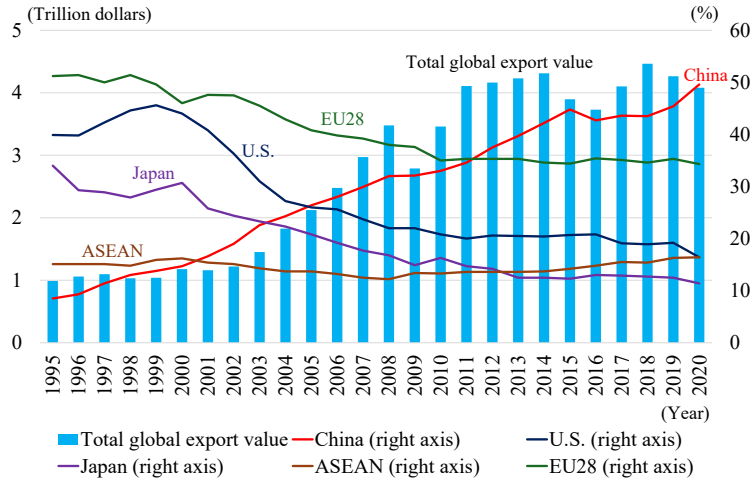
Notes:

1. This figure shows the total value added produced in the mining, manufacturing, and electricity, gas, and water supply sectors.
2. Regarding province-by-province data concerning China, the figures were obtained by converting data denominated in Chinese yuan that was published by the National Bureau of Statistics of China into dollars based on the average exchange rate in 2020 that was published by the IMF (1 dollar = approx. 6.9 yuan).

Sources: TiVA (OECD), IFS (IMF), National Bureau of Statistics of China, CEIC.

The expansion of the production capacity of the manufacturing industry in China has been inseparable from the export expansion that came amid the advance of economic globalization. While the United States, Japan, and the EU, among other economies, lost shares in global exports of manufactured goods, China expanded its share rapidly (Figure II-2-1-6). A similar trend can also be observed in exports of intermediate goods. In other words, the increase in exports from China has been inseparable from the expansion of the country's participation in global supply chains, and for other countries, China has become a stronger competitor in the manufacturing industry and also a critical supplier of intermediate goods that has a significant influence on their production activity.

Figure II-2-1-6. Changes in the shares of major countries and regions in global manufacturing exports



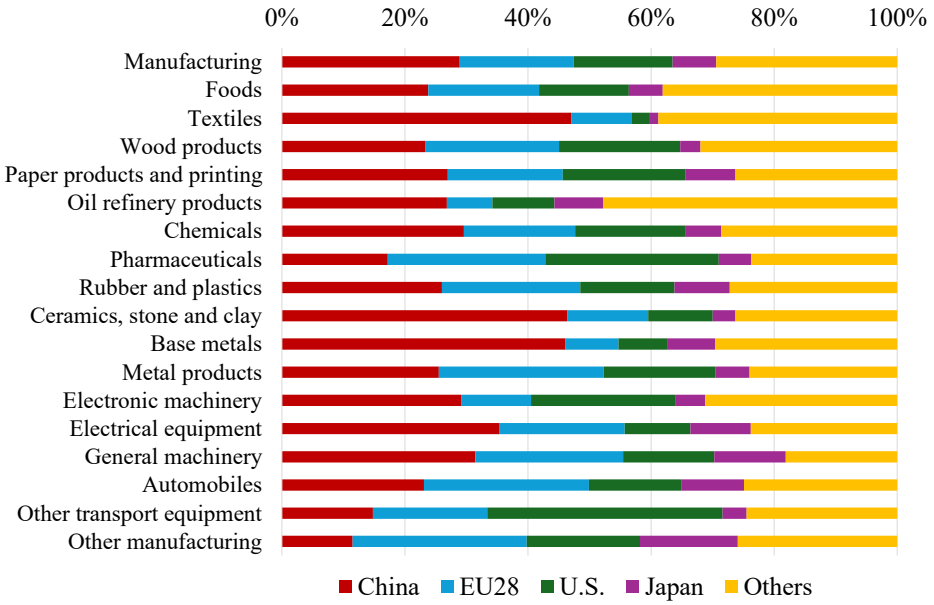
Source: TiVA (OECD).

2. Industrial sectors and enterprise attributes

Let us consider the characteristics of China's mining and industrial sectors by sector and by enterprise type. China's manufacturing industry includes not only light industry sectors, such as clothing, but also, production of products such as electrical and electronic equipment, including home appliances and personal computers, which has expanded since China started to invite foreign enterprises to establish local business operations. A broad range of industrial sectors, including advanced ones, such as solar panels, lithium-ion batteries, and electric vehicles, have been established in China. According to the

abovementioned OECD database, whose industrial classification is somewhat crude, China's share in the global value added in the overall manufacturing industry is around 30%, and on a sector-by-sector basis as well, China has large shares in various industrial sectors (Figure II-2-1-7). In particular, China accounts for around half of the global value added in the textile sector, including clothing, in the ceramic/stone/clay products sector, including cement and glass, and in the base metals sector, including steel. China also has large shares in the electrical equipment sector, including home appliances, and the electronic equipment sector, including personal computers and mobile phones. The presence of well-developed domestic supply chains for parts and materials necessary for the manufacturing of final products in many industrial sectors is also cited as an advantage for China.

