# JETRO Global Trade and Investment Report 2018
# Global Economy Connected via Digitalization
# Overview

July 30, 2018

Japan External Trade Organization
(JETRO)

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# Contents

# Chapter 1: World trade and Japan's trade

The world trade value of 2017 has increased
for the first time in three years

# Broad-based acceleration of growth in the world economy in 2017

- According to IMF estimates, the world's real GDP growth rate in 2017 was 3.7%, the highest rate of growth since 4.3% in 2011. The backdrop was the recovery in world trade, the recovery of investment in developed countries, strong and sustained growth in the emerging and developing Asia, strong growth in emerging and developing Europe, and a recovery of commodity exporting countries in line with rising commodity (primary products) prices. Nearly six in ten countries saw faster growth than 2016, so it was a broad-based acceleration in growth.
- Growth is expected to accelerate to 3.9% in 2018. The large-scale tax cuts in the United States are making a contribution. However, downside risks dominate for the short- to medium-term. Risks include escalating and prolonged trade tensions, inward-looking policies, tightening financial policies and geopolitical tensions in the Middle East etc.

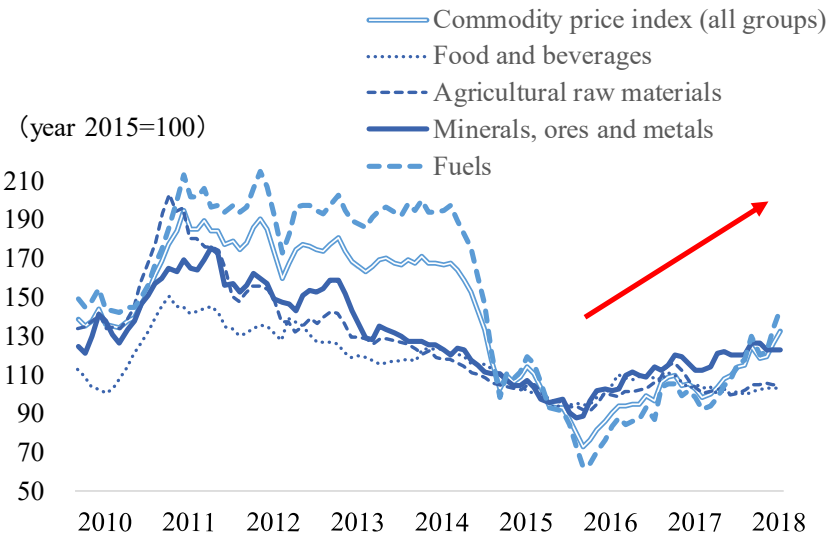
**Trends in real GDP growth rate/contribution ratio by economies**

(%)

| | 2016 | | 2017 | | 2018 (forecast) | | 2019 (forecast) | |
|---|---|---|---|---|---|---|---|---|
| | Percent change | Contribution rate | Percent change | Contribution rate | Percent change | Contribution rate | Percent change | Contribution rate |
| World | 3.2 | 100.0 | 3.7 | 100.0 | 3.9 | 100.0 | 3.9 | 100.0 |
| Advanced economies | 1.7 | 21.9 | 2.4 | 27.2 | 2.4 | 25.4 | 2.2 | 23.0 |
| US | 1.5 | 7.2 | 2.3 | 9.5 | 2.9 | 11.5 | 2.7 | 10.3 |
| Euro area | 1.8 | 6.6 | 2.4 | 7.6 | 2.2 | 6.5 | 1.9 | 5.6 |
| Germany | 1.9 | 1.9 | 2.5 | 2.3 | 2.2 | 1.9 | 2.1 | 1.7 |
| France | 1.1 | 0.8 | 2.3 | 1.4 | 1.8 | 1.0 | 1.7 | 1.0 |
| Italy | 0.9 | 0.5 | 1.5 | 0.7 | 1.2 | 0.6 | 1.0 | 0.5 |
| Spain | 3.3 | 1.4 | 3.1 | 1.2 | 2.8 | 1.0 | 2.2 | 0.8 |
| UK | 1.8 | 1.3 | 1.7 | 1.1 | 1.4 | 0.8 | 1.5 | 0.9 |
| Japan | 1.0 | 1.4 | 1.7 | 2.0 | 1.0 | 1.1 | 0.9 | 1.0 |
| Emerging and developing economies | 4.4 | 77.6 | 4.7 | 73.9 | 4.9 | 73.7 | 5.1 | 77.5 |
| Emerging and developing Asia | 6.5 | 61.1 | 6.5 | 55.7 | 6.5 | 54.0 | 6.5 | 55.4 |
| China | 6.7 | 35.5 | 6.9 | 32.8 | 6.6 | 30.7 | 6.4 | 30.7 |
| India | 7.1 | 15.3 | 6.7 | 13.2 | 7.3 | 13.9 | 7.5 | 14.8 |
| ASEAN5 | 4.9 | 8.0 | 5.3 | 7.7 | 5.3 | 7.4 | 5.3 | 7.5 |
| Latin America and the Caribbean | -0.6 | -1.6 | 1.3 | 2.7 | 1.6 | 3.2 | 2.6 | 5.0 |
| Brazil | -3.5 | -3.0 | 1.0 | 0.7 | 1.8 | 1.2 | 2.5 | 1.6 |
| mexico | 2.9 | 1.8 | 2.0 | 1.1 | 2.3 | 1.1 | 2.7 | 1.3 |
| Emerging and developing Europe | 3.2 | 3.5 | 5.9 | 5.6 | 4.3 | 4.0 | 3.6 | 3.3 |
| Russia/CIS | 0.4 | 0.6 | 2.1 | 2.6 | 2.3 | 2.6 | 2.2 | 2.5 |
| Russia | -0.2 | -0.2 | 1.5 | 1.3 | 1.7 | 1.4 | 1.5 | 1.2 |
| Middle East and North Africa | 5.0 | 11.6 | 2.2 | 4.5 | 3.5 | 6.7 | 3.9 | 7.5 |
| Sub-Saharan Africa | 1.5 | 1.4 | 2.8 | 2.3 | 3.4 | 2.6 | 3.8 | 2.9 |
| South Africa | 0.6 | 0.1 | 1.3 | 0.2 | 1.5 | 0.2 | 1.7 | 0.3 |

Notes: The definitions of advanced/emerging and developing economies follow the World Economic Outlook (WEO). ASEAN 5 refers to Indonesia, Malaysia, Philippines, Thailand, and Vietnam. The Middle East and North Africa includes Afghanistan and Pakistan. 2) The contribution rate is calculated using the weighted PPP (purchasing power parity) of the previous year, which was released in April 2018.
Source: "WEO, April/July 2018" (IMF)

**Trends in commodity prices**




Notes: Data for year 2018 cover January-May.
Source: Monthly data from UNCTAD

# World trade has increased for first time in three years in 2017

- Global trade in 2017 (merchandise trade, nominal export basis) rose by 10.5% year-on-year to $17.3 trillion (JETRO estimate), the first rise since 2014. This is due to acceleration of world economic growth and increased commodity prices (especially fuels and metals). Trade volume (export basis) also increased by 4.5%. Both the value and volume of world trade showed its highest growth since 2011.
- The global growth in import volumes was 1.3 times that of economic growth, implying a departure from the "slow trade" of the previous five years.

**World trade related indicators**

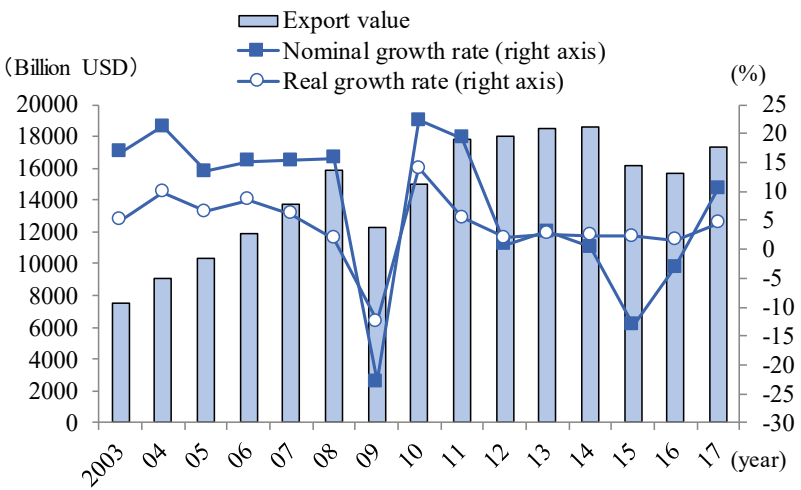
(All figures are percentages, unless indicated at the end of column)

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| World trade (export) (100 mil USD) | 185,434 | 186,160 | 161,820 | 156,685 | 173,162 |
| Nominal growth rate | 3.1 | 0.4 | -13.1 | -3.2 | 10.5 |
| Real growth rate | 2.6 | 2.4 | 2.3 | 1.6 | 4.5 |
| Price growth rate | 0.5 | -2.0 | -15.0 | -4.7 | 5.8 |
| World trade (import) (100 mil USD) | 188,830 | 189,638 | 164,879 | 160,132 | 177,458 |
| Nominal growth rate | 1.7 | 0.4 | -13.1 | -2.9 | 10.8 |
| Real growth rate | 2.2 | 2.9 | 2.7 | 2.0 | 4.8 |
| Price growth rate | -0.5 | -2.4 | -15.3 | -4.8 | 5.7 |
| Industrial production index growth rate (developed countries) | 0.5 | 2.1 | 0.3 | 0.3 | 2.5 |
| Fuel price index growth rate | -1.6 | -7.4 | -44.8 | -16.5 | 23.4 |
| Crude oil price growth rate | -0.9 | -7.5 | -47.2 | -15.7 | 23.3 |
| Natural gas price growth rate | -3.7 | -3.0 | -33.2 | -34.5 | 16.4 |
| Metal price index growth rate | -4.3 | -10.1 | -23.0 | -5.4 | 22.2 |
| Iron ore price growth rate | 5.3 | -28.1 | -42.4 | 4.3 | 21.4 |
| Food and beverage price index growth rate | -0.7 | -2.1 | -15.9 | 1.8 | 1.0 |
| Growth of nominal effective dollar exchange rate | 2.2 | 2.5 | 15.3 | 0.2 | -1.0 |

Note: 1) Both trade values and nominal growth rates are estimated by JETRO. See Appendix Annotation II regarding the method of estimation. 2) The real growth rate is from the WTO. 3) The price growth rate was caluculated by dividing the nominal value by volume index. 4) All commodity prices are indicated in the growth rate of the annual average. Crude oil prices are the average of Dubai, Brent and WTI. Natural gas prices are from the Europe/Japan/US index. Iron ore prices are the import prices at China's CFR Tianjin port.

Source: Trade statistics of respective economies, "IFS (June 4, 2018)" (IMF), "WEO, April 2018" (IMF), and WTO data

**Trends in world trade (export basis)**




Source: JETRO's estimates based on the trade sitatistics of respective countries, and WTO data

# Trends by country in world trade: China, Germany, US and commodity exporters are the biggest contributors

- Both imports and exports increased in the US and China for the first time in three years
- UK imports decreased due to weaker pound and falling gold imports
- Vietnam's imports and exports grew by over 20%, as did India's imports
- Commodity exporters accounted for around a quarter of the world trade increase

## Trading partners and products that particularly contributed to major countries' trade growth (decline) in 2017

| | | |
|---|---|---|
| US | Exports | To Canada, China, EU and Mexico. Commodity-related products (accounting for almost 60% of export growth), general machinery (especially semiconductor manufacturing equipment, engines), chemicals, electrical equipment (especialy integrated circuits). |
| | Imports | From China, Canada, Mexico and the EU. Commodity-related products, general machinery (especially computer and peripheral equipment), electrical equipment (especially mobile phones, integrated circuits, non-volatile semiconductor storage devices). |
| China | Exports | To US, EU and ASEAN. Electrical equipment (especially communication equipment, integrated circuits, TV receivers and monitors, etc.), general machinery (especially computer and peripheral equipment), chemicals. |
| | Imports | From ASEAN, EU and Australia. Commodity-related products (accounting for around half of import growth), electrical equipment (especially integrated circuits), chemicals. |
| Germany | Exports | To EU, China and US. General machinery (especially computer and peripheral equipment), chemicals, transport equipment, base metal and its products, electrical equipment (especially integrated circuits and other electric/electronic parts). |
| | Imports | From the EU. Commodity-related products, chemicals, electrical equipment (especially integrated circuits and other electric/electronic parts), general machinery (especially computer and peripheral equipment). |
| UK | Exports | To the EU, China and Turkey. Commodity-related products (accounting for over 40% of export growth), turbines. |
| | Imports | Declined from China, Turkey, South Africa and Australia. Gold and transport equipment down. Imports grew on a pound sterling basis by 2.7% and by 2.0% on a US dollar basis, excluding gold. |
| Vietnam | Exports | To China, South Korea and the US. Phones and phone parts, computer electronics and parts, textiles, footwear. |
| | Imports | From South Korea, China. Computer electronics and parts, phones and phone parts, mechanical equipment and parts. |
| India | Exports | To ASEAN, the EU, the US and China. Base metal and its products, petroleum and its products, chemicals, and food. |
| | Imports | From China and ASEAN. Mineral fuels etc., gold, electrical equipment (especially communications equipment). |

Notes: 1) Only the monetary value of UK imports decreased (dollar basis), other imports and exports grew. 2) The Vietnam analysis is based on data from the General Department of Vietnam Customs and therefore, JETRO product classifications do not apply.
Source: Analysis based on trade statistics of respective economies.

## World trade by country and region (2017)

(100 million USD, %)

| | Export | | | | | Import | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Value | Share | Growth rate | Contri-bution | Volume growth rate | Value | Share | Growth rate | Contri-bution | Volume growth rate |
| NAFTA | 23,774 | 13.7 | 7.3 | 1.0 | 4.2 | 31,958 | 18.0 | 7.3 | 1.4 | 4.0 |
| US | 15,467 | 8.9 | 6.6 | 0.6 | 4.1 | 23,429 | 13.2 | 7.1 | 1.0 | 4.1 |
| Canada | 4,212 | 2.4 | 7.9 | 0.2 | 1.4 | 4,325 | 2.4 | 7.4 | 0.2 | 4.5 |
| Mexico | 4,095 | 2.4 | 9.5 | 0.2 | 7.4 | 4,204 | 2.4 | 8.6 | 0.2 | 3.1 |
| EU | 58,892 | 34.0 | 9.5 | 3.3 | 3.4 | 58,385 | 32.9 | 9.7 | 3.2 | 2.1 |
| Germany | 14,487 | 8.4 | 8.6 | 0.7 | 2.9 | 11,672 | 6.6 | 10.6 | 0.7 | 3.3 |
| Netherlands | 6,524 | 3.8 | 14.3 | 0.5 | 6.7 | 5,747 | 3.2 | 13.9 | 0.4 | 3.5 |
| France | 5,352 | 3.1 | 6.7 | 0.2 | 1.1 | 6,242 | 3.5 | 9.1 | 0.3 | 1.6 |
| Italy | 5,065 | 2.9 | 9.7 | 0.3 | 4.1 | 4,524 | 2.5 | 11.2 | 0.3 | 2.5 |
| UK | 4,496 | 2.6 | 6.4 | 0.2 | 1.4 | 6,240 | 3.5 | -2.1 | -0.1 | -4.4 |
| Japan | 6,972 | 4.0 | 8.2 | 0.3 | 5.9 | 6,710 | 3.8 | 10.5 | 0.4 | 2.8 |
| Australia | 2,311 | 1.3 | 20.1 | 0.2 | 0.0 | 2,214 | 1.2 | 17.0 | 0.2 | 12.9 |
| East Asia | 44,020 | 25.4 | 11.1 | 2.8 | n.a. | 37,375 | 21.1 | 16.9 | 3.4 | n.a. |
| China | 22,631 | 13.1 | 7.8 | 1.0 | 7.1 | 17,896 | 10.1 | 17.5 | 1.7 | 8.8 |
| South Korea | 5,737 | 3.3 | 15.8 | 0.5 | 6.3 | 4,785 | 2.7 | 17.8 | 0.5 | 7.8 |
| Taiwan | 2,920 | 1.7 | 13.6 | 0.2 | 8.4 | 2,590 | 1.5 | 12.6 | 0.2 | 4.8 |
| ASEAN6 | 12,732 | 7.4 | 14.6 | 1.0 | n.a. | 12,104 | 6.8 | 16.5 | 1.1 | n.a. |
| Singapore | 3,734 | 2.2 | 13.2 | 0.3 | 5.7 | 3,278 | 1.8 | 15.8 | 0.3 | 6.1 |
| Thailand | 2,359 | 1.4 | 10.4 | 0.1 | 6.1 | 2,246 | 1.3 | 14.7 | 0.2 | 8.7 |
| Malaysia | 2,179 | 1.3 | 14.7 | 0.2 | 11.0 | 1,952 | 1.1 | 15.7 | 0.2 | 13.2 |
| Vietnam | 2,151 | 1.2 | 21.8 | 0.2 | 17.5 | 2,130 | 1.2 | 21.9 | 0.2 | 14.6 |
| Indonesia | 1,676 | 1.0 | 16.0 | 0.1 | 6.7 | 1,569 | 0.9 | 15.7 | 0.1 | 7.6 |
| Philippines | 632 | 0.4 | 12.3 | 0.0 | 5.8 | 928 | 0.5 | 14.9 | 0.1 | 3.9 |
| India | 2,968 | 1.7 | 12.2 | 0.2 | 6.4 | 4,450 | 2.5 | 23.0 | 0.5 | 11.2 |
| Brazil | 2,177 | 1.3 | 17.5 | 0.2 | 6.8 | 1,507 | 0.8 | 9.6 | 0.1 | 5.5 |
| Russia | 3,578 | 2.1 | 25.2 | 0.5 | 3.8 | 2,275 | 1.3 | 24.7 | 0.3 | 16.4 |
| Turkey | 1,571 | 0.9 | 10.3 | 0.1 | 8.8 | 2,343 | 1.3 | 18.0 | 0.2 | 9.5 |
| South Africa | 892 | 0.5 | 18.5 | 0.1 | 6.2 | 832 | 0.5 | 10.8 | 0.1 | 0.8 |
| World | 173,162 | 100.0 | 10.5 | 10.5 | 4.5 | 177,458 | 100.0 | 10.8 | 10.8 | 4.8 |
| Advanced economies | 106,037 | 61.2 | 9.1 | 5.6 | n.a. | 111,018 | 62.6 | 9.2 | 5.8 | n.a. |
| Emerging/deve- | 67,125 | 38.8 | 12.9 | 4.9 | n.a. | 66,440 | 37.4 | 13.7 | 5.0 | n.a. |
| Commodity exporters | 25,813 | 14.9 | 18.3 | 2.5 | n.a. | 22,860 | 12.9 | 9.0 | 1.2 | n.a. |
| Fuel exporters | 12,982 | 7.5 | 23.7 | 1.6 | n.a. | 10,206 | 5.8 | 6.5 | 0.4 | n.a. |
| Nonfuel exporters | 12,832 | 7.4 | 13.3 | 1.0 | n.a. | 12,654 | 7.1 | 11.2 | 0.8 | n.a. |
| Commodity exporters Dev. | 17,505 | 10.1 | 21.4 | 2.0 | n.a. | 14,402 | 8.1 | 8.0 | 0.7 | n.a. |
| Commodity exporters Adv. | 8,308 | 4.8 | 12.2 | 0.6 | n.a. | 8,458 | 4.8 | 10.9 | 0.5 | n.a. |

Note: 1) Figures of "World," "EU," "Advanced economies," "Emerging/developing economies" and "Commodity exporters" were estimated by JETRO. 2) Figures of "EU" include those of intraregional trade. 3) Member countries of ASEAN 6 are Singapore, Thailand, Malaysia, Vietnam, Indonesia and the Philippines. 4) See footnote in the main text regarding the definition of "Commodity exporters" (39 emerging/developing economies and 7 advanced economies). Figures of small countries which were unavailable or unable to be estimated were excluded. 5) Advanced economies include 37 economies based on the definition of DOTS (IMF). Figures for "emerging/developing economies" are calculated by subtracting "advanced economies" from the "world." 7) Volume growth rate data are from WTO.
Source: Trade statistics of respective economies and WTO data

# Trends in world trade by type of product: remarkable growth in commodity- and semiconductor-related products

- Contributors to the increase in world trade included commodity-related products such as fuel (30.0% growth) and metal (17.4% growth), electrical equipment (10.0% growth, especially integrated circuits and communication equipment), chemicals (8.9% growth), general machinery (10.2% growth, especially computers and peripheral equipment, semiconductor manufacturing equipment, and turbines).
- Commodity-related products account for around 45% of the increased trade in 2017. (They accounted for around three quarters of the -3.2% decline in 2016).
- In addition to fuel (30.0% growth) and mineral ore (27.6% growth) on the back of increased prices, there was remarkable growth in semiconductor-related products including integrated circuits (18.7% growth) and semiconductor manufacturing equipment (36.6% growth). to feed growing demand for semiconductors for products including smartphones, data centers, AI and self-driving cars.
- The highest growth for lithium-ion batteries was notched since data was first recorded in 2013 due to the expansion of demand for electric vehicles, up 25.4%.

**World trade by product (export basis, 2017)** (100 million USD, %)

| | Value | Share | Growth rate | Contri-bution |
|---|---|---|---|---|
| Total exports | 173,162 | 100.0 | 10.5 | 10.5 |
| Machinery and equipment | 71,642 | 41.4 | 8.4 | 3.5 |
| General machinery | 20,739 | 12.0 | 10.2 | 1.2 |
| Turbines | 1,211 | 0.7 | 12.4 | 0.1 |
| Computer and peripheral equipment | 5,522 | 3.2 | 12.1 | 0.4 |
| Semiconductor manufacturing equipment | 760 | 0.4 | 36.6 | 0.1 |
| Industrial robots | 60 | 0.03 | 29.9 | 0.0 |
| Electrical equipment | 25,356 | 14.6 | 10.0 | 1.5 |
| Communication equipment | 5,784 | 3.3 | 7.1 | 0.2 |
| Integrated circuits | 6,252 | 3.6 | 18.7 | 0.6 |
| Lithium-ion storage batteries | 224 | 0.1 | 25.4 | 0.0 |
| Transport equipment | 19,289 | 11.1 | 5.0 | 0.6 |
| Automobiles | 8,975 | 5.2 | 7.1 | 0.4 |
| Automobile parts (excluding engines) | 3,943 | 2.3 | 7.0 | 0.2 |
| Precision equipment | 6,257 | 3.6 | 6.7 | 0.3 |
| Chemicals | 23,562 | 13.6 | 8.9 | 1.2 |
| Pharmaceuticals and medical supplies | 5,369 | 3.1 | 5.5 | 0.2 |
| Commodity-related products (total) | 47,473 | 27.4 | 18.5 | 4.7 |
| Fuel (mineral fuels etc.) | 19,050 | 11.0 | 30.0 | 2.8 |
| Non-fuel (metal, food and beverages) | 28,423 | 16.4 | 11.8 | 1.9 |
| Metal | 13,682 | 7.9 | 17.4 | 1.3 |
| Mineral ore | 1,984 | 1.1 | 27.6 | 0.3 |
| Base metal and its products | 11,698 | 6.8 | 15.8 | 1.0 |
| Food and beverages | 14,741 | 8.5 | 7.1 | 0.6 |

Note: 1) JETRO estimates. See Appendix Annnotation II regarding the method of estimation. 2) See Appendix Annnotation I regarding the product classification.
Source: Trade statistics of respective economies

# Electric vehicles: No. 1 exporter is US, No. 1 importer is Norway

- The top exporters are for hybrid vehicles (including PHEV(*)) Japan, for electric vehicles (EVs) the US and for lithium-ion batteries, China. Each has a market share of nearly 40%. Japan is the fourth-largest exporter of EVs. Growth in Japan's lithium-ion battery exports has stagnated at 2.3% on average over the past five years with the rise of Chinese and South Korean manufacturers and the reallocation of production overseas.
- The top importers are for hybrid vehicles, the US, for EVs Norway and for lithium-ion batteries, China. Government incentives have led to a new car market share of around 20% each for EVs and PHEVs in Norway in 2017.
- China imports most of its EVs from the US. Japan exports most of its EVs to the US, the EU and South Korea export mainly to Europe, while the US mostly exports to China and Europe.

(*). PHEV: Plug-in hybrid vehicle

**Top 10 exporters of hybrid vehicles, EVs and lithium-ion batteries**

(100 million USD, %)

| | Rank | Hybrid vehicles | | | Electric vehicles | | | Lithium-ion batteries | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Country/ regions | Value | Share | Country/ regions | Value | Share | Country/ regions | Value | Share | 2012-2017 CAGR |
| Exports | | World | 34,168 | 100.0 | World | 8,707 | 100.0 | World | 22,372 | 100.0 | 14.1 |
| | 1 | Japan | 12,439 | 36.4 | US | 3,330 | 38.2 | China | 7,987 | 35.7 | 12.3 |
| | 2 | Germany | 3,956 | 11.6 | Germany | 1,543 | 17.7 | South Korea | 3,518 | 15.7 | 11.2 |
| | 3 | South Korea | 3,180 | 9.3 | Netherlands | 1,295 | 14.9 | Japan | 2,572 | 11.5 | 2.3 |
| | 4 | Belgium | 2,877 | 8.4 | Japan | 598 | 6.9 | US | 1,289 | 5.8 | 39.7 |
| | 5 | Turkey | 1,987 | 5.8 | France | 531 | 6.1 | Germany | 954 | 4.3 | 28.5 |
| | 6 | France | 1,917 | 5.6 | South Korea | 421 | 4.8 | Singapore | 568 | 2.5 | 26.5 |
| | 7 | *Mexico* | *1,706* | *5.0* | *Mexico* | *185* | *2.1* | Netherlands | 412 | 1.8 | 29.5 |
| | 8 | UK | 1,603 | 4.7 | Belgium | 170 | 2.0 | Hungary | 395 | 1.8 | 66.6 |
| | 9 | US | 1,600 | 4.7 | Spain | 116 | 1.3 | *Vietnam* | *393* | *1.8* | *33.2* |
| | 10 | Sweden | 1,063 | 3.1 | China | 110 | 1.3 | Australia | 291 | 1.3 | 28.5 |
| Imports | | World | 28,967 | 100.0 | World | 7,746 | 100.0 | World | 19,659 | 100.0 | 13.7 |
| | 1 | US | 8,014 | 27.7 | Norway | 1,539 | 19.9 | China | 3,262 | 16.6 | -3.8 |
| | 2 | Belgium | 3,111 | 10.7 | China | 1,469 | 19.0 | US | 2,527 | 12.9 | 14.6 |
| | 3 | Norway | 1,612 | 5.6 | Germany | 578 | 7.5 | Germany | 2,240 | 11.4 | 33.2 |
| | 4 | China | 1,609 | 5.6 | Canada | 475 | 6.1 | Netherlands | 912 | 4.6 | 43.8 |
| | 5 | UK | 1,534 | 5.3 | UK | 440 | 5.7 | *Vietnam* | *903* | *4.6* | *35.4* |
| | 6 | Germany | 1,251 | 4.3 | US | 364 | 4.7 | Japan | 808 | 4.1 | 9.2 |
| | 7 | Italy | 1,212 | 4.2 | Belgium | 294 | 3.8 | South Korea | 671 | 3.4 | 7.7 |
| | 8 | Spain | 1,174 | 4.1 | France | 283 | 3.7 | France | 589 | 3.0 | 23.3 |
| | 9 | Sweden | 1,020 | 3.5 | Netherlands | 272 | 3.5 | India | 468 | 2.4 | 30.7 |
| | 10 | South Korea | 716 | 2.5 | Switzerland | 247 | 3.2 | UK | 416 | 2.1 | 37.6 |

Notes: 1) "Share" indicates the share of the world total. 2) Figures for world and countries in italics are JETRO estimates. 3) Hong Kong is excluded due to large proportion of re-exports. 3) The compound annual growth rate (CAGR) of India is from 2013-2017. 4) Trade data for hybrid vehicles (HS870340-870370, including plug-in hybrids) and electric vehicles (HS870380) are available from

Source: Trade statistics of respective economies.

