White Paper on International Economy & Trade 2019 – Summary

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

Introduction

As global trade value expands and global value chains (GVC) develop, the global economy continues to become ever more integrated. Simultaneously, in last several years, the world has been facing a surge in protectionism, raising concerns over the potential malfunctioning of the multilateral trading system.

The White Paper 2019 examines the current state of affairs regarding globalization and GVCs, and analyzes the history of protectionism, the background to trade restrictive measures, and the negative impacts caused by such measures. Through these steps, the White Paper presents the case for establishing a new rule-based international trade system.

Moreover, the White Paper analyzes the current situation including Japan's economic relationships with other countries and related challenges, and examines the position of Japanese companies in overseas markets, in particular in Asia, and shows future directions toward which they should aim.

Through the analysis mentioned above, the White Paper presents perspectives that Japan should adopt in advancing its trade and industrial policies.

1. Global economic situation and challenges to the free trade system

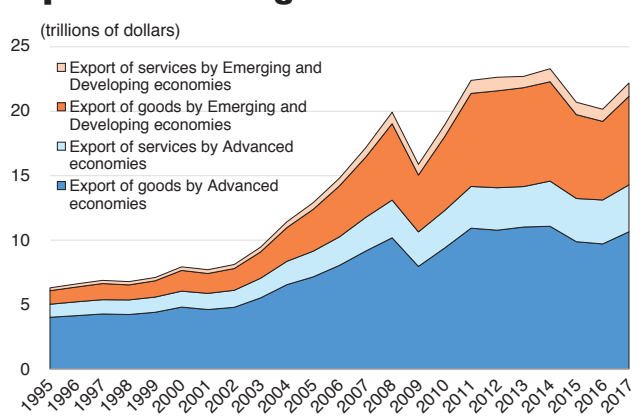
(1) Trade expansion and increasing value added exports

Since the establishment of the World Trade Organization (WTO) in 1995, the global trade value in both goods and services have expanded remarkably. From 1995 to 2017, the value of exports in goods and services has increased by 3.5 times and by 3.8 times, respectively. The value of exports of goods has increased most in emerging/developing economies, rising by a factor of 6.5 during the 1995-2017 period. Although goods exports have increased most in absolute terms, the value of exports in services has also increased steadily in emerging/developing economies. In BRICS economies in particular, it has increased by a remarkable 14.7 times during 1995-2017 period *(Chart 1)*.

In most economies, the ratio of value added exports in domestic production have increased between 2005 and 2015, especially in the manufacturing industry. This implies that accessibility to the global market has become increasingly important *(Chart 2)*.

CHART 1

Export value in goods and services

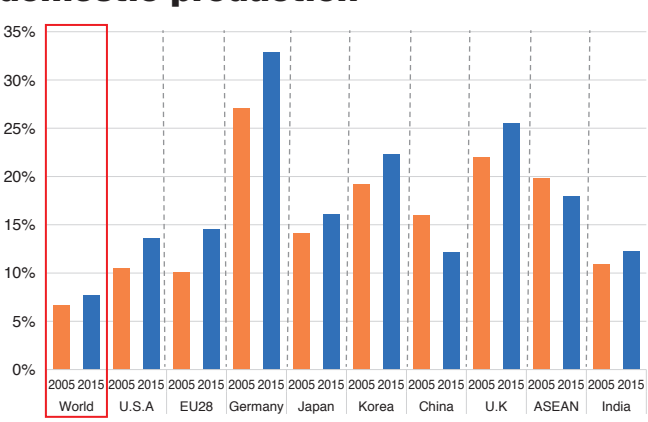


Note: For value of service exports since 2013, BOP based figures are substituted for China, India, Brazil, Indonesia etc., because EBOPS 2010 figures are not avilable. In addition, the figures for emerging and developing countries' service exports during the same period are for reference purposes only due to missing figures.

Source: IMF DOTS, OECD-WTO Balanced Trade in Services (BaTIS), OECD ITSS EBOPS 2010

CHART 2

Ratio of value added exports in domestic production



Source: OECD TiVA

(2) Development of global value chains (GVCs)

The value of trade in intermediate goods has expanded along with the expansion of global trade. Within the East Asian region, development of global value chains can be clearly observed in the machinery industry *(Chart 3)*.

The ratio of East Asian exports to the US, being exported through China, has increased. The largest share (not including direct export from home country) of East Asian exports in value added to the US is transported via China, both in 2005 and 2015. The share has increased from 11.0% in 2005 to 14.4% in 2015 *(Chart 4)*.

Of the total value being exported directly from China to the US, China accounts for 82% while the rest is shared by the EU, South Korea, the US, ASEAN, Taiwan, and Japan, each contributing almost the same proportion. Imposition of additional tariffs by the US and China could negatively affect the economies mentioned above, including Japan *(Chart 5)*.

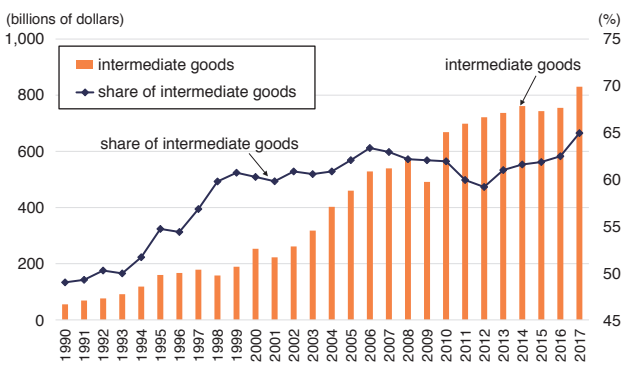
US-China trade disputes may distort companies' decisions on investment or location strategies. Some Japanese manufactures have already started replacing their production in China with production in other countries, including Japan. It is becoming increasingly important for governments to provide favorable business environments.

(3) Interdependence of each country/region with the US and China

In general, the share of exports to China is increasing compared to the US, according to data on export-value shares of many national

CHART 3

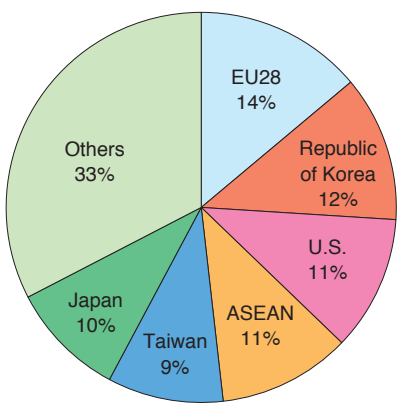
East Asia intra-regional exports
(machinery industry)



Note: Machinery industry includes general machinery, electrical machinery, household electric appliances, transportation equipment and precision machinery.
Source: RIETI-TID

CHART 5

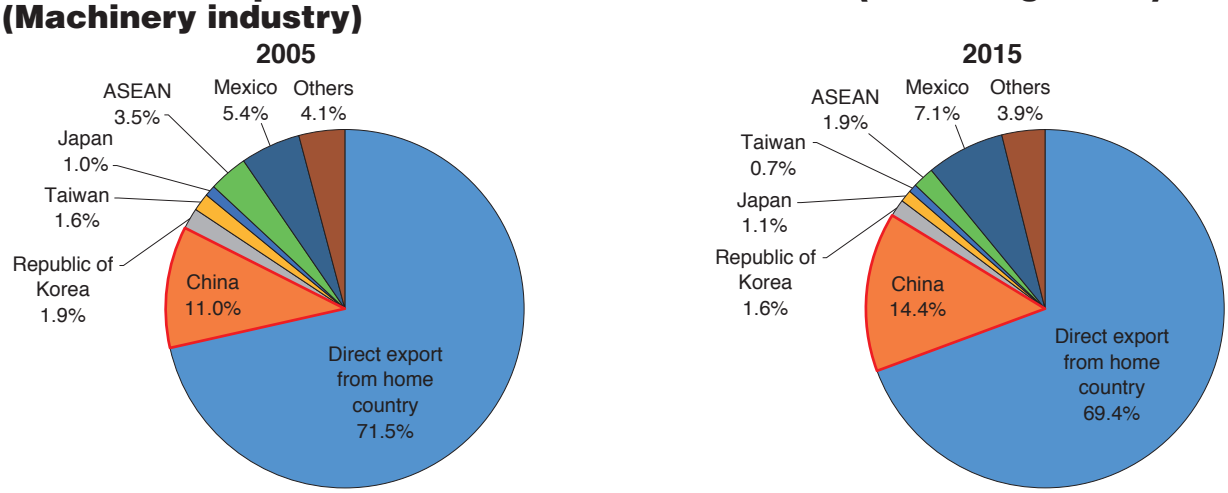
Share of foreign value added in China's export of goods and services to the U.S



Note: China covers 82% of total value added. The graph shows each foreign country/region's share (18%) in foreign value added, which amounted to 86 billion dollars (1 trillion yen).
Source: OECD-TiVA

CHART 4

Share of direct exporter of value added in East Asia (excluding China) to the US (Machinery industry)



Note: East Asia includes Japan, China, Republic of Korea, Taiwan and ASEAN.
Source: OECD TiVA

economies. With the economic development of China, each country/region has become increasingly dependent on China *(Chart 6)*.

In terms of each process of production, the share of exports in intermediate goods and materials by Asian economies (e.g. Japan, South Korea and ASEAN) to China has dramatically increased. It is likely that Asian economies are deeply integrated into the global value chain connected to China *(Chart 7)*.

As for exports in final goods, Europe, Asia and Pacific countries rely on both the US and China, while they were solely dependent on the US before *(Chart 8)*.