Figure II-2-1-7. Shares of countries and regions in manufacturing value added worldwide (2020)

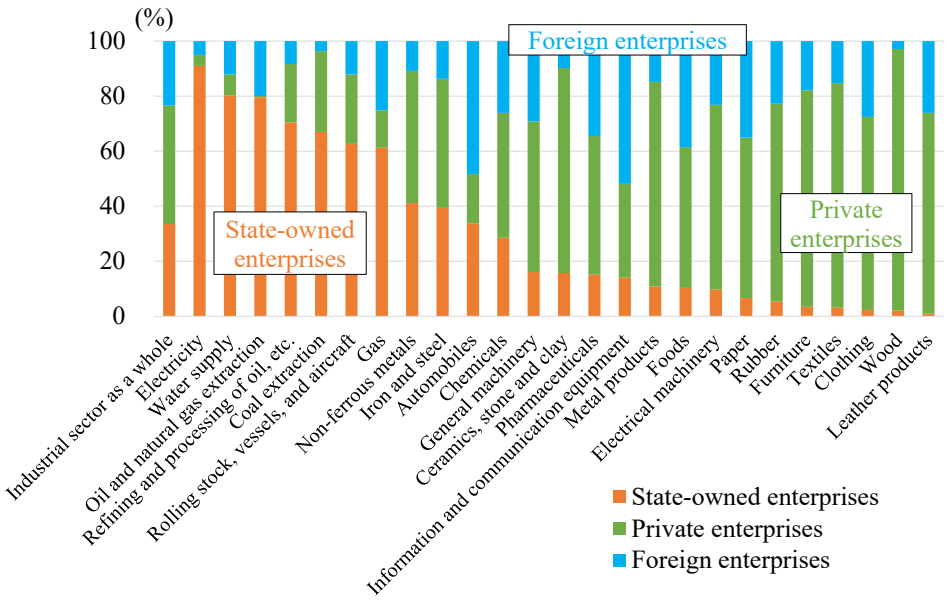


Source: TiVA (OECD).

By enterprise type, state-owned enterprises (SOEs) have traditionally had a large share in China because of the country's historical roots as a socialist planned economy. Since the launch of the reform and opening-up initiative, the way has been gradually paved for the development of private enterprises, and foreign enterprises have been invited to establish business operations in China in anticipation of technology transfers. At present, a breakdown of sales by enterprise type in industrial sectors shows that the share is slightly over 30% for SOEs, slightly over 40% for private enterprises, and slightly over 20% for foreign enterprises (Figure II-2-1-8). By industrial sector, SOEs have large shares in upstream sectors, such as resource extraction, including energy, refining and processing of resources, production of basic raw materials, and the supply of electricity, gas, and water, as well as in heavy machinery sectors, including rolling stock, vessels, aircraft and automobiles. On the other hand, private enterprises have large shares mainly in consumer sectors, which provide products close to the people's everyday life. Among those sectors are food, textiles, clothing, leather, and furniture. Private enterprises also have some shares in machinery sectors, such as general machinery, electrical machinery, and information and

communication machinery. Meanwhile, foreign enterprises have large shares in sectors such as information and communication machinery and automobiles.

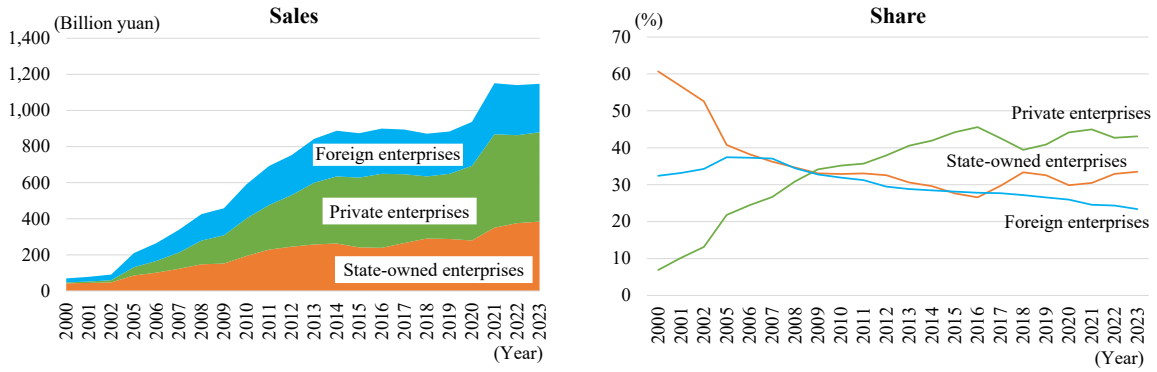
Figure II-2-1-8. Shares of sales by enterprise type in major industrial sectors in China (2023)



Source: The National Bureau of Statistics of China website.

Over the long term, private enterprises expanded their sales amounts and sales shares in the 2000s, contributing to China's growth (Figure II-2-1-9). In the meantime, through the reform of SOEs, private enterprises were allowed to enter sectors that had been monopolized by SOEs under a mixed economy system. However, since the middle of the 2010s, when the policy of prioritizing SOEs strengthened and when the "state advance, private retreat" started to be pointed out, the expansion of the share of private enterprises has almost reached a peak. Recently, it has been mentioned that private enterprises are facing difficulties amid stagnant domestic demand due to the slump in the real estate sector. On the other hand, some private enterprises in some particular sectors, such as electric vehicles, are showing stronger growth than SOEs. Foreign enterprises continued to expand their shares until the middle of the 2000s, but their shares have started to shrink since then.