**EV world trade matrix (2017)**

(%)

| Exporter \ Destination | World | Asia | Japan | China | NAFTA | US | Europe | EU | Norway | Other region |
|---|---|---|---|---|---|---|---|---|---|---|
| World | 100.0 | 25.8 | 1.3 | 18.4 | 17.9 | 12.2 | 53.0 | 35.6 | 14.5 | 3.4 |
| Asia | 13.1 | 1.2 | 0.1 | 0.0 | 6.9 | 6.5 | 4.5 | 3.4 | 0.9 | 0.5 |
| Japan | 6.9 | 0.0 | | 0.0 | 5.9 | 5.9 | 0.6 | 0.5 | 0.0 | 0.3 |
| China | 1.3 | 1.0 | 0.1 | | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 |
| South Korea | 4.8 | 0.0 | 0.0 | 0.0 | 1.0 | 0.6 | 3.7 | 2.7 | 0.9 | 0.1 |
| NAFTA | 40.4 | 23.3 | 1.0 | 17.5 | 7.0 | 2.1 | 7.9 | 1.4 | 5.1 | 2.2 |
| US | 38.2 | 23.3 | 1.0 | 17.5 | 4.9 | | 7.9 | 1.4 | 5.1 | 2.2 |
| Mexico | 2.1 | 0.0 | 0.0 | 0.0 | 2.1 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Europe | 46.4 | 1.3 | 0.2 | 0.9 | 4.0 | 3.6 | 40.5 | 30.7 | 8.5 | 0.7 |
| EU | 46.3 | 1.3 | 0.2 | 0.9 | 4.0 | 3.6 | 40.4 | 30.7 | 8.4 | 0.7 |
| France | 6.1 | 0.1 | 0.0 | 0.0 | 0.2 | 0.2 | 5.7 | 4.6 | 0.9 | 0.1 |
| Germany | 17.7 | 1.1 | 0.1 | 0.8 | 3.7 | 3.4 | 12.7 | 6.3 | 5.6 | 0.2 |
| Netherlands | 14.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.7 | 14.5 | 0.0 | 0.2 |
| Others | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Notes: 1) The figures in each cell represent the proportion of 2017 export value where the value of World to World exports ($8.7 billion) is 100. 2) Highlighted cells are where figure is 5% and over. 3) Other regions include Oceania, Latin America, the Middle East, Africa and unknown regions. 4) Figures for World, Asia, NAFTA, Mexico, Europe, EU and Other regions are JETRO estimates. 5) EVs are defined as HS870380 (limited to only those vehicles with electric motors as their form of propulsion).

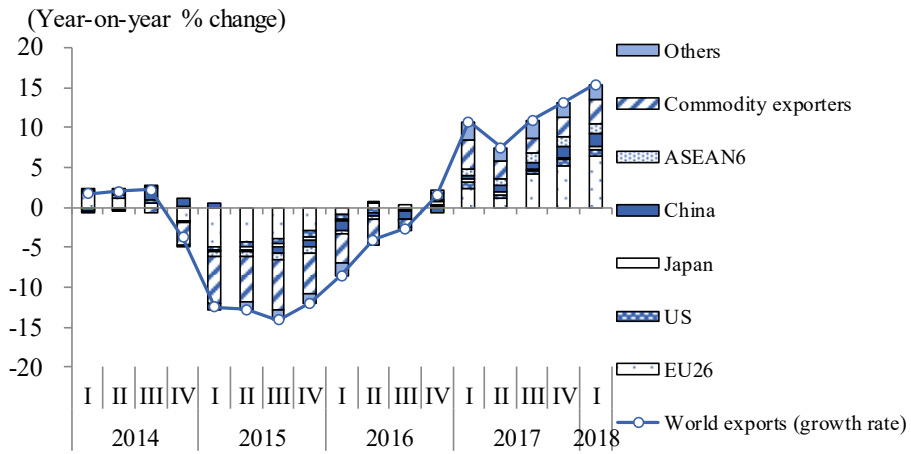
Source: Trade statistics (export value) of respective economies.

# World trade in 2018: Risk of escalating restrictive measures on trade

- In the first quarter of 2018, the trade value of goods (from 34 major economies where the data by product is available) saw double-digit growth with exports up 13.3% and imports up 14.6% over the same period the previous year. Following strong growth in 2017, integrated circuits (19.8% growth) and semiconductor manufacturing equipment (24.9% growth) performed very well, while growth in machine tools (33.8% growth) and mining and construction machinery (20.4% growth) was also outstanding. Growth was higher than in 2017 for exports and imports alike for the top three trading nations, China, the US and Germany.
- Based on forecasts by WTO (April 2018), world trade volume for 2018 is expected to increase by 4.4%. However, a chain of restrictive measures on trade does raise concerns of a downside risk. Globally, the pace of expansion of new export orders (*) in the first half of 2018 is slowing down every month, and it is presumed that concerns about trade friction have been negatively affecting trade.

(*). New export orders index released by IHS Markit and JP Morgan as part of their Global Manufacturing PMI

**Contribution of exports by economies, on a quarterly basis**




Note: 1) World exports cover 210 economies. 2) See footnote in the main text regarding the definition of "commodity exporters." EU26 includes all EU member economies excluding two commodity exporters (Greece and Cyprus).
Source: "DOTS (June 22, 2018)" (IMF)

**Trade for 34 major economies by product, on a quarterly basis (year-on-year growth rate)**

(%)

| | World trade coverage ratio (2017) | 2017 | | | | 2018 |
|---|---|---|---|---|---|---|
| | | I | II | III | IV | I |
| Total (exports) | 83.1 | 9.7 | 6.7 | 10.0 | 11.6 | 13.3 |
| Machinery and equipment | 90.9 | 6.3 | 4.6 | 10.0 | 10.8 | 13.1 |
| General machinery | 92.2 | 6.7 | 6.3 | 12.1 | 14.5 | 16.1 |
| Mining and construction machines | 95.2 | 0.9 | -1.8 | 17.1 | 27.8 | 20.4 |
| Machine tools | 96.0 | 3.4 | 9.6 | 17.4 | 23.8 | 33.8 |
| Turbines | 93.4 | 8.9 | 9.4 | 11.4 | 12.8 | 13.5 |
| Engines | 87.7 | 6.1 | 1.3 | 8.2 | 13.1 | 15.4 |
| Computer and peripheral equipment | 93.7 | 6.5 | 9.9 | 15.0 | 14.3 | 16.5 |
| Semiconductor manufacturing equipment | 99.4 | 54.7 | 46.4 | 25.8 | 26.6 | 24.9 |
| Industrial robots | 98.1 | 36.6 | 34.6 | 41.7 | 23.4 | 7.9 |
| Electrical equipment | 89.8 | 8.4 | 6.2 | 10.0 | 11.6 | 12.9 |
| Communication equipment | 87.7 | 7.0 | 3.1 | 4.3 | 8.5 | 7.5 |
| Integrated circuits | 95.5 | 17.8 | 14.2 | 19.3 | 18.5 | 19.8 |
| Transport equipment | 90.0 | 3.5 | 1.4 | 8.5 | 6.5 | 11.2 |
| Precision equipment | 93.5 | 5.7 | 3.3 | 7.3 | 8.2 | 10.7 |
| Chemicals | 89.0 | 7.9 | 4.5 | 8.9 | 13.8 | 16.2 |
| Commodity-related products (total)* | 79.4 | 28.9 | 17.6 | 16.0 | 19.7 | 17.0 |
| Fuel* | 81.9 | 55.9 | 27.9 | 19.0 | 26.9 | 20.8 |
| Non-fuel (metal, food and beverages) | 78.9 | 12.4 | 9.3 | 11.7 | 13.4 | 12.3 |
| Metal | 80.5 | 18.3 | 12.5 | 14.4 | 17.8 | 15.3 |
| Food and beverages | 77.4 | 7.2 | 6.3 | 9.2 | 9.4 | 9.3 |

Notes: 1) The key 34 economies are Australia, Austria, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, Philippines, Portugal, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, UK, and US.
2) Products marked with an asterisk (*) are based on imports, other products are based on exports. World trade coverage ratio for 2017 is based on the larger of the two (imports or exports).
Source: Trade statistics of respective economies

# Both Japanese exports and imports on the rise

- For Japan's trade (customs clearance basis) in 2017, exports increased by 8.2% year-on-year to $697.2 billion, while imports rose by 10.5% to $671.0 billion. It was the second consecutive year of export growth, but the first import growth in five years. This produced a trade surplus of $26.3 billion, the second consecutive year of surpluses. Both exports and imports continued to rise in 2018, but imports more so. Japan recorded a trade surplus in the first half of the year, but it was well down on the same period last year. On the yen basis, exports in 2017 rose by 11.8% to 78.3 trillion yen, while imports rose by 14.1% to 75.4 trillion yen, leading to a trade surplus of 2.9 trillion yen.

**Japan's trade trends (2013 – June 2018)**

(Million USD, 100 million JPY, %)

| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Jan-Jun | Jan | Feb | Mar | Apr | May | June |
| Dollar-based | Total exports | 719,205 | 694,270 | 625,068 | 644,579 | 697,221 | 368,908 | 54,182 | 59,193 | 69,288 | 64,150 | 57,892 | 64,202 |
| | (Growth rate) | -10.3 | -3.5 | -10.0 | 3.1 | 8.2 | 10.1 | 16.2 | 5.8 | 9.1 | 12.3 | 10.6 | 7.7 |
| | Total imports | 838,889 | 817,103 | 648,343 | 607,020 | 670,971 | 362,856 | 62,557 | 59,118 | 61,837 | 58,373 | 63,308 | 57,662 |
| | (Growth rate) | -5.6 | -2.6 | -20.7 | -6.4 | 10.5 | 11.3 | 11.6 | 21.0 | 6.2 | 10.7 | 16.6 | 3.5 |
| | Trade balance | -119,684 | -122,832 | -23,275 | 37,559 | 26,250 | 6,052 | -8,375 | 75 | 7,451 | 5,777 | -5,416 | 6,540 |
| | (Year-on-year difference) | -32,435 | -3,148 | 99,557 | 60,834 | -11,309 | -3,259 | 1,046 | -7,028 | 2,147 | 1,415 | -3,466 | 2,627 |
| Yen-based | Total exports | 697,742 | 730,930 | 756,139 | 700,358 | 782,865 | 401,314 | 60,863 | 64,633 | 73,827 | 68,223 | 63,236 | 70,532 |
| | (Growth rate) | 9.5 | 4.8 | 3.4 | -7.4 | 11.8 | 6.2 | 12.3 | 1.8 | 2.1 | 7.8 | 8.1 | 6.7 |
| | Total imports | 812,425 | 859,091 | 784,055 | 660,420 | 753,792 | 395,282 | 70,345 | 64,634 | 65,893 | 62,016 | 69,069 | 63,325 |
| | (Growth rate) | 14.9 | 5.7 | -8.7 | -15.8 | 14.1 | 7.5 | 7.8 | 16.6 | -0.5 | 6.0 | 14.1 | 2.6 |
| | Trade balance | -114,684 | -128,161 | -27,916 | 39,938 | 29,072 | 6,032 | -9,483 | -1 | 7,933 | 6,208 | -5,833 | 7,208 |
| | (Year-on-year difference) | -45,273 | -13,477 | 100,245 | 67,854 | -10,866 | -4,069 | 1,567 | -8,046 | 1,898 | 1,425 | -3,790 | 2,875 |
| Export volume index | | 90.2 | 90.7 | 89.8 | 90.0 | 94.7 | 95.1 | 85.4 | 91.0 | 106.3 | 98.3 | 90.4 | 99.0 |
| (Growth rate) | | -1.5 | 0.6 | -1.0 | 0.3 | 5.2 | 3.0 | 9.3 | -2.1 | 1.8 | 4.6 | 4.2 | 1.4 |
| Import volume index | | 105.3 | 106.0 | 103.0 | 102.6 | 105.9 | 105.9 | 112.8 | 103.8 | 107.1 | 102.0 | 110.3 | 99.6 |
| (Growth rate) | | 0.3 | 0.6 | -2.8 | -0.3 | 3.2 | 1.6 | 2.6 | 11.6 | -4.9 | 1.5 | 6.5 | -5.8 |
| Crude oil import price | | 110.5 | 105.1 | 55.0 | 41.6 | 54.2 | 68.8 | 64.6 | 68.3 | 66.8 | 66.2 | 70.8 | 76.3 |
| (Dollar/barrel, growth rate) | | -3.7 | -4.9 | -47.7 | -24.3 | 30.2 | 27.1 | 20.7 | 23.4 | 19.0 | 23.0 | 31.3 | 46.4 |
| Exchange rate (yen/dollar) | | 97.6 | 105.8 | 121.0 | 108.8 | 112.2 | 108.6 | 110.8 | 107.8 | 106.0 | 107.4 | 109.7 | 110.0 |
| (Yen appreciation, %) | | -18.3 | -7.8 | -12.5 | 11.2 | -3.0 | 3.4 | 3.6 | 4.9 | 6.6 | 2.4 | 2.3 | 0.8 |

Note: 1) Yen-based values are converted to dollar-based values by JETRO. 2) The volume index is on a 2010 basis.
3) Exchange rates are the interbank rate average for each period. 4) Growth rates are a year-on-year comparison.
Source: "Trade Statistics" (Ministry of Finance), "Foreign Exchange Rate" (Bank of Japan)

# Strong growth in exports to China, ASEAN

- Looking at exports by country in 2017, the US was Japan's largest export partner for the fifth consecutive year with exports worth $134.6 billion (a year-on-year increase of 3.5%). Exports to China grew by double digits for the first time in seven years to $132.7 billion (16.5% growth), led by for semiconductor manufacturing equipment and electronic parts. Exports also grew to Thailand, Indonesia ,Vietnam and other ASEAN economies in 2017, China and ASEAN accounted for the majority of total export growth.
- As for imports, China remained the largest import partner, growing 5.0% to $164.3 billion. Imports of electrical equipment such as cellphones grew strongly. From the US, growth in mineral fuels such as shale gas-derived liquefied natural gas, grew 6.9% to $72.0 billion.

## Japan's exports and imports by major country/region

(Million USD, %)

| | 2016 | 2017 | YoY change | Contribution | Jan-Jun 2018 | YoY change | Contribution |
|---|---|---|---|---|---|---|---|
| Total exports | 644,579 | 697,221 | 8.2 | 8.2 | 368,908 | 10.1 | 10.1 |
| US | 130,019 | 134,595 | 3.5 | 0.7 | 68,257 | 6.1 | 1.2 |
| EU | 73,394 | 77,108 | 5.1 | 0.6 | 42,391 | 12.8 | 1.4 |
| China | 113,874 | 132,651 | 16.5 | 2.9 | 70,380 | 14.3 | 2.6 |
| ASEAN | 95,535 | 105,719 | 10.7 | 1.6 | 56,544 | 13.0 | 1.9 |
| Total imports | 607,020 | 670,971 | 10.5 | 10.5 | 362,856 | 11.3 | 11.3 |
| US | 67,371 | 72,038 | 6.9 | 0.8 | 39,261 | 9.7 | 1.1 |
| EU | 74,944 | 77,984 | 4.1 | 0.5 | 42,918 | 15.2 | 1.7 |
| China | 156,444 | 164,256 | 5.0 | 1.3 | 83,165 | 6.4 | 1.5 |
| ASEAN | 92,301 | 102,773 | 11.3 | 1.7 | 55,497 | 11.2 | 1.7 |

Note: Yen-based values are converted to dollar-based values by JETRO.
Source: "Trade Statistics" (MOF)

## Characteristics of Japan's trade in 2017

| | | Outline |
|---|---|---|
| US | Exports | Largest export partner for five consecutive years. Strong infrastructure and housing construction have led to growth in mining and construction equipment. Rise in demand for electrical equipment, driven by strong growth in lithium-ion batteries. |
| | | Shale gas-derived liquified natural gas recorded for first time. Oil and related products also increased, with mineral fuels accounting for around 80% of the growth in imports from the US. |
| China | Exports | Performing strongly with the first double-digit increase (16.5%) in seven years. Amid growing demand for semiconductors, semiconductor manufacturing equipment continued to grow. Machine tools, industrial robots and other production machinery also increased over last year. |
| | | Biggest source of imports for 16 years running. Electrical equipment accounts for 30% of imports from China, of which mobiles phones maintained the high level of last year. Communication equipment parts also rose. Textiles and its products including clothing, which represent over 10% of imports from China, continued to decline. |
| ASEAN | Exports | Exports to ASEAN recovered to $100 billion for the first time in three years. Sales to Thailand and Indonesia grew for the first time in five years. Vietnam and the Philippines continued to grow. In addition to growth in integrated circuits (Thailand, Vietnam) and steel (Thailand, Indonesia, Vietnam), sales of mining and construction machinery also increased to Indonesia and the Philippines. |
| | | A big increase, mostly in mineral fuels from Indonesia and Malaysia on the back of recovering commodity prices. Most growth from Thailand was in chemical products like plastics and rubber, and from Vietnam in electrical equipment such as mobile phones. |
| EU | Exports | Up on last year as the domestic German car market continued to perform strongly, attracting Japanese car exports, the shipment of trains ordered by the UK from Japanese makers and which began delivery last year moved into full swing, and a large passenger ship was delivered to Italy. |
| | | Car imports from Germany continued strongly and procurement of aircraft continued (delivered from German factory by French maker). There was a dramatic rise in heated tobacco products from Italy, propelling Italy from Japan's fourth-largest tobacco source country in 2016 to first in 2017. |

Source: "Trade Statistics" (Ministry of Finance), press releases from the respective companies, various reports, etc.

# General machinery exports strong, with the recovery of investment in developed economies and Asia

- Looking by product, exports of general machinery were strong, rising 11.6% to $138.5 billion. Semiconductor manufacturing equipment exports continued their strong performance, while mining and construction equipment and machine tool exports also turned positive with the recovery of investment in developed economies and emerging and developing Asia. Transportation equipment exports to the US and China stagnated, while growth in transportation equipment exports overall slowed.
- Since 2016, when oil prices hit their low point, imports of mineral fuels have grown to $141.1 billion (27.6% growth), accounting for around half of import growth.

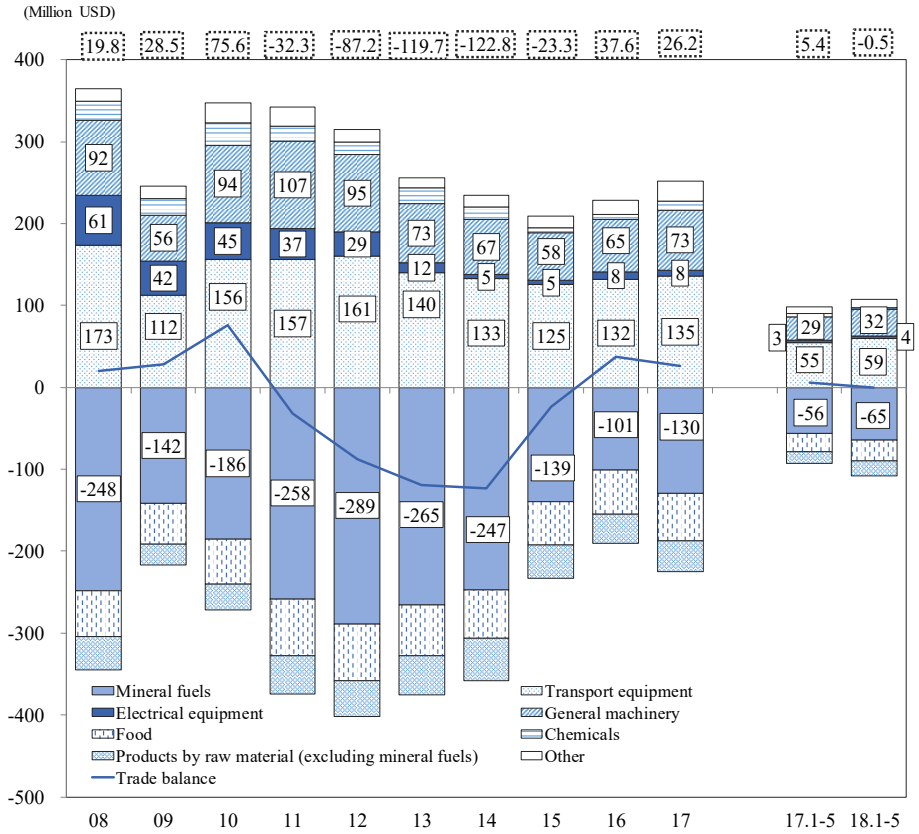
## Japan's exports & imports by main product

(Million USD, %)

| | 2016 | 2017 | YoY change | Contribution | Jan-May 2018 | YoY change | Contribution |
|---|---|---|---|---|---|---|---|
| Total exports | 644,579 | 697,221 | 8.2 | 8.2 | 304,706 | 10.6 | 10.6 |
| General machinery | 124,010 | 138,452 | 11.6 | 2.2 | 62,526 | 13.1 | 2.6 |
| Semiconductor manufacturing equipment | 17,871 | 22,738 | 27.2 | 0.8 | 11,071 | 21.4 | 0.7 |
| Mining and construction machines | 8,578 | 9,845 | 14.8 | 0.2 | 4,889 | 19.8 | 0.3 |
| Electrical equipment | 98,252 | 105,600 | 7.5 | 1.1 | 43,884 | 7.7 | 1.1 |
| Electronic parts such as semiconductors | 33,179 | 35,778 | 7.8 | 0.4 | 14,871 | 7.5 | 0.4 |
| Transport equipment | 161,013 | 164,075 | 1.9 | 0.5 | 72,173 | 10.0 | 2.4 |
| Chemicals | 81,185 | 89,361 | 10.1 | 1.3 | 39,923 | 11.8 | 1.5 |
| Iron and steel products | 33,955 | 37,802 | 11.3 | 0.6 | 16,727 | 8.9 | 0.5 |
| Total imports | 607,020 | 670,971 | 10.5 | 10.5 | 305,167 | 12.9 | 12.9 |
| Mineral fuels | 110,625 | 141,112 | 27.6 | 5.0 | 69,943 | 15.7 | 3.5 |
| Crude oil | 50,811 | 63,733 | 25.4 | 2.1 | 31,696 | 16.6 | 1.7 |
| Chemicals | 75,473 | 78,295 | 3.7 | 0.5 | 37,194 | 15.8 | 1.9 |
| Pharmaceauticals & medical supplies | 24,537 | 22,467 | -8.4 | -0.3 | 10,886 | 17.2 | 0.6 |
| General machinery | 59,443 | 65,269 | 9.8 | 1.0 | 30,516 | 15.8 | 1.5 |
| Electrical equipment | 89,943 | 97,698 | 8.6 | 1.3 | 40,372 | 6.9 | 1.0 |
| Food | 59,311 | 63,256 | 6.7 | 0.6 | 27,430 | 10.5 | 1.0 |

Note: Yen-based values are converted to dollar-based values by JETRO.
Source: "Trade Statistics" (MOF)

## Japan's Trade balance by main product

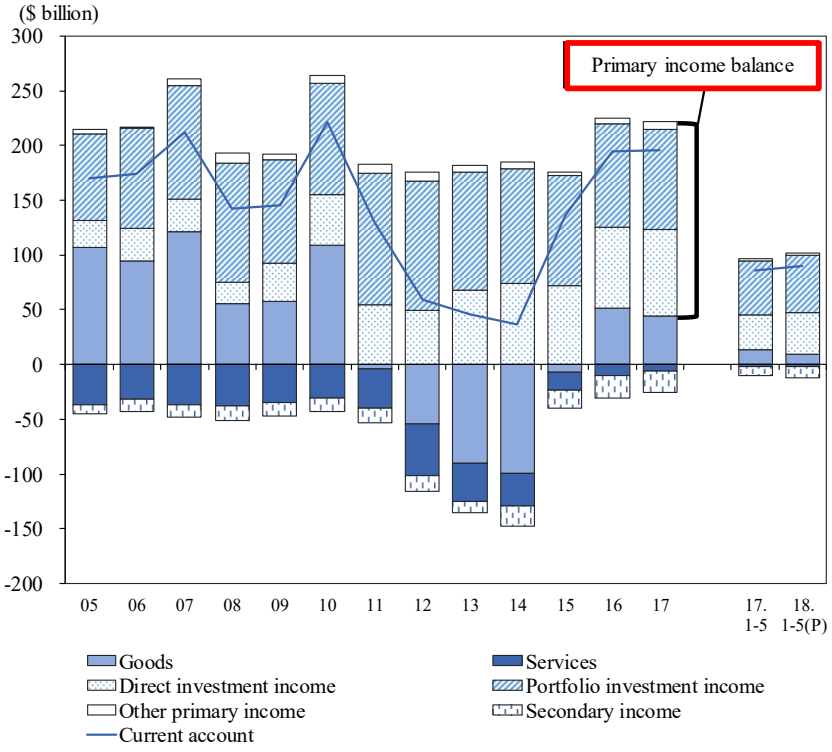



Notes: The numbers in the dotted boxes above this chart represent the trade balance.
Source: "Trade Statistics" (Ministry of Finance)

# Travel service balance firmly in surplus

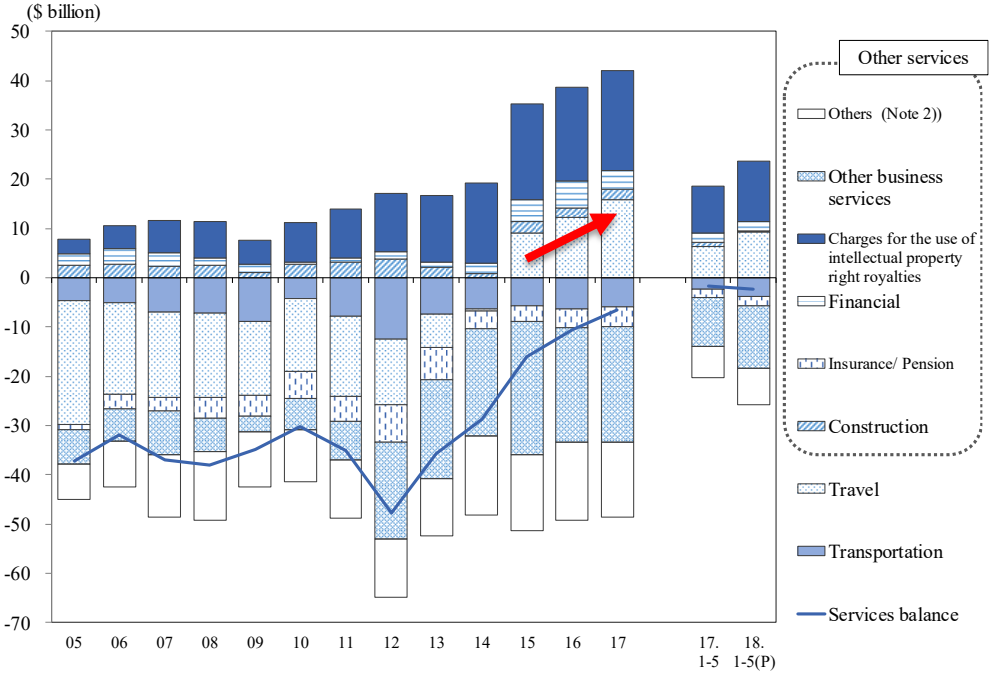
- Japan's current account surplus was $196.1 billion in 2017, the third consecutive year of expansion. Contributors to the surplus included the reduced deficit in services balance and an expanded surplus in primary income. In services, the travel sector posted a surplus for the third year in a row, meaning that this surplus is now increasingly well established. In addition, the amount of surplus from charges for the use of intellectual property rights, etc. was $20.4 billion, the first time to break through the $20 billion mark.

## Japan's current account




Sources: "Balance of Payments" (Bank of Japan, Ministry of Finance), "Foreign Exchange Rates" (Bank of Japan)

## Japan's service trade

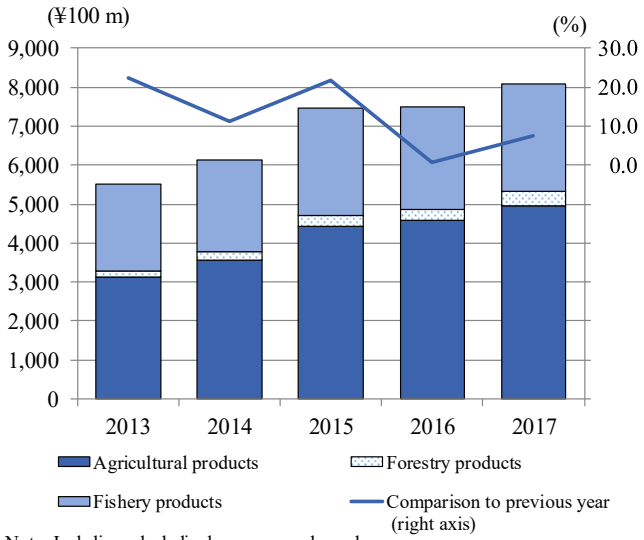



Notes: 1) Yen-based values are converted to dollar-based values by JETRO. 2) "Other" includes manufacturing services on physical inputs owned by others, maintenance and repairs, communications, computers and information, personal, cultural and recreational, and government services.
Sources: "Balance of Payments" (Bank of Japan, Ministry of Finance), "Foreign Exchange Rates" (Bank of Japan)

# Japan's agricultural, forestry, and fishery exports reach 800 billion yen

- Japan's agricultural, forestry, and fishery exports in 2017 rose 7.6% from last year to a new record high of 807.1 billion yen. The fastest growing category was alcoholic beverages, up 26.8% on the previous year. Many other categories also showed year-on-year growth, including non-alcoholic beverages, mackerel and beef. In particular, the shipment of logs and garden trees to China grew rapidly by over 50%.
- Concerning restrictions on agricultural, forestry, and fishery exports by destination countries, discussions are moving forward with trading partners on easing barriers, based on the "Strategy to Strengthen Export Capabilities of the Agricultural, Forestry and Fisheries Industries" (2016). Since 2016, export bans and quarantine restrictions have been lifted for a range of products from Japan, notably beef, as a result of agreements with those countries.