2. The rise of protectionism and the need to reestablish the international trading system

(1) Rising protectionism and the development of multilateral trading system

In order to capture the historical trends of protectionism from 1920s to the present, we derived "the indicator for protectionism", by calculating the proportion of articles that relates to protectionism among the major newspapers, in accordance with the method of "Economic Policy Uncertainty Index" *(Chart 9)*.

Our chronological analysis shows that the recent rise of protectionism can be said to be one of the three biggest peaks since 1900, accompanied by 1) the period after the global depression in the 1930s and 2) the trade disputes between the US and Japan in the 1980s.

The General Agreement on Tariffs and Trade (GATT) was established after the end of the block economy, and the WTO was established after the US-Japan trade disputes. The multilateral trading system has developed in such a way; a series of developments whereby turmoil caused by protectionism leads to institutional development towards securing stability.

The multilateral trading system played an important role in regulating protectionism during global financial crises, but recently, there is a growing concern of system malfunction.

(2) Increase in protectionism in the last several years

According to the "Twentieth Report on G20 Trade Measures" published by the WTO, the monthly-average number of trade restrictive measures has increased since 2016.

The value of trade that is subject to import restrictive measures is about US$481 billion. That is 6 times higher than that of the previous period (about US$74 billion) *(Chart 10)*.

CHART 6

Share of U.S. and China total exports from major economies (2000 → 2017)

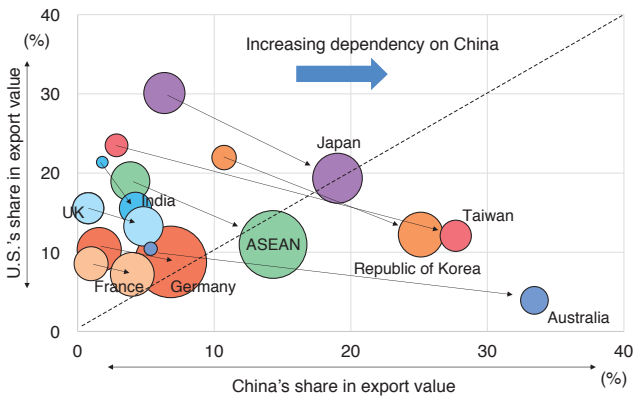


CHART 7

Intermediate and primary goods

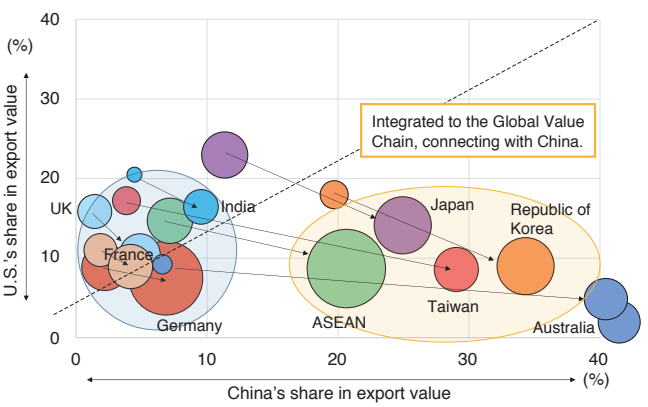
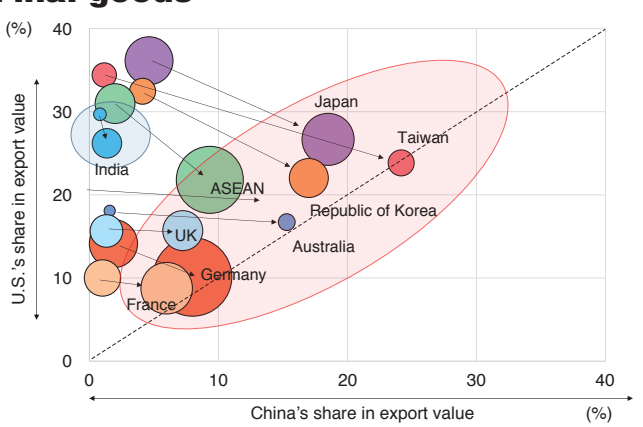


CHART 8

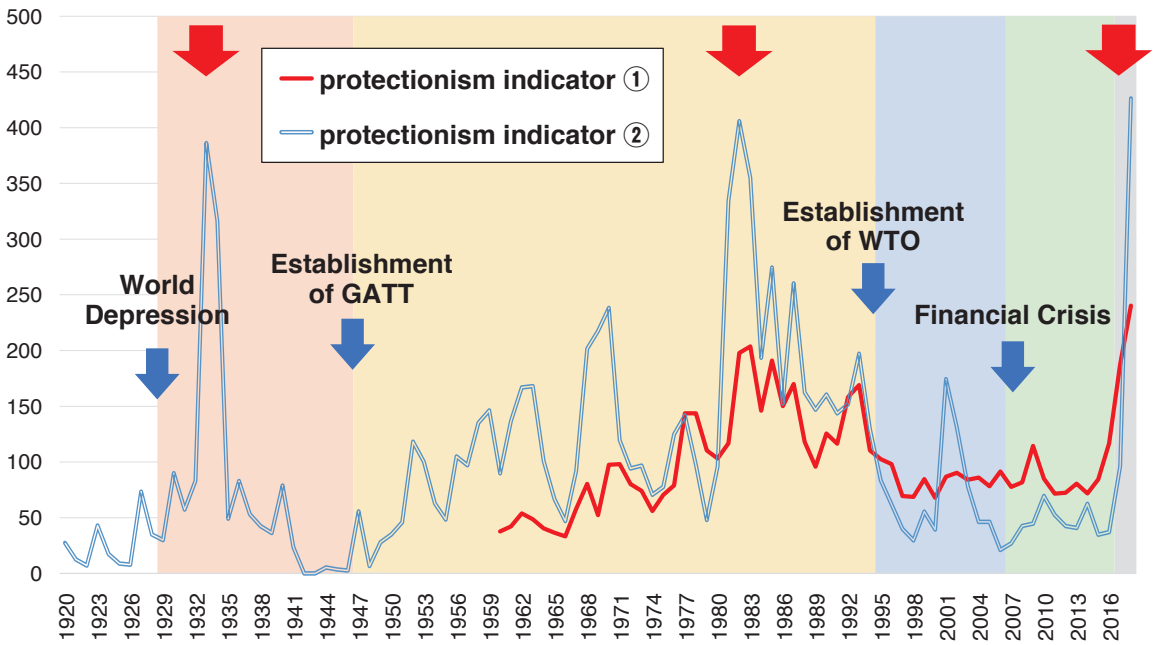
Final goods



Note: The circle size reflects each country/region's total export value to the world.
Source: IMF "Direction of Trade" (Chart 6), RIETI-TID (Chart 7, 8)

CHART 9

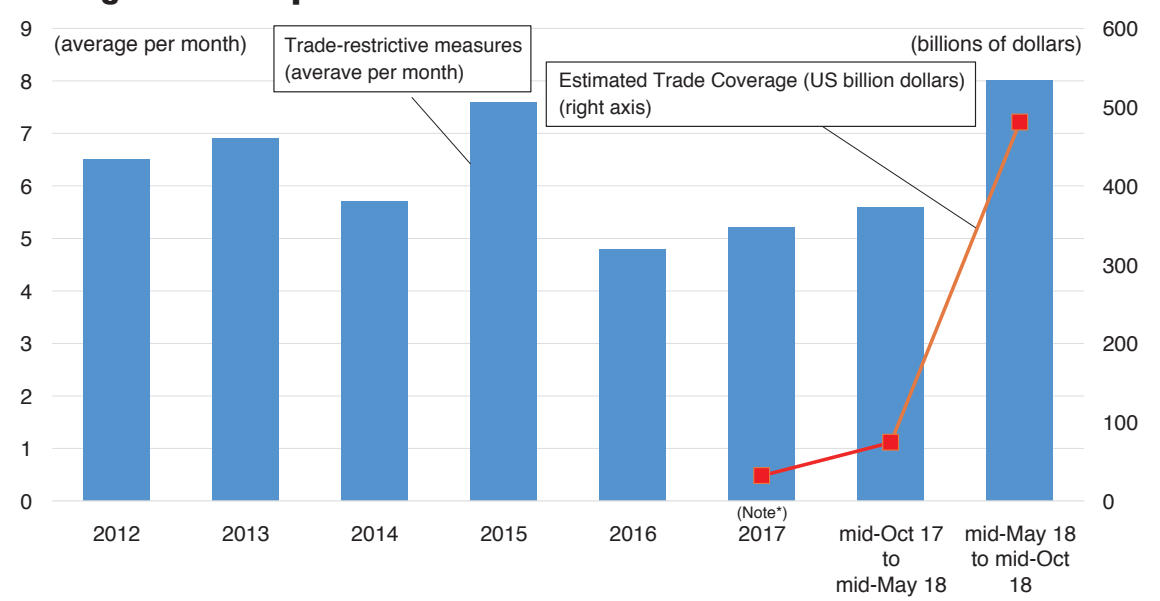
The ratio of newspaper articles related to "protectionism"



protectionism indicator①: We calculated the proportion of articles that directly icludes the word "protectionism" from The Washington Post (US), The New York Times (US), Nikke (Japan), Yomiuri (Japan), Le Monde (France) and The Guardian (UK), and integrated them so that the average is 100 in the goven period.
protectionism indicator②: Walculated the proportion of articles that includes specific trade restrictive measures from the Nikkei and Yomiuri, and integrated the two so that the average 100 in the given period.
Source: Ministry of Economy, Trade and Industry (METI)