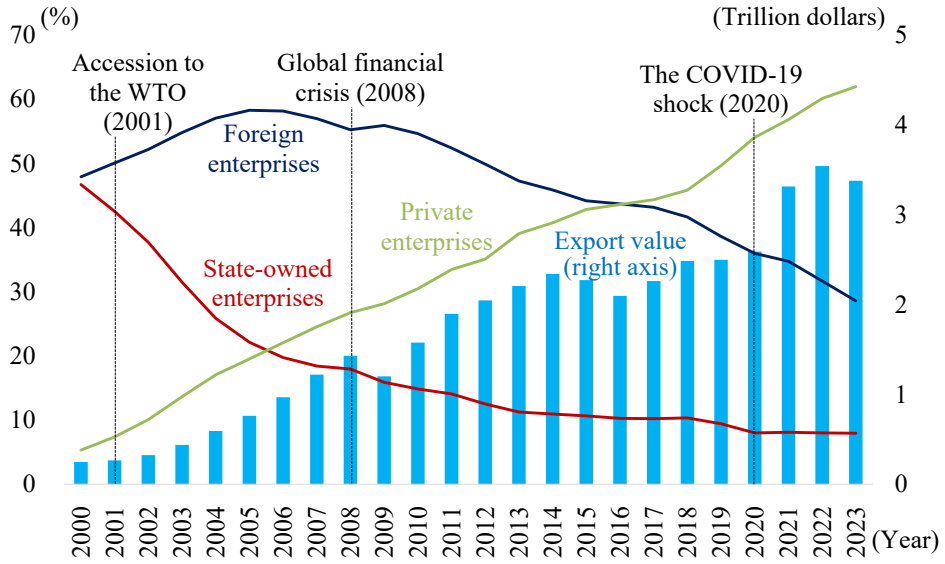
Figure II-2-1-9. Changes in sales by enterprise type in major industrial sectors in China



Source: The National Bureau of Statistics of China website.

As for the trend in export share by enterprise type, at the beginning of the 2000s, each of SOEs and foreign enterprises had an almost equal half share, with private enterprises holding a miniscule share (Figure II-2-1-10). However, SOEs have lost much of their share since then, and foreign enterprises' share has continued to decline since the middle of the 2000s. In place of SOEs and foreign enterprises, private enterprises have steadily expanded their share and recently accounted for more than 60% of overall exports.

Figure II-2-1-10. Changes in export shares by enterprise type in China



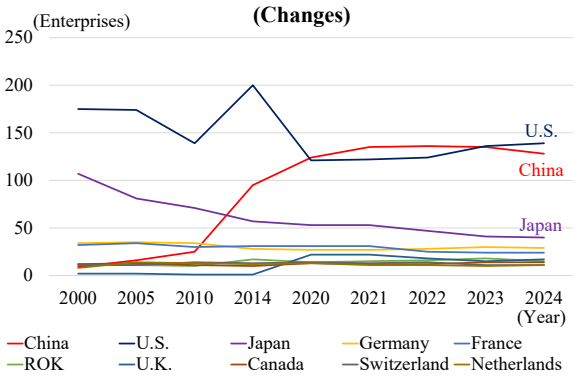
Note: As there is no category of "private enterprises" until 2012, enterprises other than those falling under "state-owned enterprises" or "foreign enterprises" are deemed as "private enterprises."

Sources: General Administration of Custom of China, CEIC.

Amid the rapid growth of the Chinese economy, Chinese enterprises have also achieved growth, with some of them included in international rankings of corporations. For example, in the early 2000s, there were only 10 or so Chinese enterprises ranked among the Fortune Global 500, but the number

gradually increased and temporarily surpassed the number of U.S. enterprises included in that list (Figure II-2-1-11).[198] In 2024, the number of Chinese enterprises ranked among the Fortune Global 500 was 128. Although this number was slightly lower than the peak level, it placed China in second place in terms of nationality, close behind the United States, which had 139 enterprises on the list, and is far higher than 40 for Japan, which was in third place, and 29 for Germany, which was in fourth place. Of the top 10 enterprises, six were U.S. enterprises and three were Chinese ones. While high-ranked Chinese enterprises, including the three ranked among the top 10, were SOEs in the resources, energy and financial sectors, many private Chinese enterprises were also included among the Fortune Global 500. In short, China now has major global enterprises, including both SOEs and private enterprises.

Figure II-2-1-11. Changes in the number of enterprises in major countries ranked among the Fortune Global 500



(Top 10 enterprises in 2024)

(Unit: 100 million dollars)

Ranking	Name of enterprise	Sales
1	Walmart (U.S.)	6,481
2	Amazon (U.S.)	5,748
3	State Grid Corporation (China)	5,459
4	Saudi Aramco (Saudi Arabia)	4,949
5	China Petrochemical Corporation (China)	4,297
6	China National Petroleum Corporation (China)	4,217
7	Apple (U.S.)	3,833
8	UnitedHealth Group (U.S.)	3,716
9	Berkshire Hathaway (U.S.)	3,645
10	CVS Health (U.S.)	3,578
(Reference)		
11	Volkswagen (Germany)	3,484
15	Toyota Motor Corporation (Japan)	3,120

(Top-ranked Chinese SOEs in 2024)

(Unit: 100 million dollars)

Ranking	Name of enterprise	Type of industry	Sales
3	State Grid Corporation	Electricity	5,459
5	China Petrochemical Corporation	Resources	4,297
6	China National Petroleum Corporation	Resources	4,217
14	China State Construction Engineering Corporation	Construction	3,204
22	Industrial and Commercial Bank of China	Financial services	2,225
30	China Construction Bank	Financial services	1,998
34	Agricultural Bank of China	Financial services	1,924
35	China Railway Group Limited	Railway construction	1,786
37	Bank of China	Financial services	1,723
43	China Railway Construction Corporation Limited	Railway construction	1,608

(Top-ranked Chinese private enterprises in 2024)

(Unit: 100 million dollars)

Ranking	Name of enterprise	Type of industry	Sales
47	JD.com, Inc.	Retail trade	1,532
53	Ping An Insurance (Group) Company of China, Ltd.	Insurance	1,458
70	Alibaba	Retail trade	1,313
81	Hengli Group Co., Ltd.	Petrochemistry	1,147
103	Huawei Technologies Co., Ltd.	IT	995
138	Zhejiang Rongsheng Holdings Group	Petrochemistry	865
141	Tencent	Retail trade	860
143	BYD Auto Industry Company Limited	Automobiles	851
171	Shenghong Holding Group Co., Ltd.	Petrochemistry	747
175	Shandong Weiqiao Pioneering Group	Textiles	735

[198] A list of major companies ranked in terms of sales that is annually published by Fortune magazine in the United States. The 2024 version of the Fortune 500 is based on sales in 2023.