## Export value of Japan's agricultural, forestry, fishery and food products




Note: Including alcoholic beverages and pearls
Source: "Overview of Foreign Trade of Agricultural, Forestry and Fishery Products" (MAFF)

## Lifting of export bans and quarantine restrictions for Japanese products in recent years

| Date announced | Country/region | Product | Outline |
|---|---|---|---|
| **Plant quarantine** | | | |
| 2017/1/16 | Vietnam | Japanese Pears | Agreement on plant quarantine conditions for fresh fruit exports |
| 2017/9/12 | US | Japanese Persimmons | Agreement on plant quarantine conditions for fresh fruit exports |
| 2017/12/27 | EU | Citrus | Fresh citrus export quarantine conditions eased (growing site inspections for citrus canker no longer required) |
| 2018/1/26 | Australia | Japanese Persimmons | Export ban lifted under new plant quarantine conditions for fresh fruit |
| 2018/5/9 | China | Rice | Rice mills and fumigation warehouses able to export Japanese rice added to list of permitted facilities. |
| 2018/5/29 | Vietnam | Rice | Agreement on plant quarantine conditions for brown rice exports |
| 2018/6/8 | Canada | Apples | Agreement on quarantine conditions covering existing "fruit bagging (from first fruiting to picking), growing site inspections, registration of fruit sorting facilities and export inspection", "growing site inspections, registration of fruit sorting and disinfestation facilities, disinfestation (cold treatment and methyl bromide fumigation, etc.) and export inspection", as well as "registration of orchards/gardens and facilities, inspection of disease and pest outbreaks, fruit sorting and packing, and export inspections". The agreement enables export under conditions that are easier to act on for producers. |
| **Animal quarantine** | | | |
| 2017/9/22 | Taiwan | Beef | Exports have restarted for the first time since they were banned in September 2001 in the BSE outbreak. Japanese beef can now be exported from Japanese beef exporting facilities approved by Taiwan (29 plants). |
| 2017/11/7 | Malaysia | Beef | Exports of Japanese beef processed at either of two Japanese beef export facilities applying Malaysian halal principles now permitted. |
| 2018/5/29 | Australia | Beef | Agreement has been reached with the Australian government on conditions for export of fresh Japanese beef. The Ministry of Labour, Health and Welfare and the Ministry of Agriculture, Forestry and Fisheries have published "Instructions for Exporting Beef to Australia" and have notified local governments. Based on these instructions, fresh beef can now be exported from beef handling facilities certified by the Ministry of Labour, Health and Welfare. |
| 2018/6/29 | Argentina | Beef | Agreement has been reached with the Argentine government on conditions for export of fresh Japanese beef. The Ministry of Health, Labour and Welfare and the Ministry of Agriculture, Forestry and Fisheries have published "Instructions for Exporting Beef to Argentina" and have notified local governments. Based on these instructions, fresh beef can now be exported from beef handling facilities certified by the Ministry of Health, Labour and Welfare. |

Note: As of 29 June 2018. Source: Created by JETRO from Ministry of Agriculture, Forestry and Fisheries press releases

# Digital technologies and the world economy

- Digitalization today is characterized by (1) everything being linked to the internet (IoT) and as a result, (2) it is generating a great deal of data (giving birth to big data, stored in the cloud), (3) the evolution of AI, or machines that learn and judge based on big data, (4) increasing automation of more diverse and complicated tasks (robots), (5) the advance of 3D printing, which is changing the nature of manufacturing and (6) the growing influence of platforms.
- There is insufficient research on the economic impact of digitalization. Impacts such as increased investment in intangible assets rather than tangible assets, worker displacement, increased market domination ("winner takes all") and increased consumer surplus are being discussed.

**Features of digitalization today**

●Everything being linked to the internet: the flourishing **IoT**

●Growing data volume: increased **big data**, storage in the **cloud**

●The rise of learning, thinking machines: the evolution of **artificial intelligence (AI)**

●Increasing automation of more diverse and complicated tasks: the advancement of **robots**

●The changing nature of manufacturing: the growing adoption of **3D printers**

●The growing influence of **platforms** (e-commerce, electronic payments, search engines, social media, online video, sharing, etc.)

Source: New Industrial Structure Vision (Ministry of Economy, Trade and Industry, 30 May 2017) and "Information Economy Report 2017" (UNCTAD), etc.

**The economic impact of digitalization**

| Domain | Major impacts |
|---|---|
| Productivity | ●Improved productivity of the overall economy because digital technologies are general purpose technologies (GPT) |
| Investment/assets | ●The scale of tangible asset and equipment investments by digital companies is small. Intangible assets are growing across the economy as a whole |
| Employment | ●Compared to their share of sales, digital companies employ few staff and have a low labor share<br>●AI and robots will displace jobs, but the creation of new jobs and increased scale due to improved productivity will also contribute to boosting employment |
| Trade | ●3D printers may reduce trade in goods<br>●E-commerce is increasing small-lot goods trade and making trade easier for small and medium-size firms<br>●Increasing trade in services (capturing this in statistics is a separate issue) |
| FDI | ●While FDI for the purpose of gaining new markets or focused on efficiency such as reducing production costs may decline, FDI to gain knowledge or for financial or tax-saving purposes may increase<br>●Digital companies have few overseas assets compared to their overseas sales |
| Business models | ● As the marginal cost of duplicating data is basically zero, platform businesses enjoy the benefit of increasing returns and network effects. Therefore, companies grow quickly and the market domination and monopoly ("winner takes all") can easily occur<br>●Increased open innovation<br>●Servicification of goods<br>●Businesses open to democratization and the rise of amateurs<br>●Easier to customize production and services<br>●From ownership to use (increased sharing) |
| Consumers | ●Rising consumer surplus, time savings, choice and information |

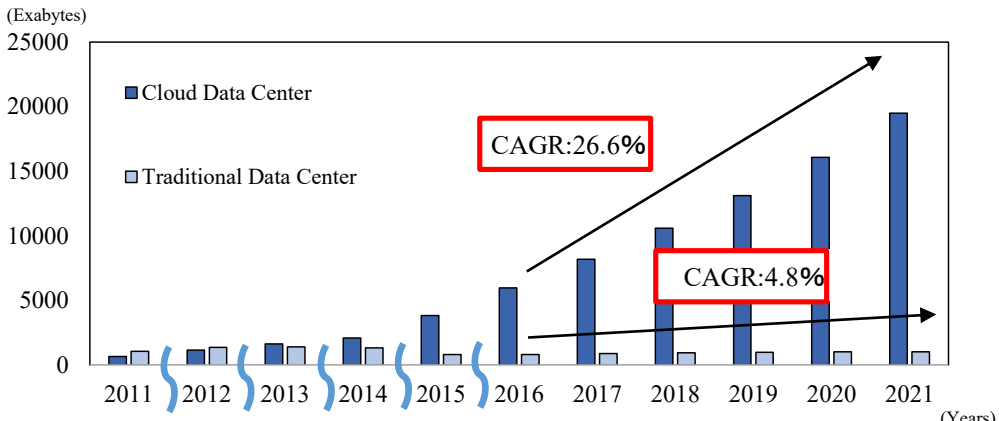
Note: Not all digital technologies may have the impact shown in the table.

Source: "Capitalism without Capital" (Haskel, J. and Westlake, S., 2017), "OECD Digital Economy Outlook 2017" (OECD, 2017), "The Fall of the Labor Share and the Rise of Superstat Firms" (Autor, D., Dorn, D., Katz. L.F., Patterson, C., and Van Reenen. J., May 2017), "World Investment Report 2017" (UNCTAD, 2017), "3D Printing: A Threat to Global Trade" (ING, Sep 2017), "Measuring Digital Trade: Towards a Conceptual Framework" (OECD, Mar 2017), *Platform no Kyokasho* (Tatsuyuki Negoro, 2017), New Industrial Structure Vision (Ministry of Economy, Trade and Industry, 30 May 2017) , "2016 White Paper on Information and. Communications in Japan" (Ministry of Internal Affairs and Communications, 2016), etc.

# Global gap in internet infrastructures

- Indices related to the internet infrastructure required for digital trade show that many of the leading economies are in Western Europe, the Middle East and Northeast Asia, while many countries of Sub-saharan Africa and Southwest Asia fall rank lowest. A particularly large gap is evident on the measure of fixed broadband subscribers.
- The recent growth in data transmission volumes is supported by the expansion of cloud computing. The success of the cloud underpins the increasing adoption of advanced digital technologies such as IoT and AI and the expansion of digital trade.

**World data transmission volumes by data center**




Note: There is no strict continuity in the data before 2015 because those data are extracted from different editions of the source document.
Source: From 2016, "CISCO Global Cloud Index: Forecast and Methodology, 2016-2021" (CISCO, 2018); earlier data from older editions of the same report

**Indices related to internet access in major countries/regions**

| Region | Country | Internet user rate (%) | Mobile subscriptions per 100 people | Fixed broadband subscriptions per 100 people | Fixed broadband Internet monthy subscription ($) |
|---|---|---|---|---|---|
| Asia/ Pacific | Japan | 93.2 | 130.6 | 31.16 | 20.1 |
| | South Korea | 92.8 | 120.7 | 40.47 | 34.1 |
| | Singapore | 81.0 | 150.5 | 25.99 | 21.6 |
| | China | 53.2 | 97.3 | 22.99 | 16.0 |
| | Thailand | 47.5 | 173.8 | 10.48 | 18.2 |
| | India | 29.5 | 85.2 | 1.41 | 6.4 |
| | Afghanistan | 10.6 | 62.3 | 0.03 | 14.7 |
| Europe/ Russia CIS | Iceland | 98.2 | 120.8 | 38.51 | 36.4 |
| | Norway | 97.3 | 109.0 | 40.35 | 39.2 |
| | UK | 94.8 | 120.0 | 38.29 | 8.1 |
| | Germany | 89.6 | 126.3 | 39.07 | 38.7 |
| | Russia | 73.1 | 159.2 | 19.12 | 6.0 |
| Middle East/ Africa | Bahrain | 98.0 | 210.1 | 16.29 | 13.3 |
| | UAE | 90.6 | 214.7 | 14.00 | 18.8 |
| | Turkey | 58.3 | 94.4 | 13.21 | 8.6 |
| | Nigeria | 25.7 | 83.0 | 0.06 | 31.2 |
| | Ethiopia | 15.4 | 50.0 | 0.55 | 12.4 |
| | Chad | 5.0 | 43.1 | 0.07 | 423.3 |
| | Guinea-Bissau | 3.8 | 70.8 | 0.04 | 118.0 |
| | Somalia | 1.9 | 46.5 | 0.64 | 30.0 |
| Americas | Canada | 89.8 | 84.7 | 36.89 | 55.4 |
| | US | 76.2 | 122.9 | 33.00 | 38.1 |
| | Brazil | 60.9 | 117.5 | 12.88 | 17.2 |
| | Mexico | 59.5 | 87.6 | 12.58 | 18.7 |

Note: Cells highlighted in yellow are countries/regions in the top 10 for an indicator, while those in orange are countries/regions in the bottom 10. The ranking is among the 176 countries/regions for which all six (secure servers per 1 million people and fixed broadband speed, in addition to the four indicators in the table) indicators are available.
Source: "ITU World Telecommunication/ICT Indicators Database 2017"

# The uptake of digital technologies is still in its infancy

- Looking at the country data rate of uptake of digital technologies by companies, while some countries have 50-70% adoption of SNS and cloud computing, not even the most advanced countries exceed 30% uptake of companies that receive orders through the internet (i.e. e-commerce). In no country does the rate of businesses having performed big data exceed 20%.
- According to a JETRO survey, the advanced digital technology most commonly claimed to be “in use” was e-commerce (20.9%), while the most commonly claimed to be “under consideration” was IoT (11.7%). The answer “under consideration” was more commonly observed than the answer “in use”.

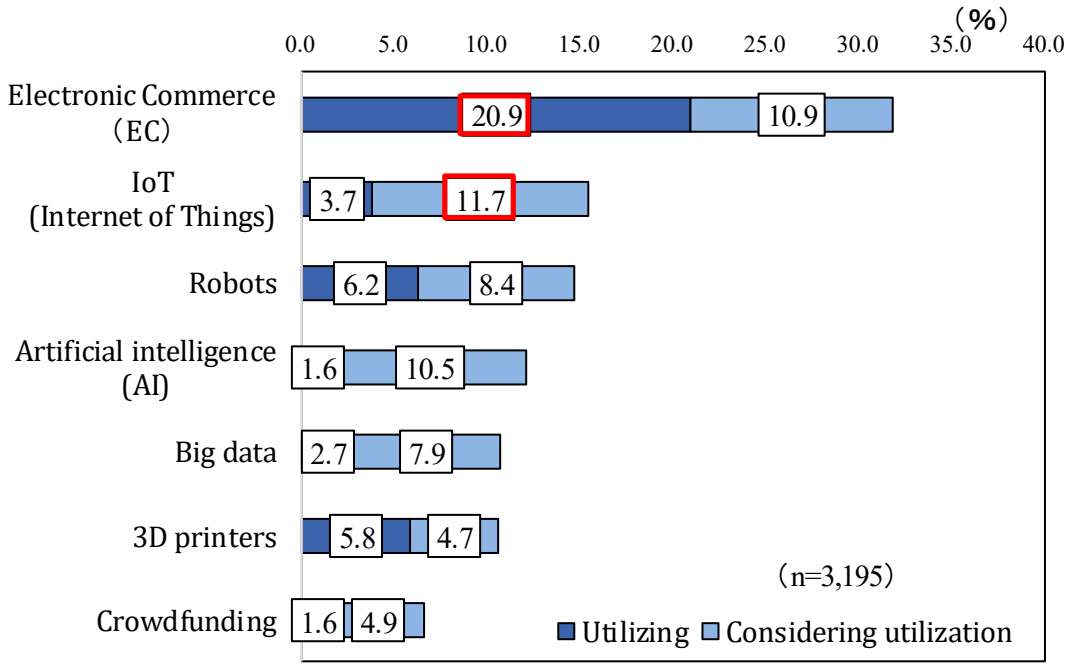
**Rate of adoption of digital technologies by companies（2017）**

(%)

| | Using Social Media | Purchasing Cloud Computing Services | Receiving Orders through Internet | Having Performed Big Data |
|---|---|---|---|---|
| Iceland | 78.6 | - | 25.8 | - |
| Norway | 72.0 | 48.0 | 26.9 | - |
| Brazil | 68.4 | 40.5 | - | - |
| Netherlands | 68.2 | | 21.9 | 19.1 |
| Ireland | 68.1 | - | 26.2 | - |
| Denmark | 67.8 | 50.5 | 23.6 | 11.7 |
| Sweden | 65.1 | - | 25.4 | 9.9 |
| UK | 63.0 | - | 19.3 | 15.4 |
| Finland | 62.7 | 65.6 | 20.2 | 14.8 |
| Belgium | 58.1 | 39.6 | 20.9 | 17.0 |
| Spain | 51.0 | 23.5 | 16.3 | 8.3 |
| Portugal | 46.1 | 22.6 | 12.8 | 13.4 |
| Turkey | 45.7 | - | 9.4 | - |
| Germany | 44.6 | - | 20.0 | 5.7 |
| Italy | 44.0 | - | 9.9 | 9.0 |
| France | 41.2 | - | 14.6 | 11.3 |
| Estonia | 40.3 | - | 15.8 | 12.7 |
| Czech Republic | 36.5 | 22.0 | 19.1 | 8.5 |
| Poland | 27.4 | 10.0 | 9.4 | 5.9 |
| Japan (2016) | 22.1 | 46.9 | - | - |

Notes: 1) " - " means no data is available. For major non-European countries, either the entire figures or the figures of the year cited in the table are not available in the OECD dataset. 2) Highlighted cells are top 5 countries. 3) The figures of "Using Social Media", "Purchasing Cloud Computing Services", and "Receiving Orders through Internet" are those of 2017, and "Having Performed Big Data" from 2016. 4) The figures for Japan of "Using Social Media" and "Purchasing Cloud Computing Services" are for reference only as they are the figures of 2016.
Source: "OECD.Stat" data

**Uptake of digital technologies by Japanese companies**

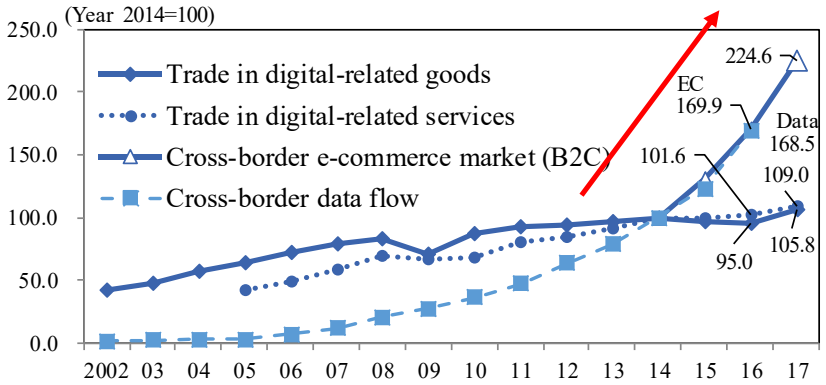



Note: The population size is the total number of respondent firms, including those with no answer.
Source: "FY2017 Survey on the International Operations of Japanese Firms" (JETRO)

# World digital trade: growth of cross-border e-commerce and data flows much more remarkable than that of goods and services trade

- Analysing four indicators of global "digital trade", (1) trade in digital-related goods, (2) trade in digital-related services, (3) cross-border e-commerce (EC) and (4) cross-border data flows, the growth of cross-border EC and data flows have been much more remarkable than that of goods and services trade in recent years.
- The size of the four indicators: (1) trade in digital-related goods was worth $2.95 trillion (17.0% of overall goods exports in 2017), (2) trade in digital-related service was worth $527.3 billion (9.9% of overall service exports in 2017), (3) cross-border EC (B2C) was worth $530 billion (2017) and (4) cross-border data flows (international Internet bandwidth) was 264,968 gigabits per second (2016).

**Trends in world digital trade indicators (year 2014=100)**




Note: 1) Figures for the cross-border e-commerce (EC) market are estimates/forecasts.
2) Trade and cross-border EC market are based on monetary export values, while cross-border data flows are measured by the used international Internet bandwidth (bit size per second).
Source: Trade in goods: JETRO's estimates based on the trade statistics of respective economies; trade in services: WTO data; EC market: AliResearch data; data flows: "ITU World Telecommunication/ICT Indicators Database 2017" (ITU).

**Size of world digital trade indicators**

Unit: Trade, cross-border EC in 100 mil USD, data flows in gigabits per second

| | 2005 | 2014 | 2016 | 2017 |
|---|---|---|---|---|
| Digital-related goods trade | 17,645 | 27,898 | 26,516 | 29,505 |
| Digital-related services trade | 2,028 | 4,837 | 4,913 | 5,273 |
| Cross-border EC market (B2C) | n.a. | 2,360 | 4,010 | 5,300 |
| Cross-border data flows | 4,668 | 157,248 | 264,968 | n.a. |

Note: Trade is export basis, cross-border data flows are cross-border internet bandwidth used.
Source: Same as diagram above.

**Definitions of four indicators measuring "Digital Trade"**

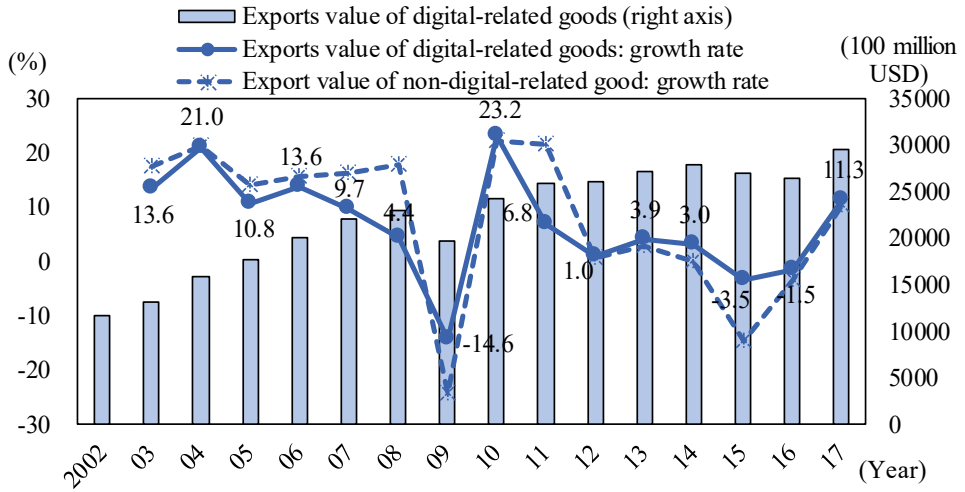
Digital trade was measured from the following four indicators, based on definitions by OECD and the Information Economy Report 2017 of UNCTAD .

1) **Trade in digital-related goods**: This generally covers "ICT goods" defined by OECD, "IT related products" defined by JETRO, and electronics exports released by the Japan Electronics and Information Technology Industries Association (JEITA). Additionally, industrial robots, 3D printers and optical fibers/cables are included as digital-related goods.
2) **Trade in digital-related services**: Referring to the UNCTAD 's definition of ICT service trade, it is defined by trade in "telecommunications, computer and information services" from which data can be picked up from WTO service trade statistics.
3) **Cross-border e-commerce (EC) market**: Cross-border EC trade value. This covers only business-to-consumer (B2C) transactions.
4) **Cross-border data flows**: Defined by the international Internet bandwidth.

# (1) Old digital-related goods give way to the new

- In 2017, world trade in digital-related goods (JETRO estimate, export basis) amounted to $2.95 trillion, 2.5 times the amount in 2002. However, the growth was equalled by non-digital goods trade and its overall share of world trade dropped slightly from 18.0% (2002) to 17.0% (2017).
- Items driving modern digitalization (IoT, the increase of data volume and progress in automation through AI/robotics, etc.) such as communication equipment, semiconductors and electronic components, measuring and testing equipment, medical electronic equipment, semiconductor manufacturing equipment, industrial robots and 3D printers etc., showed high growth (compound annual growth rate [CAGR]: 5.4%, 2007-2017), while items that had traditionally driven digitalization such as computers and peripheral equipment, office equipment, other electronic components, video equipment, audio equipment, showed low growth (0.3%), indicating the old is continuing to give way to the new.

**World trade in digital-related goods (export basis)**




Note: 1) JETRO's estimates. See Appendix Annotation I and II regarding the method of estimation and product classification. 2) The export value of non-digital-related goods was calculated by subtracting the export value of digital-related goods from the total of world exports.
3) Due to the revision of the HS code in 2007, data until 2006 and after 2007 are not precisely comparable.
Source: Trade statistics of respective economies

**World trade in digital-related goods by product (export basis, 2017)**

(Million USD, %)

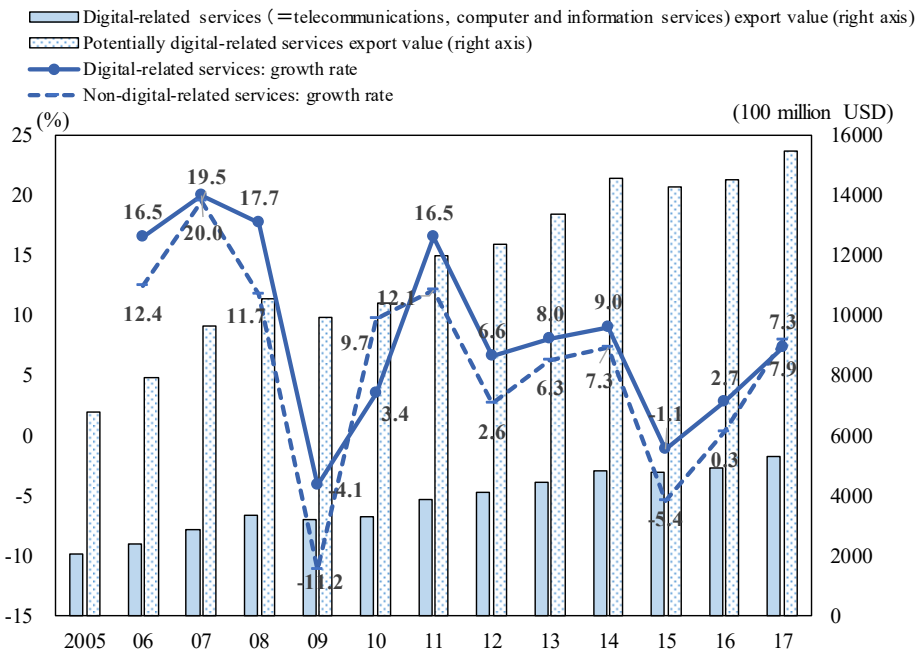
| | 2017 | | | CAGR | 2007 |
|---|---|---|---|---|---|
| | Value | Share | Growth rate | 2007-17 | Share |
| Computer and peripheral equipment, etc. | 552,236 | 18.7 | 12.1 | 0.4 | 24.2 |
| Computer and peripheral equipment | 344,832 | 11.7 | 13.1 | 2.2 | 12.6 |
| Computer parts | 124,482 | 4.2 | 15.3 | -2.0 | 6.9 |
| Office equipment | 10,782 | 0.4 | 5.6 | -1.8 | 0.6 |
| Communication equipment | 578,442 | 19.6 | 7.1 | 6.4 | 14.1 |
| Cellular phones | 257,212 | 8.7 | 8.0 | 8.6 | 5.1 |
| Semiconductors and electronic components | 736,187 | 25.0 | 15.6 | 5.1 | 20.4 |
| Electronic tubes and semiconductors | 110,948 | 3.8 | 0.6 | 3.5 | 3.6 |
| Integrated circuits | 625,239 | 21.2 | 18.7 | 5.4 | 16.8 |
| Other electronic components | 448,336 | 15.2 | 9.3 | 1.3 | 17.9 |
| Video equipment | 159,669 | 5.4 | 7.9 | -1.9 | 8.8 |
| Audio equipment | 17,731 | 0.6 | 1.1 | -4.7 | 1.3 |
| Measuring and testing equipment | 248,459 | 8.4 | 10.6 | 4.2 | 7.5 |
| Medical electronic equipment | 109,760 | 3.7 | 4.3 | 3.7 | 3.5 |
| Semiconductor manufacturing equipment | 75,996 | 2.6 | 36.6 | 8.8 | 1.5 |
| Industrial robots | 5,955 | 0.2 | 29.9 | 8.0 | 0.1 |
| 3D printers, etc. | 6,339 | 0.2 | 14.1 | 3.6 | 0.2 |
| Digital-related goods: parts | 1,577,141 | 53.5 | 12.0 | 2.8 | 54.2 |
| Digital-related goods: final goods | 1,373,355 | 46.5 | 10.5 | 3.2 | 45.8 |
| **Digital-related goods total** | **2,950,495** | **100.0** | **11.3** | **3.0** | **100.0** |
| Digital-related goods in high growth (total) | 1,761,138 | 59.7 | 12.0 | 5.4 | 47.3 |
| Digital-related goods in low growth (total) | 1,189,357 | 40.3 | 10.2 | 0.3 | 52.7 |

Note: 1) JETRO's estimates. See Appendix Annotation I and II regarding the method of estimation and product classification. 2) Shaded cells indicate that they were recorded as higher growth rates than the compound annual growth rate (CAGR) of the total of digital related goods. Digital-related goods in high growth represent the total value of those products.
Source: Trade statistics of respective economies

# (2) Digital-related services trade takes rising share

- World trade in digital-related services (=telecommunications, computer and information services, export basis) in 2017 has grown to 2.6 times what it was in 2005 to $527.3 billion. Its growth is outpacing overall services trade and its share has grown from 7.6% in 2005 to 9.9% in 2017.
- The share of potentially digital-related services trade (services potentially able to be supplied abroad via the ICT network) for which data is available has risen from 25.5% (2005) to 28.9% (2017). The shares of computer services and charges for the use of intellectual property n.i.e. are large and growing at significant pace.