CHART 10

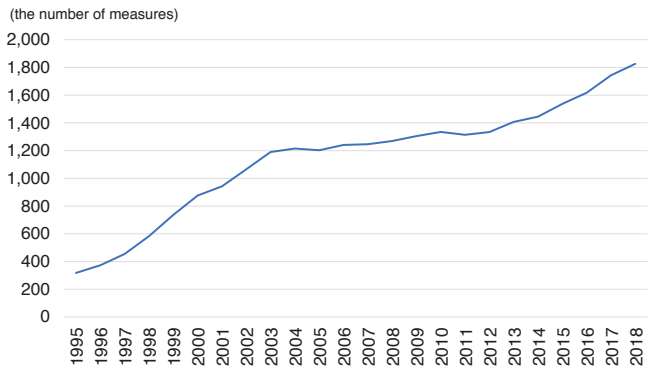
G20 trade-restrictive measures (monthly average) and estimated trade coverage of the import-restrictive measures



Note: The trade coverage of 2017 is cumulative value from May 2017 to Oct 2017.*
Note 1: Trade restrictive measures exclude trade remedy actions (AD,CVD,SG).
Note 2: The number of measures is the monthly average for each year until 2017, and the monthly average for the monitoring report period from October 2017 onwards.
Note 3: Estimated trade coverage shows cumulative total value during monitoring report period.
Source: Report on G20 Trade measures, WTO

CHART 11

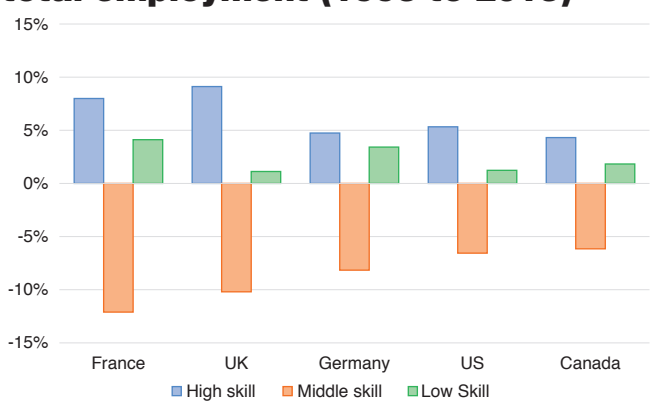
[References] Active anti-dumping measures



Note: Each figure indicates the number of measures in force at the end of each year.
Source: WTO I-Tip database

CHART 12

Percentage point change in share of total employment (1995 to 2015)



Source: OECD "Employment Outlook 2017" Figure 3.A1

The number of anti-dumping measures in force has increased again during the last few years *(Chart 11)*.

(3) Expansion of free trade skepticism

Economic disparity is expanding in advanced economies. Recent technical innovation led to replacement of the middle-skilled workers (who mainly engage in routine jobs), contributing to the expansion of disparities *(Chart 12)*.

The decrease in the number of employed people in tradable sector (Manufacturing, Agriculture and Mining) is remarkable in advanced economies. This decrease in employment in trade industries is considered an important factor in the expansion of disparities that lead to skepticism of free trade *(Chart 13)*.

(4) Financial support for the China's key sectors

① Government subsidies

The amount of subsidies provided by the Chinese government has increased steadily over the past 10 years. Among them, subsidies related to "Made in China 2025" account for about 40%, and especially the rate of support for next-generation information technology is high.

The compound average growth rates (CAGR) of government subsidies for listed companies related to 10 key sectors in "Made in China 2025" are about 13.5 to 43.25% (Data between FY2009 and FY2017), a high level in all the fields *(Table 1)*.

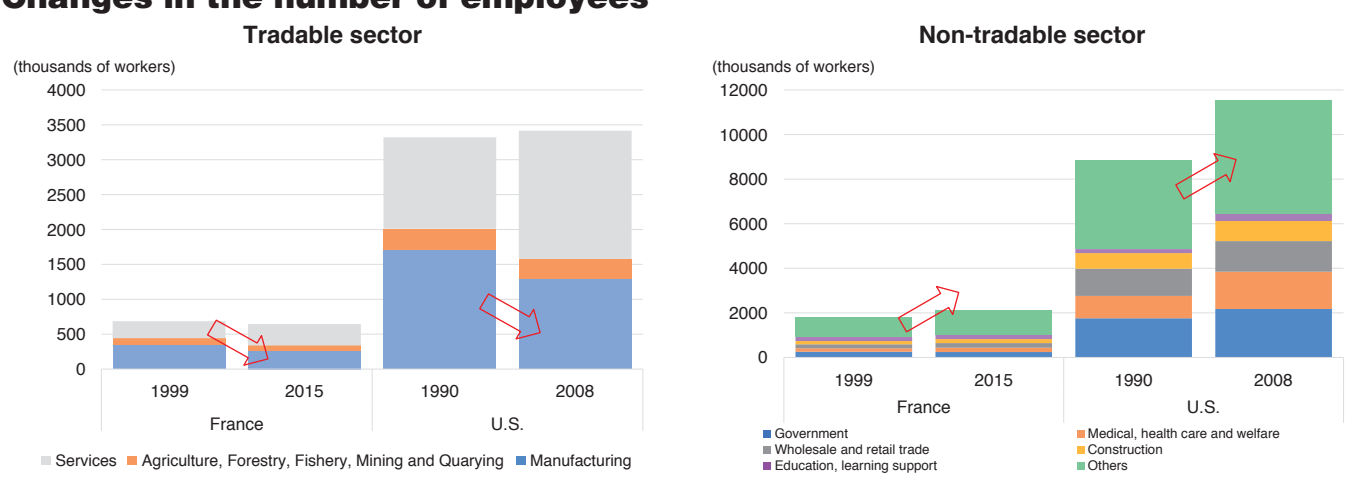
② Low-interest loans

By calculating the lending rates (financial statements analysis) of major Chinese companies in 6 industries among China's key sectors, it has been revealed that many major companies have received loans at lower interest rates than market interest rates in China *(Chart 14)*.

Additionally, those companies further expanded their borrowing in the past several years *(Table 2)*.

CHART 13

Changes in the number of employees



Note: The calculation for France is based on Philippe and Giraud (2017) , and Spence and Hlatshwayo (2011) as for U.S..
Source: Ministry of Economy, Trade and Industry (METI)

TABLE 1

Compound average annual growth rate from 2009 to 2017 of key indexes in financial statements (Made in China 2025 sectors)

	Compound Average Growth Rate (CAGR: FY2009→FY2017)					
	Operating income	Operating profit	Government subsidies	Short-term and Long-term Liabilities	R&D cost	Depreciation and amortization
Next-generation information technology (493 Companies)	23.5%	24.0%	24.5%	25.1%	40.4%	28.7%
High-end numerical control machinery and robotics (242 Companies)	7.4%	6.2%	13.5%	10.3%	68.6%	18.0%
Aerospace and aviation equipment (48 Companies)	20.2%	19.5%	16.5%	18.5%	84.4%	24.7%
Maritime engineering equipment and high-tech maritime vessel manufacturing (8 Companies)	6.3%	-	20.2%	15.8%	36.4%	16.7%
Advanced rail equipment (11 Companies)	18.5%	15.4%	18.1%	26.6%	27.1%	14.8%
Energy-saving and new energy vehicles (150 Companies)	18.9%	20.6%	33.2%	22.2%	117.5%	20.0%
Electrical equipment (152 Companies)	16.0%	17.1%	17.4%	11.8%	85.6%	20.3%
Agricultural machinery and equipment (3 Companies)	-1.7%	-16.2%	43.2%	41.7%	5.8%	17.3%
New materials (276 Companies)	10.3%	28.9%	15.3%	8.4%	60.8%	10.6%
Biomedicine and high-performance medical devices (255 Companies)	17.2%	19.2%	25.0%	14.7%	82.8%	21.8%
Total (3,612 Companies)	15.3%	19.7%	21.4%	13.1%	48.7%	17.4%

Note: When operating profit is negative, it is excluded from calculation as outlier value.
Source: Wind database, BvD "ORBIS"

③ Case study: Financial support for priority companies in the integrated circuit industry in China

The leading Chinese semiconductor companies have managed to achieve rapid growth in a short period of time through repeated investments and acquisitions while receiving large-scale government financial support.

【Example 1: Tsinghua Unigroup】Tsinghua Unigroup is a state-owned corporate group related to Tsinghua University.

Since entering the integrated circuit industry by M&A in 2013, the group has developed to cover a wide range of processes from designing to manufacturing (front-end / post-process) under government financial support in a short period of time. Only 5 years after entering the integrated circuit industry, it has become a corporate group that makes large-scale (around 10 trillion yen) investments in plant and equipment *(Chart 15)*.

