White Paper on International Economy & Trade 2018 — Summary

By Policy Planning & Research Office, Trade Policy Bureau, Ministry of Economy, Trade & Industry (METI)

Introduction

The global economy is now facing significant shifts — for example, movements against the free trade system under the WTO; advancement of digital transformation including expanding digital trade; and the rise of China and other emerging and developing economies. The White Paper 2017 focused on the first shift mentioned above to analyze the issues surrounding inequality in developed economies and relationships between trade and inequality. The White Paper 2018 focuses on the remaining two shifts.

First, the White Paper presents the current state of the expanding global digital trade and reveals the issues that come with digital trade. It also analyzes the characteristics of the economic growth in emerging and developing economies and the issues that accompany them. It goes on to provide a multifaceted analysis of the Chinese economy, whose rapid growth and changes are notable even among emerging and developing economies. One of the matters that the analysis covers is the business opportunities in the growing Chinese consumer market.

The objective of the analysis is to demonstrate the necessity of constructing liberal, fair, and high-level trade rules and making further efforts to revitalize domestic industries.

1. Expanding Digital Trade

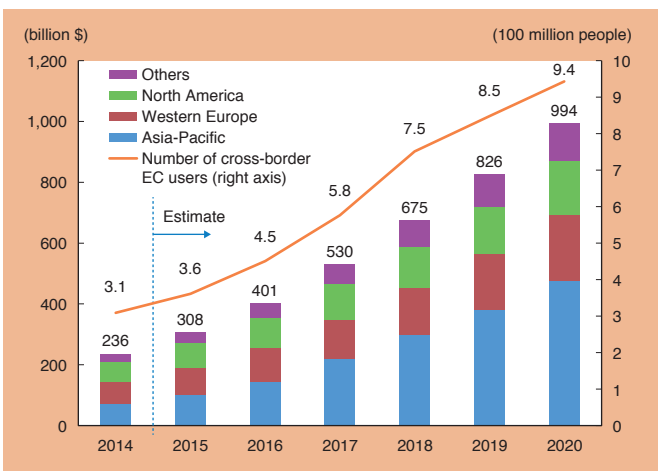
The amount of data being traded worldwide is growing at a phenomenal pace as a consequence of the progress of the Fourth Industrial Revolution. The speed with which the data are being processed is also rising dramatically. The Internet and mobile telephony have spread to all corners of the world including emerging economies, and the digital market is growing rapidly.

The scale of the global cross-border e-commerce (EC) market was $236.0 billion in 2014. It has continued to expand since then and is expected to reach $994.0 billion in 2020. The number of cross-border EC users, which was around 300 million people in 2014, is expected to approximately triple to 900 million people in 2020 *(Chart 1)*. The causes of the expansion of the global EC market include the growing use of personal computers and cellphones to conduct transactions and the diversification of online means of settlement.

In line with the expansion of digital trade, the presence of global companies that provide IT platforms for EC and cloud computing services is increasing.

CHART 1

Scale of the global cross-border EC market



Remarks: Estimated figures
Source: Accenture and Alibaba Research (2015)

In 2008, telecommunications companies made the top 10 [market capitalization] rankings alongside oil, gas and other resource companies and banks.

Ten years later, as of January 2018, US and Chinese IT platform companies led by Apple and including Alphabet (Google), Amazon, Facebook, Tencent, and Alibaba made the list *(Table 1)*.

In 2008, businesses providing telecommunication infrastructure tended to be highly valued in terms of market capitalization against the backdrop of a marked rise in the diffusion rate of mobile phones.

In the 21st century, a wide variety of IT platform companies are playing leading roles, contributing to social and economic development through technological innovation and lower transaction costs.

With the progress in digital trade comes an increased need for the development of international rules. The free flow of information is developing a favorable cycle that is creating new technical innovations and business models and improving the quality of people's lives. On the other hand, cybersecurity concerns such as the leakage of personal information and confidential corporate data are also growing with the rise in various activities in cyberspace. Digital protectionist moves are also emerging, including imposing restrictions on the free flow of cross-border data and the installation

TABLE 1
Global rankings of companies in terms of market capitalization

2008				
	Company name	Country	Sector	Market capitalization (million $)
1	China National Petroleum Corporation	China	Oil/gas	723,998
2	Exxon Mobil Corporation	US	Oil/gas	511,887
3	General Electric Company	US	Industrial conglomerates	374,637
4	China Mobile	Hong Kong	Wireless communication service	354,245
5	Industrial and Commercial Bank of China Limited	China	Banking	339,004
6	Microsoft Corporation	US	Software	333,054
7	Gazprom	Russia	Oil/gas	331,964
8	Royal Dutch Shell plc	Netherlands	Oil/gas	264,764
9	AT&T Inc.	US	Wireless communication service	252,051
10	China Petroleum and Chemical Corporation	China	Oil/gas	249,659

2018				
	Company name	Country	Sector	Market capitalization (million $)
1	Apple Inc.	US	Computer hardware	825,593
2	Alphabet Inc.	US	Online services	731,933
3	Microsoft Corporation	US	Software	686,283
4	Amazon.com, Inc.	US	Department stores	671,084
5	Facebook, Inc.	US	Online services	512,471
6	Tencent	China	Online services	497,697
7	Berkshire Hathaway Inc.	US	Casualty insurance	491,154
8	Alibaba Group Holding Limited	China	Online services	454,451
9	JPMorgan Chase & Co.	US	Banking	387,707
10	Industrial and Commercial Bank of China Limited	China	Banking	354,750

Remarks: The above figures are as of Feb. 12, 2008 and Jan. 1, 2018
Source: Thomson Reuters

TABLE 2
Number of regulations related to cross-border data flow (by region/country) (as of 2017)

	Number of regulations	Share
Europe	37	42.5%
Germany	5	5.7%
Russia	5	5.7%
Asia-Pacific	33	37.9%
China	9	10.3%
Middle East/Africa	7	8.0%
North America	6	6.9%
Canada	5	5.7%
US	1	1.1%
Central and South America	4	4.6%
Total	87	100.0%

Remarks: The number of regulations which were in force in 2017. The countries indicated above (except for the US) had more than five regulations.
Source: ECIPE and Digital Trade Estimates

locations of servers. National restrictions on cross-border data flow have grown rapidly over the last 20 years *(Table 2)*.

If a country introduces cross-sectoral data localization regulation, its GDP is estimated to suffer a negative impact ranging from -0.7% to -1.7% due to such factors as a domestic price increase and a productivity decline caused by an increase in the usage cost of data processing services.

Other challenges include securing the conditions for fair competition between IT platform companies and existing industries and ensuring the protection and safety of consumers.

2. Rise of Emerging and Developing Economies

Next, the White Paper looks at economic growth in emerging and developing economies.

Concerning the contributions to the real growth rate of global GDP by country and region, the contribution by advanced countries to the real growth rate of global GDP has been declining since around 2000, while the contribution by emerging and developing countries, including China, has been increasing *(Chart 2)*.

Nominal global GDP has been growing steadily despite temporary drops due to the Great Recession, among other factos. The share of emerging and developing countries in nominal global GDP has been increasing since the middle of the 2000s and has recently surpassed 40% *(Chart 3)*. In terms of the contribution to global economic growth, the role of emerging and developing economies is growing ever greater.

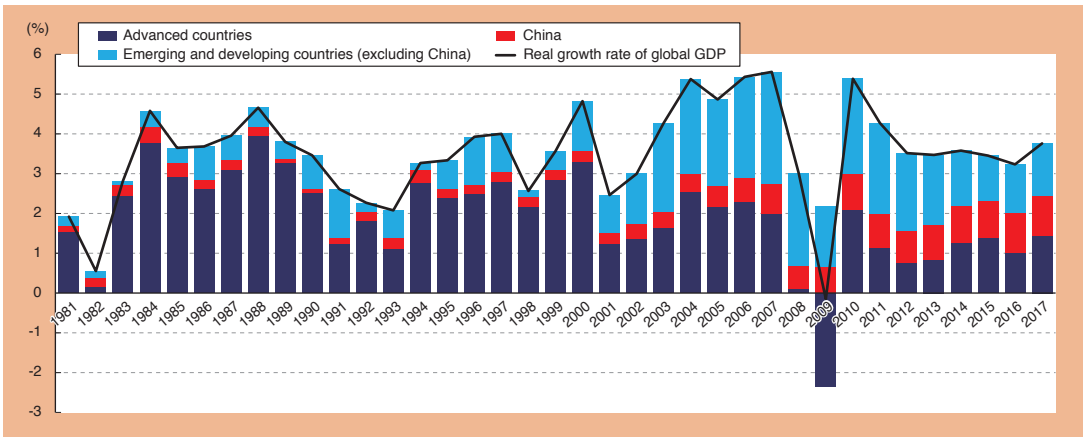
Characterizing the economic growth of emerging and developing economies is the growth of domestic investment at a pace outstripping that of consumption. Fixed capital formation accelerated in emerging and developing economies around 2003 and reached $9.5 trillion in 2016, almost the same value as in developed economies, but consumption remains at around 60% of developed economies *(Chart 4)*.