Notes:

1: The figure shows the data compiled by country, derived from the Fortune website.

2: The ranking is published annually, but this figure shows the data every five years from 2000 and every year from 2020 onward. In addition, the figure shows the ranking in 2014 instead of the 2015 ranking because 2015 was an exceptional year characterized by a significant decline in the number of Chinese companies due to the impact of the Shanghai stock market crash and other factors.

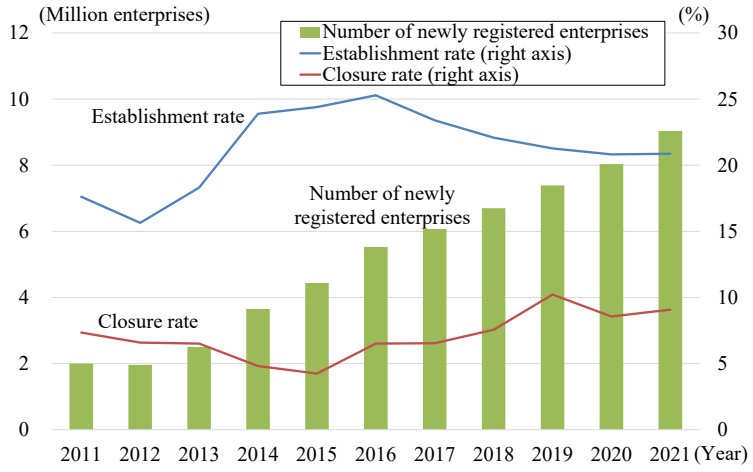
3: Enterprises are classified as either state-owned or private with reference to the "2024 Top 500 Private Enterprises in China" list released on the All-China Federation of Industry and Commerce website as well as to other materials.

Sources: The Fortune website (https://fortune.com/ranking/global500/2023/) (as viewed on February 21, 2025), the All-China Federation of Industry and Commerce website (https://www.acfic.org.cn/qlyw/202410/t20241012_205055.html) (as viewed on March 24, 2025).

3. Competitive environment

As for the competitive environment in the Chinese market, there are some non-competitive sectors dominated by a handful of SOEs, as mentioned earlier. On the other hand, in some other sectors, there is excessive competition, referred to as "involution," because of intense crosscurrents of market entry and exit (Figure II-2-1-12). In that situation, the tendency to seek to complete research, development, social implementation and share expansion in a very short period of time has been pointed out as an aspect of Chinse corporate culture or as a characteristic of the Chinese market.

Figure II-2-1-12. Estimates of business establishment rates and closure rates of enterprises in China



Note: An establishment rate = the number of established enterprises / the number of enterprises at the end of the previous year; A closure rate = the number of closed enterprises / the number of enterprises at the end of the previous year

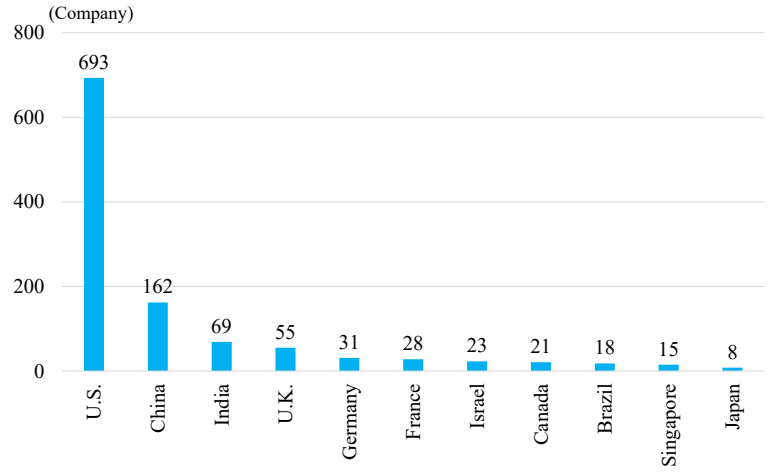
The number of closed enterprises is calculated as: the number of enterprises at the end of the current year - (the number of enterprises at the end of the previous year + the number of established enterprises during the current year).

In addition, this data includes corporate enterprises alone and excludes individual businesses.

Sources: The State Administration for Market Regulation of China, CEIC.

The emergence and growth of startup firms can be regarded as an indicator of industrial innovation activity and of industrial rejuvenation. In terms of the number of so-called unicorn companies, which refer to unlisted companies whose valuation is more than 1 billion dollars, China is the global No. 2, after the United States, which is evidence that entrepreneurship based on research, development and innovation is flourishing. According to information related to unicorn companies published by CB Insights, as of February 2025, there were more than 1,200 unicorn companies around the world. While more than half of them were based in the United States, China had around 160 unicorn companies, becoming the global No. 2 host country for unicorns (Figure II-2-1-13). However, in recent years, as the number of newly created unicorn companies has been declining, the total number of unicorn companies has remained mostly flat, and this trend can be observed not only in China but around the world.