**World trade in digital-related services (export basis)**




Note: For definitions of digital-related services and potentially digital-related services, refer to the chart at right. Non-digital-related service exports are calculated by subtracting digital-related service exports from overall service exports.
Source: Created from WTO data

**World trade in potentially digital-related services by category (export basis, 2017)**

(Million USD, %)

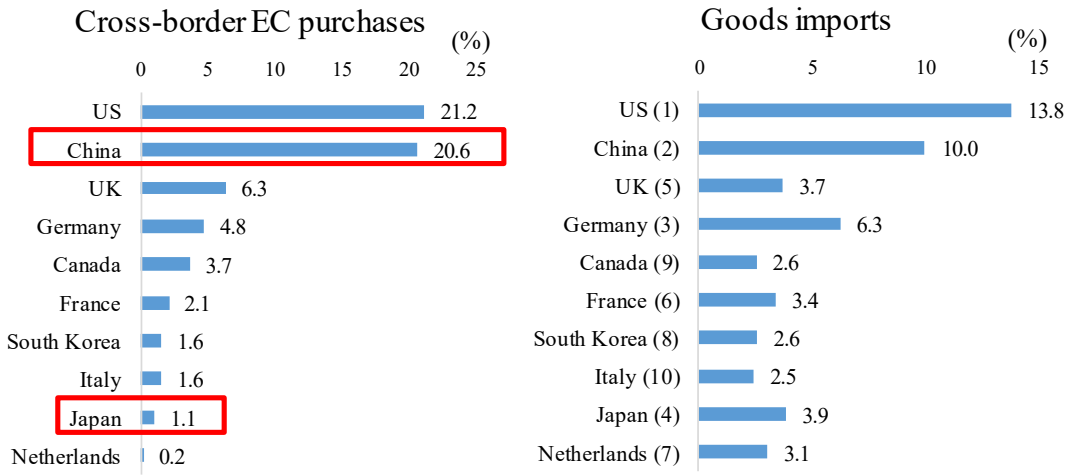
| | 2017 | | | 2005-17 | 2005 |
|---|---|---|---|---|---|
| | Value | Share | Growth rate | CAGR | Share |
| Insurance and pension services | 126,222 | 2.4 | 0.6 | 5.5 | 2.5 |
| Financial services | 463,694 | 8.7 | 5.5 | 6.5 | 8.2 |
| Charges for the use of intellectual property n.i.e. | 380,580 | 7.1 | 9.9 | 7.3 | 6.2 |
| **Telecommunications, computer, and information services ＝digital-related services** | **527,339** | **9.9** | **7.3** | **8.3** | **7.6** |
| Telecommunications services (estimate) | 115,369 | 2.2 | 1.6 | 4.5 | 2.6 |
| Computer services | 381,612 | 7.1 | 8.9 | 9.9 | 4.6 |
| Information services | 30,358 | 0.6 | 11.3 | 8.0 | 0.5 |
| Personal, cultural, and recreational services | 50,824 | 0.9 | 3.7 | 5.6 | 1.0 |
| **Potentially digital-related services** | **1,548,660** | **28.9** | 6.7 | **7.1** | **25.5** |
| Service exports total | 5,351,191 | 100.0 | 7.8 | 6.0 | 100.0 |

Notes: 1) "Potentially digital-related services" are the sum of insurance and pension services, financial services, charges for the use of intellectual property n.i.e, telecommunications, computer, and information services, personal, cultural, and recreational services. 2) As data for telecommunications services are not published, they have been calculated by subtracting computer services and information services from Telecommunications, computer, and information services. 3) Highlighted cells represent higher growth rates than the service exports total.
Source: WTO data.

# (3) China has bigger presence in cross-border e-commerce than in goods imports

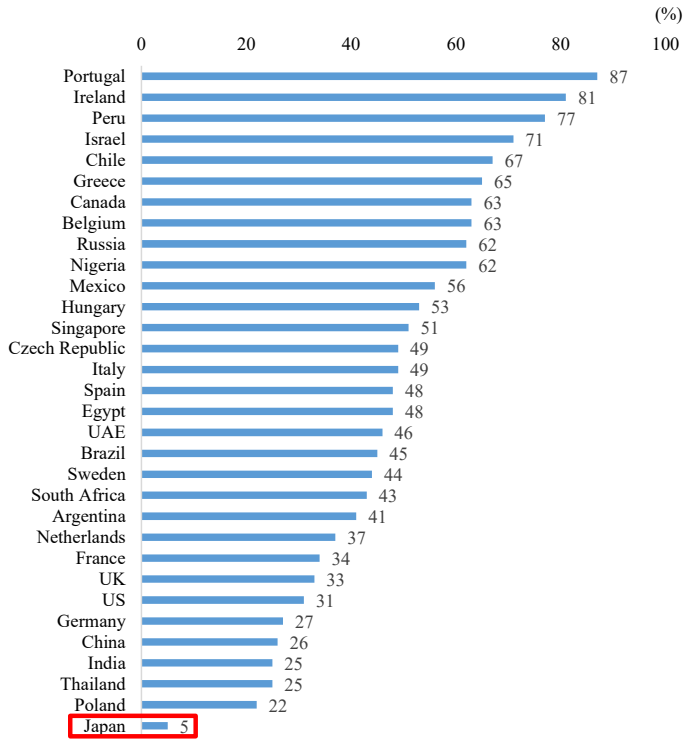
- World cross-border e-commerce market (B2C) in 2017 was 2.2 times the level of 2014 at $530 billion. (According to AliResearch and Accenture estimate/forecast).
- Global presence of China's cross-border e-commerce purchases (B2C) were similar to the US' and much higher than its goods imports. On the other hand, compared to its goods imports, Japan represented much less of the cross-border e-commerce purchases. Japan has a much lower proportion of cross-border purchasers among its online buyers at just 5% (PayPal survey) than other major economies.

**Comparative share of world cross-border EC (B2C) purchases and goods imports (2015)**




Notes: 1) Includes top 10 goods importers in 2015 (excluding Hong Kong). 2) The figure in brackets after the country name is the rank by value of goods imported.
Source: "Information Economy Report 20017" (UNCTAD) and WTO data

**Proportion of cross-border purchasers among online buyers (2016)**

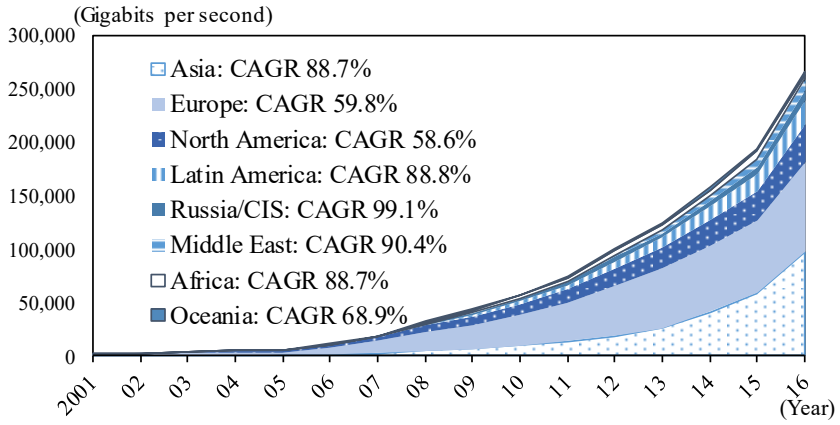



Note: Based on the responses to questions asked in a PayPal survey in 2016 of 800 adults in each country (except Poland and Russia, 2,000 respondents each) 18 and over who use an Internet device (computer, mobile phone, tablet, or game console connected to the internet, etc.). These figures are the proportion of people who have made an cross-border e-commerce purchase in the past 12 months.
Source: "PayPal Cross-Border Consumer Research 2016: Global Summary Report" (PayPal)

# (4) Rapidly expanding cross-border data flows of developing and emerging countries

- World international Internet bandwidth (capacity used) in 2016, a proxy for cross-border data flows, expanded 165-fold from 2001 to 264,968 gigabits per second (Gbit/s).
- Asia represents 36.8% of the world's international Internet bandwidth, while Europe accounts for 31.4%. Compound annual growth rates (2001-2016) in developing and emerging economies of Asia, Latin America, Russia and the CIS, the Middle East and Africa have been remarkable. Countries with large international Internet bandwidth such as the US, the UK, Hong Kong, Taiwan and Japan have become communication relay hubs within and between regions.

**Trends in used capacity of international Internet bandwidth (cross-border data flows) in the world**




Note: 1) Values were calculated by adding up the amount of "gigabits per second" of each year and each country or region where the data is available. (As for the number of countries and regions, the smallest one is 174 in 2006 and the largest is 208 in 2012). 2) The category of regions is the same as that of "world trade of products" in Appendix 3. "North America" includes the US and Canada. 3) CAGR, the Compound Annual Growth Rate, was calculated by data from 2001 to 2016.
Source: "ITU World Telecommunication/ICT Indicators Database 2017" (ITU)

**International Internet bandwidth in major countries: share of partner countries/regions（2017）**

Unit: %

| | World | North America | | Europe | Asia | | | | | | Oceania | Latin America | Middle East | Africa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | US | | | Japan | China | Hong Kong | ASEAN | India | | | | |
| US | 100.0 | 8.8 | | 24.5 | 23.7 | 6.8 | 7.3 | 1.6 | 4.5 | 1.0 | 2.4 | 38.8 | 0.1 | 0.0 |
| UK | 100.0 | 20.3 | 19.4 | **65.7** | 3.6 | 0.5 | 0.2 | 0.2 | 0.8 | 1.6 | 0.0 | 0.2 | 3.4 | 3.1 |
| Germany | 100.0 | 2.3 | 2.3 | **89.0** | 1.0 | 0.0 | 0.5 | 0.1 | 0.2 | 0.1 | 0.0 | 0.1 | 5.2 | 0.1 |
| France | 100.0 | 8.7 | 8.7 | **76.0** | 7.2 | 0.0 | 0.3 | 0.0 | 0.6 | 5.4 | 0.0 | 0.0 | 1.8 | 2.0 |
| Russia | 100.0 | 0.4 | 0.4 | **83.1** | 13.8 | 0.2 | 0.9 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Japan | 100.0 | 43.1 | 43.1 | 2.2 | **52.7** | | 6.9 | 21.1 | 14.4 | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| China | 100.0 | **63.5** | **63.4** | 10.7 | 25.6 | 9.5 | | | 5.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Hong Kong | 100.0 | 9.5 | 9.5 | 3.3 | **82.9** | 19.9 | | | 50.0 | 0.9 | 1.5 | 0.0 | 0.5 | 0.0 |
| Taiwan | 100.0 | 36.6 | 36.6 | 0.1 | **63.2** | 16.2 | 13.0 | 29.8 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Singapore | 100.0 | 8.4 | 8.4 | 6.1 | **79.5** | 6.2 | 1.6 | 12.8 | 36.1 | 20.4 | 0.7 | 0.0 | 1.8 | 0.0 |
| Vietnam | 100.0 | 9.0 | 9.0 | 0.0 | **90.3** | 7.7 | 1.5 | **57.2** | 23.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| India | 100.0 | 8.1 | 8.1 | 40.8 | 46.8 | 0.1 | 0.0 | 1.3 | 41.7 | | 0.0 | 0.0 | 1.2 | 0.2 |
| Brazil | 100.0 | **76.4** | **76.4** | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.8 | 0.0 | 0.0 |

Notes: 1) Figures are the proportion of partner country/region where a country/region's total international internet bandwidth (including unused capacity) is 100. 2) Highlighted cells in bold print are figures above 50%, non-bold print highlighted cells are 20-50%. 3) Hong Kong is not included in China, but Internet traffic between China and Hong Kong is treated as domestic traffic and therefore is not included in international bandwidth. 4) Regional classifications are based on the definitions of TeleGeography and regional totals are composed of proportions of countries for which data are available. North America is the sum of the US and Canada. Part of Russia/CIS such as Russia is classified in Europe, and parts such as Kazakhstan are classified in Asia.
Source: TeleGeography data

# Presence of Japan as exporter of digital-related goods declining

- The line-up of top economies differs according to digital trade indicator. The top three economies for goods exports are China, the US and South Korea, for service exports are Ireland, India and the US, and for data flow Hong Kong, the US and the UK. The presence of developing and emerging economies is rising with respect to data flow with the arrival of China, Brazil, India and Russia in the top 10.
- Japan's share and rank on digital-related goods exports has declined in recent years. It has largely kept its place for share of service exports, ranked at just 23rd. It has risen both in share and rank for data flow, from 13th (2001, share of 1.4%) to 6th (2016, share of 3.6%).

## Top 10 digital-related good exporters and importers (2017)

(Million USD, %)

| | Rank | Economies | 2017 value | 2017 share | 2007 share | 2007 rank | 2007-17 CAGR |
|---|---|---|---|---|---|---|---|
| Export | | World | 2,950,495 | 100.0 | 100.0 | | 3.0 |
| | 1 | China | 706,212 | 23.9 | 18.2 | 1 | 5.9 |
| | 2 | US | 251,658 | 8.5 | 9.9 | 2 | 1.5 |
| | 3 | South Korea | 166,316 | 5.6 | 4.7 | 6 | 4.8 |
| | 4 | Germany | 166,271 | 5.6 | 7.3 | 4 | 0.4 |
| | 5 | Netherlands | 148,611 | 5.0 | 5.3 | 5 | 2.4 |
| | 6 | Japan | 140,407 | 4.8 | 7.5 | 3 | -1.5 |
| | 7 | Taiwan | 138,711 | 4.7 | 3.7 | 7 | 5.4 |
| | 8 | Vietnam | 88,899 | 3.0 | 0.1 | 39 | 40.5 |
| | 9 | Mexico | 87,959 | 3.0 | 3.1 | 9 | 2.5 |
| | 10 | Malaysia | 83,425 | 2.8 | 3.5 | 8 | 0.9 |
| Import | | World | 3,163,683 | 100.0 | 100.0 | | 3.2 |
| | 1 | China | 533,199 | 16.9 | 12.7 | 2 | 6.1 |
| | 2 | US | 451,754 | 14.3 | 14.4 | 1 | 3.1 |
| | 3 | Germany | 155,163 | 4.9 | 6.3 | 3 | 0.6 |
| | 4 | Netherlands | 132,979 | 4.2 | 4.4 | 5 | 2.8 |
| | 5 | Japan | 120,197 | 3.8 | 4.1 | 6 | 2.3 |
| | 6 | Singapore | 114,841 | 3.6 | 4.4 | 4 | 1.1 |
| | 7 | South Korea | 113,813 | 3.6 | 3.1 | 8 | 4.7 |
| | 8 | Taiwan | 88,929 | 2.8 | 2.3 | 12 | 5.3 |
| | 9 | Mexico | 87,684 | 2.8 | 2.7 | 10 | 3.6 |
| | 10 | UK | 65,548 | 2.1 | 3.7 | 7 | -2.6 |

Note: 1) The values of the world and Vietnam were estimated by JETRO. Vietnam's actual value in 2016 was ranked 10th at 58.2 billion USD, while its CAGR between 2007 and 2016 was 39.2%. 2) Values in the shaded cell indicate that they are higher than the world CAGR. 3) Hong Kong, which mostly re-exports, is excluded from this table. The export amount of Singapore was ranked with values excluding re-exports.
Source: Trade statistics of respective economies

## Top 10 digital-related service exporters and importers (2017)

(Million USD, %)

| | Rank | Economies | 2017 value | 2017 share | 2005 share | 2005 rank | 2005-17 CAGR |
|---|---|---|---|---|---|---|---|
| Export | | World | 527,339 | 100.0 | 100.0 | | 8.3 |
| | 1 | Ireland | 85,159 | 16.1 | n.a. | n.a. | 10.1 |
| | 2 | India | 54,863 | 10.4 | 8.3 | 1 | 10.3 |
| | 3 | US | 38,936 | 7.4 | 7.7 | 2 | 8.0 |
| | 4 | Germany | 36,782 | 7.0 | 5.5 | 4 | 10.5 |
| | 5 | China | 27,767 | 5.3 | 1.1 | 11 | 23.0 |
| | 6 | UK | 25,589 | 4.9 | 7.1 | 3 | 4.9 |
| | 7 | Netherlands | 25,065 | 4.8 | n.a. | n.a. | n.a. |
| | 8 | France | 18,311 | 3.5 | n.a. | n.a. | 1.5 |
| | 9 | Sweden | 14,305 | 2.7 | 1.9 | 9 | 11.3 |
| | 10 | Switzerland | 13,193 | 2.5 | 2.8 | 6 | 7.3 |
| | 23 | Japan | 4,703 | 0.9 | 0.8 | 13 | 9.9 |
| Import | 1 | US | 40,221 | 7.6 | 7.9 | 1 | 8.0 |
| | 2 | Germany | 32,953 | 6.2 | 6.1 | 2 | 8.5 |
| | 3 | China | 19,176 | 3.6 | 1.1 | 10 | 19.7 |
| | 4 | France | 17,807 | 3.4 | n.a. | n.a. | 2.8 |
| | 5 | Netherlands | 17,007 | 3.2 | n.a. | n.a. | n.a. |
| | 6 | Switzerland | 16,745 | 3.2 | 3.6 | 5 | 7.0 |
| | 7 | UK | 14,146 | 2.7 | 4.7 | 3 | 3.4 |
| | 8 | Japan | 13,676 | 2.6 | 1.5 | 6 | 13.3 |
| | 9 | Singapore | 12,643 | 2.4 | 0.6 | 17 | 22.2 |
| | 10 | Italy | 10,312 | 2.0 | 3.8 | 4 | 2.4 |

Notes: 1) Import share is calculated as [(imports of the corresponding economy / world exports) x 100 (%)}, because world import data are not available. 2) The CAGRs of Ireland and France were calculated by data from 2008 to 2017, as data in 2005 is not available. 3) Values in the shaded cell indicate that they are higher than the world CAGR. 4) Ranking was created only with countries and regions where data are available.
Source: WTO data

## International Internet bandwidth: top economies

(Gigabit per second, %, multiple)

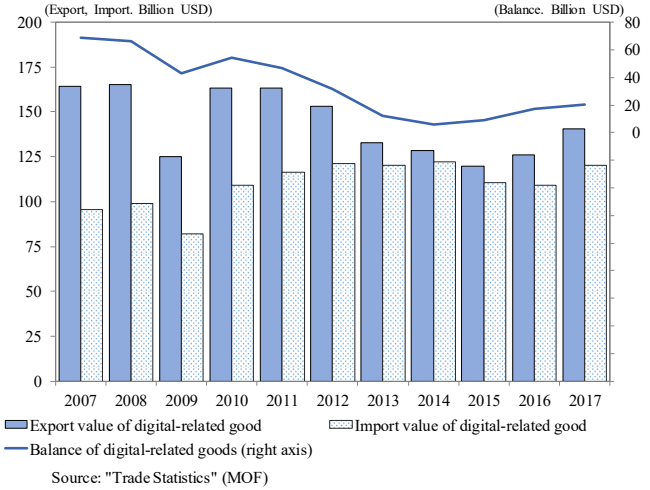
| Rank | Country/ regions | International Internet bandwidth | 2016 share | 2001 share | 2001 rank | 2016 /2001 |
|---|---|---|---|---|---|---|
| | World | 264,968 | 100.0 | 100.0 | | 165 |
| 1 | Hong Kong | 37,927 | 14.3 | 0.4 | 21 | 5,288 |
| 2 | US | 31,589 | 11.9 | 17.0 | 1 | 115 |
| 3 | UK | 27,328 | 10.3 | 14.8 | 2 | 115 |
| 4 | Taiwan | 13,428 | 5.1 | 0.4 | 20 | 1,858 |
| 5 | China | 11,017 | 4.2 | 0.5 | 19 | 1,450 |
| 6 | Japan | 9,668 | 3.6 | 1.4 | 13 | 426 |
| 7 | Brazil | 8,106 | 3.1 | 0.4 | 24 | 1,336 |
| 8 | Germany | 7,945 | 3.0 | 12.9 | 3 | 38 |
| 9 | India | 6,115 | 2.3 | 0.1 | 35 | 4,146 |
| 10 | Russia | 5,619 | 2.1 | 0.2 | 27 | 1,437 |
| 11 | France | 5,461 | 2.1 | 11.9 | 4 | 28 |
| 12 | Canada | 4,617 | 1.7 | 3.5 | 8 | 83 |
| 13 | Singapore | 4,552 | 1.7 | 0.2 | 30 | 1,725 |
| 14 | Sweden | 4,516 | 1.7 | 3.8 | 7 | 75 |
| 15 | Luxembourg | 4,503 | 1.7 | 0.1 | 37 | 3,429 |
| 16 | Colombia | 4,396 | 1.7 | 0.0 | 41 | 6,611 |
| 17 | Spain | 4,309 | 1.6 | 1.6 | 12 | 170 |
| 18 | Vietnam | 3,997 | 1.5 | 0.0 | 93 | 117,551 |
| 19 | Italy | 3,091 | 1.2 | 2.2 | 11 | 86 |
| 20 | Turkey | 3,077 | 1.2 | 0.0 | 43 | 4,966 |

Notes: 1) World is the combined total of countries/regions for which data were available (199 countries/regions in 2016, 191 in 2001). 2) Highlighted cells denote figures of over 1000-fold multiples. 3) International internet bandwidth is used capacity.
Source: "ITU World Telecommunication/ICT Indicators Database 2017" (ITU)

# Semiconductor manufacturing equipment boosts Japan's digital-related goods exports

- Japan's digital-related goods trade in 2017, exports grew a year-on-year 11.4% to $140.4 billion and imports 10.3% grew to $120.2 billion, a surplus for the digital-related goods trade balance of $20.2 billion.
- The decrease in Japan's exports in digital-related goods was driven by the fall in exports of major items such as semiconductors and electronic components (integrated circuits, in particular), other electronic components, computer and peripheral equipment, and video equipment. However, Japan's export of semiconductor manufacturing equipment (29.9% of the world's share in 2017) and industrial robots (37.1% of the world's share in 2017) grew. In these two items, Japan has held first place since 2007.

## Japan's trade in digital-related goods




Source: "Trade Statistics" (MOF)

## Japan's trade in digital-related goods by product (2017)

(Million USD, %)

| | Export | | | CAGR | Import | | | CAGR |
|---|---|---|---|---|---|---|---|---|
| | Value | Share | Growth rate | 2007-17 | Value | Share | Growth rate | 2007-17 |
| Computer and peripheral equipment, etc. | 12,992 | 9.3 | 4.8 | -5.6 | 21,556 | 17.9 | 9.5 | -0.2 |
| Computer and peripheral equipment | 1,897 | 1.4 | 12.1 | -7.6 | 14,858 | 12.4 | 12.6 | 1.5 |
| Computer parts | 1,789 | 1.3 | 11.2 | -6.9 | 2,973 | 2.5 | 14.2 | -5.6 |
| Office equipment | 208 | 0.1 | 0.5 | -11.0 | 467 | 0.4 | 4.3 | -1.2 |
| Communication equipment | 6,265 | 4.5 | 12.3 | -3.0 | 27,664 | 23.0 | 10.1 | 11.4 |
| Cellular phones | 102 | 0.1 | 601.9 | -13.0 | 16,858 | 14.0 | 10.0 | 26.3 |
| Semiconductors and electronic components | 35,778 | 25.5 | 7.8 | -2.2 | 24,819 | 20.6 | 8.0 | 0.3 |
| Electronic tubes and semiconductors | 9,094 | 6.5 | 0.0 | -2.0 | 5,354 | 4.5 | -10.9 | 6.8 |
| Integrated circuits | 26,685 | 19.0 | 10.8 | -2.2 | 19,465 | 16.2 | 14.6 | -0.9 |
| Other electronic components | 26,152 | 18.6 | 7.5 | -2.9 | 14,996 | 12.5 | 4.1 | -1.0 |
| Video equipment | 6,347 | 4.5 | 13.0 | -8.6 | 7,606 | 6.3 | 24.9 | 4.0 |
| Audio equipment | 171 | 0.1 | -24.0 | -10.4 | 822 | 0.7 | 3.2 | -7.1 |
| Measuring and testing equipment | 22,114 | 15.7 | 11.0 | 2.3 | 11,897 | 9.9 | 9.5 | 2.1 |
| Medical electronic equipment | 4,961 | 3.5 | 4.5 | 1.0 | 5,645 | 4.7 | 0.5 | 5.2 |
| Semiconductor manufacturing equipment | 22,738 | 16.2 | 27.2 | 5.8 | 4,595 | 3.8 | 62.0 | 4.6 |
| Industrial robots | 2,210 | 1.6 | 35.8 | 11.9 | 48 | 0.0 | 15.4 | 8.6 |
| 3D printers, etc. | 407 | 0.3 | 31.8 | 6.3 | 63 | 0.1 | -1.3 | 2.2 |
| Digital-related goods: parts | 89,966 | 64.1 | 9.2 | -1.9 | 53,104 | 44.2 | 6.9 | -0.4 |
| Digital-related goods: final goods | 50,441 | 35.9 | 15.5 | -0.9 | 67,094 | 55.8 | 13.2 | 5.2 |
| Digital-related goods total | 140,407 | 100.0 | 11.4 | -1.5 | 120,197 | 100.0 | 10.3 | 2.3 |

Source: "Trade Statistics" (Ministry of Finance)

## The five top digital-related goods exporters

(Million USD, %)

| Rank | Product | Economies | 2017 value | 2017 share | 2007 share | 2007 rank | 2007-17 CAGR |
|---|---|---|---|---|---|---|---|
| 1 | Measuring and testing equipment | Germany | 39,811 | 16.0 | 17.4 | 2 | 3.4 |
| 2 | | US | 36,566 | 14.7 | 19.3 | 1 | 1.4 |
| 3 | | China | 27,030 | 10.9 | 5.2 | 5 | 12.2 |
| 4 | | Japan | 22,114 | 8.9 | 10.8 | 3 | 2.3 |
| 5 | | UK | 11,180 | 4.5 | 5.7 | 4 | 1.7 |
| 1 | Semiconductor manufacturing equipment | Japan | 22,738 | 29.9 | 39.4 | 1 | 5.8 |
| 2 | | US | 17,555 | 23.1 | 28.0 | 2 | 6.7 |
| 3 | | Netherlands | 9,239 | 12.2 | 16.2 | 3 | 5.7 |
| 4 | | Singapore | 7,938 | 10.4 | 1.3 | 8 | 34.3 |
| 5 | | South Korea | 6,871 | 9.0 | 4.2 | 4 | 17.5 |
| 1 | Industrial robots | Japan | 2,210 | 37.1 | 25.9 | 1 | 11.9 |
| 2 | | Germany | 849 | 14.2 | 14.0 | 2 | 8.1 |
| 3 | | Italy | 394 | 6.6 | 5.5 | 7 | 10.0 |
| 4 | | France | 332 | 5.6 | 6.2 | 5 | 6.9 |
| 5 | | US | 303 | 5.1 | 9.3 | 3 | 1.6 |
| 1 | 3D printers, etc. | Germany | 1,747 | 27.6 | 33.4 | 1 | 1.6 |
| 2 | | China | 984 | 15.5 | 7.8 | 3 | 11.0 |
| 3 | | Italy | 723 | 11.4 | 15.5 | 2 | 0.5 |
| 4 | | Japan | 407 | 6.4 | 5.0 | 6 | 6.3 |
| 5 | | Taiwan | 360 | 5.7 | 5.7 | 4 | 3.7 |

Notes: 1) Proportion is the share of the world total. 2) World figure is an estimate. 3) Singapore figure is export value excluding re-exports. 4) Highlighted cells are where the figure is higher than the World CAGR. 5) Hong Kong not included due to high proportion of re-exports.