Emerging and developing economies' capacity has continued to grow in their raw materials industries to keep pace with the growth in their fixed capital formation. The 2000s were a period in which investment played a major role in raising the economic growth rate in emerging and developing economies, since it was during this period that much infrastructure development and corporate investment in production equipment took place. For example, while production capacity for crude steel has stayed at around 600 million tons in developed economies over the last 17 years, capacity in emerging and developing economies as a whole has continued to grow. In 2017, global production capacity increased to 2,300 million tons, around 2.3 times as large as the capacity in 2000. Among emerging and developing economies, China has increased its production capacity markedly *(Chart 5)*.

Taking the steel industry in China as an example of the excess production capacity in emerging and developing economies, the process can be broadly divided into the following three stages. (i) As banks increased low-interest loans and steel companies expanded

CHART 2

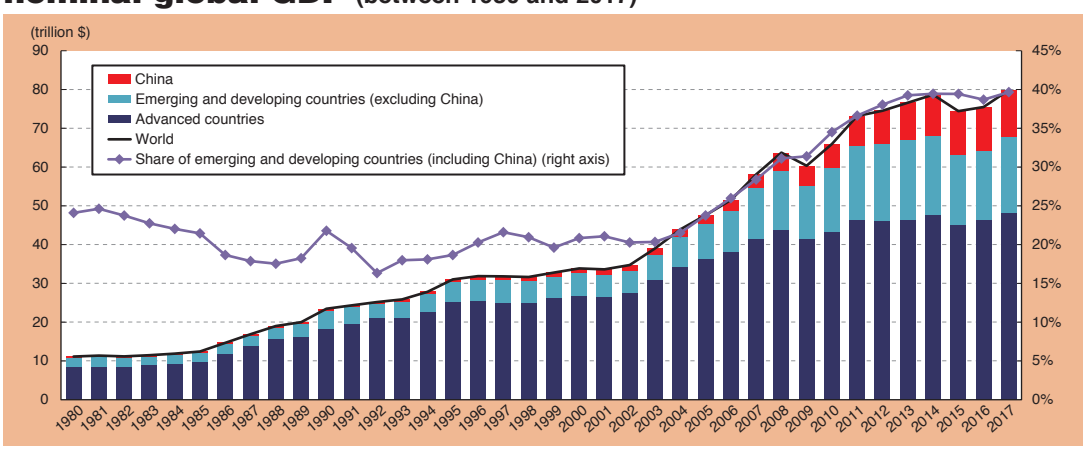
Changes in the global GDP growth rate (in terms of contribution by country/region) (1990 -2017)



Remarks: The contribution by country/region is an estimate based on each country/region's share in nominal GDP in the previous year.
Source: Prepared by METI based on the database of World Economic Outlook, April 2018 (IMF)

CHART 3

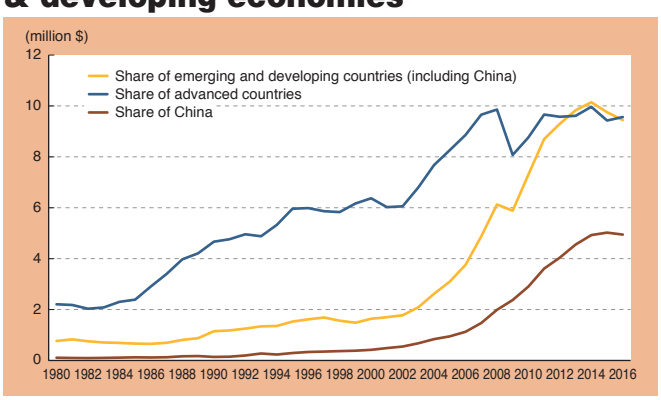
Changes in the share of emerging & developing countries in nominal global GDP (between 1980 and 2017)



Remarks: Nominal GDP is on a US$ basis
Source: Prepared by METI based on the database of World Economic Outlook, April 2018 (IMF)

CHART 4

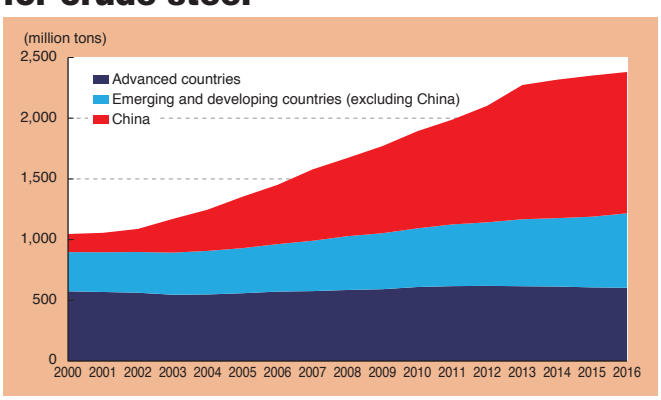
Changes in the value of fixed capital formation (on a flow basis) in developed & developing economies



Remarks: The classification of advanced, emerging and developing countries is based on the definition in the IMF World Economic Outlook.
Source: UN national accounts main aggregates data (December 2017)

CHART 5

Changes in global production capacity for crude steel



Remarks: The definition of advanced countries is based on the IMF's definition.
Source: OECD Stat

production capacity, the return on assets (ROA) rose from 7% in 2001 to 14% in 2004. (ii) Since 2006, China has recorded steel export surpluses, but loans and production capacity expansion have continued. From 2008 onward, the ROA for steel companies stayed below 5%. (iii) In February 2016, the central government set a target for the production of production equipment and strictly managed the implementation of the target. As a result, the target was achieved in 2016 and 2017 *(Chart 6)*.

Financing for steel companies and investment in their production equipment as well as the government subsidies and other support in the face of the poor business results beginning in 2012 were

focused on state-owned companies under the jurisdiction of local governments. When the steel companies are categorized into three groups — "state-owned companies owned/controlled by the central government", "state-owned companies owned/controlled by local governments" and "private companies" — in looking at the amounts of long-term debt outstanding and government subsidies, it can be seen that much is directed at state-owned companies owned/controlled by the local governments.

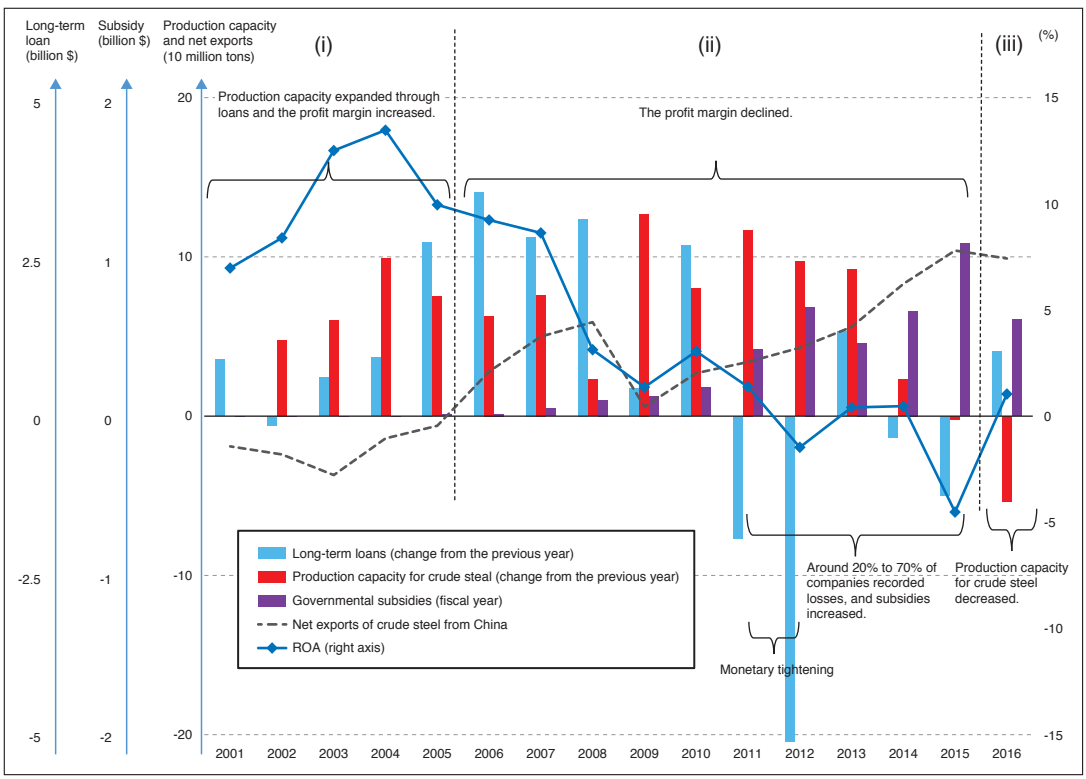
However, this has not necessarily contributed to enhancing profitability and value-added in those companies. State-owned companies owned/controlled by local governments in particular continue to trail the other companies in the rate of return on total assets. Management has yet to be improved in these companies *(Chart 7)*.