【Example 2: Semiconductor Manufacturing International Corporation (SMIC)】

SMIC is the largest IC fabrication company, famous for its most advanced technologies in China

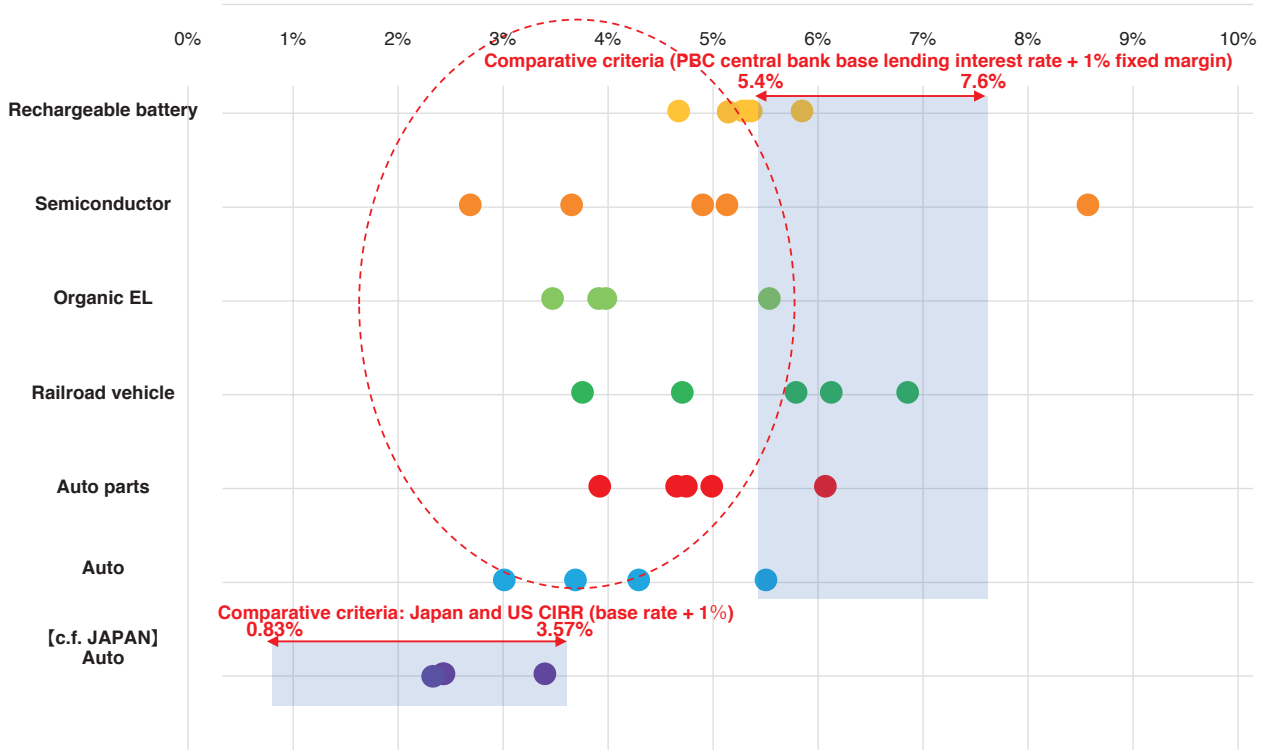
The group has expanded its scale rapidly through repeated investments to affiliated companies and investments in plant and equipment up to 1 trillion yen. Currently, the group is the 5th largest IC fabrication company in the world *(Chart 16)*.

④ Japan-China comparison of government financial support during promotion period for semiconductor industry

The current government support to the semiconductor industry in China is significantly more compared to that in Japan during the past semiconductor industry promotion period *(Chart 17)*.

CHART 14

Estimated interest rate based on financial statements of selected companies



Note 1: Calculated average between the beginning and the end of the period for "A: FY2017 interest expense" and "B: interest-bearing liabilities consist of loans, bonds, non-current liabilities due within one year". Estimated interest rates are A/B. Interest expense ("A") includes costs results from all the liabilities such as loans, bonds, CPs and lease bonds. Interest bearing liabilities ("B") includes liabilities with repayment obligations, and therefore might include liabilities without repayment obligations.

Note 2: We chose top 5 companies in terms of sales in each sector among the listed companies in China mainland for our analysis. However, we excluded a finished vehicle company and an organic EL company because of their abnormal values (for e.g, no change in figures during the period).

Note 3: "base interest rate + 1% fixed margin" is calculated by adding i) and ii). i) The range between the 5-year highest rate of PBC central bank base lending interest rate (amortization period: more than 5 years) from Feb 2014 to Feb 2019 and the 5-year lowest rate of the PBC rate (amortization period: 1 year) . ii) fixed margin of 1%. This methodology is based on Arrangement on OECD Officially Supported Export Credits. A typical lending rate of a commercial bank is determined by adding the PBC base rate, risk premium, and also an additional cost taking the bank's profit into account.

Note 4: 【c.f. JAPAN】 Estimated interest rates are calculated from consolidated supplementary schedules of FY2017(Mar 2017-Mar 2018) annual reports of 3 major Japanese automakers. We adopted a range between "Japanese CIRR of 0.83%+1% fixed margin" and "US CIRR of 3.57% (amortization period: more than 8.5 years)". Base rate refers to earnings yield of government bonds of each country. (CIRR as at Mar 15 2019)

Source: Annual reports of object companies, People's Bank of China, CEIC data base

TABLE 2

Compound average annual growth rate from 2013 to 2017 of short-term and long-term loan

Rechargeable battery	96%
Semiconductor	39%
Organic EL	38%
Railroad vehicle	76%
Auto parts	49%
Auto	42%

Note: Object companies are same as Chart 14.
Source: Annual reports of the object companies

(5) Trends in obtaining patent technologies in 10 key sectors related to "Made in China 2025"

By comparing the number of patent applications by Japan, the US and China to the World Intellectual Property Organization (WIPO) in 10 key sectors related to "Made in China 2025", the following trends can be observed.

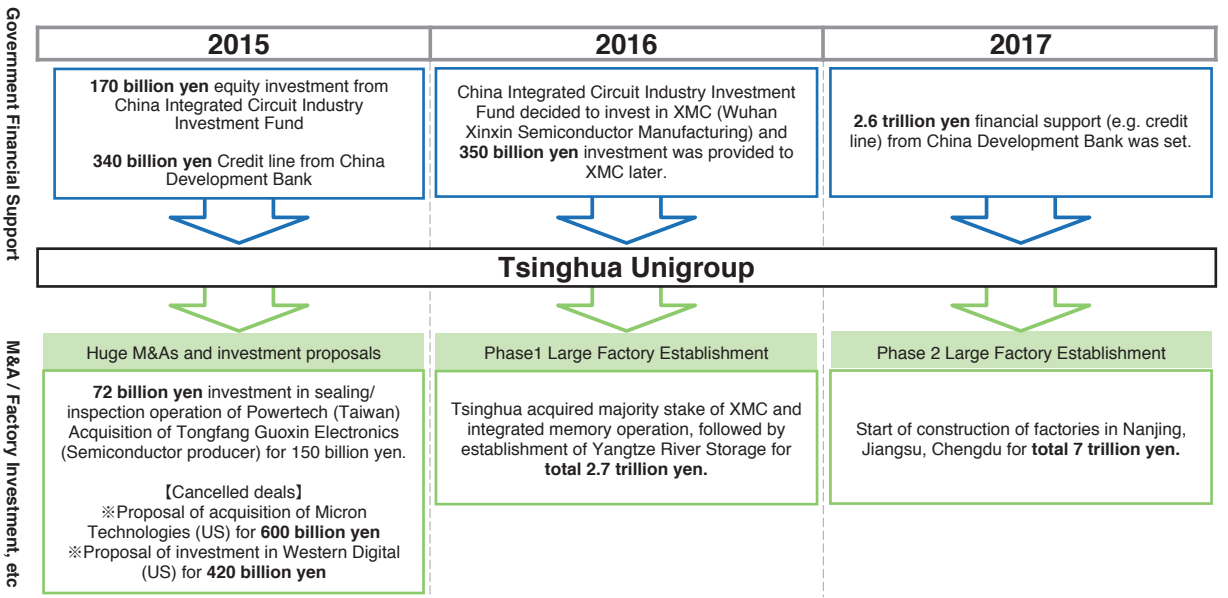
Regarding the number of patent applications to WIPO, China is almost at the same level as the US, especially in next-generation information technology, and comparable with Japan in many sectors *(Chart 18)*. China falls behind Japan and the US in patent valuations. Chinese patent valuations per case even in next-generation information technology is about 1/4 of that of Japan and the US (2016) *(Chart 19)*.

In terms of growth rate (comparison of period between 2007-11 and 2012-16), China has overwhelmed Japan and the US in both the number of patent applications and patent valuations. China is rapidly expanding its ability even in high-tech sectors.

The US claims that its sensitive information has been leaked to China by various methods such as foreign direct investment, foreign ownership restrictions, and talent acquisitions and aims to strengthen its investment review by Committee on Foreign Investment in the United States (CFIUS) and its export control by the Export Control Reform Act (ECRA).