Source: Trade statistics of countries/regions

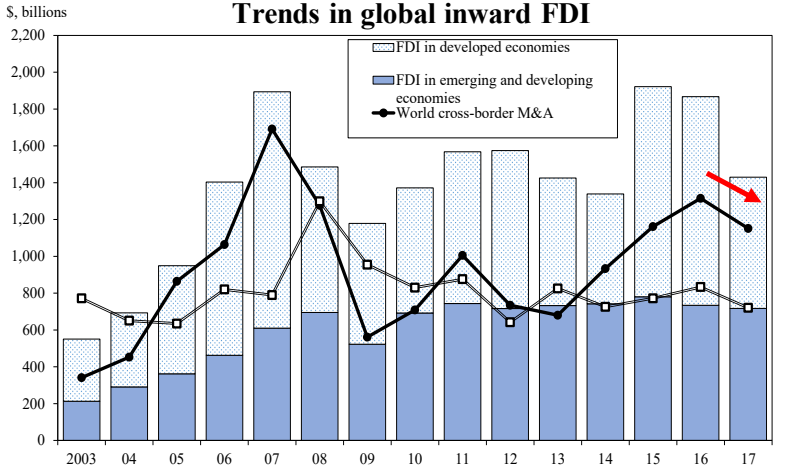
# Chapter 2: Global FDI and Japan's FDI

Chinese outward FDI shows strong presence in the world

# World inward FDI down 23% in 2017

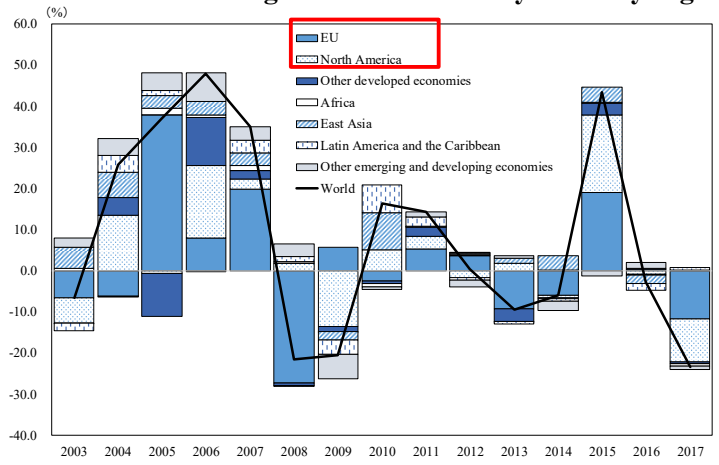
■ According to the United Nations Conference on Trade and Development (UNCTAD), world inward FDI in 2017 (balance of payments basis, net, flow) declined by 23.4% year-on-year to $1.4298 trillion. Much of the decline is a result of the high level of M&A activity among British and American companies tailing off. FDI toward advanced economies declined 37.1%, contributing 96.1% of the total world decline.

## Trends in global inward FDI




Notes: 1) Developed economies are combined total of 39 countries/regions based on the UNCTAD classification.
2) Figures for emerging and developing economies derived by subtracting developed economies from world (excluding Caribbean financial centers).

## Contribution to changes in inward FDI by economy/region




Note: East Asia is the combined total of China, South Korea, Taiwan, Hong Kong and ASEAN. Other regional classifications are based on UNCTA
Source: UNCTAD

## FDI for major economies/regions (2017)

(Million USD, %)

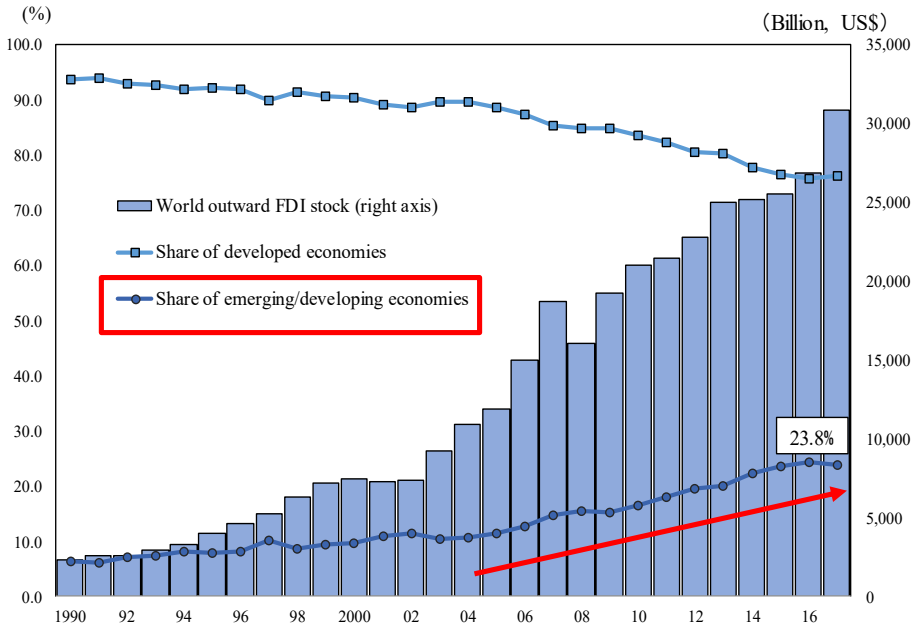
| | | Inward FDI | | | | Outward FDI | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Value | Percent change | Share | Contribution | Value | Percent change | Share | Contribution |
| Developed economies | US | 275,381 | -39.8 | 19.3 | -9.7 | 342,269 | 21.9 | 23.9 | 4.2 |
| | Canada | 24,244 | -35.0 | 1.7 | -0.7 | 76,988 | 4.7 | 5.4 | 0.2 |
| | EU28 | 303,580 | -42.1 | 21.2 | -11.8 | 435,736 | -3.8 | 30.5 | -1.2 |
| | Netherlands | 57,957 | -32.4 | 4.1 | -1.5 | 23,318 | -86.4 | 1.6 | -10.1 |
| | France | 49,795 | 41.6 | 3.5 | 0.8 | 58,116 | -8.1 | 4.1 | -0.3 |
| | Germany | 34,726 | 104.5 | 2.4 | 1.0 | 82,336 | 60.0 | 5.8 | 2.1 |
| | UK | 15,090 | -92.3 | 1.1 | -9.7 | 99,614 | -542.4 | 7.0 | 8.3 |
| | Switzerland | 40,986 | -15.2 | 2.9 | -0.4 | -14,915 | -120.6 | -1.0 | -5.9 |
| | Australia | 46,368 | -2.9 | 3.2 | -0.1 | 4,881 | 110.3 | 0.3 | 0.2 |
| | Japan | 10,430 | -8.4 | 0.7 | -0.1 | 160,449 | 10.5 | 11.2 | 1.0 |
| Emerging and developing economies | East Asia | 394,725 | 0.4 | 27.6 | 0.1 | 305,533 | -10.8 | 21.4 | -2.5 |
| | China | 136,320 | 2.0 | 9.5 | 0.1 | 124,630 | -36.5 | 8.7 | -4.9 |
| | Hong Kong | 104,333 | -11.1 | 7.3 | -0.7 | 82,843 | 38.8 | 5.8 | 1.6 |
| | South Korea | 17,053 | 40.9 | 1.2 | 0.3 | 31,676 | 5.7 | 2.2 | 0.1 |
| | Taiwan | 3,255 | -64.7 | 0.2 | -0.3 | 11,357 | -36.5 | 0.8 | -0.4 |
| | ASEAN | 133,764 | 10.9 | 9.4 | 0.7 | 55,026 | 41.3 | 3.8 | 1.1 |
| | Singapore | 62,006 | -19.9 | 4.3 | -0.8 | 24,682 | -11.6 | 1.7 | -0.2 |
| | Indonesia | 23,063 | 488.2 | 1.6 | 1.0 | 2,912 | -123.8 | 0.2 | 1.0 |
| | Vietnam | 14,100 | 11.9 | 1.0 | 0.1 | 540 | -61.1 | 0.0 | -0.1 |
| | India | 39,916 | -10.3 | 2.8 | -0.2 | 11,304 | 122.9 | 0.8 | 0.4 |
| | Latin America | 151,337 | 8.3 | 10.6 | 0.6 | 17,328 | 85.6 | 1.2 | 0.5 |
| | Brazil | 62,713 | 8.1 | 4.4 | 0.3 | -1,351 | -81.8 | -0.1 | 0.4 |
| | Mexico | 29,695 | -0.2 | 2.1 | 0.0 | 5,083 | 216.9 | 0.4 | 0.2 |
| | CIS | 39,367 | -32.0 | 2.8 | -1.0 | 39,454 | 61.0 | 2.8 | 1.0 |
| | Russia | 25,284 | -32.0 | 1.8 | -0.6 | 36,032 | 33.7 | 2.5 | 0.6 |
| | Middle East | 25,506 | -17.1 | 1.8 | -0.3 | 33,281 | -11.1 | 2.3 | -0.3 |
| | Turkey | 10,864 | -16.1 | 0.8 | -0.1 | 2,630 | -4.2 | 0.2 | 0.0 |
| | UAE | 10,354 | 7.8 | 0.7 | 0.0 | 13,956 | 7.6 | 1.0 | 0.1 |
| | Africa | 41,772 | -21.5 | 2.9 | -0.6 | 12,078 | 7.5 | 0.8 | 0.1 |
| | Egypt | 7,392 | -8.8 | 0.5 | 0.0 | 199 | -3.7 | 0.0 | 0.0 |
| Developed economies | | 712,383 | -37.1 | 49.8 | -22.5 | 1,009,208 | -3.1 | 70.6 | -2.2 |
| Emerging and developing economies | | 717,425 | -2.3 | 50.2 | -0.9 | 420,764 | -2.6 | 29.4 | -0.8 |
| World | | 1,429,807 | -23.4 | 100.0 | -23.4 | 1,429,972 | -2.9 | 100.0 | -2.9 |

Notes: 1) Developed economies inward FDI is combined total of 39 countries/regions based on the UNCTAD classification, outward FDI is total of 38 countries/regions. 2) Figures for emerging and developing economies derived by subtracting developed economies from world (excluding Caribbean financial centers). 3) East Asia is the combined total of China, South Korea, Taiwan, Hong Kong and ASEAN. 4) The figure for Latin America excludes Caribbean financial centers. 5) Due to the difference in FDI data compilation, the figures for Japan (Directional principle) in the table do not correspond to "Japan`s FDI" (Asset and Liabilities principle).
Source: UNCTAD

# The rise of China and other East Asian nations as foreign direct investors

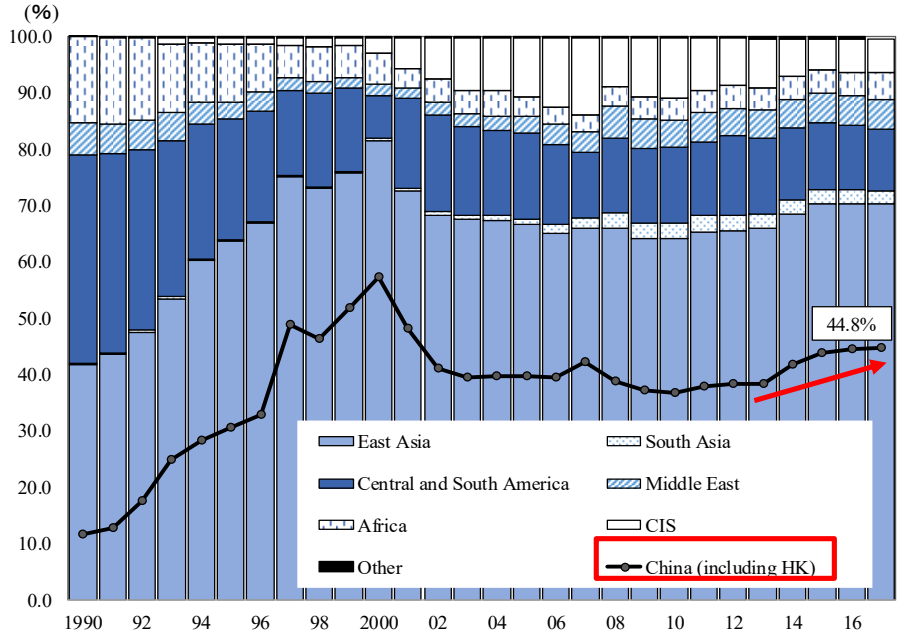
- The share of emerging and developing countries in world outward FDI stock has been trending upwards since the mid-2000s, expanding to 23.8% by the end of 2017. In the wake of the global financial crisis in particular, emerging and developing economies has led growth of world outward FDI stock.
- Looking at the outward FDI stock by emerging and developing countries, the share of East Asia (China, Korea, Taiwan, Hong Kong, ASEAN) accounted for 70.4% at the end of 2017. In East Asia, China (including Hong Kong) has the overwhelming share, 44.8% of the total.

**Share of developed and emerging/developing economies in world outward FDI stock**




Note:
1) Graph includes a total of 38 countries/regions defined as developed economies by UNCTAD.
2) Figures for emerging and developing economies are obtained by subtracting the figures for developed economies from the total.
Source: UNCTAD

**Breakdown of share in outward FDI stock by emerging and developing countries and region**




Note:
1) East Asia represent the figures for China, South Korea, Taiwan, Hong Kong, and ASEAN.
2) The figure for Central and South America exclude the financial centers in the Caribbean region.
Source: UNCTAD

# Notable rise in overseas assets held by Chinese companies

- In the ranking of the foreign assets held by multinational companies from emerging and developing economies, 62 of the top 100 firms are East Asian. Over half (32 firms) are from China and Hong Kong. Looking at the rate of increase in foreign assets held since 2005, the growth in the assets of Chinese firms, as well as Taiwan's Hon Hai Precision Industries, South Korea's Samsung Electronics, has been the most dramatic.

**Top 20 non-financial MNEs in East Asia, ranked by foreign assets (2015)**

(Million USD, %)

| Corporation | Home economy | Industry | Assets held | | Proportion of assets overseas (%) | Percent change from 2005 (%) | Overall rank |
|---|---|---|---|---|---|---|---|
| | | | Foreign | Total | | | |
| CK Hutchison Holdings Limited | Hong Kong | Retail trade | 118,250 | 133,280 | 88.7 | 91.9 | 1(1) |
| China National Offshore Oil Corp | China | Mining, quarrying and petroleum | 66,673 | 179,228 | 37.2 | 2,354.8 | 2(45) |
| Hon Hai Precision Industries | Taiwan | Electronic components | 64,040 | 70,244 | 91.2 | 1,078.0 | 3(20) |
| Samsung Electronics Co., Ltd. | South Korea | Communications equipment | 62,294 | 205,860 | 30.3 | 256.4 | 4(5) |
| Petroliam Nasional Bhd | Malaysia | Mining, quarrying and petroleum | 47,912 | 139,868 | 34.3 | 81.8 | 5(2) |
| China COSCO Shipping Corp Ltd | China | Transport and storage | 43,076 | 55,642 | 77.4 | 304.2 | 6(11) |
| China Minmetals Corp | China | Metals and metal products | 35,165 | 107,933 | 32.6 | 3,601.5 | 8(94) |
| Hanwha Corporation | South Korea | Wholesale trade | 26,326 | 123,783 | 21.3 | n.a | 12 |
| China State Construction Engineering Corp Ltd | China | Construction | 25,472 | 165,740 | 15.4 | 356.7 | 13(17) |
| Singapore Telecommunications Ltd | Singapore | Telecommunications | 25,309 | 32,410 | 78.1 | 40.6 | 14(4) |
| New World Development Ltd | Hong Kong | Construction | 24,990 | 51,345 | 48.7 | 440.6 | 15(29) |
| Formosa Plastics Group | Taiwan | Chemicals and allied products | 24,490 | 102,732 | 23.8 | 41.0 | 16(10) |
| Tencent Holdings Limited | China | Computer and data processing | 24,086 | 47,308 | 50.9 | n.a | 17 |
| China National Chemical Corporation | China | Chemicals and allied products | 23,795 | 51,382 | 46.3 | n.a | 19 |
| Hyundai Motor Company | South Korea | Motor vehicles | 23,450 | 140,568 | 16.7 | 80.2 | 20(9) |
| China National Petroleum Corp | China | Mining, quarrying and petroleum | 22,168 | 622,018 | 3.6 | 319.3 | 22(22) |
| China Petrochemical Corporation | China | Petroleum refining and related industries | 21,943 | 362,873 | 6.0 | n.a | 23 |
| Legend Holdings Corporation | China | Computer equipment | 21,164 | 47,220 | 44.8 | n.a | 24 |
| CapitaLand Ltd | Singapore | Construction | 20,763 | 33,227 | 62.5 | 245.1 | 25(15) |
| Sun Hung Kai Properties Ltd | Hong Kong | Construction | 20,565 | 77,949 | 26.4 | n.a | 26 |

Notes: 1) Listed are non-financial multinational corporations in East Asia (China, Hong Kong, South Korea, Taiwan, ASEAN). 2) "n.a" where no calculation possible due to absence of 2005 data. 3) Overall ranking is among emerging and developing economies including East Asia. Figures in brackets are 2005 ranking. No bracketed figure means the firm was not in the top 100 in 2005.
Source: UNCTAD

# Eyes on Chinese firms under increasing state management of outward FDI

- Looking at the investment from East Asia among world's top recipients of FDI stock, there has been rapid growth in the investment coming into the major economies of the West from China and Hong Kong. FDI stock from China in the US between the end of 2010 and 2016 grew 8.3-fold, and Chinese investment stock in the UK grew 4.3-fold. This was faster than the growth in FDI stock from other East Asian countries or regions such as South Korea, Taiwan and Singapore.
- The announced value of cross border M&A by Chinese firms, a major driver of the rapid growth in China's outward FDI, declined sharply in 2017 compared to the previous year. This is likely the effect of increased management of outward FDI by the Chinese government, a trend which may lead to a reduction in spending on M&As. The Chinese government has a policy of continuing to promote necessary outward FDI, but the future behavior of Chinese firms under stricter management will be the object of much interest.

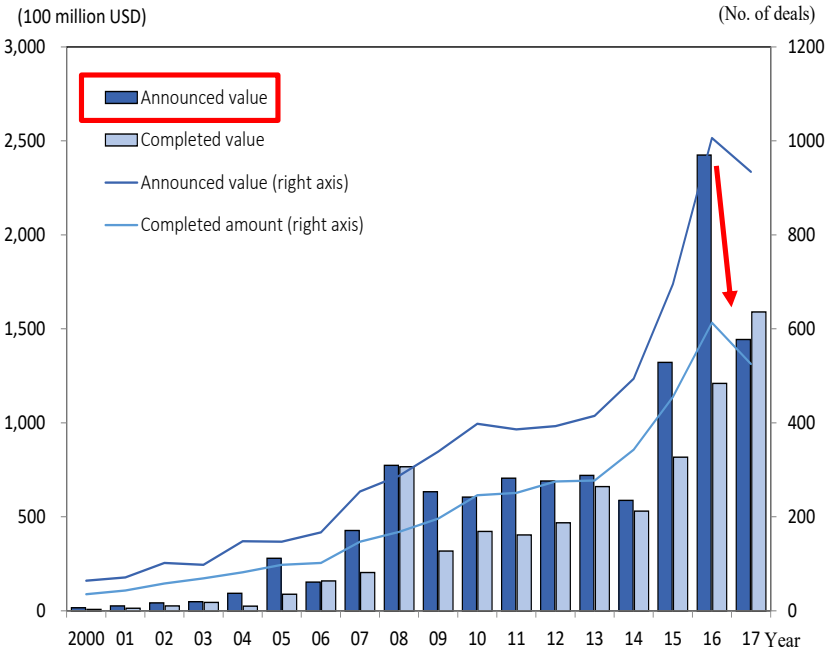
**Investment from East Asia among world's top recipients of FDI stock (percent and amount of the change from end of 2010 to end of 2017)**

Top line: %, Bottom line: Million USD

| Destination→ ↓ Origin | Netherlands | US | Luxembourg | China | Hong Kong | UK | Singapore | Germany |
|---|---|---|---|---|---|---|---|---|
| Hong Kong | 133.4 | 162.4 | 212.1 | 68.9 | - | 8.2 | 109.6 | 387.6 |
| | 10,729 | 7,209 | 22,623 | 489,819 | - | 1,250 | 18,948 | 1,171 |
| China | 1,337.1 | 732.6 | 135.2 | - | -9.7 | 325.8 | 60.9 | 101.4 |
| | 22,169 | 24,175 | 4,315 | - | -36,357 | 2,045 | 14,096 | 1,165 |
| South Korea | 209.2 | 160.0 | n.a | 135.7 | 20.4 | 61.0 | 142.5 | -7.1 |
| | 1,589 | 25,191 | n.a | 54,726 | 487 | 887 | 4,637 | -390 |
| Taiwan | n.a | 55.0 | n.a | 23.5 | 87.7 | 222.6 | 123.1 | 84.8 |
| | n.a | 2,554 | n.a | 5,484 | 6,042 | 132 | 7,720 | 94 |
| ASEAN | 105.8 | 50.5 | 385.8 | 57.9 | 267.7 | 5.5 | 39.7 | 2.1 |
| | 18,021 | 11,258 | 45,927 | 44,576 | 44,251 | 573 | 21,480 | 42 |
| Singapore | 34.2 | 11.2 | 372.1 | 67.9 | 139.6 | -2.5 | - | 7.6 |
| | 5,931 | 2,416 | 44,294 | 42,456 | 20,137 | -250 | - | 93 |
| World | 26.1 | 63.4 | 93.9 | 61.5 | 42.7 | 22.3 | 79.5 | -13.9 |
| | 844,526 | 1,445,374 | 1,759,922 | 964,926 | 423,418 | 253,125 | 432,215 | -126,432 |

Notes: 1) Top line is the percent change in inward FDI stock value over the period end of 2010 to 2016.
Bottom line is the dollar amount of the change.
2) Highlighted cell signifies growth of 4-fold or more since the end of 2010. "n.a" means there was no data.
3) Investment destinations include the top 10 economies/regions for inward FDI stock value as of the end of 2016.
Excluded are Switzerland, which does not disclose the value of FDI stock by country and Ireland, for which it is not
4. Where a year's data is not available, the data of one year before and after are used instead.
Source: IMF Coordinated Direct Investment Survey (CDIS)

**Cross border M&A by Chinese firms**




Note: The nationality of the acquiring company is the nationality of the ultimate parent company.
Source: Thomson Reuters

# Made in China 2025: aiming to escape dependency on imported high-tech products

- China has trade deficits in many categories including electronic integrated circuits, aircraft, and machines for the manufacture of semiconductor and electronic integrated circuits. *Made in China 2025* (published in 2015) aims for China to be a major manufacturing power in ten years by establishing 10 key sectors such as "Information Technology" and "High-end machine control machinery and automation", and escaping the dependence on imports for high-tech sector products.
- The roadmap for integrated circuits and specialized equipment specifies not just targets for industry scale but global share growth, posing a threat to all countries of the world. On the other hand, there may be business opportunities in areas where Japanese companies have expertise such as increasing the productivity of factories, advanced quality management technology and the promotion of energy efficient and environmental technologies.

**China's major trade deficit product categories (2017)**

(Million USD)

| HS code | Product category | Deficit |
|---|---|---|
| 8542 | Electronic integrated circuits | -192,929 |
| 8703 | Motor cars | -42,766 |
| 8802 | Aircraft | -22,629 |
| 2902 | Cyclic hydrocarbons | -19,320 |
| 8486 | Machines for the manufacture of semiconductors and electronic integrated circuits | -17,584 |
| 3901 | Polymers of ethylene | -16,099 |
| 3004 | Medicaments | -14,076 |
| 4703 | Chemical wood pulp, etc. | -11,751 |
| 2905 | Acyclic alcohol and their halogenated derivatives, etc. | -10,857 |

Note: Product categories with a trade deficit of over $10 billion in 2017, excluding minerals (chapter 26, 27, 74) and agricultural products (chapter 12).

Source: China trade statistics

**The 10 key sectors of Made in China 2025**

| | |
|---|---|
| 1 | Information technology |
| 2 | High-end numerical control machinery and automation |
| 3 | Aerospace and aviation equipment |
| 4 | Maritime engineering equipment and high-tech vessel manufacturing |
| 5 | Rail equipment |
| 6 | Energy-saving vehicles |
| 7 | Electrical equipment |
| 8 | Agricultural equipment |
| 9 | New materials |
| 10 | Biomedicine and high-performance medical apparatus |

Source: JETRO, based on Made in China 2025 promulgated by the State Council of China

**Roadmap on electronic integrated circuits and specialized equipment (abridged)**

| | 2020 | 2025 | 2030 |
|---|---|---|---|
| Industry scale | Size of industry: $48.3-85.1bn<br>World share: 14.7-21.3%<br>China share: 40.9-49.1% | Size of industry: $85.1-183.7bn<br>World share: 21.3-34.2%<br>China share: 49.1-75.13% | |
| Electronic integrated circuit manufacturing | Technology to manufacture 28nm | Technology to manufacture 20-14nm | At global level |
| | Production capacity of 700,000 units/month (12 inch) | Production capacity of 1 million units/month (12 inch) | Production capacity of 1.5 million units/month (12 inch) |
| Electronic integrated circuit design | Design of 20-14nm electronic integrated circuits | | At global level |
| | Value of production in design sector: $40.0 billion<br>World share: 25% | Value of production in design sector: $60.0 billion<br>World share: 35% | |

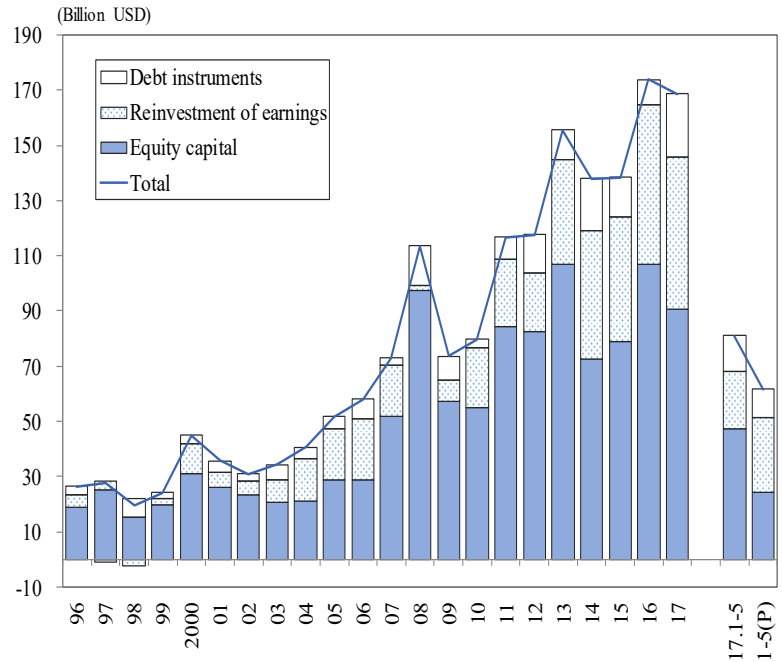
Note: "China share" is the proportion of domestic production in the Chinese market.

Source: National Manufacturing Strategy Advisory Committee, Made in China 2025 Technology Roadmap

# Japan's outward FDI marks second highest level on record

- Japan's outward FDI in 2017 decreased by 3.0% from the previous year to $168.6 billion (on a balance of payment basis, net, flow). Although it decreased slightly from the peak in 2016, it still ranks as the second highest level on record.
- By major country and region, investment in the biggest destination, the EU, was down 17.8% to $56.8 billion. The major reason for the decline was clearly the $30.8 billion investment by Softbank Group in a semiconductor design company in the UK the year prior. Investment in the US was static (down 1.1%) but accounting for 30.8% of all Japanese investment, it was the single biggest FDI destination country for Japan for the eighth year in a row. Large-scale acquisitions of US businesses were made by Takeda Pharmaceuticals, Komatsu and Renesas Electronics last year.

## Trends in Japan's outward FDI by type




Note: 1) The yen-based value is converted to dollars by quarter, using the average quarterly Bank of Japan interbank rate. 2) Figures are based on BPM6. 3) The cumulative total for 2018 is a preliminary figure.
Source: "Balance of Payment Statistics" (Ministry of Finance, Bank of Japan).