Sharp increases in capital investment through governmental support in China are also seen in the integrated circuit industry. There is a risk that an excess production capacity problem in the industry may occur in the future.

In 2014, the Chinese government formulated the "National Integrated Circuit (IC) Development Guidelines". Under the Guidelines, a national investment fund (National Integrated Circuit Industry Investment Fund) was established that made approximately $4 billion worth of investments per year in integrated circuit-related companies. As a result,

CHART 6

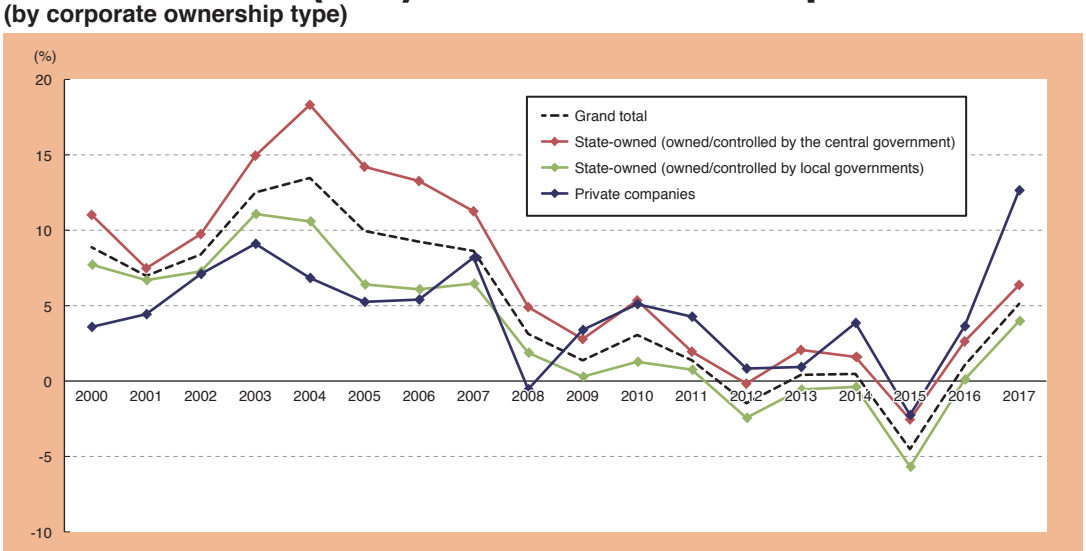
Development of the Chinese steel industry (2001-2016)



Source: Production capacity: National Bureau of Statistics of China and CEIC Database; net exports of crude steel: World Steel Association; long-term loan and government subsidy: annual reports of 33 listed Chinese steel companies.

CHART 7

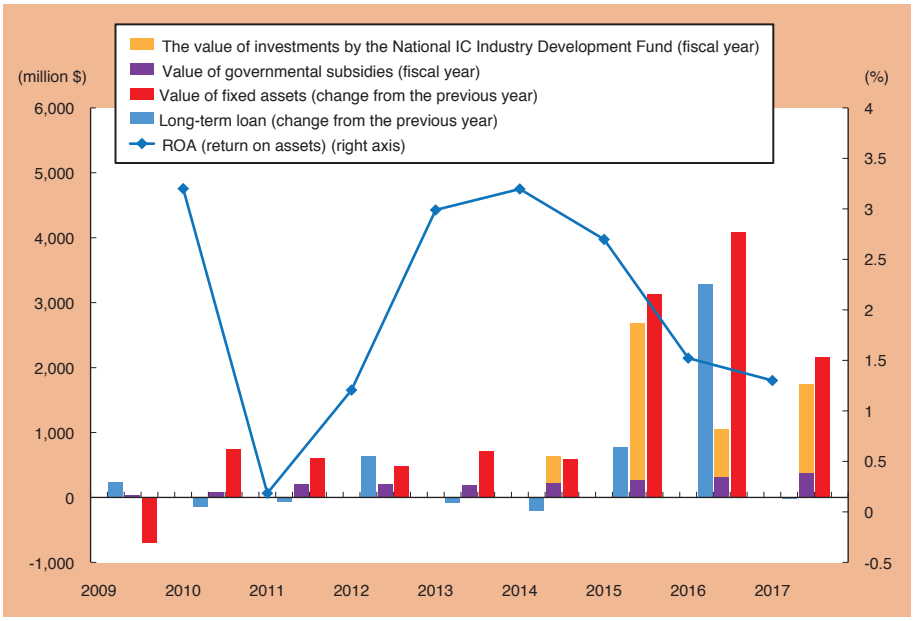
Return on assets (ROA) for Chinese steel companies
(by corporate ownership type)



Remarks 1: As of the end of 2016, there were five companies owned/controlled by the central government, 21 companies owned/controlled by local governments, and seven private companies.
Source: Annual reports of 33 listed Chinese steel companies

CHART 8

Increase in the value of fixed assets, value of governmental subsidies, & profit margin of IC-related companies



Remarks 1: The ROA is obtained by dividing the total value of operating profits of the 19 IC-related listed companies in China by the total value of assets. The ROA in 2009 was -12.4%.
Source: Annual reports of the 19 IC-related listed companies in China.

investment from the investment fund and other policy resources in addition to government subsidies and corporate debt increased rapidly from 2014, resulting in a dramatic rise in fixed assets between 2015 and 2017. Meanwhile, the rate of ROA has been declining for these businesses during this same period. This trend in the Chinese IC industry is similar to the situation of the Chinese steel industry in the period of net import, so there are concerns that an excess production capacity problem may occur in the IC industry in the future *(Chart 8)*.

Industrial investment funds such as the National Integrated Circuit Industry Investment Fund have been playing a particularly prominent role in recent years as policy resources. The number and total value of these funds have been growing rapidly since 2014 and are currently increasing their presence as the main source of China's policy resources today *(Chart 9)*.

3. Rapid Changes in the Chinese Economy

(1) Advance of New Industries

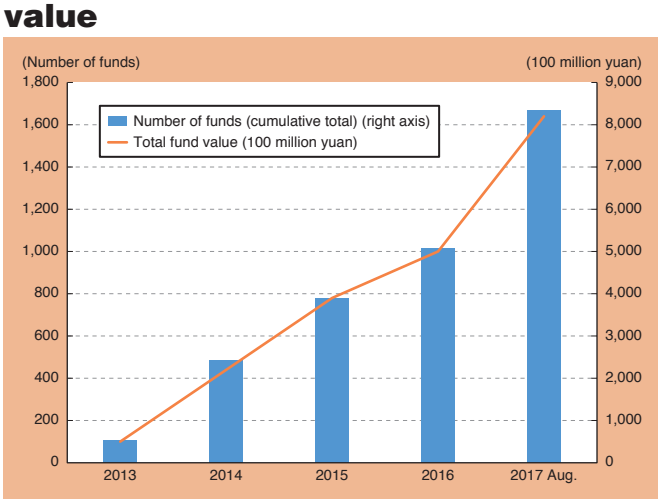
Looking at China's GDP from the demand side, export and gross capital formation reduced their shares after the 2008 financial crisis and the 4 trillion-yuan stimulus package respectively, while private consumption has been gradually increasing its share. A decomposition analysis of GDP in real terms shows that the contribution from investment is declining and consumption has become the pillar of economic growth. In that sense, China is gradually shifting from investment-led growth to consumption-led growth.

A look at the real GDP growth rate by industry in China in 2017 shows that the information transmission, software and information technology services industry recorded an outstandingly high growth rate of 26.0% *(Chart 10)*.