CHART 15

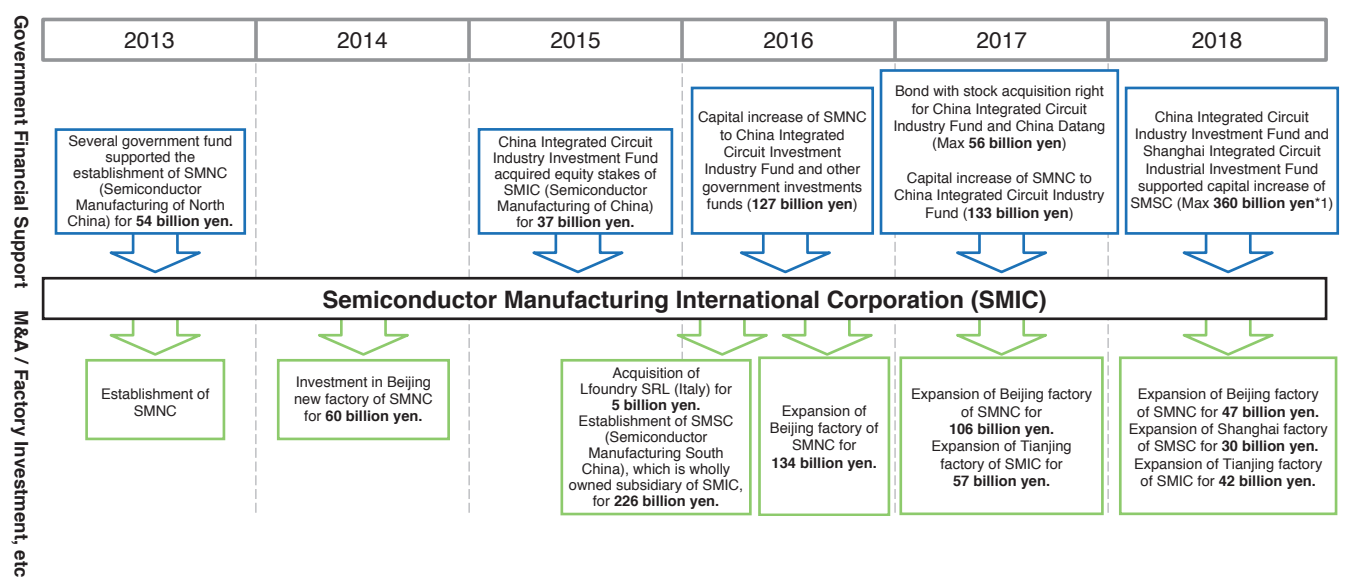
Tsinghua Unigroup



Source: METI (2017) "H29 Research on basic technology for manufacturing (research on competitiveness of Japanese manufacturing industry considering current condition of Chinese manufacturing)", BvD "Zepher", Various press reports

CHART 16

Semiconductor Manufacturing International Corporation

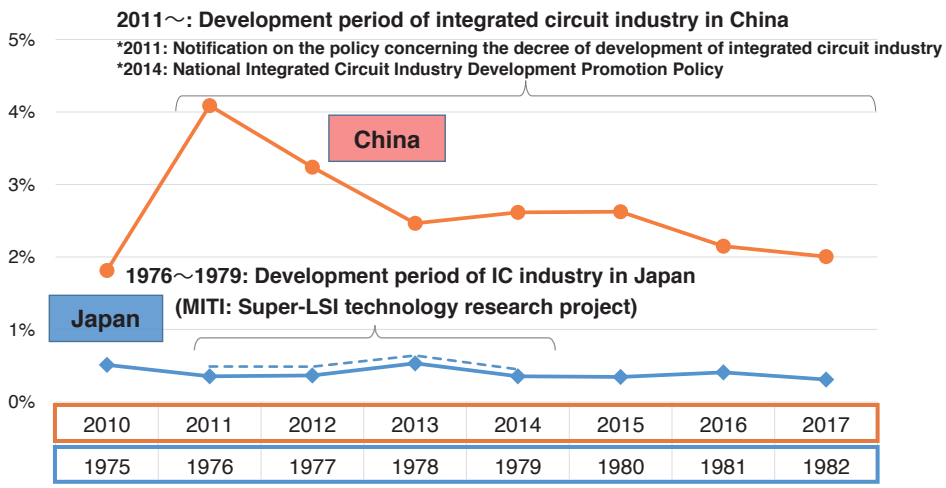


Note 1: The 360 billion yen capital increase of SMSC includes investment from SMIC group companies.
Source: METI (2017) "H29 Research on basic technology for manufacturing (research on competitiveness of Japanese manufacturing industry considering current condition of Chinese manufacturing)", BvD "Zepher", Various press reports

CHART 17

Scale of financial support

		Amount of financial support from the government/Fund size
Japan	Amount of financial support from the government for Super-LSI technology development association (Association period: 1976-79)	29 billion yen
China	China Integrated Circuit Industry Investment Fund (Established September 2014)	139 billion RMB (2.3 trillion yen) First phase



Note 1: China figures are the total government subsidy divided by the total sales for each year for the top 19 market capitalization IC companies among listed companies in China.
Note 2: The value of the blue solid line for Japan represents the total miscellaneous income (others) divided by total sales in five companies (Toshiba, NEC, Hitachi, Fujitsu, Mitsubishi Electric) participating in the Super-LSI Technology Research Association (excluding joint ventures) . Under Japanese accounting standards at that time, subsidies were conventionally counted as miscellaneous income (others) in non-operating income. Regarding the value of the blue dotted-line, in addition to the total amount of miscellaneous income (others), a value obtained by equally dividing the total government investment (29.0 billion yen) of the VLSI technology research union by 4 years of the Association project period, is added as a numerator, and divided by total sales (as a denominator).
Source: Annual reports of the 19 Chinese companies, Zhongtai Securities Co., Ltd. "Securities Research Report", Annual reports of 5 Japanese companies

CHART 18

Comparison of the number of WIPO patent applications (total number from 2012-2016)

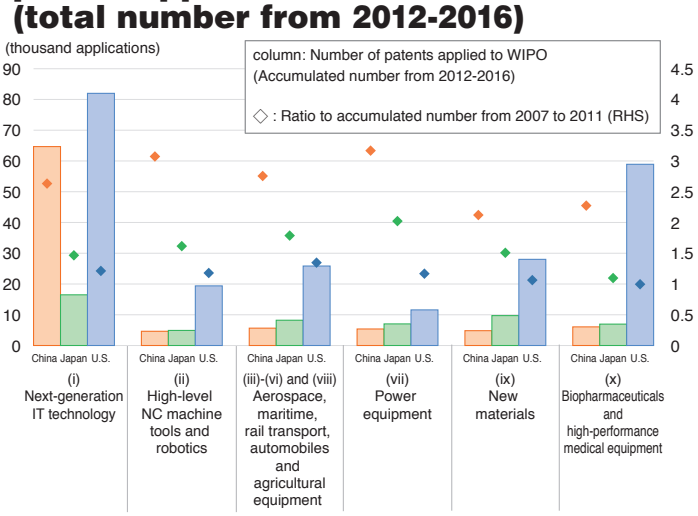
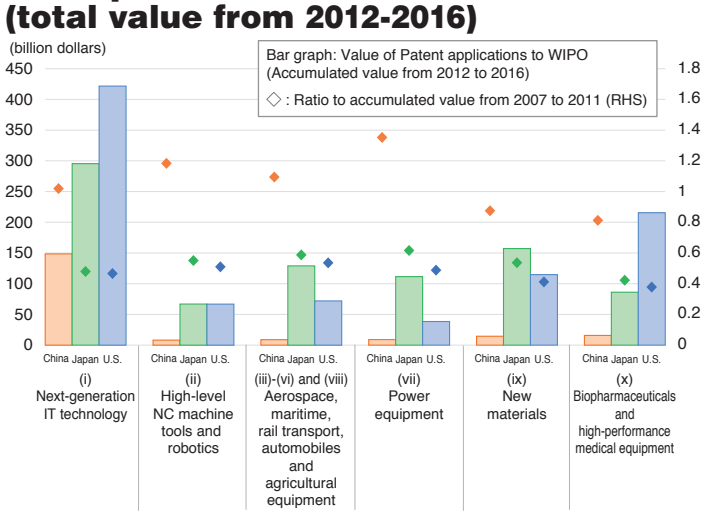


CHART 19

Comparison of estimated value of WIPO patents (total value from 2012-2016)



Note: The country presents a country to which the patent owner (Ultimate Parent Company) belongs. The accumulated value is calculated from the estimation for each patent, provided by the BvD database (data last updated on Feb 2nd, 2019) and includes pending patents.
Estimated values of patent valuation are provided by IP Business Information Enterprise in the Netherlands whose calculation is based on the transaction values of each patent, calculated valuations of patents on the occasion of M&As, and track records of auctions in the IP market.
Source: BUREAU VAN DIJK "Orbis-IP database"

(6) Trends in obtaining patent technologies (by country)

① 5G related fields

Regarding 5G related patents, the number of applications by Chinese companies is rapidly increasing in recent years, far exceeding that by US companies who are in the 2nd place *(Chart 20)*. On the other hand, US companies far exceed other countries in patent valuations, and Chinese patent valuations are in the 3rd place, after Japan *(Chart 21)*.

The presence of Chinese companies stands out in the number of patent applications *(Table 3)*. By country, China's patent valuation is significantly smaller compared to that of Japan and the US. However, by company, Huawei is ranked in 5th place *(Table 4)*.

② Accumulated patent applications

Regarding the number of accumulated patent applications, Chinese companies overtook Japan in 2015 to become the top country, and have been expanding their lead in the recent years *(Chart 22)*.

On the other hand, although the accumulated patent valuations of Chinese companies have doubled in the past 5 years, they are still far below that of Japanese companies. The US, which ranked at the 3rd place in accumulated number of patent applications ranked at the 2nd place in accumulated patent valuations. China ranked as the 4th place in the accumulated patent valuations, followed by South Korea, which ranked at 5th place in number of accumulated patent application *(Chart 23)*.