## Japan's outward FDI by country/region

(Million USD, %)

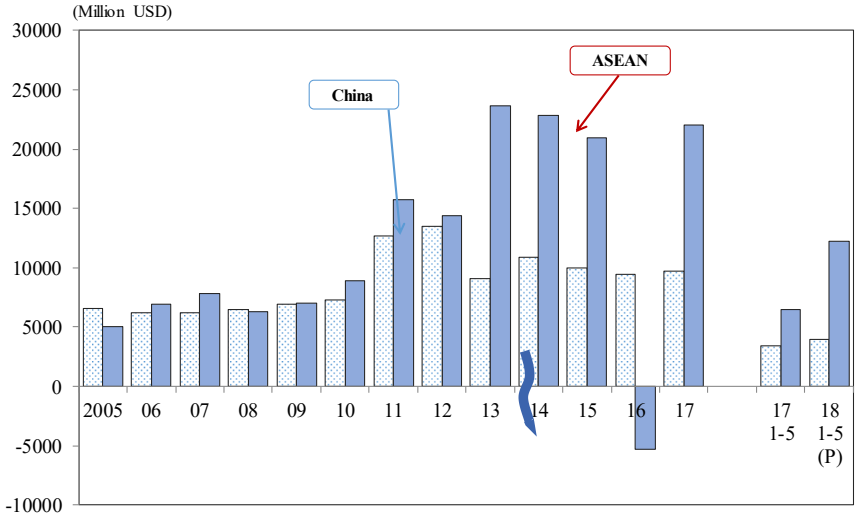
| | 2015 | 2016 | 2017 | Share | Percent change | Jan-May, 2018 (P) | Share | Percent change |
|---|---|---|---|---|---|---|---|---|
| Asia | 35,057 | 13,745 | 38,266 | 22.7 | 178.4 | 19,830 | 32.1 | 59.9 |
| China | 10,011 | 9,453 | 9,679 | 5.7 | 2.4 | 3,914 | 6.3 | 14.4 |
| South Korea | 1,593 | 1,626 | 1,700 | 1.0 | 4.5 | 1,061 | 1.7 | 153.7 |
| ASEAN | 20,920 | -5,340 | 22,011 | 13.1 | - | 12,214 | 19.8 | 88.9 |
| Singapore | 7,010 | -18,581 | 9,677 | 5.7 | - | 7,326 | 11.9 | 305.2 |
| Thailand | 4,057 | 4,632 | 4,724 | 2.8 | 2.0 | 2,724 | 4.4 | 18.7 |
| Indonesia | 3,213 | 2,957 | 3,388 | 2.0 | 14.6 | 1,136 | 1.8 | 5.9 |
| Malaysia | 2,918 | 1,394 | 935 | 0.6 | -32.9 | -347 | - | - |
| Philippines | 1,531 | 2,319 | 1,006 | 0.6 | -56.6 | 257 | 0.4 | -54.9 |
| Vietnam | 1,446 | 1,672 | 2,001 | 1.2 | 19.7 | 888 | 1.4 | 8.2 |
| India | -1,041 | 4,105 | 1,060 | 0.6 | -74.2 | 1,579 | 2.6 | 72.5 |
| North America | 51,451 | 53,327 | 52,879 | 31.4 | -0.8 | 302 | 0.5 | -98.6 |
| US | 50,218 | 52,584 | 51,981 | 30.8 | -1.1 | -1,330 | - | - |
| Latin America | 6,973 | 27,965 | 10,950 | 6.5 | -60.8 | 15,156 | 24.6 | 56.7 |
| Mexico | 1,229 | 1,872 | 1,201 | 0.7 | -35.9 | 677 | 1.1 | - |
| Brasil | -193 | 898 | -3,593 | - | - | 923 | 1.5 | - |
| Oceania | 6,669 | 6,344 | 3,185 | 1.9 | -49.8 | 3,030 | 4.9 | 1055.3 |
| Australia | 5,676 | 4,696 | 2,213 | 1.3 | -52.9 | 2,568 | 4.2 | - |
| Europe | 36,081 | 72,157 | 59,536 | 35.3 | -17.5 | 22,564 | 36.6 | -38.1 |
| EU | 35,785 | 69,122 | 56,845 | 33.7 | -17.8 | 20,328 | 33.0 | -43.5 |
| UK | 13,979 | 49,983 | 21,628 | 12.8 | -56.7 | 12,246 | 19.9 | -2.6 |
| World | 138,428 | 173,855 | 168,587 | 100.0 | -3.0 | 61,692 | 100.0 | -24.0 |

Note: 1) The yen-based value is converted to dollars by quarter, using the average quarterly Bank of Japan interbank rate.
2) For after 2014, figures reflect the annual revision. 3) The cumulative total for 2018 is a preliminary figure.
Source: "Balance of Payment Statistics" (Ministry of Finance, Bank of Japan).

# Signs of coming expansion in Chinese business

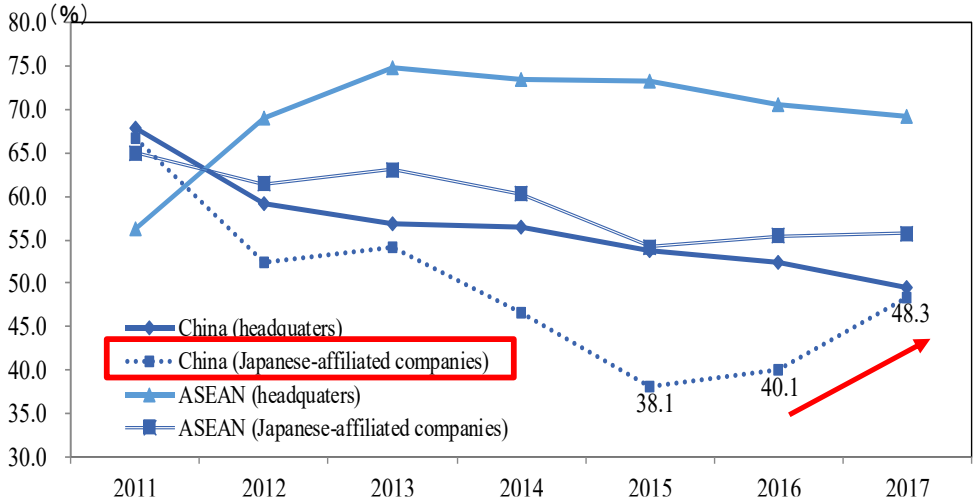
- Japan's direct investment in Asia was up 2.8-fold in 2017 from the previous year (to $38.3 billion). Specifically, investment into ASEAN recovered to 2015 levels. However, since 2014, Japanese investment in ASEAN has tended to sit at around $20 billion every year.
- As with ASEAN, Japan's direct investment to China saw sluggish growth, but a change has been observed in the future business development plans of Japanese firms in China. Motivation of Japanese-affiliated companies in China, which are well-informed about the Chinese market, to expand business within the country has increased, a sign that Japanese business in China, which has been stagnant, might pick up again.

**Japan's outward FDI in China and ASEAN**




Notes: 1) Figures exclude investment in the financial and insurance sector of Thailand related to floods (Q4, 2011 $3.924b, Q1 2012 -$3.674b). 2) Figures are based on BPM6 since January 2014.
Source: Balance of Payments statistics, Ministry of Finance, Bank of Japan

**Ratio of Japanese companies planning to expand business in China and ASEAN in the future (headquarters and Japanese-affiliated companies)**




Note: 1) Figures for headquarters are the ratio of companies choosing China or ASEAN as the country/region in which they plan to expand business (over the next three years or so) to the total of respondents (headquarters in Japan) that answered "to expand new business and further expand business overseas" in the survey in 2011-2012, and "to further expand business overseas in the future" in the years after 2013.
2) Figures for Japanese-affiliated companies are the ratio of companies choosing "expansion" regarding future business plans (in the next one or two years) to the total of respondent affliates operating in the respective countries/regions (i.e. China or ASEAN). Consequently, the absolute values of headquarters' and affiliates' ratios are not comparable.
Source: Survey on the International Operations of Japanese Firms, and Survey on Business Conditions of Japanese Companies in Asia and Oceania (JETRO)

# Revitalized investment in Chinese electric vehicle sector

- The largest direct investment by Japanese companies in Chinese manufacturing sector in 2017 was in transportation equipment sector ($2.1 billion). In April 2017 the Chinese government announced the Automobile Industry Medium and Long Term Development Plan with its future automotive industry policy. The UK, Germany, India and others have already announced goals and measures to promote the uptake of EVs, but the Chinese government initiative goes further than other countries.
- Announcements by Japanese companies of EV-related investments are more common in China and Japanese carmakers are moving faster to make investments, based on the shift to EVs in China, the world's largest vehicle market.

**EV promotion measures in countries and regions**

| | Outline | Basis of measure | Date |
|---|---|---|---|
| China | Vehicle tax rebate extended for new energy vehicles (NEVs) from 1 Jan 2018 to 31 Dec 2020. This continues the existing three year rebate policy that was introduced from 1 Sep 2014 to 31 Dec 2017. | Publicizing of vehicle tax rebate for NEVs | Announced Dec 2017 |
| | Imposed goal on companies manufacturing or importing more than 30,000 gasoline or diesel vehicles annually that NEVs must make up 10% of total vehicle production in 2019 and 12% in 2020. | NEV credit system | Announced Sep 2017, enacted Apr 2018 |
| | Where a foreign investor establishes a joint venture to produce completed EV, this revision allows the production of EV in joint venture between the foreign company and its third Chinese partner. | Catalog for the Guidance of Foreign Investment Industries (2017 revision) | Announced Jun 2017 |
| | Annual production and sales of NEVs of over 2 million vehicles in 2020, and NEVs to make up at least 20% of vehicle production and sales in 2025. | Medium and Long-Term Development Plan for the Automotive Industry | Announced Apr 2017 |
| | For EV (passenger cars) in 2017-2018, there is a subsidy of 20,000 to 44,000 RMB depending on the range of the car. The payment for PHEV (passenger cars) is a flat 24,000 RMB. | Notification of subsidy adjustment related to promotion of NEVs | Announced Dec 2016 |
| India | All vehicles sold domestically to be electric (revised later to 30%) by 2030. Goods and services tax (GST) on EV set at 12%, lower than that on hybrids (28%). | Statements by PM Modi, electricity minister, etc. | Announced Jun 2017 |
| UK | Not only are gasoline and diesel vehicles to be banned from sale by 2040, local governments are required to strengthen their policies and £255 million is to be provided to support their initial plans. | Plan for Tackling Roadside Nitrogen Dioxide Concentrations | Announced Jul 2017 |
| Germany | Applies to EV and hybrids priced under 60,000 euros as publicly listed by the Government. The subsidy is 4,000 euros for an EV purchase and 3,000 euros for a plug-in hybrid. The objective is to have over 1 million EV on German roads by 2020. | Environmental bonus | Enacted Jul 2016 |

Source: Based on reports from JETRO overseas offices

**Overseas investments by Japanese firms related to EVs**

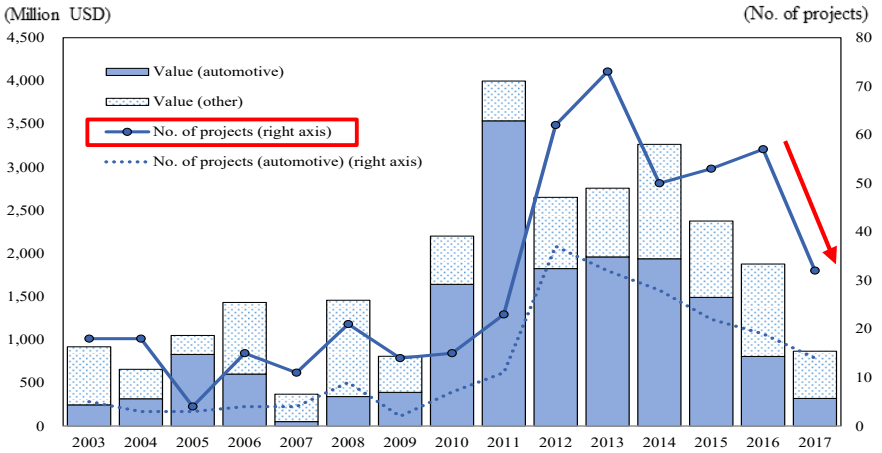
| Company | Country | Outline | Date announced |
|---|---|---|---|
| Toyota | China | Announced it would launch 10 new electric cars (EV, PHEV) on the Chinese market by 2020, and would move to local production of core technologies such as batteries. Revealed plans to start local production of PHEVs in 2019. | 2018/4/25 |
| Nissan/Mitsubishi | China | Signed a memorandum with Chinese ride-sharing app conglomerate Didi Chuxing to collaborate on an EV car sharing program in China. | 2018/2/7 |
| Honda | China | Signed an investment deal with the car-sharing firm under the aegis of Chinese IT giant Neusoft. Honda and the firm are also working together on developing an EV planned for launch in China in 2018, and the scope of their collaboration is expanding. | 2017/12/12 |
| Nidec | France | Announced the establishment of a joint venture with PSA to make traction motors for vehicles, through its French subsidiary. | 2017/12/4 |
| Toyota | China | In addition to launching Toyota brand EV in China in 2020, it announced that it would expand its fuel cell vehicle feasibility study to commercial vehicles. | 2017/11/17 |
| Toyota/Suzuki | India | Toyota and Suzuki have agreed to consider building a cooperative venture to launch EV in the Indian market in around 2020. Specifically, it could mean Suzuki producing EV with technological support from Toyota, and that vehicle being supplied to Toyota, etc. | 2017/11/17 |
| Honda | China | Guangqi Honda, Dongfeng Honda and Honda China are collaborating on joint development of EV for China. It was announced that it would be launched under both Guangqi Honda and Dongfeng Honda brands. | 2017/9/11 |
| Nissan | China | The Renault-Nissan alliance and Dongfeng Motor have agreed to establish a new joint venture to develop EV in China. Renault and Nissan would each hold 25% of stock in the company and Dongfeng 50%. Production is due to begin in 2019. | 2017/8/29 |
| Renesas Electronics | China | Announced collaboration with China's Great Wall Motors to jointly develop on-board semiconductor technology and solutions for EV and PHEV, as well as driverless cars in China. | 2017/5/25 |
| Panasonic | China | A new factory to manufacture lithium-ion batteries for vehicles has been completed in Dalian City. It is first plant producing automotive battery cells in China. | 2017/4/27 |
| Nissan | South Africa | Nissan and BMW have signed a memorandum on joint planning and rollout of charging stations across South Africa for EV and PHEV. | 2015/5/25 |
| Panasonic | US | Panasonic and Tesla Motors have agreed to work together on construction of the large scale "Gigafactory" for batteries in the US. | 2014/7/31 |

Source: Corporate press releases

# Increasing wariness over investing in Mexico

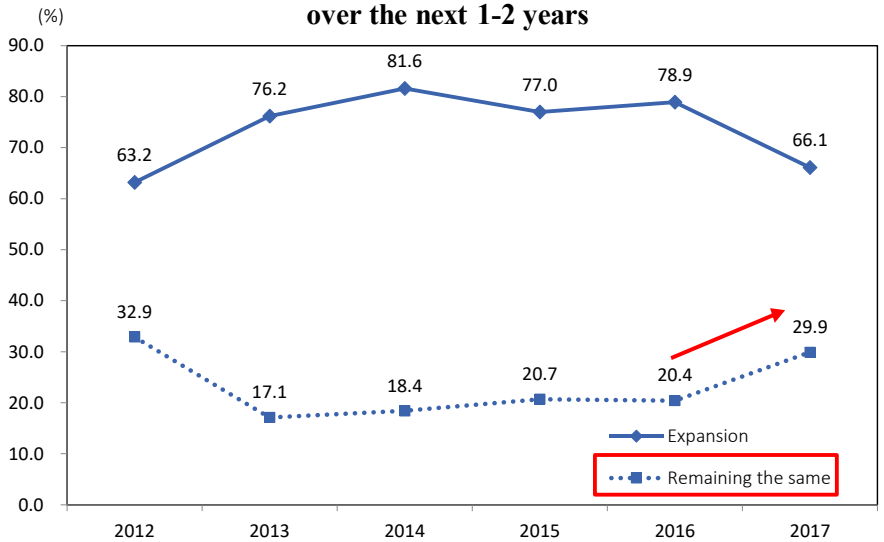
- Looking at the trend in greenfield investment by Japanese firms in Mexico, both the number of projects and the value invested fell in 2017. There were marked falls in the automobile and parts sector as well as in materials and distribution. While there is an increasing proportion of Japanese companies in Mexico that say their business development intention is "Remaining the same", the proportion of those saying it would expand dropped, showing they are increasingly wary about business expansion. The emerging trend among Japanese businesses is a result of the perceived rise in political risk from the US administration, as represented by the re-negotiation of NAFTA.

## Greenfield investment by Japanese firms in Mexico




Notes: 1) "Automotive" is the combined total of automotive components and automotive OEM. Industry classification is based on the classification by FT. 2) Value includes estimates by FT.
Source: fDi Markets (FT)

## Business development intentions among Japanese firms in Mexico over the next 1-2 years




Note: Other answer options were "Reduction"and "Transferring to a third country/region or withdrawal from current local market", therefore the table rows do not add up to 100%.
Source: Survey on Business Conditions of Japanese Companies in Latin America (JETRO)

## Business environment issues in Mexico (top 10)

(%)

| Rank | Issue | 2017 | 2015 | 2014 |
|---|---|---|---|---|
| 1 | Risks/problems from the changed policies of the new Trump administration of the US | 52.8 | - | - |
| 2 | Risks in political situations, problems with social situations and security | 27.6 | 29.4 | 28.9 |
| 3 | No particular risks or issues recognized | 24.5 | 45.7 | 50.0 |
| 4 | High exchange risk | 15.2 | 11.7 | 9.0 |
| 5 | Risks/problems in collecting bills | 10.3 | 12.3 | 12.5 |
| 6 | Labor shortage, difficulty in hiring qualified personnel | 7.2 | 8.4 | 5.4 |
| 7 | High or rising labor cost | 6.4 | 8.2 | 4.8 |
| 8 | Tangled administrative procedures (obtaining permits, etc.) | 5.9 | 10.8 | 7.6 |
| 9 | Undeveloped legal system and its problematic enforcement | 5.2 | 9.5 | 10.2 |
| 9 | Tangled tax system and procedures | 5.2 | 12.1 | 10.2 |

Notes: 1) Response rate to each issue by Japanese companies (HQ). 2) "-": answer option did not exist.
Source: FY2017 Survey on the International Operations of Japanese Firms (JETRO)

# The high ratio of foreign sales continues for Japanese firms

■ According to calculations by JETRO based on the summary of financial reports and securities reports of 196 Japanese firms for the fiscal year from December 2017 to March 2018, the overseas sales ratio for Japanese companies* was 58.4%, up from 57.7% in FY2016, maintaining the high level. Looking at the regional breakdown of overseas sales, the Americas had the greatest share at 25.0%. The Asia-Pacific rose from last year to 19.3%. By industry, transport equipment continued to have a high ratio of overseas sales at 61.9%. Machinery and electric appliances, such as industrial machinery and electrical equipment, raw materials and processed goods also increased their ratio of overseas sales from last year with the ratio of overseas sales overtaking domestic sales.

*Sales to overseas customers from a Japanese origin (exports) are not included in overseas sales.

## Share of Japanese companies' sales by region

(%)

| Fiscal year (No. of companies) | | Domestic | Overseas | Americas | Europe | Asia-Pacific | Other |
|---|---|---|---|---|---|---|---|
| 2000 | (547) | 71.4 | 28.6 | 13.4 | 5.6 | 5.8 | 3.8 |
| 2001 | (581) | 68.5 | 31.5 | 14.7 | 6.1 | 6.3 | 4.4 |
| 2002 | (592) | 67.2 | 32.8 | 14.9 | 6.6 | 6.8 | 4.5 |
| 2003 | (624) | 66.5 | 33.5 | 14.1 | 7.0 | 7.7 | 4.8 |
| 2004 | (669) | 65.4 | 34.6 | 13.6 | 7.4 | 8.5 | 5.1 |
| 2005 | (724) | 64.9 | 35.1 | 13.8 | 6.9 | 9.5 | 4.9 |
| 2006 | (751) | 62.3 | 37.7 | 14.5 | 7.7 | 10.3 | 5.1 |
| 2007 | (781) | 60.8 | 39.2 | 14.2 | 9.1 | 10.7 | 5.2 |
| 2008 | (817) | 62.6 | 37.4 | 12.7 | 8.6 | 10.8 | 5.3 |
| 2009 | (844) | 63.3 | 36.7 | 12.4 | 7.5 | 11.3 | 5.4 |
| 2010 | (320) | 54.0 | 46.0 | 18.1 | 8.1 | 15.2 | 4.7 |
| 2011 | (236) | 53.1 | 46.9 | 17.7 | 8.9 | 15.0 | 5.3 |
| 2012 | (221) | 51.3 | 48.7 | 18.6 | 7.8 | 17.2 | 5.1 |
| 2013 | (211) | 45.6 | 54.4 | 21.5 | 9.2 | 18.2 | 5.5 |
| 2014 | (212) | 43.1 | 56.9 | 23.5 | 9.2 | 18.7 | 5.5 |
| 2015 | (219) | 42.2 | 57.8 | 25.4 | 8.3 | 19.5 | 4.6 |
| 2016 | (218) | 42.3 | 57.7 | 25.5 | 8.5 | 18.7 | 5.0 |
| 2017 | (196) | 41.6 | 58.4 | 25.0 | 9.0 | 19.3 | 5.1 |

Notes: 1) Companies surveyed: The accounting period is from December to March, and information is broken down by location. 2) Figures for FY2017 reflected companies with financial statements or securities reports who entered sales figures onto the SPEEDA database by the end of May 2018. Note that for some companies, the data was supplemented by their earning summaries. 3) Percentage = sales of each region/total sales. 4) Surveyed companies include listed subsidiaries, which were double-counted. 5) Companies which combine multiple regional sales such as "Americas and Europe" or "Europe and Africa", were excluded.
Source: SPEEDA and corporate financial statements

## Share of Japanese firms' sales by industry and region (FY2017)

(%)

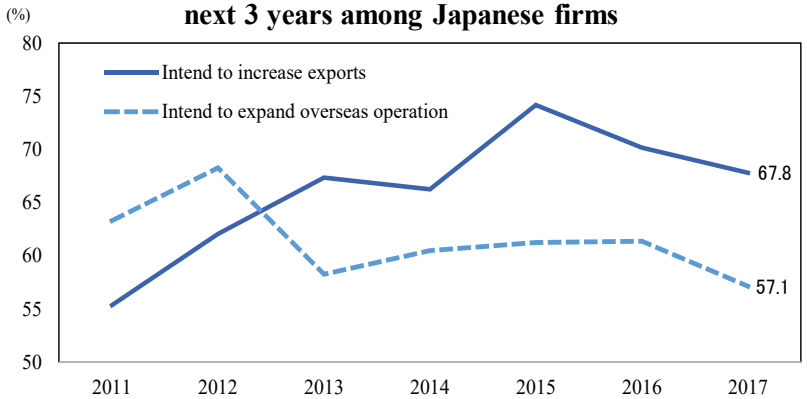
| Industry (No of companies) | | Domestic | Overseas | Americas | Europe | Asia-Pacific | Other |
|---|---|---|---|---|---|---|---|
| Manufacturing | 〔161〕 | 41.5 | 58.5 | 25.5 | 9.1 | 19.2 | 4.8 |
| Transport equipment | 〔45〕 | 38.1 | 61.9 | 30.1 | 8.7 | 17.5 | 5.6 |
| Machinery & electric appliances | 〔66〕 | 49.5 | 50.5 | 14.6 | 9.6 | 23.5 | 2.9 |
| Industrial machinery | 〔38〕 | 49.8 | 50.2 | 17.3 | 10.5 | 18.7 | 3.6 |
| Electrical equipment | 〔25〕 | 49.4 | 50.6 | 12.6 | 8.9 | 26.8 | 2.3 |
| Materials/material processed goods | 〔34〕 | 49.7 | 50.3 | 10.8 | 9.6 | 27.2 | 2.7 |
| Non-manufacturing | 〔35〕 | 46.5 | 53.5 | 9.4 | 7.6 | 22.3 | 14.1 |

Notes: 1) The manufacturing industry on the SPEEDA database comprises the following major categories: Transport machinery, machinery and electric appliances, materials/material processed goods, pharmaceuticals and biotechnology, and food and household goods. Non-manufacturing industry comprises the following broad areas in the same database: Construction and real estate, retail, consumer services, away from home meals/home-meal replacement, advertising/ICT services, legal services, intermediate distribution, finance, transport services, and resources and energy. 2) Industrial machinery is broken down into Industrial machinery manufacturing and Other industrial machinery; Electrical equipment is broken down into ICT equipment manufacturing, consumer electronics manufacturing, and electronic parts/device manufacturing.
3) Highlighted cells show where the sales ratio is at least 0.5% points higher than in FY2016.
Source: SPEEDA and corporate financial statements

# Japanese firms harness high-level foreign talent

- Japanese firms appear to be taking a breather in their overseas business expansion. As human resource shortages worsen, there is increasing interest in employing foreign talent. There are about 290,000 highly talented foreign residents holding "Status of Residence" in specialized technological fields in Japan and Asians, a large number of whom are Chinese, making up 80% of the total. A trend is observed among companies hiring foreign staff that the more foreign talent is promoted, the greater sense of benefits such as the financial impact for the company.

## International trade and overseas expansion policy over next 3 years among Japanese firms




Note: "Intend to expand overseas operation" since 2013 is the sum of the responses "planning to expand further in the future" and "currently no overseas bases but intend to invest in the future".
Source: FY2017 Survey on the International Operations of Japanese Firms (JETRO)

## Number of foreign residents holding "Status of Residence" in specialized technological field (as of end June 2017)

Persons

| | Total number of foreign residents holding "Status of | Specialized technological field | Professor | Highly skilled professional | Business manager | Instructor | Engineer/Specialist in humanities/International services | Intra-company transferee | Skilled labor |
|---|---|---|---|---|---|---|---|---|---|
| Total | 2,471,458 | 293,828 | 7,551 | 5,494 | 22,888 | 11,183 | 180,180 | 16,601 | 39,378 |
| Asia | 2,050,909 | 241,413 | 4,005 | 4,643 | 20,484 | 1,084 | 154,398 | 13,703 | 37,321 |
| China | 711,486 | 114,966 | 1,456 | 3,642 | 11,791 | 79 | 74,621 | 5,901 | 15,431 |
| Taiwan | 54,358 | 10,405 | 188 | 179 | 780 | 43 | 8,300 | 603 | 81 |
| India | 30,048 | 13,480 | 412 | 263 | 376 | 50 | 6,166 | 1,260 | 4,748 |
| South Korea | 452,953 | 29,535 | 919 | 216 | 3,070 | 106 | 21,088 | 1,673 | 916 |
| Nepal | 74,300 | 18,867 | 59 | 15 | 1,264 | 13 | 4,612 | 74 | 12,803 |
| Philippines | 251,934 | 8,864 | 99 | 28 | 60 | 650 | 5,502 | 1,312 | 538 |
| Thailand | 48,952 | 4,273 | 121 | 23 | 133 | 3 | 1,741 | 785 | 1,230 |
| Vietnam | 232,562 | 20,141 | 150 | 95 | 205 | 6 | 18,206 | 849 | 341 |
| Europe | 73,151 | 20,859 | 1,720 | 401 | 1,179 | 1,658 | 11,455 | 1,686 | 1,478 |
| UK | 16,498 | 5,917 | 477 | 84 | 249 | 1,252 | 3,329 | 242 | 88 |
| Africa | 15,143 | 1,732 | 196 | 48 | 109 | 237 | 896 | 51 | 72 |
| North America | 69,875 | 23,827 | 1,274 | 296 | 814 | 7,051 | 10,661 | 874 | 224 |
| US | 54,918 | 19,112 | 998 | 248 | 680 | 5,644 | 8,383 | 750 | 95 |
| South America | 247,938 | 1,516 | 100 | 35 | 37 | 55 | 592 | 135 | 111 |
| Oceania | 13,854 | 4,435 | 256 | 71 | 262 | 1,098 | 2,160 | 151 | 150 |
| No nationality | 588 | 46 | 0 | 0 | 3 | 0 | 18 | 1 | 22 |

Note: Highlighted cells are top 2 items for each type of status.
Source: Statistics on Foreign Residents in Japan (Ministry of Justice)

## Benefits of employing foreign staff in Japanese workplace

(Unit: %)

| | No. of firms | Finacial benefits (improved sales/earnings) | Expanded marketing channels | Contributes to development of new products | Helps business localization | Improved linguistic capacity | Improved motivation among Japanese staff | Enhanced problem-solving ability | Improved international negotiation ability | Lowers psychological barriers among Japanese staff in communicating with foreigners |
|---|---|---|---|---|---|---|---|---|---|---|
| Foreign staff at executive level or higher | 116 | 29.3 | 46.6 | 21.6 | 25.9 | 34.5 | 19.0 | 21.6 | 42.2 | 26.7 |
| Foreign staff at division manager level or higher | 365 | 26.3 | 49.3 | 21.6 | 29.3 | 39.5 | 15.9 | 18.9 | 48.8 | 26.6 |
| Foreign staff at engineer level or higher | 690 | 21.4 | 39.4 | 21.0 | 31.0 | 34.8 | 15.4 | 16.2 | 41.0 | 30.1 |
| Overall | 1,451 | 19.2 | 33.2 | 14.0 | 22.5 | 30.7 | 14.5 | 11.9 | 35.9 | 28.4 |
| Ref: High-level foreign scientist on staff | 479 | 19.6 | 31.9 | 22.3 | 35.1 | 31.9 | 16.9 | 15.0 | 38.6 | 31.3 |

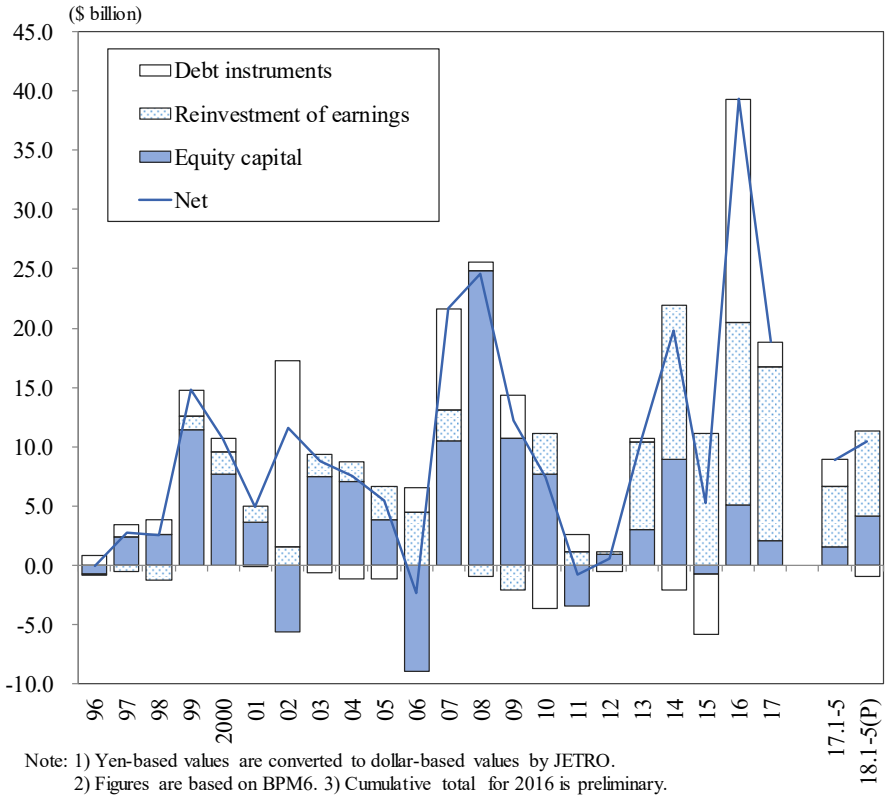
Notes: 1) Highlighted cells are top 2 items for each professional level. 2) The parameter is firms responding that they employ foreign staff for this survey. 3) Multiple answ
4) "Executive level or above" includes CEOs and Board directors (including external directors). "Division manager or above" includes "executive level or above" and division manager level (administrative, technical). "Engineer level or higher" includes "Division manager or above", researchers and engineers. "High-level scientist" includes division managers (technical), researchers and engineers.