Chinese Internet users, on whom these services are based, are increasing in number year by year. They increased almost fourfold

CHART 9

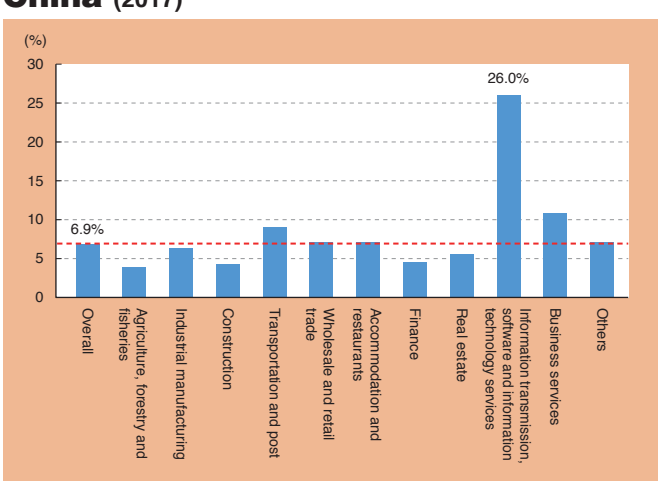
Changes in the number of industry investment funds & the total fund value



Source: Database of Zero21PO Group "Si Mu Tong"

CHART10

Real GDP growth rate by industry in China (2017)

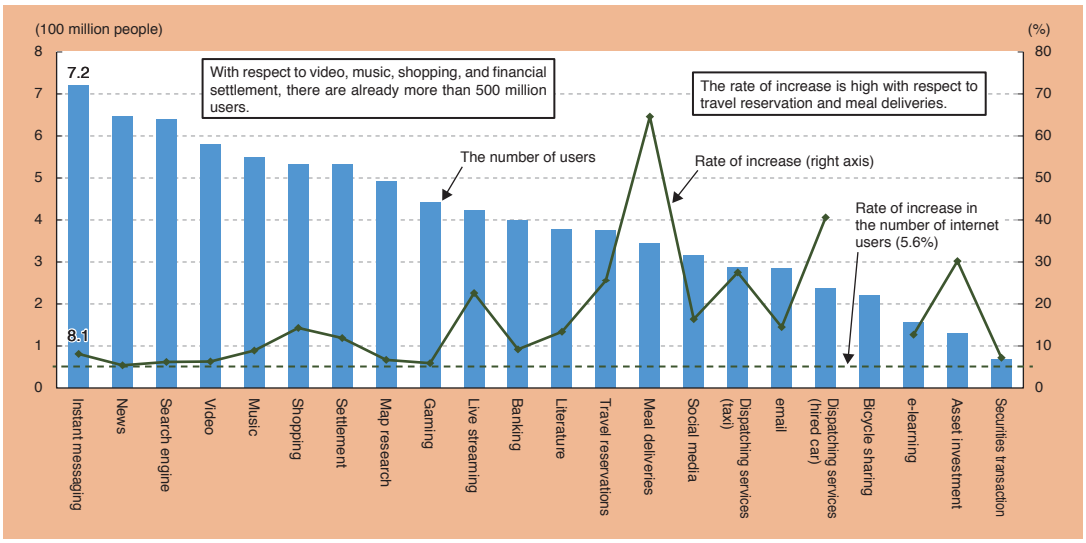


Source: The National Bureau of Statistics of China and CEIC database

CHART 11

Utilization of internet applications by sector in China

(as of the end of 2017)



Remarks: The rate of increase is on a year-on-year basis. With respect to bicycle sharing, the rate of increase is not available because this item was not covered in the previous year's survey.

Source: The 41st Statistical Report on Internet Development in China (January 2018) (China Internet Network Information Center)

TABLE 3

The scale of the sharing economy

(2017)

(Unit: 100 million yuan, %)

	Scale of the market			Value of funds provided
	Value of transaction	Share	Rate of increase	
Medical care	70	0.1	48.0	19
Housing and lodging	145	0.3	70.6	37
Knowledge and skills	1,382	2.8	126.6	266
Transportation	2,010	4.1	56.8	1,072
Production capacity	4,120	8.4	25.0	34
Everyday life services	13,214	26.9	82.7	512
Financial services	28,264	57.4	35.5	220
Total	49,205	100.0	47.2	2,160

Source: "Report on Development of Sharing Economy 2018" (Sharing Economy Research Center, State Information Center and Working Committee on Sharing Economy, Internet Society of China)

from 210 million to 770 million in 10 years with the penetration rate reaching 55.8% by the end of 2017. Users on mobile devices increased more than 10-fold from 50 million to 750 million. More than half the Chinese population are now able to access services freely on the Internet wherever they are.

As Internet use expands in China, the EC market is also growing significantly. China boasts the world's largest scale of EC sales at approximately 23 trillion yuan (3.4 trillion yen) in 2016. Internet services for consumers cover a wide range of areas. Among Internet applications, instant messaging, search engines, videos, music, shopping, and online payments are popular, with more than 500 million estimated users each. The number of users for travel reservations, meal deliveries, car dispatching services, and financial services is growing at a high rate, indicating that the market is expanding rapidly *(Chart 11)*.

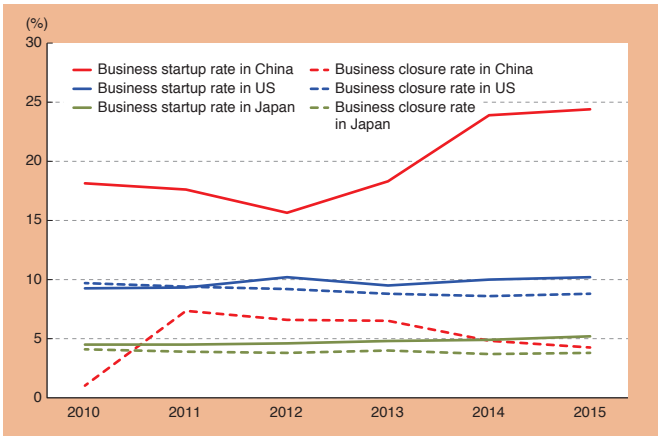
The sharing economy has also emerged as a new economic activity conducted via the Internet. The sharing economy is defined as an economic activity that utilizes resources efficiently by sharing vehicles, dwellings, funds, etc. by using the Internet and other technology. The market size in 2017 stood at approximately 4.9 trillion yuan, a 47% increase over the previous year. By transaction value by sector, the transaction value of financial services, including online financial services, amounts to around 2.8 trillion yuan, accounting for more than half of the total. The total value of funds provided for new market entry and business expansion in all sectors grew 25.7% from the previous year to 216.0 billion yuan *(Table 3)*. Platform companies related to the sharing economy are contributing to employment growth by hiring more people. It has been pointed out that this is functioning not only as a gateway for new graduates but also as a safety valve for employment adjustments due to changes in the industrial structure such as the liquidation of companies that represent excess capacity.

Let's take a look at business startups. Startup activity is even more lively in China than in the United States. Startups have been increasing at a rapid pace since around 2014 when "The Mass Entrepreneurship and Innovation" — the entrepreneurship support initiative promoted by the Chinese government — was announced. New companies registered in 2017 reached 6.07 million (19.25 million including unincorporated businesses). The ratio of new business openings in China is very high in comparison to the US and Japan, as the massive number of new registrations indicates *(Chart 12)*. It has been noted that startups have been easy to do in China because taking on second jobs is widely accepted there. While the Chinese government is successively issuing policy measures to promote innovation, it is considered that one of the factors giving startups impetus is that it tends to initially give free rein to new industries and markets emerging from innovation and consider regulating them only after problems emerge in the marketplace. Car dispatch services are given as a prime example of this.

As for investment by venture funds in venture businesses, an important source of innovation, China, at 2.2 trillion yen, ranks second only to the US, at 7.5 trillion yen. China provides a very

CHART12

Changes in the business startup & closure rates in Japan, the US & China



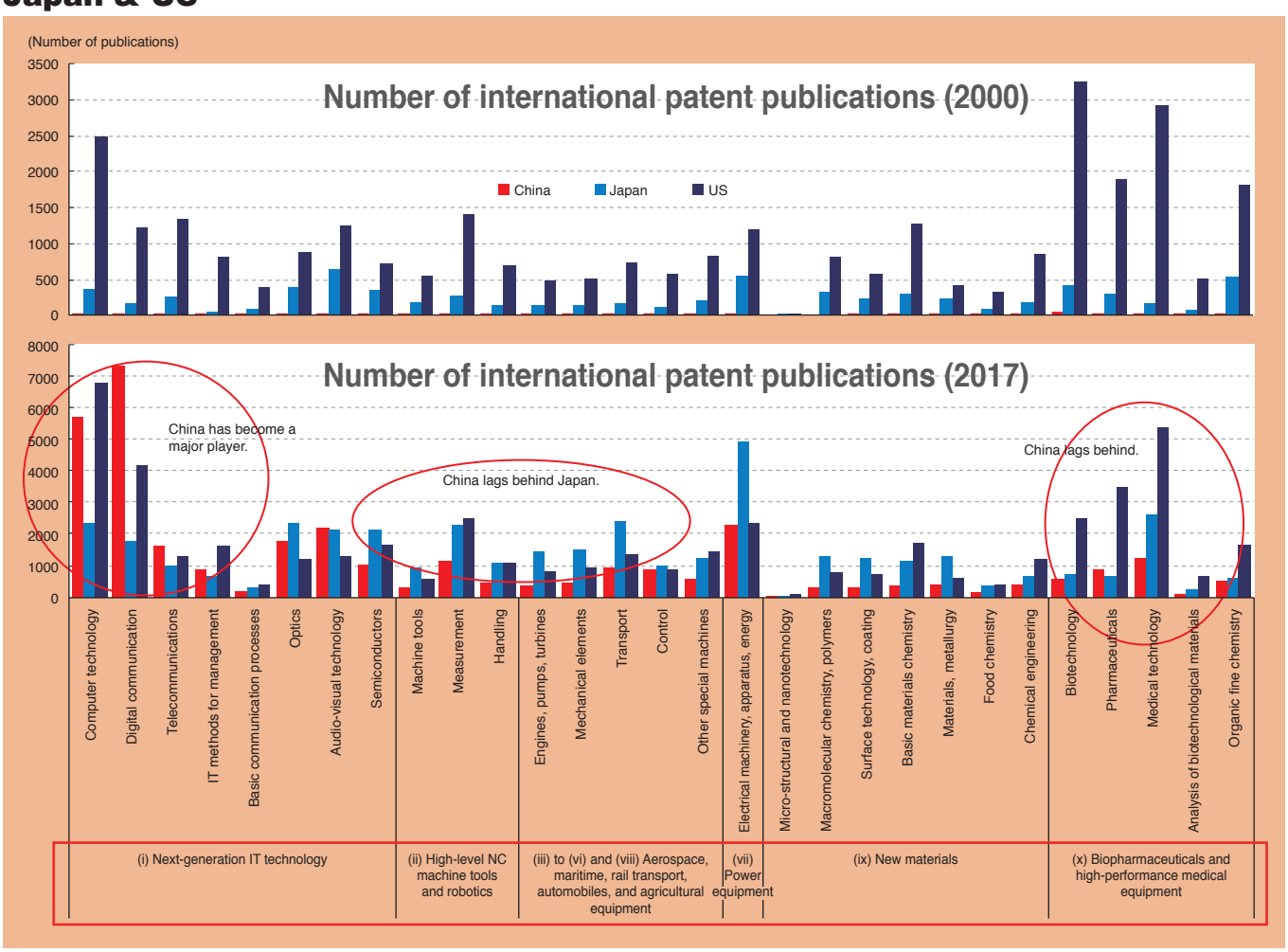
Source: CEIC with respect to China; US: Business Dynamics Statistics; Japan: Annual Report on Employment Insurance