CHART 20

Change in number of accumulated patent applications by country (TOP 5 countries)

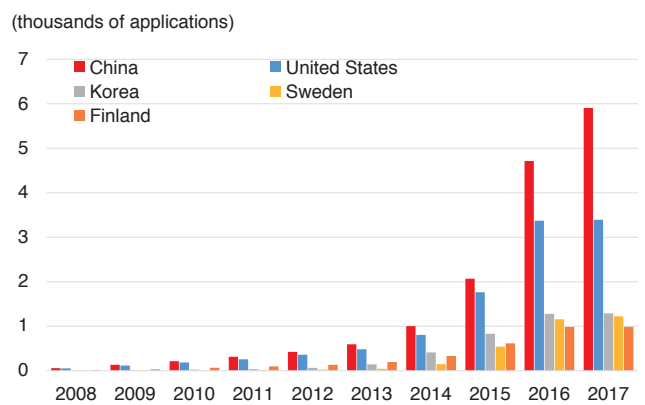
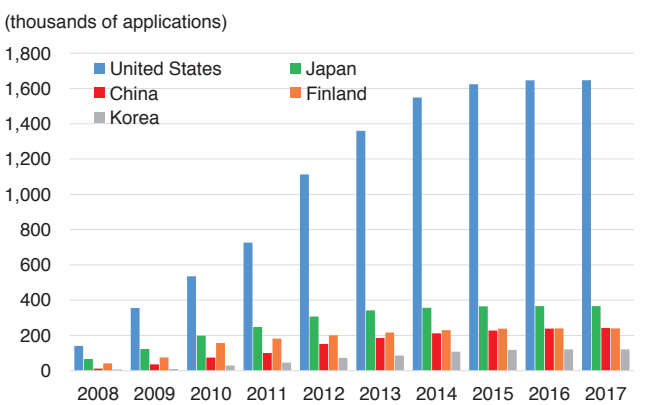


CHART 21

Changes in accumulated patent valuations by country (TOP 5 countries)



Note: Country measures are determined according to the country to which the patent owner (Ultimate Parent Company) belongs.The patent groups that make up a family of patents are counted as one patent category. The evaluation value is an estimate provided by BUREAU VAN DIJK for each patent family (as of February 4, 2019) and includes patents pending. It is possible that not all application data is reflected in 2016 or later due to delays in database collection and devlation of PCT application transition to other countries.
Source: BUREAU VAN DIJK "Orbis-IP database"

TABLE 3

TOP companies worldwide by number of patent applications

	Company Name	Nationality
1	HUAWEI	China
2	INTEL	United States
3	ERICSSON	Sweden
4	SAMSUNG ELECTRONICS	Korea
5	NOKIA	Finland
6	QUALCOMM	United States
7	ZTE	China
8	Chinese state-owned companies	China
9	OPPO	China
10	SONY	Japan

TABLE 4

TOP companies worldwide by patent valuation

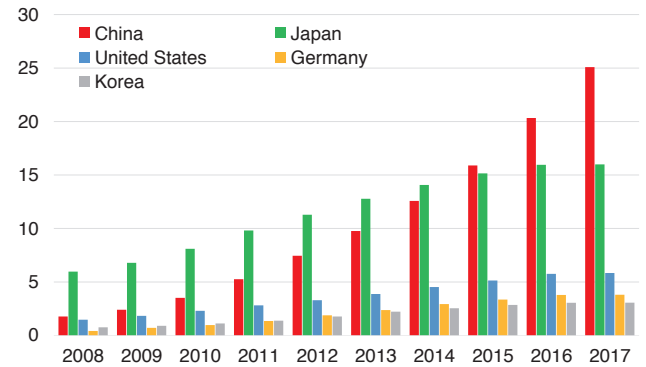
	Company Name	Nationality
1	INTEL	United States
2	QUALCOMM	United States
3	NOKIA	Finland
4	APPLE	United States
5	HUAWEI	China
6	FLEX	Singapore
7	SAMSUNG ELECTRONICS	Korea
8	ERICSSON	Sweden
9	PANASONIC	Japan
10	SONY	Japan

Note: Country measures are determined according to the country to which the patent owner (Ultimate Parent Company) belongs.The patent groups that make up a family of patents are counted as one patent category. The patent values are an estimate provided by BUREAU VAN DIJK for each patent or patent family (as of February 4, 2019) and includes patents pending.
Source: BUREAU VAN DIJK "Orbis-IP database"

CHART 22

Change in number of accumulated patent applications by country (TOP 5 countries)

(thousands of applications)



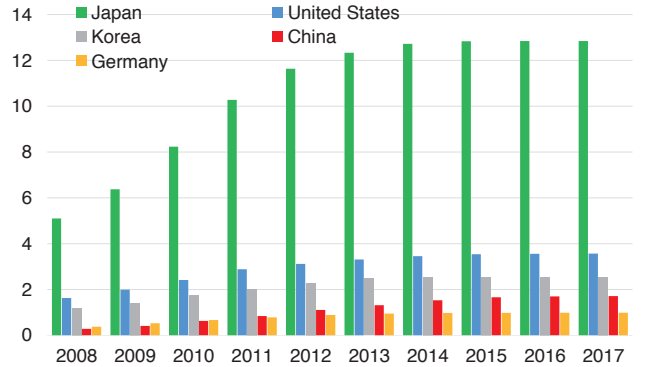
Note: Country measures are determined according to the country to which the patent owner (Ultimate Parent Company) belongs.The patent groups that make up a family of patents are counted as one patent category. The patent values are an estimate provided by BUREAU VAN DIJK for each patent or patent family (as of January 30, 2019) and includes patents pending. It is possible that not all application data is reflected in 2016 or later due to delays in database collection and devlation of PCT application transition to other countries.

Source: BUREAU VAN DIJK "Orbis-IP database"

CHART 23

Changes in accumulated patent valuations by country (TOP 5 countries)

(billions of dollars)



Note: Country measures are determined according to the country to which the patent owner (Ultimate Parent Company) belongs.The patent groups that make up a family of patents are counted as one patent category. The patent values are an estimate provided by BUREAU VAN DIJK for each patent or patent family (as of January 30, 2019) and includes patents pending. It is possible that not all application data is reflected in 2016 or later due to delays in database collection and devlation of PCT application transition to other countries.

Source: BUREAU VAN DIJK "Orbis-IP database"

TABLE 5

TOP companies worldwide by number of patent applications

	Company Name	Nationality
1	TOYOTA	Japan
2	BOSCH	Germany
3	Chinese state-owned companies	China
4	PANASONIC	Japan
5	SAMSUNG SDI	Korea
6	TDK	Japan
7	BYD	China
8	LISHEN BATTERY	China
9	GUOXUAN HIGH-TECH	China
10	NISSAN	Japan

TABLE 6

TOP companies worldwide by patent valuation

	Company Name	Nationality
1	TOYOTA	Japan
2	LG CHEM	Korea
3	SAMSUNG SDI	Korea
4	PANASONIC	Japan
5	SEMICONDUCTOR ENERGY LABORATORY	Japan
6	NISSAN	Japan
7	SONY	Japan
8	TORAY	Japan
9	GM	United States
10	HITACHI	Japan

Note: Company Contry Origin is determined by the country to which the patent owner (Ultimate Parent Company) belongs.The patent groups that make up a family of patents are counted as one patent category. The evaluation value is an estimate provided by BUREAU VAN DIJK for each patent or patent family (as of January 30, 2019) and includes patents pending.

Source: BUREAU VAN DIJK "Orbis-IP database"

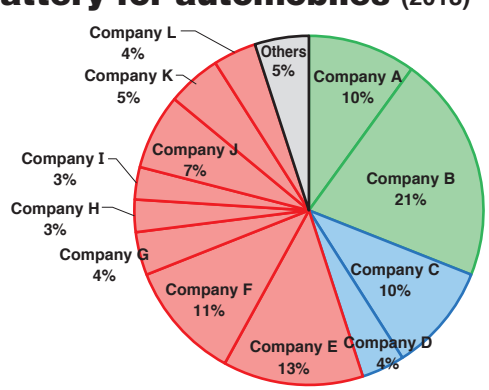
Although many Chinese companies ranked among the top 10 in patent applications by companies, none of them ranked in patent valuations *(Table 5, 6)*. Japanese companies occupied the top places while no Chinese companies ranked among the top 10.

BOSCH, which ranked at the 2nd place in patent applications did not rank in patent valuations. LG CHEM, which did not rank in patent applications ranked at the 2nd place in patent valuations *(Table 5, 6)*.

Although Chinese companies only have about 8% share in patent valuations in Lithium-ion battery industry, their share in supply consists of half of the market, especially for onboard Lithium-ion batteries, that are growing rapidly *(Chart 24)*.