Source: FY2017 Survey on the International Operations of Japanese Firms (JETRO)

# Asia as the pillar of Japan's inward FDI

- Japan's inward FDI in 2017 (balance of payments basis, net, flow) declined by 52.1% year-on-year to $18.8 billion. Japan's inward FDI stock as of the end of 2017 was 28.6 trillion yen, marking a 322.7 billion yen increase from the end of the previous year.
- By region, FDI from the United States, Asia, and Europe amounted to $5.8 billion, $5.7 billion, and $4.5 billion, respectively. From the US, investments from US investment funds were active. From Asia, despite the reactionary drop from the large-scale deal (Hon Hai / Foxconn Technology Group's acquisition of Sharp) in the previous year, the same level was maintained from 2015. Asia is starting to become established as the pillar of Japan's inward FDI.

## Trends in Japan's inward FDI by type




Note: 1) Yen-based values are converted to dollar-based values by JETRO.
2) Figures are based on BPM6. 3) Cumulative total for 2016 is preliminary.
Source: "Balance of Payments" (MOF, BOJ)

## Japan's inward FDI by country/region

(Million USD, %)

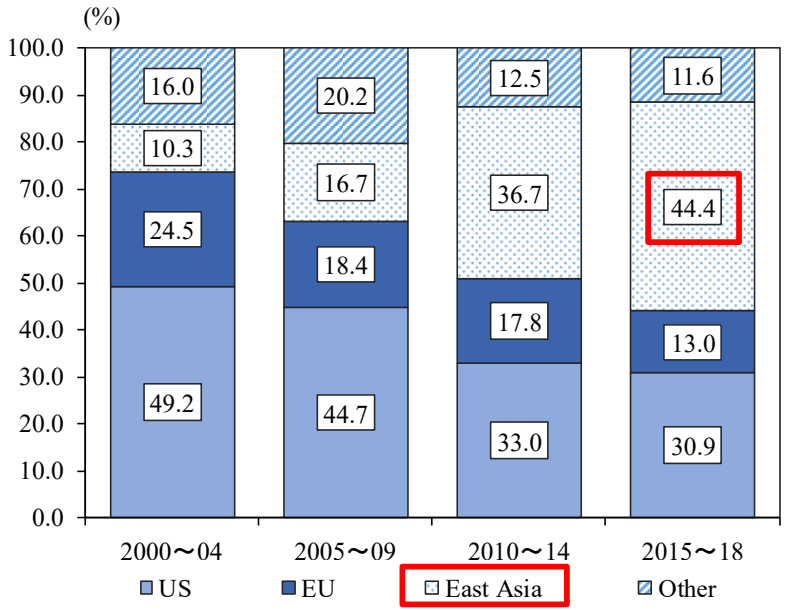
| | 2015 | 2016 | 2017 | YoY change | 2017 Jan-May(P) | YoY change |
|---|---|---|---|---|---|---|
| Asia | 5,591 | 8,269 | 5,668 | -31.5 | 2,069 | -54.7 |
| China | 636 | -93 | 966 | - | 66 | - |
| Hong Kong | 983 | 1,486 | -226 | - | 274 | 307.3 |
| Taiwan | 703 | 2,476 | 743 | -70.0 | 259 | -24.3 |
| South Korea | 932 | 593 | 974 | 64.2 | 498 | 27.8 |
| ASEAN | 2,324 | 3,814 | 3,203 | -16.0 | 985 | -74.6 |
| Singapore | 1,893 | 3,143 | 3,447 | 9.7 | 84 | -98.1 |
| North America | 4,313 | 6,303 | 5,738 | -9.0 | -1,419 | - |
| US | 4,338 | 6,293 | 5,831 | -7.3 | -1,441 | - |
| Latin America | -1,957 | 1,716 | 2,636 | 53.7 | 4,931 | 252.2 |
| Oceania | -651 | 814 | 247 | -69.6 | 2,168 | - |
| Europe | -2,264 | 22,018 | 4,480 | -79.7 | 1,367 | 146.5 |
| EU | -2,104 | 21,057 | 3,082 | -85.4 | 1,331 | 428.3 |
| World | 5,253 | 39,314 | 18,840 | -52.1 | 10,411 | 16.8 |

Notes: 1) The yen-based value is converted to dollars by quarter, using the average quarterly Bank of Japan interbank rate. 2). For after 2014, figures reflect the annual revision. The cumulative total for 2018 is a preliminary figure.
Source: "Balance of Payment Statistics" (Ministry of Finance, Bank of Japan).

# Increasing presence of Asian companies including M&As targeted at Japan

- M&As targeted at Japan in 2017 (completion basis) declined by 55.7% year-on-year to $12.4 billion due to the reactionary drop from the large-scale deals in the previous year. One of the features of M&As targeted at Japan in recent years is the increasing presence of Asian companies. The share of East Asia in the number of cross-border M&As targeted at Japan has expanded to 44.4% (of which China, including Hong Kong, made up 20.5%) during the period between 2015 and the first half of 2018, from 10.3% (8.5%) in the first half of the 2000s.
- In recent years, investments from Asia, whose presence as a primary investor is on the rise, have spread to capital participation in companies creating high value-added products and participation into the Japanese market with new service models such as a sharing business.

**M&A share within Japan by country/region on a deal basis**




Note: 1) East Asia includes China, South Korea, Taiwan, Hong Kong and ASEAN. 2) The data is until the end of June 2018.
Source: Thomson Reuters

**Entry to Japanese market by Asian companies spanning various sector**

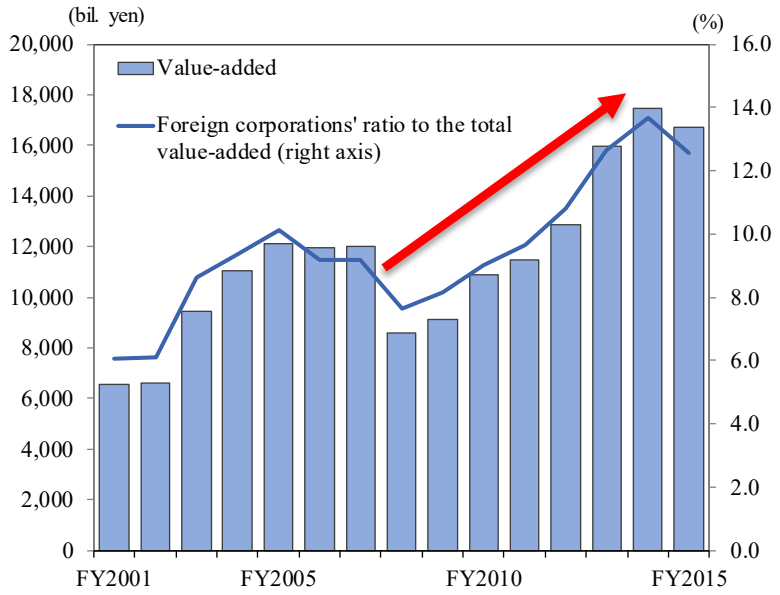
| Sector | Company | Overview |
|---|---|---|
| Electronic parts | Powertech Technology Inc. (Taiwan) | Powertech Technology Inc., the world's leading provider for IC backend services, acquired a majority of shares of Tera Probe, the provider of wafer testing services. (May 2017) |
| Electric machinery | Lenovo (China) | PC maker Lenovo bought a controlling stake of Fujitsu Client Cumputing Limited which produces PCs and tablet devices. (March 2018) |
| Electric machinery | Hisense Group (China) | Hisense Group, a major electronics company, acquired 95% of the shares of Toshiba Visual Solutions, which is responsible for Toshiba's visual products business. (February 2018) |
| Auto parts | Ningbo Joyson Electronic Corporation (China) | Ningbo Joyson Electronics, a major auto parts supplier, completed the acquisition of Takata, an automobile parts maker, through a US subsidiary. (April 2018) |
| Insurance | FWD Group (Hong Kong) | Insurance company FWD Group acquired AIG Fuji Life Insurance. (April 2017) |
| Drug | Ping An Insurance Group (China) | Ping An Insurance Group of China made a capital and business alliance with Tsumura. (October 2017) |
| Service | Mobike (China) | Mobike, the world's leading bicycle sharing service company, started its service from Sapporo. (July 2017) |
| Service | Tujia (China) | Tujia, a major Chinese vacation rental company, announced a business tie-up with Rakuten involving a private lodging introduction service. (August 2017) |
| Service | Didi Chuxing (China) | Didi, a major ride-sharing company, announced a partnership with SoftBank to provide platform services for the taxi industry. (February 2018) |

Source: Thomson Reuters, various reports, etc.

# The Japanese market whose appeal is on the rise as a market for raising earnings

- With foreign companies' activities increasing in Japan, the amount of value-added by foreign companies is also on an increasing trend. The amount of value-added by foreign companies, with a foreign capital ratio exceeding one-third, is increasing year by year and the ratio of foreign companies' value-added to the total amount including that by Japanese companies has expanded to 12.6% (16.7 trillion yen) in fiscal 2015.
- The appeal of the Japanese market is increasing also as a market for raising earnings. This is also seen in the rise in earnings payment from Japan's inward FDI. Against this backdrop, Japan's inward FDI has seen an increase in deals that involve foreign investment funds in recent years.

**Changes in the amount of value-added by foreign companies**




Notes: 1) Foreign corporations with a foreign capital ratio exceeding one-third.
2) Value-added is the total of operating profit, depreciation expenses, total payroll, welfare expenses, real estate and movables proberty rental, and taxes and public imposition.
Source: Ministry of Economy, Trade and Industry, "Basic Survey of Japanese Business Structure and Activities" (for each year)

**M&As targeted at Japan that involve foreign investment funds**

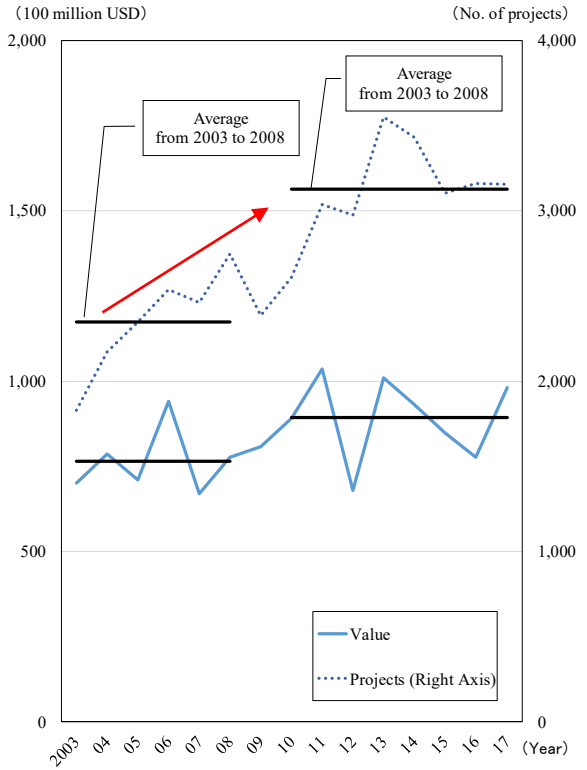
| Completion | Acquired corporation | Industry | Acquiring foreign investment fund | Nationality | Value ($ mil.) |
|---|---|---|---|---|---|
| Jun. 2018 | Toshiba Memory | Electrical & electric equipment | Bain Capital | U.S. | 17,933 |
| May 2017 | Calsonic Kansei | General machinery | Kohlberg Kravis Roberts & Co. | U.S. | 4,172 |
| Mar. 2014 | Panasonic Healthcare | Precision equipment (medical equipment) | Kohlberg Kravis Roberts & Co. | U.S. | 1,680 |
| Jul. 2017 | Hitachi Koki | General machinery | Kohlberg Kravis Roberts & Co. | U.S. | 1,335 |
| Mar. 2017 | Accordia Golf | Entertainment services | MBK Partners | South Korea | 1,280 |
| Mar. 2018 | Asatsu-DK | Advertising agency | Bain Capital | U.S. | 1,183 |
| Dec. 2014 | Bushu Pharmaceuticals | Medical supplies | Baring Private Equity Asia | Hong Kong | 663 |
| Mar. 2015 | Pioneer (DJ equipment business) | Electrical & electric equipment | Kohlberg Kravis Roberts & Co. | U.S. | 551 |
| Jan. 2014 | Macromill | Business services (internet surveys) | Bain Capital | U.S. | 407 |
| Aug. 2017 | TASAKI | Retail (jewelry) | MBK Partners Group | South Korea | 361 |

Note: Deals that were completed between 2014 and June 2018.
Source: Thomson Reuters

# Global FDI by digital-related companies is increasing

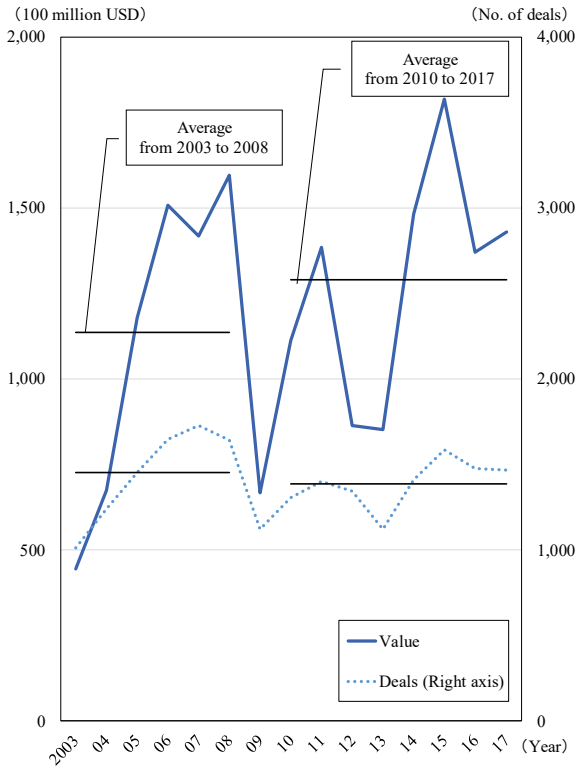
- Both the number of projects and value of global greenfield investments by digital-related companies increased between two periods of 2003-2008 and 2010-2017. The average of the 2010-2017 period ($89.4 billion, 3,128 cases) rose from the average of the 2003-2008 period ($76.4 billion, 2,348 cases).
- While the number of cross-border M&A deals by digital-related companies decreased from 1,452 deals to 1,387 deals between the same two periods, the overall M&A value increased from $113.6 billion in the 2003-2008 period to $128.9 billion in the 2010-2017 period . The transaction value per deal increased and the number of mega deals valued at more than $1 billion increased from 120 deals (annual average of 20 deals) in the 2003-2008 period to 197 deals (annual average of 25 deals) in the 2010-2017 period.

## Global cross-border greenfield investment by digital-related companies




Note: 1) Data is constructed on the basis of various news reports. Projects that are not completed within the year data is registered or estimated by FT are included.
2) Total of 23 digital-related industries (sectors).
Source: fDi Markets (Financial Times)

## Global cross-border M&As by digital related companies




Note: Deals in which the acquiror ultimate parent is classified as being in a digital-related industry are counted.
Source: Thomson Reuters

## Definition of the digital-related industries in foreign direct investment

Digital-related industries in cross-border greenfield investment and cross-border M&A correspond with (1) the ICT industry defined by the OECD and (2) digital-related goods in Section I-4 of this report. The industries were extracted by converting the International Standard Industrial Classification (ISIC) or HS codes into classification of the North American Industry Classification System (NAICS).

Cross-border greenfield investments, however, covers 23 industries (sectors) defined in fDi Markets in reference to industries mentioned above.

01. Software publishers, except video games
02. Video games, applications and digital content
03. Radio & TV brodadcasting
04. Cable & other subscription programming
05. Wired telecommunication carriers
06. Wireless telecommunication carriers
07. Satellite telecommunications
08. Other telecommunications
09. Data processing, hosting, & related services
10. Internet publishing & broad casting & web search
11. Custom computer programming services
12. Computer systems design services
13. Computer facilities management services
14. Other computer related services
15. Plastics & rubber industry machinery
16. Semiconductor machinery
17. Computer & peripheral equipment
18. Communications equipment
19. Audio & video equipment
20. Semiconductors & other electronic componets
21. Electromedical and Electrotherapeutic Apparatus
22. Wiring devices
23. Motor vehicle electrical & electronic equipment
*01-14 above are set as digital-related services and 15-23 are digital-related manufacturing.

Sources: "Manual for the Production of Statistics on the Information Economy - 2009 revised edition" (UNCTAD), "Concordance of 1989-2006 US HS codes to US SIC, SITC and NAICS codes over time" (Peter K Schott) and fDi Markets (Financial Times)

# Increasing investment from emerging and developing economies and by service-related companies

- The US accounted for the largest share of both global greenfield investments and cross-border M&A transactions by digital-related companies as an investor. In terms of the number of cases, the share of emerging and developing economies, particularly of China, has increased.
- Looking at global cross-border greenfield investments by digital-related companies by industry, the share of the service sector has heightened, reaching 70% in terms of value and 79.4% in terms of number of projects in the average of 2010-2017 period. Moreover, looking at cross-border M&As by digital-related companies by industry, the share of digital-related services accounted for more than half. The share in the number of deals expanded and that in software publishers in particular increased significantly.

## Global cross-border greenfield investment by digital-related companies (Source country)

(Units: 100 million USD, No. of projects, %)

| | Value | | | | Projects | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| World | 764 | 100.0 | 894 | 100.0 | 2,348 | 100.0 | 3,128 | 100.0 |
| US | 300 | 39.3 | 314 | 35.1 | 1,005 | 42.8 | 1,049 | 33.5 |
| UK | 34 | 4.5 | 59 | 6.6 | 158 | 6.7 | 283 | 9.0 |
| Japan | 71 | 9.2 | 53 | 5.9 | 157 | 6.7 | 161 | 5.1 |
| South Korea | 46 | 6.0 | 44 | 4.9 | 40 | 1.7 | 30 | 1.0 |
| China | 13 | 1.7 | 34 | 3.8 | 37 | 1.6 | 103 | 3.3 |
| Others | 300 | 39.2 | 389 | 43.5 | 951 | 40.5 | 1,503 | 48.1 |
| Developed economies | 594 | 77.7 | 652 | 73.0 | 2,029 | 86.4 | 2,625 | 83.9 |
| Emerging and developing economies | 170 | 22.3 | 241 | 27.0 | 319 | 13.6 | 504 | 16.1 |

Note: Table includes a total of 39 economies defined as developed economies by UNCTAD. Figures for emerging and developing economies are obtained by subtracting the figures for developed economies from the world total.
Source: fDi Markets (Financial Times)

## Global cross-border greenfield investments by digital-related companies (by industry)

(Units: 100 million USD, No. of projects, %)

| | Value | | | | Projects | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| Total | 764 | 100.0 | 894 | 100.0 | 2,348 | 100.0 | 3,128 | 100.0 |
| Digital-related manufacturing | 415 | 54.3 | 268 | 30.0 | 731 | 31.1 | 644 | 20.6 |
| Digital-related services | 349 | 45.7 | 626 | 70.0 | 1,617 | 68.9 | 2,484 | 79.4 |
| Data processing, hosting, & related services | 22 | 2.9 | 151 | 16.9 | 41 | 1.7 | 177 | 5.6 |
| Software publishers, except video games | 97 | 12.7 | 127 | 14.2 | 784 | 33.4 | 1,144 | 36.6 |
| Internet publishing & broad casting & web search | 20 | 2.6 | 38 | 4.3 | 127 | 5.4 | 376 | 12.0 |

Source: fDi Markets (Financial Times)

## Global cross –border M&As by digital-related companies (Acquiror ultimate parent nation)

(Units: 100 million USD, No of deals, %)

| | Value | | | | Deals | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| World | 1,136 | 100.0 | 1,289 | 100.0 | 1,452 | 100.0 | 1,387 | 100.0 |
| US | 261 | 22.9 | 385 | 29.9 | 419 | 28.9 | 378 | 27.3 |
| Japan | 31 | 2.7 | 156 | 12.1 | 71 | 4.9 | 139 | 10.0 |
| UK | 128 | 11.3 | 120 | 9.3 | 128 | 8.8 | 95 | 6.8 |
| Germany | 89 | 7.8 | 91 | 7.0 | 84 | 5.8 | 70 | 5.0 |
| China | 68 | 6.0 | 44 | 3.4 | 16 | 1.1 | 49 | 3.5 |
| Others | 559 | 49.3 | 493 | 38.2 | 734 | 50.5 | 657 | 47.3 |
| Developed economies | 914 | 80.4 | 1,124 | 87.2 | 1,217 | 83.8 | 1,130 | 81.5 |
| Emerging and developing economies | 222 | 19.6 | 165 | 12.8 | 235 | 16.2 | 257 | 18.5 |

Note: Table includes a total of 36 economies defined as developed economies by UNCTAD. Figures for emerging and developing economies are obtained by subtracting the figures for developed economies from the world total.
Source: Thomson Reuters

## Global cross-border M&As by digital-related companies (by industry)

(Units: 100 million USD, No of deals, %)

| | Value | | | | Deals | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| Total | 1,136 | 100.0 | 1,289 | 100.0 | 1,452 | 100.0 | 1,387 | 100.0 |
| Digital-related manufacturing | 451 | 39.7 | 564 | 43.8 | 642 | 44.2 | 592 | 42.7 |
| Digital-related services | 676 | 59.5 | 718 | 55.7 | 771 | 53.1 | 763 | 55.0 |
| Software publishers | 64 | 5.6 | 101 | 7.8 | 253 | 17.4 | 303 | 21.8 |

Source: Thomson Reuters

# Japan's outward and inward FDI in the digital field

- Dividing cross-border greenfield investments by Japanese digital-related companies into two periods of 2003-2008 and 2010-2017, the value decreased and the number of projects increased. By industry, the share of the service sector expanded. Cross-border M&As by Japanese digital-related companies increased in terms of both value and number of cases.
- Looking at cross-border greenfield investment and M&As within Japan by digital-related companies, the value decreased and the number of cases increased. By industry, the share of the service sector expanded in greenfield investments. In M&As, the share of the manufacturing sector increased in terms of value and the share of the service sector increased in terms of number of deals.

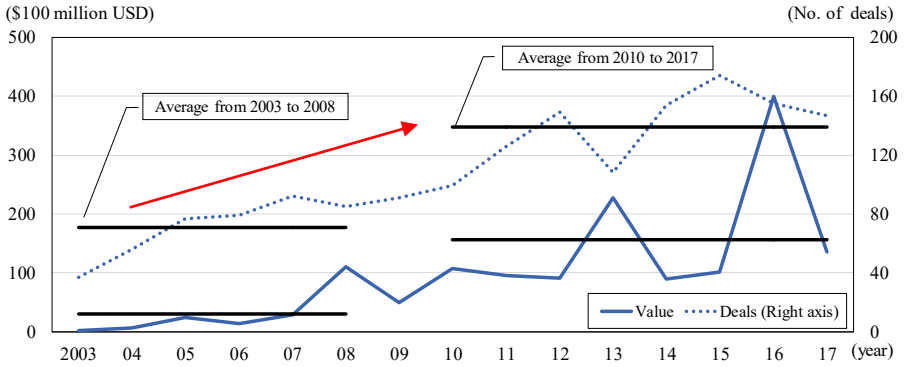
## Cross-border greenfield investment by Japanese digital-related companies

(Units: 100 million USD, No. of projects, %)

| | Value | | | | Projects | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| Total | 71 | 100.0 | 53 | 100.0 | 157 | 100.0 | 161 | 100.0 |
| Digital-related manufacturing | 61 | 86.9 | 34 | 64.6 | 116 | 73.7 | 97 | 60.1 |
| Motor vehicle electrical & electronic equipment | 8 | 11.2 | 10 | 19.6 | 18 | 11.7 | 21 | 13.3 |
| Digital-related services | 9 | 13.1 | 19 | 35.4 | 41 | 26.3 | 64 | 39.9 |
| Data processing, hosting, & related services | 2 | 2.4 | 10 | 18.8 | 2 | 1.3 | 11 | 6.9 |
| Internet publishing & broad casting & web search | 0 | 0.1 | 1 | 2.3 | 2 | 1.3 | 11 | 7.0 |

Source: fDi Markets (Financial Times)

## Cross-border M&As by Japanese digital-related companies




Note: Deals in which the acquiror ultimate parent is classified as being in a digital-related industry are counted.
Source: Thomson Reuters

## Cross-border greenfield investment within Japan by digital-related companies

(Units: Million USD, No. of projects, %)

| | Value | | | | Projects | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| Total | 2,951 | 100.0 | 1,965 | 100.0 | 56 | 100.0 | 61 | 100.0 |
| Digital-related manufacturing | 2,533 | 85.8 | 1,373 | 69.9 | 20 | 34.6 | 10 | 16.7 |
| Semiconductors & other electronic componets | 2,393 | 81.1 | 1,281 | 65.2 | 8 | 14.8 | 4 | 6.0 |
| Digital-related services | 418 | 14.2 | 592 | 30.1 | 37 | 65.4 | 51 | 83.3 |
| Software publishers, except video games | 196 | 6.6 | 256 | 13.0 | 19 | 34.0 | 29 | 47.8 |
| Data processing, hosting, & related services | 35 | 1.2 | 133 | 6.8 | 1 | 2.1 | 5 | 8.2 |

Source: fDi Markets (Financial Times)

## Cross-border M&As within Japan by digital-related companies

(Units: Million USD, No of deals, %)

| | Value | | | | Deals | | | |
|---|---|---|---|---|---|---|---|---|
| | 2003-2008 Average | Share | 2010-2017 Average | Share | 2003-2008 Average | Share | 2010-2017 Average | Share |
| Total | 1,454 | 100.0 | 1,419 | 100.0 | 20 | 100.0 | 24 | 100.0 |
| Digital-related manufacturing | 705 | 48.5 | 760 | 53.5 | 13 | 68.4 | 15 | 62.2 |
| Digital-related services | 749 | 51.5 | 621 | 43.8 | 6 | 29.1 | 8 | 34.2 |

Source: Thomson Reuters

# Major digital companies in the world pursuing AI development

■ Comparing major American and Chinese digital companies, American companies are making sales in various regions around the world whereas Chinese companies are highly dependent on their domestic market. Moreover, major digital companies in the world are actively working on AI development to improve their products and services.