favorable environment for entrepreneurs. Moreover, in 2012, the National Equities Exchange and Quotations, nicknamed "The New Third Board", was established as a "new third market" in addition to the Shanghai Security Exchange and the Shenzhen Stock Exchange to promote the development of venture businesses and the like. Since then, the number of companies listed on The New Third Board has increased dramatically, growing 37-fold between 2013 and 2017 to more than 11,000 companies as of the end of 2017 with a market cap of 4.9 trillion yuan (81 trillion yen).

Next, the White Paper takes a look at Chinese innovation capacity/capability through international patents. The number of China's applications for international patents has grown virtually every year since its accession to the Patent Cooperation Treaty (PCT) in 1994. In 2000, China was 16th in the number of international patent applications at 782. However, China surpassed South Korea in 2010, Germany in 2013, and Japan in 2017, placing it in second place after the US. A look at the proportion of international patent applications shows that the US alone accounted for 40% in 2000, but had

CHART13

Comparison of number of international patent publications among China, Japan & US

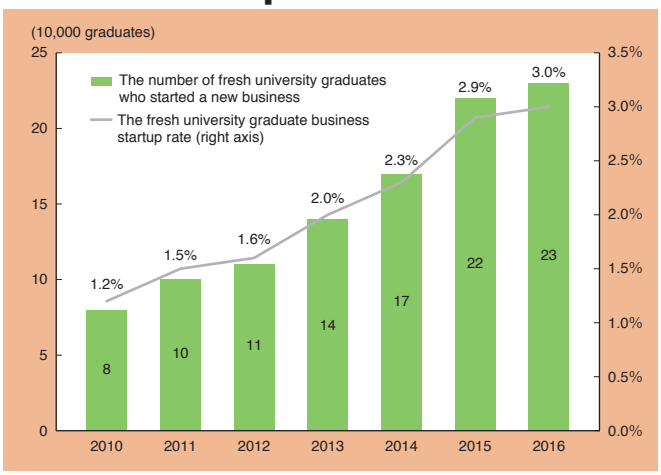


Remarks: The red square indicates the corresponding relationship with the priority fields of Made in China 2025. In some cases, applicants choose the option of treating core technology as a "black box" and refrain from filing a patent application concerning it. Therefore, it should be kept in mind that the number of patent publications does not directly indicate the level of countries' or companies' technological capability.

Source: WIPO (2017) data

CHART 14

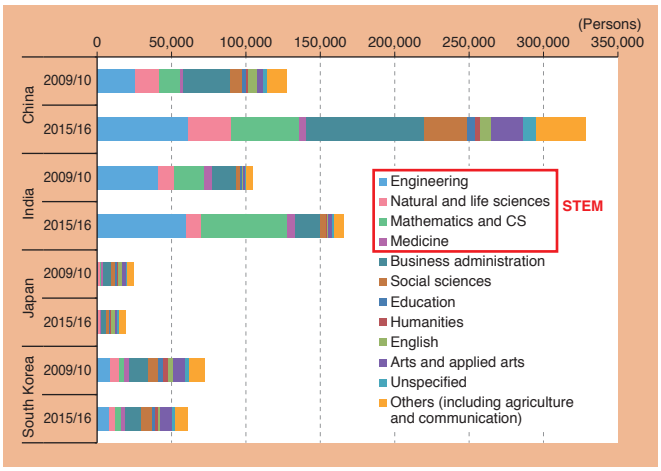
Number of recent university graduates who started new businesses & the business startup rate



Source: Reference materials complied by the State Administration for Industry & Commerce of the People's Republic of China and the website of Dream Incubator

CHART 15

Number of students studying in the US by nationality & major



Source: Institute of International Education (2017)

dropped to 23.3% in 2013, with China soaring to 20.1%. This indicates that China has become one of the most active places of innovation in the world.

Next, a look at the number of international patent publications in the 10 key sectors in "Made in China 2025" reveals areas related to IT technology where China not only stands shoulder to shoulder with major economies worldwide but actually takes the lead, such as in digital communication. Meanwhile, China lags behind the US in biotechnology and healthcare and Japan in robotics and other machinery in the number of patent publications, indicating that China has been focused on specific fields in enhancing its technological prowess. However, China strives to enhance its competitiveness in key fields where it is currently at a disadvantage as a national priority. It is possible that other technologies will emerge rapidly in a manner similar to information-related technology *(Chart 13)*. In some cases, applicants choose the option of treating core technology as a "black box" and refrain from filing a patent application concerning it. Therefore, it should be kept in mind that the number of patent publications does not directly indicate the level of countries' or companies' technological capability.

China stands out not only because of the large number of newly registered companies but also because of the numerous startups by new university graduates. Of the more than 7 million students who graduate annually from universities in China, around 200,000 start new businesses *(Chart 14)*.

One factor behind the large number of patent applications, research papers, and unicorn companies being produced in China appears to be the supply of a large amount of sophisticated science and engineering talent. Nearly half of Chinese students studying in the US major in the STEM (science, technology, engineering and mathematics) fields. Of Chinese students studying in the US, 45.6% and 42.7% in 2009/10 and 2015/16 respectively majored in the STEM fields *(Chart 15)*.

While the number of Chinese students studying abroad has kept rising since 2000, the return rate of students studying abroad to China remained low at less than 30% until 2008. However, the Chinese government put forth a series of measures to encourage students to return to China in order to secure high-level human resources from among the overseas students. As a result, the return rate rose rapidly, reaching 85% in 2013. The measures taken by the Chinese government to encourage return have made returnees an important source of human resources for innovation and entrepreneurship in China *(Chart 16)*.

It is necessary to renew our understanding of the rapid changes in the Chinese economy — the rapid emergence of new industries, growing capacity for innovation, and fertile startup activities — and move forward with even greater initiatives to revitalize Japan's own domestic industries.

(2) Expanding External Trade and Investment

In just 15 years after joining the WTO in 2001, China became one of the largest trading powers in the world on a par with the US.

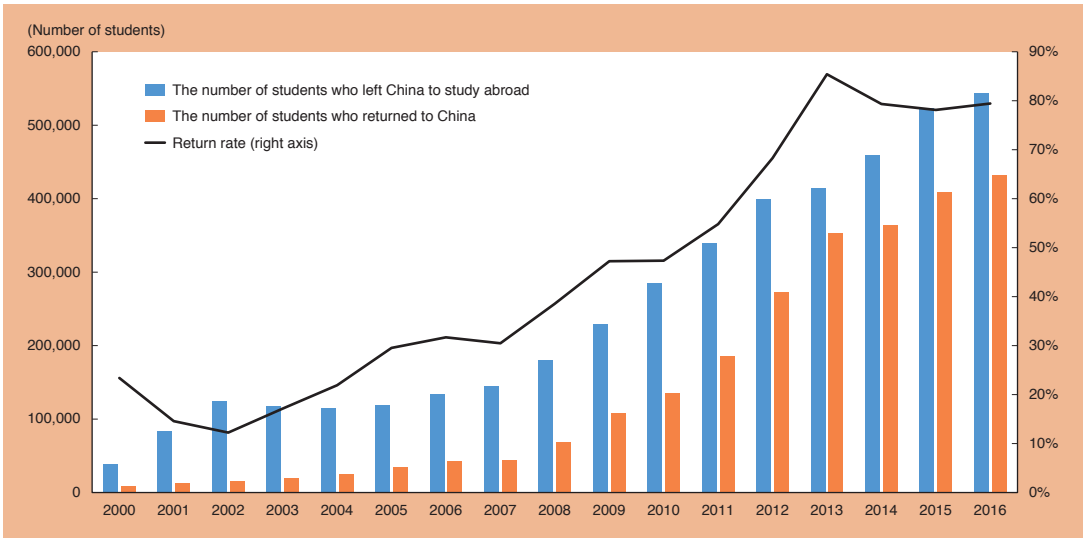
When we turn our eyes to the largest import source countries for countries around the world, countries for which China is the largest import source country have rapidly increased. In 2017, China was the largest source country for imports for around 30% of all countries worldwide excluding Canada, some Latin American countries, and European countries *(Chart 17)*.