Figure II-2-1-13. Number of unicorn companies in major countries



Note: The number of unicorn companies was aggregated by country and the top 10 countries are shown (as of February 2025). Japan ranked 14th, which is included for reference.

Source: The CB Insights website (https://www.cbinsights.com/research-unicorn-companies) (as viewed on February 26, 2025).

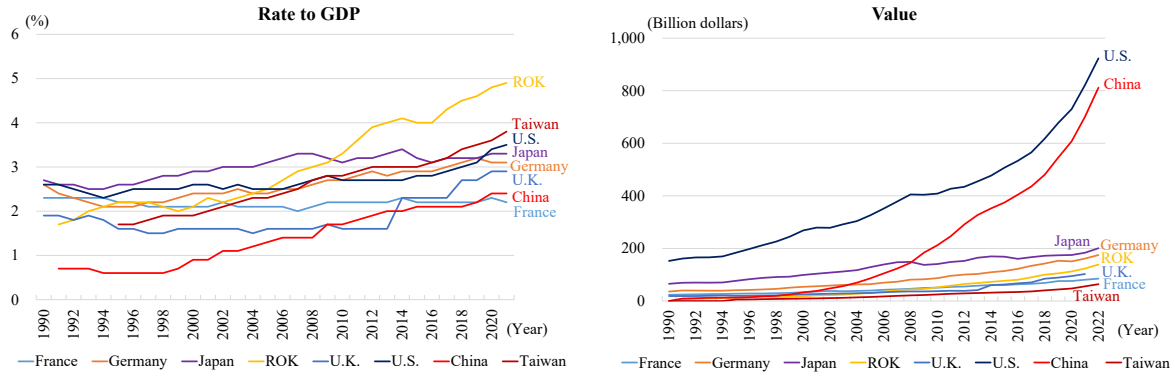
4. Technologies

Let us examine how China has acquired technologies. It has been pointed out that at the beginning of the reform and opening-up initiative, China aimed to realize the transfer of advanced technologies from developed countries and technology spillovers through trade by inviting foreign enterprises to establish joint ventures. China prepared tax programs and other preferential measures for enterprises possessing advanced technologies under a so-called “market for technology” approach in order to

encourage foreign enterprises to establish joint ventures with Chinese counterparts in exchange for being allowed to enter the Chinese market.

In addition to promoting technology transfers from foreign enterprises, China invigorated research and development activity by Chinese enterprises themselves and steadily developed technological expertise. For example, in terms of research and development expenditure as a proportion of GDP, China has already overtaken France and is narrowing the gap with other major countries (Figure II-2-1-14). What is more important is that in terms of the absolute value of research and development expenditure, the positions of the United States and China as the top duo are more pronounced. China is catching up with the United States, the frontrunner, while leaving Japan, which is in third place, far behind.

Figure II-2-1-14. Changes in research and development expenditure by major country and region

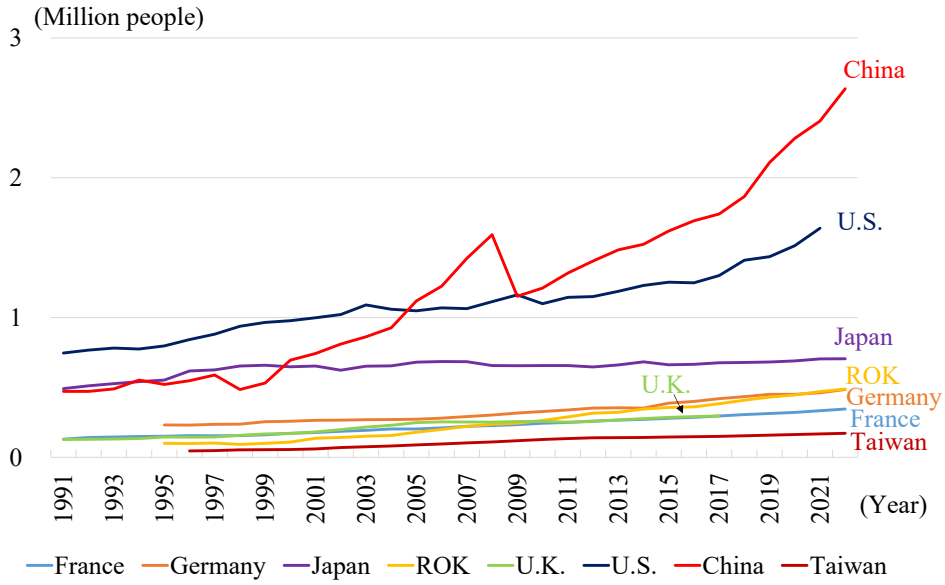


Note: Nominal PPP basis.

Source: *Main Science and Technology Indicators* (OECD).

In terms of the number of researchers, China has already surpassed the United States. Its number of researchers is the largest in the world and is 50% larger than the U.S. number (Figure II-2-1-15). Among the factors underlying the huge pool of researchers are increases in the number of graduates from higher education institutions in China and the number of students studying in the United States and other developed countries. It has been mentioned that students studying abroad make successful contributions to research and development activity and entrepreneurship activity in China after returning home.