CHART 24

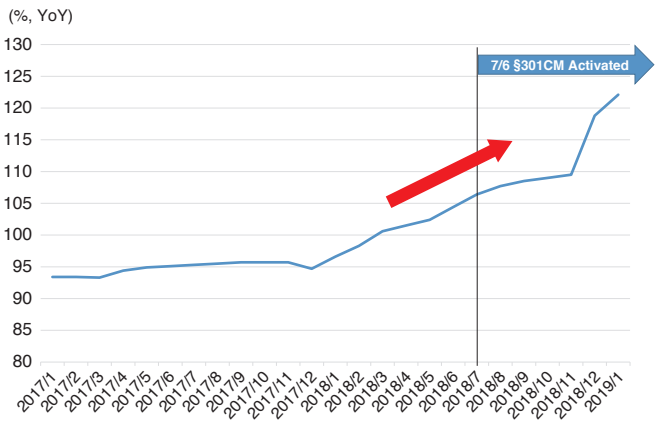
Share of global supply of Lithium-ion battery for automobiles (2018)



Green: Japanese companies, **Blue**: Korean companies, **Red**: Chinese companies

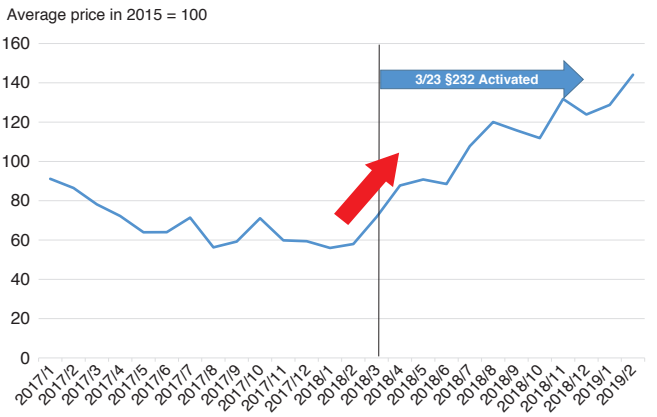
Source: METI (2018) cited from The Strategic committee for the new era of automobiles (the first meeting)

CHART 25
Price Hike Case1: Pork in China



Source: Refinitiv

CHART 26
Price Hike Case2: Hot-Rolled Coil Steel in US



Source: Refinitiv

(7) Negative effects of trade restrictive measures

① Negative effects to the countries imposing the measures

Imposition of additional import tariffs has a negative impact on domestic consumers and downstream companies in the countries imposing the tariffs by causing a rise in domestic commodity prices.

China imposed 25% additional tariffs on import of swine from the US as the first counter measures against the US Section 301 in July 2018.

After imposition of tariffs, the prices of swine in the Chinese domestic market have increased. Consumer goods (including food such as swine) have direct effects on consumers. This example clearly shows that imposition of tariffs has negative impacts on consumers directly. (The increase in prices of swine since November 2018 was also affected by hog in China.) *(Chart 25)*

The US imposed 25% additional tariffs on imports of steel under Section 232 in March 2018.

After imposition of the tariffs, steel prices in domestic markets in the US have increased. The increase in steel prices led to increase in costs in downstream industries that use steel *(Chart 26)*.

Steel is essential for manufacturing industries. The increase in steel prices have negative effects on wide range of industries including manufacturing.

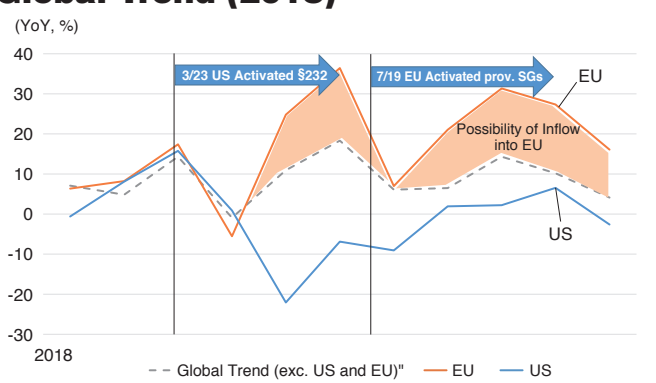
② Spillover effects to third countries by the imposition of trade restrictive measures (Section 232 measures on steel)

The imposition of trade restrictive measures can negatively affect third countries and distort market mechanisms as a consequence.

The additional 25% tariffs on US steel imports under US Section 232 of the Trade Expansion Act of 1962 has led to the decrease of US imports of flat roll products *(Chart 27)*.

Some exports of those products to US that have lost their destinations, especially the products from Turkey and Russia, which have flowed to the EU. The EU has imposed definitive measures in February 2019.

CHART 27
Monthly Steel Imports of US, EU and Global Trend (2018)



Remarks: "Global Trend (exc. US and EU)" shows the rest of world's flat-rolled steel import trend, which is adjusted to the same level of US and EU imports during Feb. to May.

Source: Global Trade Atlas. The products are the flat-rolled steel; HS7208-7212.

③ Spillover effects to third countries (Counter measures against Section 301 on soybean)

China has imported soybeans from Brazil regardless of its harvesting season after US imposition of additional tariffs on soybeans.

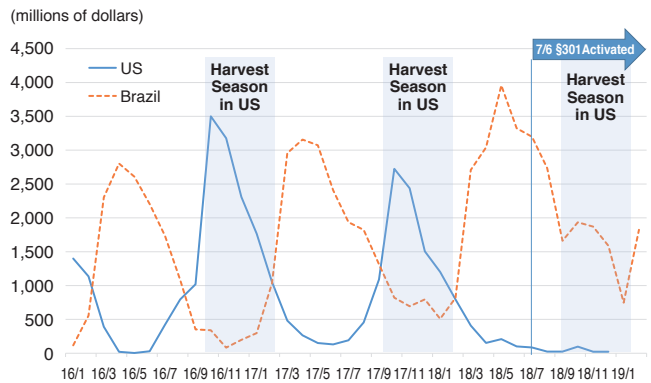
The value of the US exports in Soybean to China and to the world have decreased by 97% and by 35% respectively compared with the same month of the previous year.

On the other hand, exports of soybean by Brazil to China and to the world has increased by 75.9% and 63.1% respectively compared with the same month of the last year *(Chart 28)*.

Brazil has responded to this unexpected demand through some expansion of farm land as well as opening reserve stocks for this season.

CHART 28

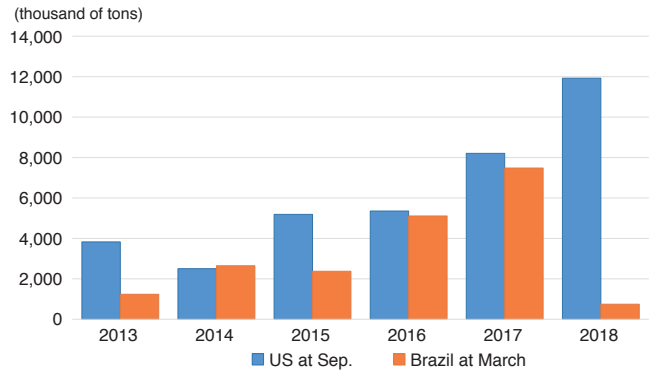
China's Soybean Imports from US and Brazil



Source: Global Trade Atlas

CHART 29

Soybean Stocks of US and Brazil



Remarks 1: Regarding inventory month, September in US and March in Brazil is the month just before the harvest time in both countries.
Remarks 2: 1 bushel = 0.0272155 ton.
Source: USDA; US Department of Agriculture and Conab; Brazil's National Food Supply Agency

Brazil has responded to this increased demand through expansion of cultivated land as well as release of the stock, so that its stock has decreased dramatically (the amount of stock in December 2018 was 0.75 million tons, less than 1/10 of the previous year) *(Chart 29)*. There are limitations to increase exports when they are out of season.

The total amount of China's soybean imports has decreased recently. The current situation surrounding China's soybean imports may not be sustainable for China.

(8) Towards establishment of the new rule-based international trade system

The establishment of the rule-based multilateral trading regime is essential for the further promotion and expansion of free and fair trade. Moreover, this is vital for the growth of the global economy as well as a vital factor to provide and maintain favorable and stable business environments. Amidst the recent and increasing concerns about the malfunctioning of the multilateral trading system, including the WTO, it is an urgent agenda to restructure the international trading regime under international cooperation.

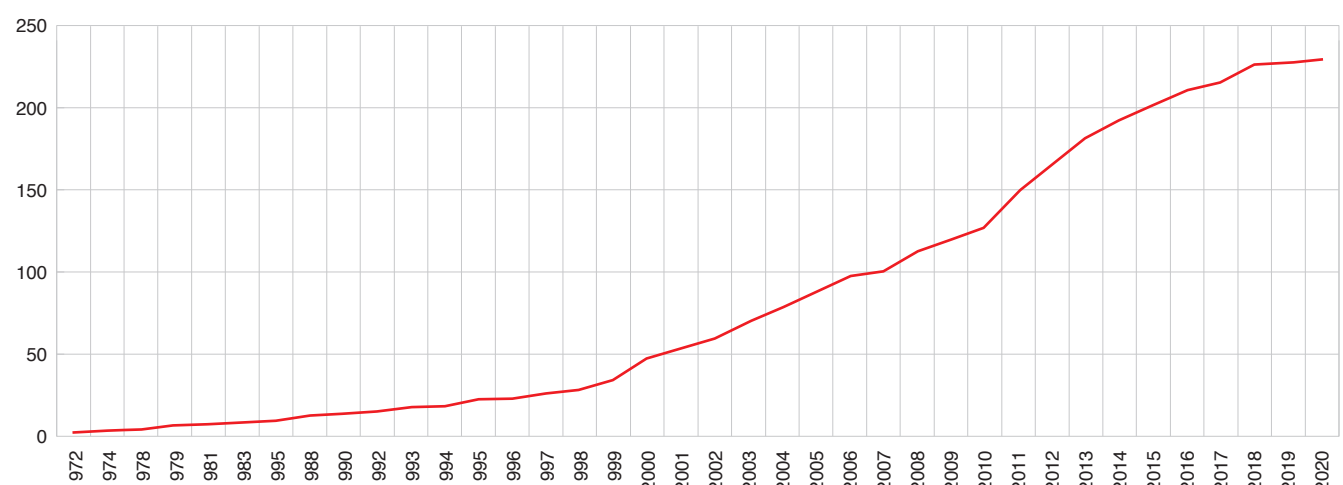
① Digital Field

National regulations on data flow have increased rapidly throughout the world since 2010 *(Chart 30)*.