While the largest import source countries for Canada, Mexico, and European countries are the US and Germany, i.e. the main industrialized economies in their respective regions, China has become the largest import source country for the US and the second-largest import source country for Germany after the Netherlands.

A look at the largest export destination countries around the world

CHART 16

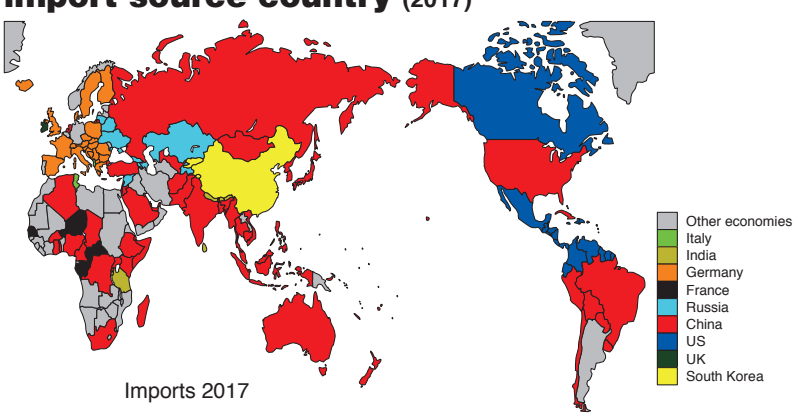
Numbers of Chinese students who left China to study abroad & Chinese students who returned to China after studying abroad



Source: Meng (2018) "China's Reform, Opening-Up and Policy for Foreign Study" (RIETI DP 18-J-016)

CHART 17

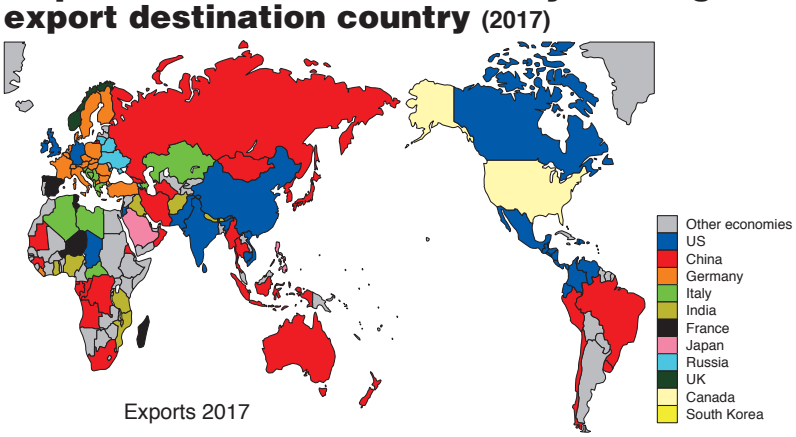
Map of countries color-coded by the largest import source country (2017)



Source: Prepared by METI based on IMF DOTS

CHART 18

Map of countries color-coded by the largest export destination country (2017)



Source: Prepared by METI based on IMF DOTS

shows that China overtook Japan as the largest export destination country for ASEAN and Australia in 2017, while it surpassed the US in many countries in Africa and South America. Although China is the largest export destination country for fewer countries than it is the largest import source country, at approximately 16% (30 countries) it is second only to the US *(Chart 18)*.

A look at the breakdown of Chinese exports by the nature of the exporters shows that the share of state-owned companies had been declining while foreign companies played a major role, increasing their share until the mid-2000s. However, private companies have been growing as exporters and recently surpassed foreign companies *(Chart 19)*.

A look at the change in the industries that are the main drivers of Chinese exports shows that electrical machinery and optical equipment have replaced textiles as the main drivers of Chinese exports. The growth in the shares of China's electrical and optical equipment industry exports is higher on a value-added basis (VA) than on a customs-clearance basis (CC) *(Chart 20)*.

A breakdown by industrial category shows that one characteristic in 2000 was the low proportion of value-added in China's electrical machinery and optical instruments industry, at approximately 30%. This was apparently the result of the active production taking place in this industry that utilized the global value chain by importing large amounts of semiconductors and liquid crystal display panels.

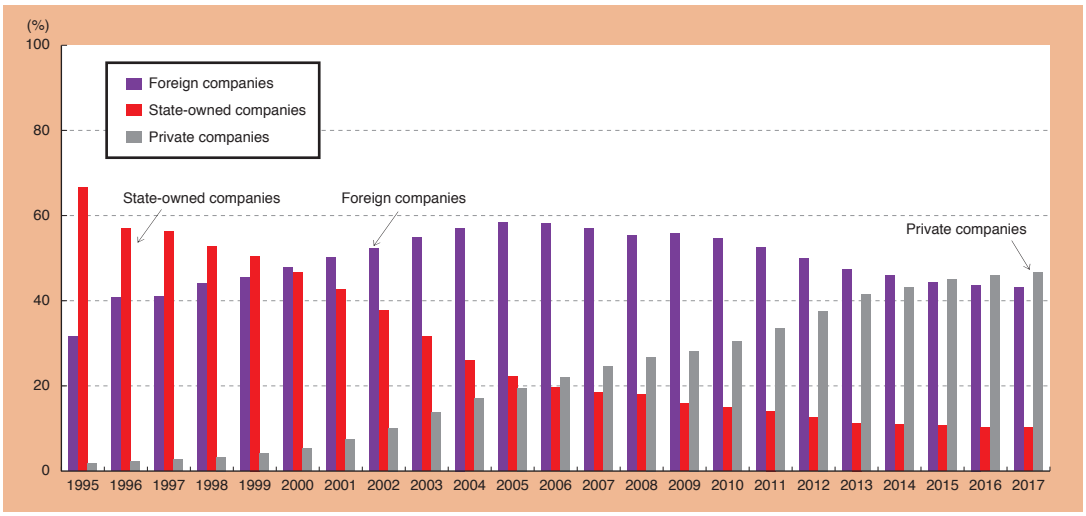
Meanwhile, the proportion of value-added rose from 2000 to 2011 and then to 2014, when it reached approximately 50%. From this, it can be seen that there has been progress in the local procurement of parts and components and in value-added in the final products *(Chart 21)*.

Next, we look at trends in each country regarding trade with China.

Following the establishment of the WTO, China

CHART 19

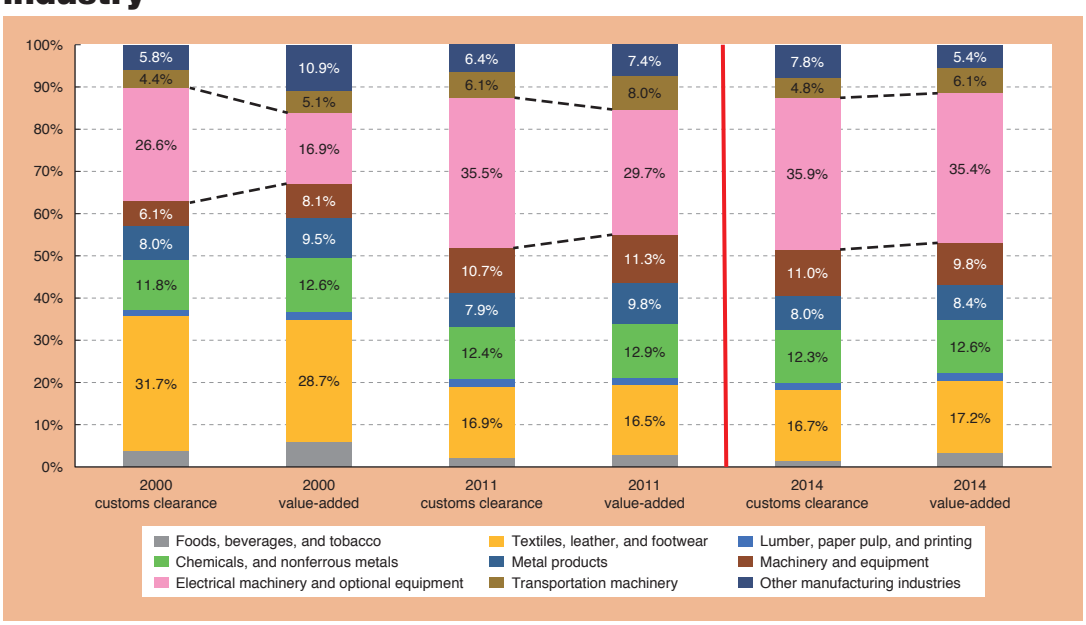
Share in China's exports by company type