Figure II-2-1-15. Changes in the number of researchers by major country and region

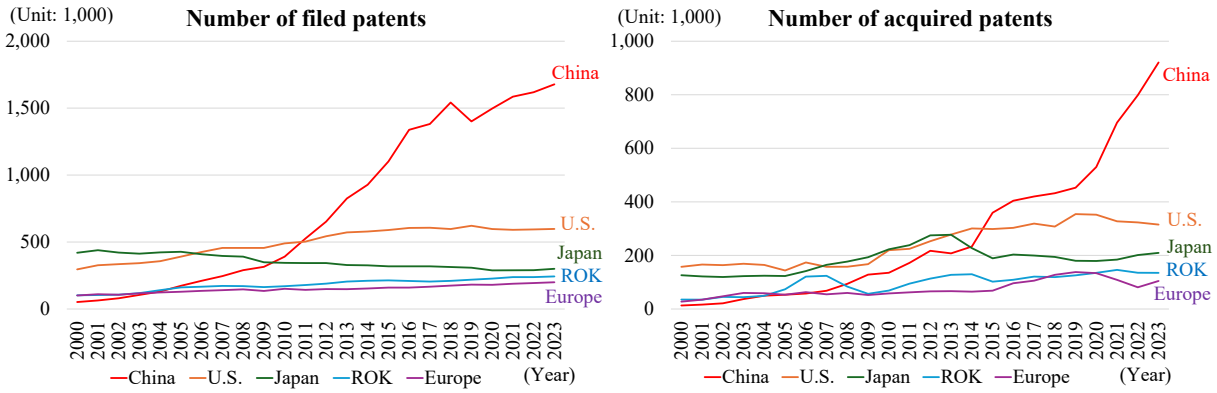


Note: This figure shows full-time equivalents. The data for the U.K. is up to 2017. The data for the U.S. is up to 2021.

Source: *Main Science and Technology Indicators* (OECD).

Allocating a large amount of research and development expenditure or having a huge pool of researchers alone may not necessarily lead to successful results. Let us look at an international comparison in terms of the numbers of patents filed and patents acquired, based on data from the World Intellectual Property Organization (WIPO). According to the comparison, China overtook the United States in terms of both the number of patents filed and the number of patents acquired in the first half of the 2010s (Figure II-2-1-16).

Figure II-2-1-16. Changes in the number of patents filed and acquired by major country and region

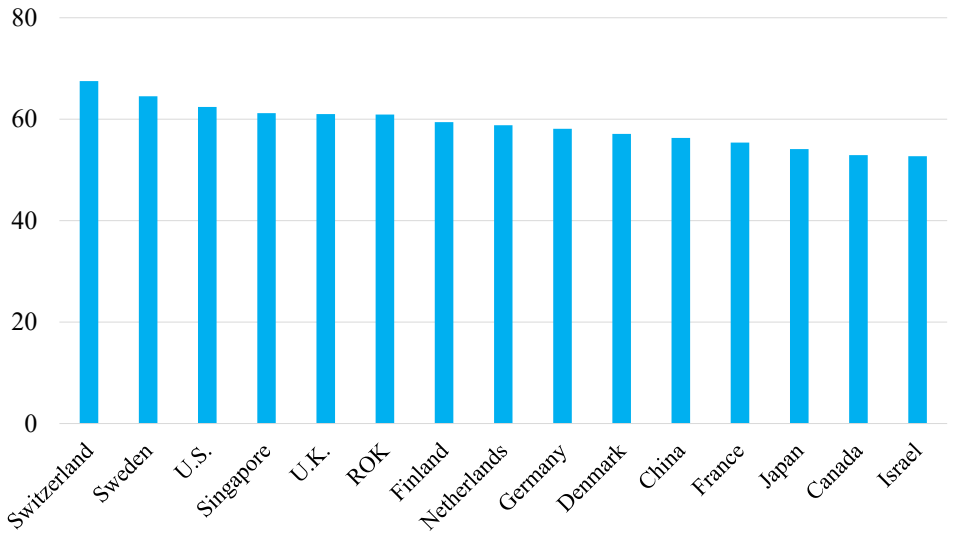


Note: This figure shows the patent offices of the top five countries and region worldwide by number of filed patents. The number of filed patents includes those filed by both domestic residents and non-residents of these countries and region.

Source: *World Intellectual Property Indicators 2024* (WIPO)
(https://www.wipo.int/publications/en/details.jsp?id=4759)(as viewed on February 26, 2025).

The Global Innovation Index, published by WIPO, which ranks countries in terms of innovation, shows that China is ranked 11th, indicating that the levels of Chinese innovation activity and results achieved are high compared with the situations in developed countries (Figure II-2-1-17).

Figure II-2-1-17. WIPO Global Innovation Index of major countries (2024)



Note: This figure shows the results of evaluation on innovation (0-100) published by WIPO.
Source: *Global Innovation Index (GII)* (WIPO) (https://www.wipo.int/web-publications/global-innovation-index-2024/en/gii-2024-at-a-glance.html) (as viewed on March 2, 2025).

5. Industrial finance

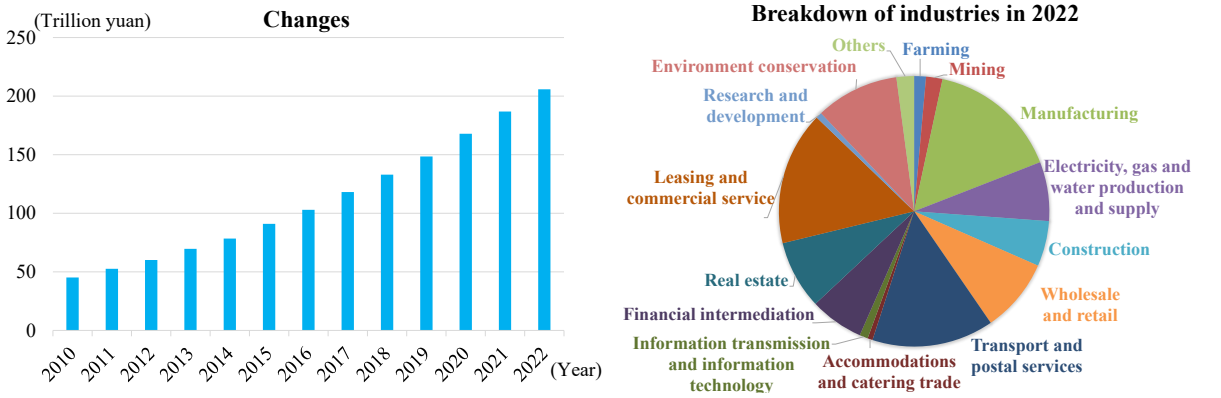
Major providers of finance to Chinese industries include banks, stock markets, government guidance funds, and government subsidy schemes. Presumably, the mix of providers of finance has differed from decade to decade and also on a case-by-case basis.