As cross border economic activities have rapidly expanded by the development of digital technologies, the need for international rule-making in cyber space to facilitate free flow of data has become much more important, as have properly protecting personal

CHART 30

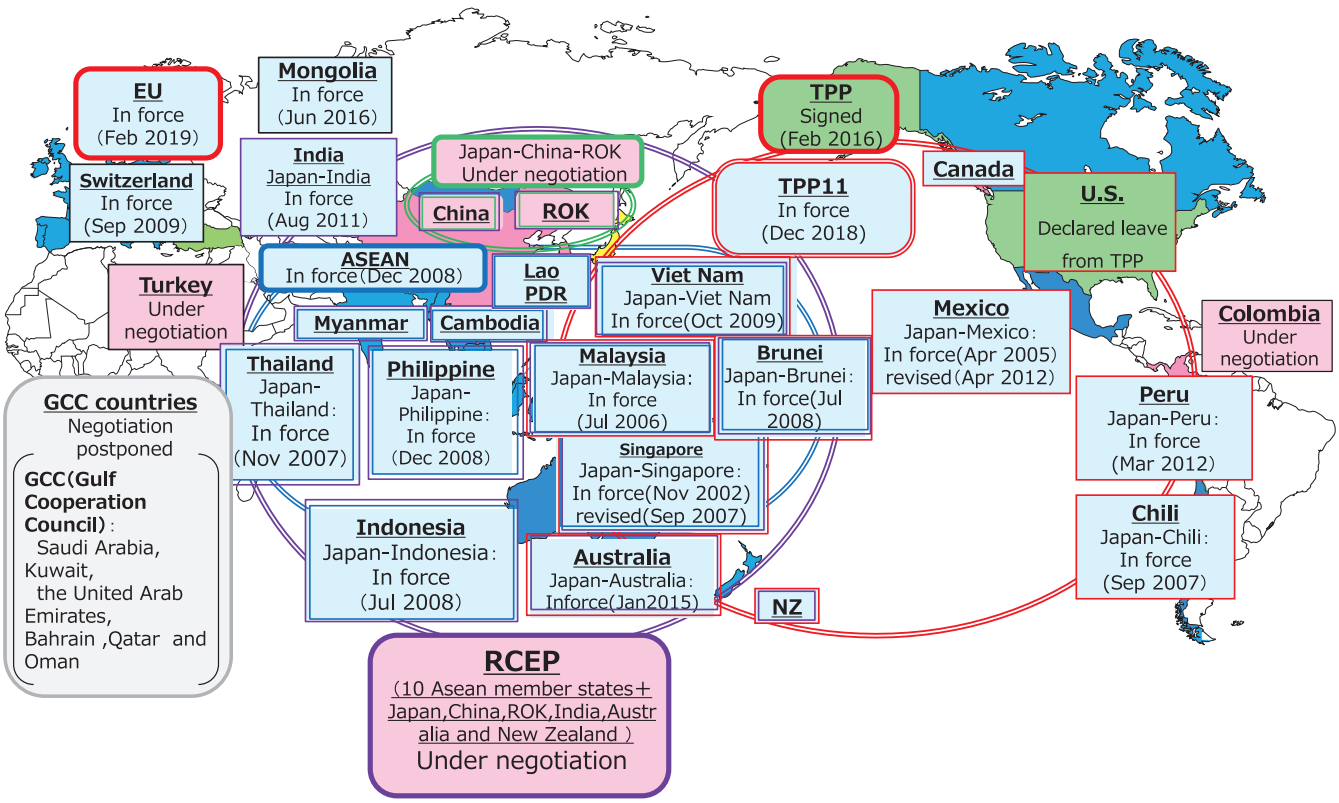
The total number of world's domestic data regulations



Source: Casalini and Lopez-Gonzalez (2019)

CHART 31

Japan's current Economic Partnership Agreements



Note: As of the end of March 2019
"Under negotiation" includes the number of signed agreements
Source: Trade statistics, Ministry of Finance of Japan, IMF Direction of Trade Statistics

information and intellectual property rights.

② Economic Partnership Agreements (EPAs)

Comprehensive Economic Partnership Agreements (EPAs), such as TPP11 and Japan-EU EPA, enable companies to form efficient production networks through optimal production distributions and location strategies, and are expected to lead to the strengthening of the global competitiveness of industries. Moreover, it is important for Japan to improve its business environment and attract reinvestment in its market by strategic use of EPAs and regulatory reforms.

As of March 2019, 18 EPAs were signed or in force with 21 economies/regions including TPP11, EU-Japan EPA. Furthermore, RCEP and Japan-China-ROK FTA are currently under negotiation *(Chart 31, Table 7)*.

The expansion of free trade and promotion of EPAs are keys for Japan's trade policy. It is important for growth of the Japanese economy to incorporate interests of the APEC regional development and markets by building networks of EPAs all over the world. Promoting utilization of in-force EPAs and their reviews are important.

TABLE 7

EPA coverage ratio of EPA of Japan
(trade value basis)

In Force	36.7%
In Force or Signed	51.6%
Under Negotiation	86.2%

Note: As of the end of March 2019
"Under negotiation" includes the number of signed agreements
Source: Trade statistics, Ministry of Finance of Japan, IMF Direction of Trade Statistics

3. Japan's external economic relations and future challenges

Potential for overseas expansion by Japanese companies

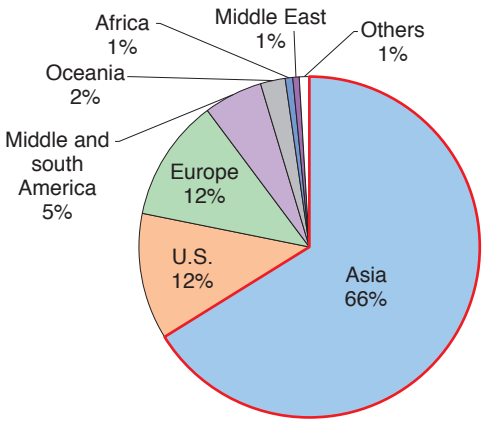
① Expansion in retail and service industries

Around 70% of Japanese affiliates overseas are located in Asia. Recently, as the number of affiliates established in Asia is increasing further, the importance of Asia is rising for Japan *(Chart 32, 33)*.

By industry, more than a half of the Japanese affiliates are in manufacturing and wholesale sectors, and the share of the affiliates in the retail and service industry is still small *(Table 8)*. Especially, these trends are remarkable in Asia, and there is room for Japanese companies to expand their businesses in these sectors. For example, under the developing digital economy, with the rise of the EC

CHART 32

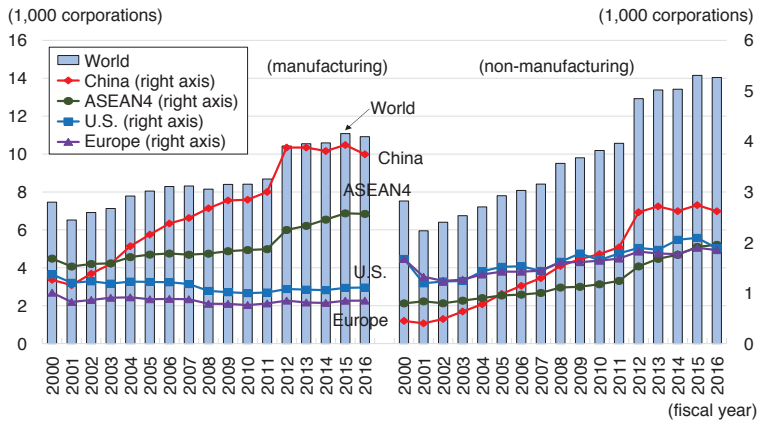
Regional distribution of Japanese overseas affiliates (2016 fy)



Source: METI "Basic Survey on Overseas Business Activities"

CHART 33

Number of Japanese overseas affiliates by region



Source: METI "Basic Survey on Overseas Business Activities"

TABLE 8

Sales of overseas affiliates by industry and region (2016 fy)

(unit: billions of yens)

	Asia		U.S.		World	
	Sales	Share	Sales	Share	Sales	Share
Total	111,885	100.0	80,759	100.0	257,647	100.0
Manufacturing	67,203	60.1	30,316	37.5	123,636	48.0
Non-manufacturing	44,683	39.9	50,443	62.5	134,011	52.0
Information and communications	943	0.8	530	0.7	2,844	1.1
Transport	1,381	1.2	359	0.4	2,788	1.1
Wholesale trade	35,254	31.5	33,283	41.2	95,198	36.9
Retail trade	1,826	1.6	5,455	6.8	8,066	3.1
Services	3,181	2.8	7,117	8.8	11,830	4.6

Source: METI "Basic Survey on Overseas Business Activities"

TABLE 9

Regional share of GDP, number of Japanese overseas affiliates and their sales value

	Asia	Central and south America	Africa	World
GDP	33%	6%	3%	100%
Number of overseas affiliates	66%	5%	1%	100%
Sales value	43%	5%	1%	100%

Remarks: 2018 calendar year for GDP. 2016 fiscal year for number of overseas affiliates and sales value.
Source: IMF "World Economic Outlook database" (April 2019), METI "Basic Survey on Overseas Business Activities"

platformers, some movement to start new businesses and services is observed.

② Expansion in the growing markets

The presence of Japanese companies is still small in the emerging economies expecting rapid growth outside of Asia, such as Central and South America and Africa *(Table 9)*.

Japanese companies should expand their exports and investments to growing markets in order to better compete in the global marketplace alongside other countries. JS