Remarks: Foreign companies include not only companies fully owned by foreign interests but also joint ventures between local and foreign companies.
Source: The Chinese General Administration of Customs, CEI database, and Global Trade Atlas

CHART 20

Share of value in China's exports compared with VA & CC by industry



Remarks: Data from OECD TiVA was used with respect to value added in 2000 and 2011. Value-added in 2014 was estimated based on WIOD.
Source: GTA, OECD TiVA, and WIOD

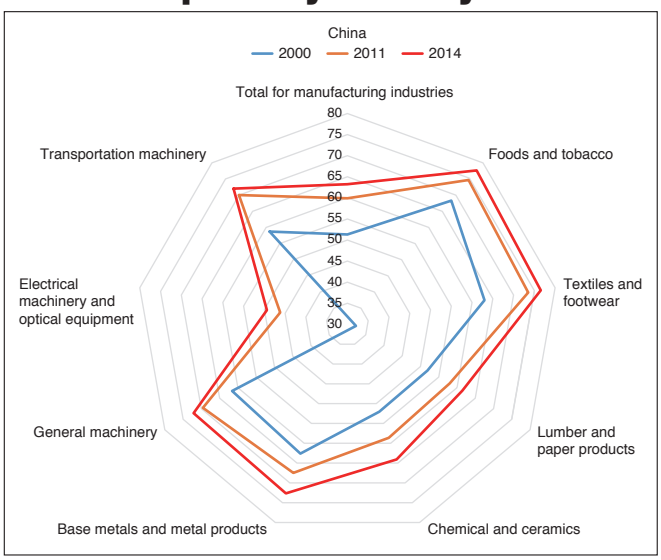
was the most frequent target of anti-dumping (AD) measures (866 cases) from 1995 to 2016, followed far behind by South Korea (239 cases), Taiwan (191 cases), the US (177 cases), and Japan (146 cases) in that order. In recent years, the number of cases of implementation of AD measures against China has increased across the world: the number was 61 cases in 2015 and 44 cases in 2016, increasing steeply from 27 in 1995 *(Chart 22)*.

A look at the number of anti-dumping measures against China shows that emerging and developing economies implemented anti-dumping measures against China in more cases than advanced economies. Among developed economies, the US and EU come in first and second *(Chart 23)*.

In addition to implementing anti-dumping measures against China, the US has been studying and implementing other trade measures against China under Section 301 of the Trade Act of 1974 and other laws.

CHART 21

Changes in domestic value-added ratio in exports by industry

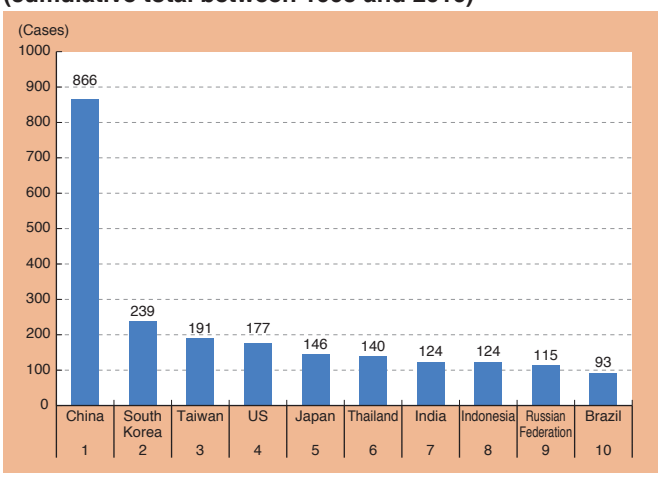


Remarks: The figures for 2014 are provisional.
Source: OECD TiVA

CHART 22

Number of cases in which AD measures were implemented by exporting country

(cumulative total between 1995 and 2016)

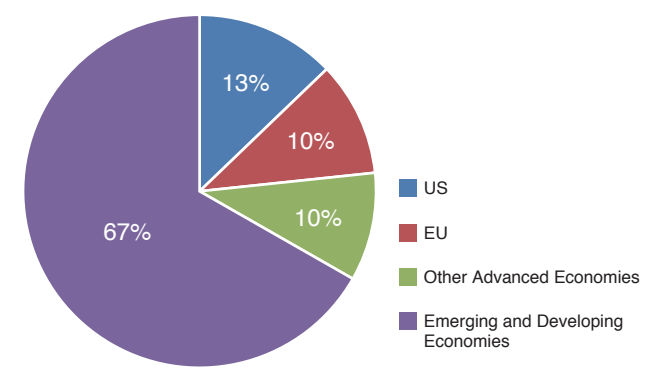


Source: Prepared by METI based on WTO

CHART 23

Number of cases of implementation of AD measures against China

(by region) (cumulative total between 1995 and 2016)

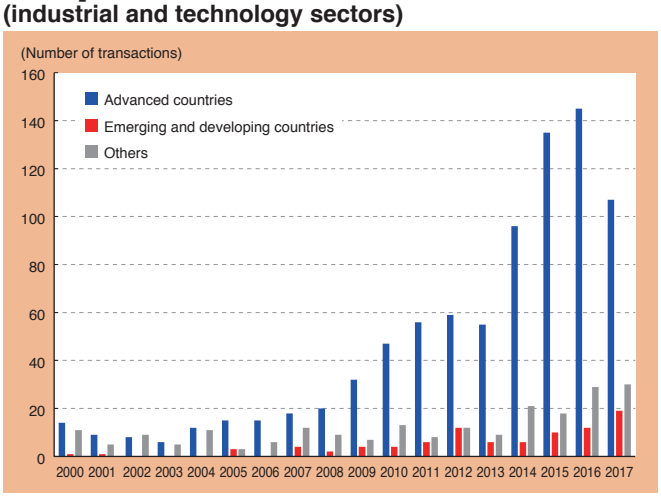


Source: Prepared by METI based on WTO

CHART 24

Changes in the number of Chinese companies' cross-border M&As

(industrial and technology sectors)



Remarks: 1. Acquired companies were classified by nationality into advanced countries, emerging and developing countries, and others. The "advanced countries" are those in the IMF's advanced country category excluding Hong Kong and Macau. "Others" are Hong Kong, Macau, the British Virgin Islands, the Cayman Islands, and Bermuda.
2. The industrial and high-tech sectors include software, semiconductors, electrical equipment, machinery, and automobiles and auto parts.
Source: Prepared by METI based on Thomson One (as of March 2018)

The US has increasingly taken anti-dumping measures against China based on the understanding that imports from China are harming domestic industries. In addition to anti-dumping measures, on March 23, 2018, the US began imposing additional tariffs on steel and aluminum exports worldwide, except for some countries but including China, under Section 232 of the Trade Act, citing national security as the reason. On March 22, 2018, President Donald Trump signed a memorandum ordering sanctions on China including a 25% additional tariff on specific goods under Section 301 of the Trade Act on the grounds that China was inappropriately intervening to transfer intellectual property and technology from US companies.

Europe has also taken many anti-dumping measures against China. It revised its anti-dumping regulations in 2017.

EU regulations determining the EU framework for anti-dumping measures were revised so that an alternative price in a third country can be used to calculate the "normal price" to be used in determining whether or not dumping exists when the market price or costs in the exporting country are distorted due to intervention by the government of the exporting country. In March 2018, anti-dumping measures were imposed on China under the new system.