We will provide an overview of the general characteristics and sizes of funds regarding each type of provider. First, let us look at borrowings from banks, a category of finance that is considered to be most important as a means of fund procurement by enterprises.[199] In China, in addition to large state-owned banks, such as Bank of China, many other banks provide loans. The total value of loans (the outstanding balance of loans) provided by banks, which is affected by the monetary policy at the time, has steadily increased. In 2022, the outstanding balance of loans, including those provided to individuals, came to

[199] Of the value of approximately 32 trillion yuan in total social financing, which represents the value of funds procured on a society-wide basis, in 2024, published by the People's Bank of China, loans denominated in the Chinese yuan accounted for around half, or approximately 17 trillion yuan (on a flow basis). Meanwhile, Kwan (2022) reported that borrowings accounted for 54.2% of the financial debts held in the non-financial enterprise sector and that the share was 10.8% for debt securities, 19.0% for stocks, etc., and 16.0% for other instruments (as of the end of 2018).

around 200 trillion yuan, representing an increase of 10% from the previous year (Figure II-2-1-18). Banks provide finance to manufacturing and various other industries.

Figure II-2-1-18. Changes in bank loans in China



Note: The shares shown in the breakdown of industries is calculated, excluding "individual and overdraft" and "overseas," which cannot be classified by industry.
The item "others" in the figure shows the sum of "personal services," "education," "health care, social services," "recreation," and "public administration."

Sources: People's Bank of China, CEIC.

However, regarding bank loans, which use funds collected from depositors, lenders give precedence to large SOEs, which are relatively risk-free borrowers, and companies possessing assets that can be used as collateral, so they tend to be negative toward providing loans to enterprises with a low level of creditworthiness (e.g., small and medium-size private enterprises) and emerging companies without assets. There are also concerns that overdependence on bank loans may delay industrial transformation and development and increase systemic risk through the accumulation of bank debts. Direct finance, such as issuance of shares, is more appropriate for the procurement of higher-risk funds, such as funds procured by emerging enterprises, because pricing commensurate with the risk level is possible. The government of China is promoting a shift from indirect finance to direct finance.[200]

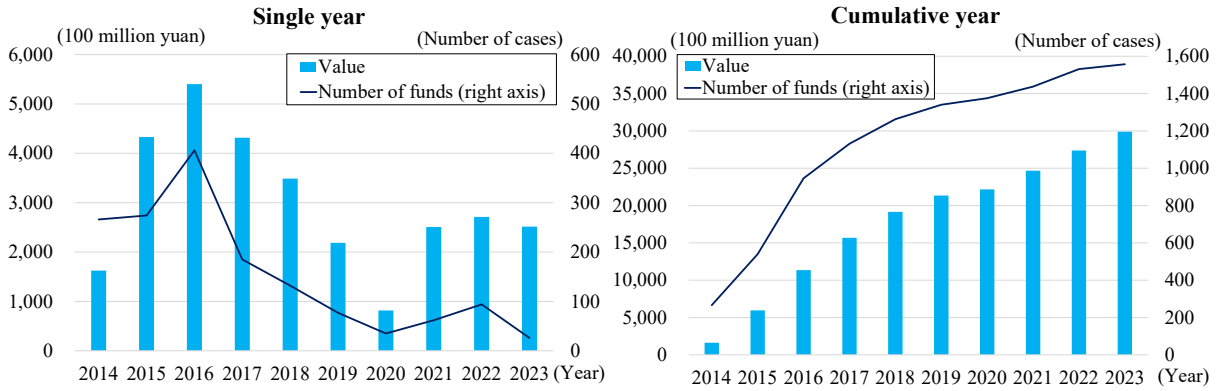
In China, securities exchanges have been established in three cities, Shanghai, Shenzhen, and Beijing. The main boards of the exchanges are comprised mostly of large SOEs and well-established enterprises, while the Shenzhen Stock Exchange and the Shanghai Stock Exchange have opened markets for innovative emerging enterprises, called ChiNext and the STAR Market, respectively, which provide funds to companies through direct finance. The total number of enterprises listed on those three exchanges is 5,370, including financial institutions, with a combined market valuation of 77 trillion yuan (as of the end of March 2024).[201] However, it has been pointed out that because of procedural and other

[200] Kwan (2022)
[201] Nihon Keizai Shimbun, "(KYOU NO KOTOBA) CHUUGOKU NO JOUJOUKIGYOU TOWA—'KOKUYUU' NO SONZAIKAN OOKIKU," May 4, 2024, page 3

problems related to the Chinese securities exchanges, many Chinese enterprises opt for direct listing on foreign securities exchanges.[202]

In addition to the abovementioned providers of finance, government organizations also provide industrial support. Government guidance funds provide governmental funds under governmental guidance and raise additional funds from financial institutions and enterprises for investments in critical industries. Government guidance funds include both ones led by the central government and ones led by local governments. Among well-known government guidance funds is the National Integrated Circuit Industry Investment Fund, which is led by the central government. There are more government guidance funds led by local governments than ones led by the central government, and the total value of investments made by local governments is larger than the total value of investments made by the central government.[203] In principle, the type of finance provided by government guidance funds is mainly investment, although it may vary case by case, and is different from debt finance like bank loans, which are provided on the premise of repayment. According to an estimate by a Chinese private think tank, the number of government guidance funds increased steeply in the middle of the 2010s, and by the third quarter of 2023, a total of around 1,600 funds were established with a cumulative total investment value of around 3 trillion yuan (Figure II-2-1-19).[204]

Figure II-2-1-19. Current state of government guidance funds in China



Note: The values for 2014 are cumulative totals up to the end of that year. The values for 2023 are up to the end of the third quarter.

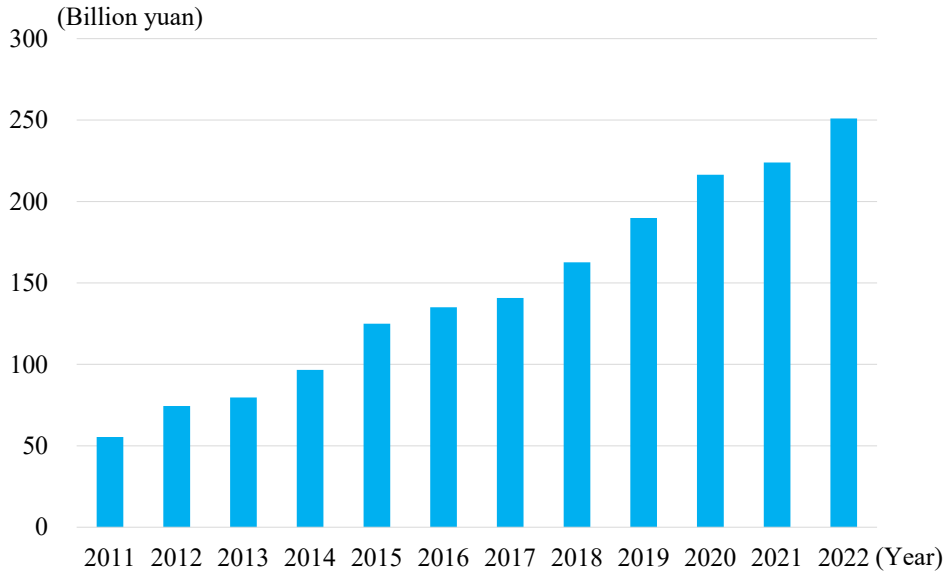
Source: Liu and Hu (2023).

Another form of governmental industrial support is a governmental subsidy program, which provides governmental funds directly to enterprises.[205] It is difficult to grasp the full picture of subsidies

[202] Jin (2023)
[203] Ding (2024)
[204] Liu and Hu (2023)
[205] Other forms of industrial support provided by the government of China include low-interest loans, tax exemption or reduction, and the provision of land and other factors of production at low prices, but here, we cited subsidy programs that provide finance directly to enterprises. Details of support provided by the government of China, including the scheme and requirements for granting funds, are difficult to identify because publicly available information is limited. In particular, a low level of transparency over support

provided by the government of China. But according to a trial calculation based on available data, specifically earnings reports, the value of subsidies received by listed enterprises in 2022 expanded by a factor of around five to approximately 250 billion yuan compared with 2011 (Figure II-2-1-20).[206]

Figure II-2-1-20. Estimates of subsidies to listed enterprises in China



Note: This figure shows the aggregated results derived from the financial statements of listed enterprises. The values up to 2020 are aggregated by METI, while the values for 2021 and 2022 are cited from the WTO reports.

Sources: METI (2022), WTO (2024).

In addition, the role performed by venture capital funds has also been pointed out. Venture capital funds acquire shares in unlisted emerging enterprises (venture firms) through investment with the aim of earning significant capital gains by selling those shares when the enterprises make public offering (listed on an exchange). There are both public and private venture capital funds. Venture capital funds not only provide finance but also assist enterprises' growth through a broad range of support activities, including providing the management skills in which emerging companies are lacking and using a network of personal connections. It is also of great significance that during those processes, a sort of ecosystem is formed, as exemplified by information and innovation spillovers and the expansion of the network of personal connections. According to reference materials showing an international comparison in terms of investment value, the value of venture capital investments made in China is larger than the value of investments made in Europe or in Japan, although it is much smaller than the value of investments made in the United States (Table II-2-1-21).[207]

provided at the local government level has been pointed out. Even so, regarding subsidies provided to listed enterprises, trial calculation is relatively easy to make because they are indicated in financial statements.

[206] Ministry of Economy, Trade and Industry (2022), WTO (2024)

[207] Venture Enterprise Center, Japan (2023)

Table II-2-1-21. International comparison of venture capital investment

(Unit: 100 million yen)

	2018	2019	2020	2021	2022
U.S.	192,526	196,327	225,388	454,260	316,818
Europe	12,663	16,592	16,624	28,176	25,234
China	41,282	30,753	38,059	72,330	48,470
Japan	2,778	2,891	2,243	3,418	3,274

Note: This figure shows the results of converting data from 2018 to 2022 using the average exchange rates of each currency in 2022. The values for Japan are based on fiscal years, while the values for the other three regions are based on calendar years.

The scope of what is included as venture capital investment varies depending on the materials used for each region.

Source: Venture Enterprise Center, Japan (2023).

Its original source of Chinese data is *China VC/PE Market Review 2022* (Zero2IPO Research).