CHART 25

Major product items for which Japanese exports to China recorded high growth (2017)

[Consumer goods] (Unit: million $, %)

HS	Items	Value of exports	Growth rate	
		2017	2017 alone	2014-2017
3304	Beauty care products, and preparations for cosmetics	723.3	98	328
3305	Preparations for shampoos and other haircare products	128.4	94	367
3401	Soaps	199.2	77	296
3005	Sanitary cotton, gauze, and bandages	45.4	57	160
9619	Baby diapers	1,220.8	26	121

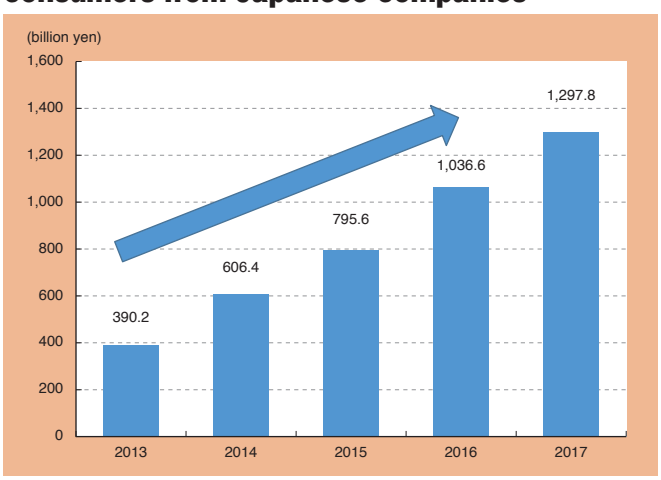
[Industrial machinery] (Unit: million $, %)

HS	Items	Value of exports	Growth rate	
		2017	2017 alone	2014-2017
8429	Civil engineering machinery (bulldozers)	214	63.4	71.0
8456	Machine tools (for laser processing)	245	60.9	45.6
8477	Rubber and plastics processing machinery	903	48.4	52.4
8486	Semiconductor-manufacturing equipment	6,552	43.5	118.1
8457	Machine tools (machining centers)	1,359	39.0	2.4

Remarks: 1. Product items whose growth rate was high or whose value was large in 2017 on an HS4 digit basis were selected.
2. Product item names were simplified for the sake of ease of understanding.
3. Figures for 2014-2017 represent the total of the growth rate in the three-year period.
Source: Global Trade Atlas

CHART 26

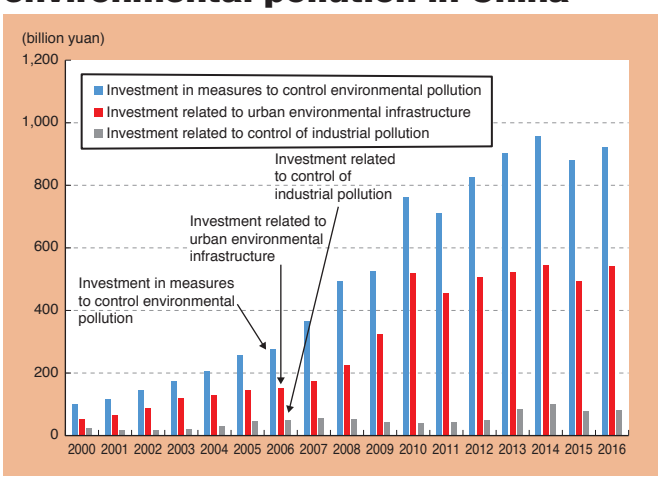
Value of cross-border EC purchases by Chinese consumers from Japanese companies



Source: E-Commerce Market Survey (METI)

CHART 27

Investment in measures to manage environmental pollution in China



Source: Ministry of Environmental Protection and CEIC database

Next, we look at China's expanding outbound direct foreign investment. Since the beginning of the 2010s, Chinese companies have become active in acquiring industrial and technology companies in advanced economies. The number of cross-border M&A by Chinese companies increased 14-fold from 44 in 2000 to 598 in 2016 although it declined to 463 in 2017 due to efforts by the Chinese government to reduce capital outflow. The Chinese government is actively promoting M&A as a national policy as a means to enhance innovation capabilities in technologies and industries whose development it wants to prioritize. A comparison between developed economies and emerging economies as the main sources for M&A target companies shows that M&A in manufacturing and high-tech fields is directed towards companies in developed economies, mainly in the US and Europe *(Chart 24)*.

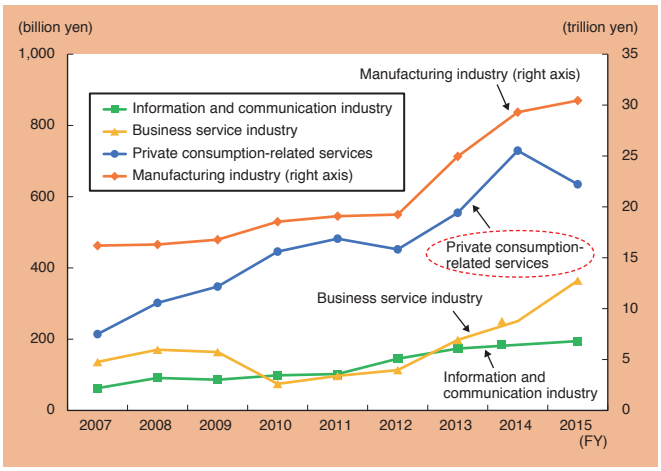
In response, the US is denying approval of purchases of US companies by Chinese companies and otherwise strengthening its regulations regarding inbound foreign direct investment. In the EU, the European Commission is proposing to establish a new framework for examining inbound foreign direct investment while there is also movement in Germany and other EU member countries to strengthen regulations.

(3) Opportunities for Japanese Businesses

Japanese exports to China reached approximately 14.9 trillion yen in 2017, a historical high. Accounting for approximately 20% of Japanese exports, China is now Japan's second-largest export destination after the US, at approximately 15.1 trillion yen. Among consumer goods, exports of cosmetics, pharmaceuticals, travel goods and other entertainment-related items, and baby goods are growing rapidly. Among industrial machinery, exports of machine tools are growing rapidly, apparently reflecting labor-saving and rationalization investment in China. The rapid rising demand for

CHART 28

Changes in sales of Japanese companies operating in China by major industry

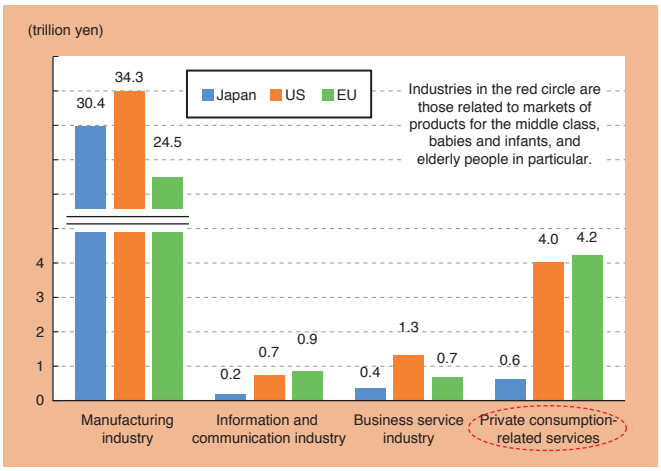


Remarks: Business services as referred to here include consulting, advertising, and professional and technical services, while private consumption-related services include retail trade, accommodations, eateries, education, medical care, welfare service, and leisure.

Source: Basic Survey on Overseas Business Activities (METI)

CHART 29

Sales of Japanese, US & EU companies operating in China by major industry (2015)



Remarks: 1. Sales of US and EU companies were converted on the basis of the annual average exchange rates in 2015. ($1 = 121 yen; 1 euro = 134 yen).
2. The tabulation was made with respect to business categories which are presumed to cover similar businesses in Japan, the US and the EU. For example, the "private consumption-related services" category covers retail trade, accommodations, eateries, education, medical care, welfare and leisure, while the "business services" category covers consulting, advertising, and professional and technical services. Automobile sales and repair in the EU were included in wholesale trade.

Source: Basic Survey on Overseas Business Activities (METI), the website of the US Bureau of Economic Analysis under the Department of Commerce, and the website of Eurostat.

semiconductors reflecting the growing Internet user population among other things has been noted. The value of semiconductor-manufacturing equipment exports is large and also growing *(Chart 25)*.

It has been noted that cross-border EC from Japan to China has also been expanding rapidly. It is estimated that it crossed the 1 trillion-yen threshold in 2016 at 1,036.6 billion yen and 1,297.8 billion yen in 2017 *(Chart 26)*.

China's consumption per capita grew by around 40% from 13,000 yuan to 18,000 yuan in the four years from 2013 to 2017. While the share of obligatory expenditures, which correspond to clothing, food, and housing, are more or less stable or declining, the share of education/culture/leisure and health/medical care is rising.

As environmental challenges are met in earnest, related markets are expected grow. In China, addressing environmental problems has become a major challenge. The value of investments made in measures to manage environmental pollution as announced by the Chinese government has been trending upward despite some year-to-year fluctuations *(Chart 27)*. While Japanese companies also need to comply with environmental regulations, this may create business opportunities for companies in possession of superior environmental technologies.

Next, we take a look at the growing presence of Japanese corporate affiliates in China and the challenges that they face.

What is notable about sales by the local companies of Japanese companies operating in China is the large share of manufacturing companies, which are increasing both sales and profits by capturing robust domestic and external demand related to China. Although sales of private consumption-related services are also growing, they remain relatively low at approximately 600 billion yen in comparison to the approximately 30 trillion yen for manufacturing *(Chart 28)*.

The Japanese service industry is lagging behind its EU and US competitors in China. The sales of private consumption-related services by local companies of the Japanese service industry are lagging behind those of its US and European competitors. In China, markets of products for the middle class, babies and infants, and elderly people are expanding. In this situation, Japanese companies may be lagging behind European and US companies, which have expanded into China and are already generating sales in those markets *(Chart 29)*.

It is crucial to take advantage of the vitality of China, which continues to grow, to vitalize Japan through further business expansion of Japanese companies in China and cooperation between Japanese and Chinese companies in other countries. JS