**Business developments of major digital companies in the world**

| Company Name (Year of establishment, nationality) | Sales ($ million) | Major business segment (Share of sales) | Other segments | Sales by geographical segments | Business overview | Recent Investments |
|---|---|---|---|---|---|---|
| Amazon (1994, United States) | 177,866 | Online stores (60.9%) | Third-party seller services: 17.9%<br>AWS (cloud computing): 9.8%<br>Subscription services (Amazon Prime, etc.): 5.5%<br>Physical stores: 3.3%<br>Other: 2.6% | U.S.: 67.7%<br>Germany: 9.5%<br>Japan: 6.7%<br>U.K.: 6.4%<br>Other: 9.6% | ●In the e-commerce business, its largest segment, expansion into regions outside of the United States and Europe has been prominent. The company has also revealed that it will focus on AI development.<br>●In terms of new businesses, in addition to expansion of the offline business such as Amazon Go, it announced in January 2018 that it would start its own health insurance business for its employees. In logistics, Amazon has submitted a patent for drone delivery. As seen in these examples, the company is attempting to expand its business operations in various fields. | ●In the United States, Amazon acquired Whole Foods for $13.7 billion in July 2017. It has been reported that Whole Foods locations might be used as bases for offline retail.<br>●In Asia, the company has focused particularly on India so far. It announced in 2016 that it would make an investment totaling $5 billion in the area. In Southeast Asia, the company started its services in Singapore in July 2017. In the Middle East, the company acquired Souq.com, the biggest in the region, in March 2017 as the basis of expansion into the region. |
| Alphabet (1998, United States) | 110,855 | Google advertising revenues (86.0%) | Google other revenues: 12.9%<br>Other Bets: 1.1% | U.S.: 47.3%<br>Europe, Middle East, Africa: 32.5%<br>Asia Pacific: 14.6%<br>Other Americas: 5.5% | ●In 2017, revenues from Google Cloud, YouTube and hardware (such as Google Home) saw remarkable increases. Going forward, it will focus even further on AI development, which enables the company to improve the entire business opeations.<br>●"Other Bets" include "Fiber," which handles the communication network infrastructures, "Nest," which handles sales of smart home products such as thermostats and doorbells, and "Verily," which conducts research in life science. | ●AI centers (research laboratories) in various locations, such as New York, Tokyo, and Tel Aviv, have been engaged in the development of AI. Most recently, the company announced that it would set up new research laboratories in Beijing, Paris and Accra (Ghana).<br>●The company used to be active in acquisition of IT-related corporations, but the number of cases has been on a downtrend since 2015. |
| Alibaba (1999, China) | 39,898 | Core commerce (85.5%) | Digital media and entertainment: 7.8%<br>Cloud computing: 5.4%<br>Innovation initiatives and other: 1.3% | (Of the Core Commerce)<br>China: 85.8%<br>Other regions: 9.7%<br>Other such as transport: 4.4% | ●Three factors, namely 1) personalization on its e-commerce platforms in China, 2) expansion into overseas businesses through organic growth and acquisitions, and 3) expansion of potential markets through "New Retail," integration between online and offline sales, are pointed out as factors of the expansion in sales in the retail business.<br>●Political ties are also observed, especially in Southeast Asia. The Malaysian government announced it would establish the Digital Free Trade Zone (DFTZ) jointly with Alibaba and its affliates in March 2017. Moreover, Executive Chairman Jack Ma met with Prime Minister Prayut of Thailand and signed four memorandums on human resource development and platform development, etc. | ●In "New Retail", the investment amount for Hema, a fresh food supermarket under the umbrella is estimated to be as much as $8 billion. Domestically, it invested in SenseTime, which engages in AI development.<br>●In overseas markets, the company is actively investing in e-commerce-related companies in Southeast Asia and India. In the Middle East, it established its first data center in Dubai in 2016 for the cloud computing services and plans to start the operation of a second data center in 2018. The company has also announced establishment of a research center in Israel. |
| Tencent (1998, China) | 35,172 | Value-add services (Online games, SNS, etc.) (64.8%) | Online advertising: 17.0%<br>Other: 18.2% | China: 96.6%<br>Other: 3.4% | ●The company operates QQ, the biggest SNS website in China and messaging service Weixin among others. On QQ, the company is working to provide information more attractive to its users by improving algorithms as well as aiming to expand games and digital contents such as videos, music and books.<br>●In online advertisements, it provides a system that facilitates further effective use of advertisements by introducing AI and data analysis. | ●Compared to the company's competitor Alibaba, it invests largely in overseas markets. The largest investment so far was acquisition of Supercell, a leading gaming corporation in Finland.<br>●In Asia, the company is a major shareholder of JD.com, a leading e-commerce corporation in China, and it has also invested in GO-JEK, a ride-hailing service corporation in Indonesia. |

Notes: 1) Overall sales and sales by segment are calculated based on data such as each company's annual financial statements. Figures for companies other than Alibaba are for 2017 and figures for Alibaba are sales for one year to the end of March 2018. 2) Sales of Tencent are based on the sales in Chinese Yuan (237,760 RMB) in the company's financial statement. Based on the average conversion rate for 2017 (IFS), it was calculated at a rate of 6.76 RMB per dollar. 3) "Nationality" indicates each company's major operational bases and is not necessarily the same as where the comapny is incorporated.

Sources: The annual statement of accounts of each company, EIKON (Thomson Reuters), reports from JETRO's overseas offices and relevant press materials

# Digital companies in emerging and developing countries promoting overseas business

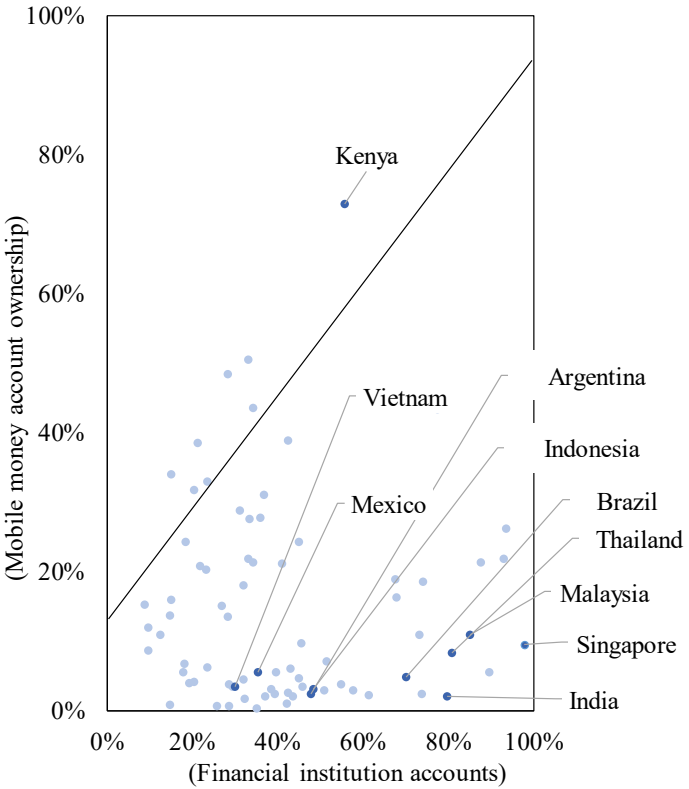
- In terms of other digital companies in emerging and developing countries, GO-JEK in Indonesia has shown active movements by announcing expansion into Vietnam, Thailand, Singapore and the Philippines, for example.
- Leapfrogging, a phenomenon of accelerating development by skipping several stages, taking advantage of lack of social infrastructure, is one of the features of digitalization in emerging and developing countries. For example, mobile money has become essential infrastructure in Kenya, with prevalence of mobile money account greater than that of financial institution account.

**Examples of emerging digital companies**

| Region | Company (nationality) | Company profile | Major trends after 2017 |
|---|---|---|---|
| Southeast Asia | GO-JEK (Indonesia) | In addition to a motorcycle ride-hailing phone service, GO-JEK provides a wide range of other on-demand services such as for food delivery. | ・May-2018: GO-JEK announced its international expansion to Vietnam, Thailand, Singapore and the Philippines.<br>・June-2018: GO-JEK announced the opening of units in Vietnam and Thailand. |
| | Ascend Money (Thailand) | Ascend Money operates TrueMoney, a payment platform, and Ascend Nano, an online financing platform, utilizes cloud data and digital technologies. Ascend Money operates business in Southeast Asia. | ・August-2017: TrueMoney and KREDIT Microfinance Institution, one of the largest microfinance institutions in Cambodia, announced a partnership agreement on Bill Payment Service.<br>・April-2018: TrueMoney has received an intermediary payment services license from the State Bank of Vietnam. |
| | FPT (Vietnam) | FPT is Vietnam's leading technology group. FPT Software, a subsidiary of FPT, has six locations in Japan. | ・August-2017: FPT officially opened an office in Denver, US.<br>・September-2017: FPT Japan officially opened the Okinawa Research and Development Centre, which serves as an Asian IT hub. |
| Southwest Asia | One97 Communications (India) | One97 Communications runs operations such as Paytm, a payment service. | ・March-2017: One97 communications entered the Canadian market with the launch of the Paytm Canada app, through with which electricity bills, etc. are able to be paid. |
| | ANI Technologies (India) | ANI Technologies owns and runs operations such as an online cab-hailing service, Ola. | ・February-2018: ANI Technologies launched Ola in Perth, Australia. |
| Latin America | MercadoLibre (Argentina) | MercadoLibre provides e-commerce services in Central and South America, such as Argentina and Brazil. It accounts for the largest shares of Argentina's and Brazil's e-commerce markets, at 38.9% and 19.3% respectively. It commands the second highest share in Mexico, at 8.5%. | ・April-2018: MercadoLibre announced its partnership with Plaza Logística, a logistics facility developer, for the construction of a distribution center.<br>・April-2018: MercadoLibre will invest $275 million this year in Mexico to establish distribution centers and more. |
| Middle East, Africa | Safaricom (Kenya) | Safaricom is a telecommunications company that provides integrated telecommunication services, including fixed voice and data-transfer services as well as M-PESA, a mobile money transfer services. | ・May-2018: Kenyan taxi-hailing firm, Little, which has a partnership with Safaricom, started operations in Uganda.<br>・June-2018: An Indian fintech company purchases a part of Little 's shares. |

Source: Reports from JETRO's overseas offices, press releases from the respective companies, "Passport"（Euromonitor International）, EIKON（Thomson Reuters）, various press reports, etc.

**Account ownership situation by country (2017)**




Note: 77 countries whose data as of 2017 were accessible for both were plotted. All of the data are for those over 15 years old.
Source: "Global Findex Database 2017" (World Bank)

# Chapter 3: Trends in global trade rule formation

Multilateral trading system facing serious challenges

# Number of FTAs in force around the world reaches 301

- The number of free trade agreements (FTAs) in force around the world as of 30 June 2018 is 301 (based on JETRO surveys, including customs unions and preferential trade agreements). While the pace in the number of new FTAs that enter into force slowed down, developments were observed in the large-scale FTAs in 2017 such as the EU-Canada FTA (CETA) as well as the CPTPP (TPP11) and the Japan-EU EPA, which Japan is involved in.
- Looking at the FTA coverage ratio in force for major countries/regions, most countries/regions were around the same level as last year while the coverage ratio rose substantially for Canada, due to the start of provisional application of the FTA with EU. Out of the FTA partner countries/regions of Canada, the value of trade with EU came to the second place after NAFTA.

**Number of FTAs which are in force by region and year (as of end of June 2018)**

(Unit: Number)

| | Asia Pacific | Americas | Europe | Middle East/ Africa | Russia/ CIS | Cross-regional | Total |
|---|---|---|---|---|---|---|---|
| 1955～59 | | | 1 | 1 | | | 2 |
| 60～64 | | 1 | 1 | 1 | | | 3 |
| 65～69 | | | | | | | 0 |
| 70～74 | | 1 | 1 | | | 2 | 4 |
| 75～79 | 2 | | | | | 1 | 3 |
| 80～84 | 2 | 1 | | | | | 3 |
| 85～89 | | 3 | | 1 | | 2 | 6 |
| 90～94 | 4 | 1 | 5 | 1 | 5 | 1 | 17 |
| 95～99 | | 7 | 3 | 9 | 14 | 6 | 39 |
| 2000～04 | 9 | 7 | 5 | 8 | 3 | 18 | 50 |
| 2005～09 | 20 | 8 | 5 | 4 | 2 | 39 | 78 |
| 2010～14 | 13 | 11 | 6 | | 1 | 35 | 66 |
| 2015～ | 8 | 5 | 1 | | 1 | 15 | 30 |
| 2015 | 5 | 1 | 1 | | 1 | 3 | 11 |
| 2016 | 1 | 2 | | | | 6 | 9 |
| 2017 | 1 | 2 | | | | 5 | 8 |
| 2018 | 1 | | | | | 1 | 2 |
| total | 58 | 45 | 28 | 25 | 26 | 119 | 301 |

Source: WTO, data from each government and relevant organizations

**FTA coverage ratio of major countries/regions (2017)**

(Unit: %)

| | FTA coverage ratio | | | FTA partner countries/regions | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Two-way trade | Export | Import | 1st | | 2nd | | 3rd | |
| Japan | 23.3 | 21.5 | 25.2 | ASEAN | 15.2 | Australia | 4.0 | Mexico | 1.2 |
| US | 39.0 | 46.6 | 34.0 | NAFTA | 29.3 | South Korea | 3.1 | DR-CAFTA | 1.4 |
| Canada | 79.8 | 86.8 | 73.5 | NAFTA | 66.6 | EU | 9.9 | South Korea | 1.3 |
| Mexico | 79.5 | 92.6 | 66.6 | NAFTA | 65.4 | EU | 8.7 | Japan | 2.7 |
| Chile | 90.8 | 90.1 | 91.5 | China | 25.0 | US | 16.3 | EU | 14.3 |
| Peru | 89.3 | 88.9 | 89.7 | China | 24.4 | US | 18.0 | EU | 13.6 |
| Colombia | 66.2 | 67.3 | 65.2 | US | 26.9 | EU | 14.7 | Pacific Alliance | 10.1 |
| Brazil | 16.1 | 17.5 | 14.2 | Mercosur | 9.6 | CAN | 3.1 | Chile | 2.3 |
| EU28 Total trade | 75.4 | 76.3 | 74.4 | EU | 63.8 | Switzerland | 2.5 | Turkey | 1.5 |
| EU28 Extra-regional | 31.6 | 34.4 | 28.8 | Switzerland | 6.9 | Turkey | 4.1 | EEA | 3.3 |
| China | 29.8 | 22.8 | 38.8 | ASEAN | 12.3 | South Korea | 6.9 | Taiwan | 4.9 |
| South Korea | 68.2 | 72.4 | 63.0 | China | 22.8 | ASEAN | 14.2 | US | 11.3 |
| ASEAN | 58.8 | 56.1 | 61.6 | ASEAN | 22.3 | China | 16.7 | Japan | 8.4 |
| Singapore | 78.6 | 74.8 | 80.7 | ASEAN | 23.9 | China | 14.4 | US | 9.0 |
| Malaysia | 63.3 | 63.1 | 63.6 | ASEAN | 27.5 | China | 16.4 | Japan | 7.8 |
| Vietnam | 58.1 | 44.2 | 71.4 | 中国 | 20.2 | South Korea | 13.8 | ASEAN | 11.6 |
| Thailand | 59.7 | 57.3 | 62.3 | ASEAN | 22.7 | China | 16.1 | Japan | 11.8 |
| Indonesia | 65.8 | 62.2 | 69.6 | ASEAN | 24.1 | China | 18.0 | Japan | 10.1 |
| India | 18.9 | 22.2 | 16.7 | ASEAN | 10.8 | South Korea | 2.8 | Japan | 2.0 |
| Australia | 68.4 | 71.6 | 65.1 | China | 27.7 | ASEAN | 12.6 | Japan | 11.0 |
| New Zealand | 54.1 | 56.5 | 51.8 | China | 21.0 | Australia | 14.4 | ASEAN | 12.4 |

Note: ①The subject countries include countries and regions which have established an FTA as of the end of June 2018. The figures are based upon trade value in 2017.
②Abbreviations: The Central American-Dominican Republic Free Trade Agreement (DR-CAFTA), Andean Community (CAN), the European Economic Area (EEA).
③China's figures exclude those of Hong Kong (7.1%) and Macau (0.1%).
④Figures for Canada and Singapore were calculated by export statistics which exclude re-exported trade.
Source: Documents and trade statistics from each country's government, "DOTS, June 29th, 2018"(IMF)

# Japan's FTA coverage ratio expected to rise

- Japan's FTA coverage ratio in force for 2017 was 23.3%. Although the rate was at the same level as the previous few years, the ratio is estimated to rise to 36.5%, when Japan-EU EPA and TPP 11 come into force in 2019 as expected. Furthermore, if FTAs under negotiation are added, Japan's FTA coverage ratio will rise to 70.6%.

**Japan's trade values by product category and its FTAs in force, signed, and under negotiation**

(%)

| Product Category | | World (million dollar) | FTAs in force | | | | | FTAs signed | | | | in force + signed (only new FTA partner) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Australia | ASEAN | India | Mexico | TPP11 | Canada | NZ | EU | |
| Export | Transportation machinery | 164,075 | 17.0 | 4.7 | 8.4 | 0.3 | 2.3 | 15.1 | 3.1 | 1.0 | 12.6 | 33.6 |
| | General Machinery | 138,452 | 19.3 | 1.1 | 14.4 | 1.7 | 1.9 | 10.0 | 0.7 | 0.3 | 13.1 | 33.4 |
| | Electrical equipment | 105,600 | 21.1 | 0.4 | 18.3 | 1.0 | 1.3 | 11.7 | 0.6 | 0.0 | 9.9 | 31.6 |
| | Chemicals | 89,361 | 18.8 | 1.0 | 13.9 | 2.1 | 0.7 | 9.1 | 0.4 | 0.1 | 10.2 | 29.5 |
| | Iron and Steel | 37,802 | 37.3 | 0.6 | 28.5 | 3.3 | 4.5 | 15.4 | 0.6 | 0.1 | 2.9 | 40.9 |
| | Total | 698,329 | 21.5 | 2.3 | 15.2 | 1.3 | 1.6 | 13.2 | 1.4 | 0.4 | 11.1 | 34.3 |
| Import | Mineral Fuels | 141,112 | 31.2 | 18.2 | 11.4 | 0.9 | 0.6 | 26.7 | 1.1 | 0.0 | 0.2 | 32.5 |
| | Machinery and equipment | 220,209 | 19.4 | 0.1 | 16.3 | 0.3 | 1.2 | 9.7 | 0.5 | 0.0 | 14.5 | 34.4 |
| | Chemicals | 78,295 | 21.3 | 0.4 | 14.7 | 1.2 | 0.3 | 8.9 | 1.0 | 0.3 | 29.3 | 51.9 |
| | Food and beverages | 63,256 | 27.4 | 6.1 | 14.2 | 1.2 | 1.7 | 21.2 | 4.0 | 2.1 | 14.7 | 48.3 |
| | Textile/Textile products | 35,067 | 25.4 | 0.1 | 23.8 | 1.2 | 0.1 | 12.4 | 0.1 | 0.0 | 5.3 | 30.9 |
| | Total | 672,096 | 25.2 | 5.8 | 15.3 | 0.8 | 0.9 | 17.1 | 1.6 | 0.4 | 11.6 | 38.8 |
| Two-way trade | | 1,370,426 | 23.3 | 4.0 | 15.2 | 1.0 | 1.2 | 15.1 | 1.5 | 0.4 | 11.3 | 36.5 |

| Product Category | | FTAs under negotiation | | | | | | Total | US | Total (incl. US) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | RCEP | China | South Korea | Turkey | GCC | | | |
| Export | Transportation machinery | 30.2 | 23.0 | 7.6 | 1.0 | 0.5 | 6.3 | 49.3 | 33.4 | 82.7 |
| | General Machinery | 50.8 | 48.5 | 21.4 | 9.7 | 0.8 | 1.4 | 66.8 | 21.4 | 88.2 |
| | Electrical equipment | 52.9 | 51.8 | 25.2 | 6.9 | 0.4 | 0.7 | 64.8 | 14.2 | 79.0 |
| | Chemicals | 57.8 | 56.2 | 25.8 | 13.2 | 0.3 | 1.1 | 70.0 | 12.5 | 82.5 |
| | Iron and Steel | 70.1 | 66.3 | 19.1 | 14.7 | 0.5 | 2.8 | 78.6 | 8.0 | 86.6 |
| | Total | 48.7 | 45.7 | 19.0 | 7.6 | 0.5 | 2.4 | 63.9 | 19.3 | 83.2 |
| Import | Mineral Fuels | 80.1 | 33.4 | 0.7 | 2.2 | 0.0 | 46.4 | 82.1 | 4.3 | 86.4 |
| | Machinery and equipment | 60.1 | 60.0 | 38.7 | 4.5 | 0.1 | 0.0 | 77.7 | 13.6 | 91.3 |
| | Chemicals | 41.2 | 40.3 | 18.1 | 5.6 | 0.0 | 0.8 | 76.4 | 16.2 | 92.6 |
| | Food and beverages | 41.1 | 40.2 | 13.0 | 3.5 | 0.3 | 0.0 | 65.7 | 19.7 | 85.4 |
| | Textile/Textile products | 88.1 | 87.6 | 61.2 | 1.3 | 0.4 | 0.0 | 93.8 | 1.2 | 95.0 |
| | Total | 61.2 | 50.9 | 24.5 | 4.2 | 0.1 | 10.1 | 77.8 | 10.7 | 88.5 |
| Two-way trade | | 54.8 | 48.3 | 21.7 | 5.9 | 0.3 | 6.1 | 70.6 | 15.1 | 85.7 |

Source: "Trade Statistics" (MOF)

# Signature of the Japan-EU EPA

- The Japan-EU EPA was signed on July 17, 2018. This signature was achieved after five years since the start of negotiation, full eleven years since the planning stage when the taskforce was set up among the business community in Japan and Europe. The EPA is expected to enter into force in early 2019.
- In terms of FTA partner countries/regions in force for Japan, this will be an agreement with the largest-scale trading partner after ASEAN. The Japan-EU EPA includes high-level rules that have not been seen in any FTAs in the past such as an independent chapter on corporate governance.

## Road to conclusion of the Japan-EU EPA negotiation

| Date | Process |
|---|---|
| Oct. 2007 | An investigation taskforce established under the Japan-EU Business Dialogue Round Table (representative in Japan: JETRO) |
| Jul. 2008 | The joint report of the taskforce submitted to Prime Minister Fukuda (at the time) and the Ambassador of the Delegation of the European Union to Japan |
| May 2009 | Initiatives toward tackling non-tariff measures agreed at a regular Japan-EU summit |
| Apr. 2010 | Establishment of a joint High-Level Group agreed at a regular Japan-EU summit |
| May 2011 | Early execution of "scoping exercise" (specification of the scope of negotiations) agreed at a regular Japan-EU summit |
| May 2012 | Completion of "scoping exercise" announced at the EU Foreign Affairs Council (trade) |
| Jul. 2012 | The European Commission decides to request all EU member countries to grant authority to negotiate the FTA with Japan |
| Nov. 2012 | The EU Foreign Affairs Council mandates the European Commission to start negotiations for the Japan-EU EPA/FTA |
| Mar. 2013 | The start of negotiations for the Japan-EU EPA/FTA decided at a summit telephone talk and the first negotiation meeting was held in the |
| Apr. 2013-Apr. 2017 | The total of 18 negotiation meetings were held |
| Jul. 2017 | Agreements in principle at a political level confirmed at a regular Japan-EU summit on July 6 |
| Dec. 2017 | Finalization of negotiations at a Japan-EU telephone summit talk on December 8 announced |
| Apr. 2018 | The European Commission proposes to the EU Council signature of the Japan-EU EPA on April 18 |
| Jul. 2018 | Signature of the Japan-EU EPA<br>Announcement of the agreement in principle on transfer of personal data between the authorities |

Source: Materials from JETRO, the Ministry of Foreign Affairs and the Ministry of Economy, Trade and Industry

## Structure and overview of the chapters of the Japan-EU EPA

| Chapter | Title | Overview and characteristic provisions |
|---|---|---|
| Chapter 1 | General provisions | Preamble, definitions, taxation, security exception, relation to the WTO agreement, etc. |
| Chapter 2 | Trade in goods | Mutual facilitation of wine product export is provided in Section C (the self-certification system, etc.) |
| Chapter 3 | Rules of origin and origin procedures | Application of the statement of origin (self-certification) system for the certificate of origin system |
| Chapter 4 | Customs matters and trade facilitation | Transparency of customs administration, simplification of customs procedures, mutual customs cooperation, etc. |
| Chapter 5 | Trade remedies | Provisions on bilateral safeguard measures and provisions in relation to the WTO safeguard measures |
| Chapter 6 | Sanitary and phytosanitary measures | Conditions and simplification of quarantine procedures, approval of equivalence, establishment of a special committee on SPS measures, etc. |
| | Annex on food additives | Transparency, consideration of international standards, information exchange, etc.<br>Subject to the dispute settlement procedures under Chapter 21 |
| Chapter 7 | Technical barriers to trade | Detailed provisions on international standardization by listing the mutually agreed international standards |
| Chapter 8 | Trade in services (general provisions) | General provisions, definitions, establishment of a special committee, general exceptions, etc. |
| | Investment liberalisation | List of non-conforming measures in investment liberalisation of the service sector |
| | Cross-border trade in services | List of non-conforming measures (adoption of liberalisation of negative list approach) |
| | Entry and temporary stay of natural persons | Inclusion of transfers for business purposes and freedom of stay as principles, and clarification of relationships with other provisions |
| | Domestic regulatory framework | Provisions by sector of postal and courier services, telecommunications services, financial services and international maritime transport services |
| | Electronic commerce | Free of custom duties, prohibition of request to access source code, approval of electronic signature, consumer protection, etc. |
| Chapter 9 | Capital movements | Ensuring the free movement of capital for the purpose of Chapter 8 and confirming the rights to conduct appropriate regulations |
| Chapter 10 | Government procurement | Listing conditions, etc. for participation incorporated into rights and obligations under the WTO's agreement on government procurement (GPA) |
| Chapter 11 | Competition policy | Confirmation that competition laws of both parties are applicable to both private and public corporations |
| Chapter 12 | Subsidies | Clarifying subsidies to fiscally problematic corporations as prohibited subsidies |
| Chapter 13 | State-owned enterprises | Prohibition of special treatment toward state-owned enterprises, principle of non-discriminatory treatment |
| Chapter 14 | Intellectual property | Detailed provisions on geographical indication rights (including enforcement) |
| Chapter 15 | Corporate governance | Confirming the importance of corporate governance and ensuring sufficient disclosure of information |
| Chapter 16 | Trade and sustainable development | Consideration of labour rights, biological diversity, forest protection, preservation of fisheries resources, etc. |
| Chapter 17 | Transparency | Confirmation regarding publication of various laws and regulations, etc. and securing enquiry methods |
| Chapter 18 | Good regulatory practices and regulatory cooperation | Provisions on disclosure of information on planned regulatory measures, ensuring opportunities to submit comments, information exchange among the authorities, etc. |
| Chapter 19 | Cooperation in the field of agriculture | Provision on cooperation for the purpose of sustainable agricultural development including rural development |
| Chapter 20 | Small and medium-sized enterprises | Active provision of various information (on trade, intellectual property, regulations and standards, etc.) that is beneficial to SMEs |
| Chapter 21 | Dispute settlement | Provisions on dispute settlement between the nations (consultation, mediation and arbitration) |
| Chapter 22 | Institutional provisions | Confirmation of establishment of a joint committee and establishment of various special committees, etc. |
| Chapter 23 | Final provisions | This agreement shall be enter into force two months after procedures for entry into force have been completed by both parties |

Source: The finalized texts of the agreement (as of April 18, 2018) on the European Commission website

# Large impacts of the Japan-EU EPA on exports from Japan

- Japan paid tariffs of around $2.6 billion for exports to Europe in 2017 (JETRO estimate). Based on the amount of imports for 2017, with $1.07 billion for automobiles as the leading figure, Japan is estimated to have paid tariffs of over $10 million for 31 categories on the HS 4-digit level annually. As the tariffs for 100% of the industrial products will be eliminated in the end, the impacts of the Japan-EU EPA are significant.
- In South Korea, where an FTA with EU has entered into force, 87.4% of the amount of imports to EU is tax-free. In contrast, 61.8% of imports from Japan to EU are taxed. The effects of tariffs following the agreement entering into force are expected to be significant in terms of competition with South Korea regarding EU.

**EU tariffs imposed on imports from Japan (for items with an estimated value of over 30 million USD in 2017, JETRO estimate)**

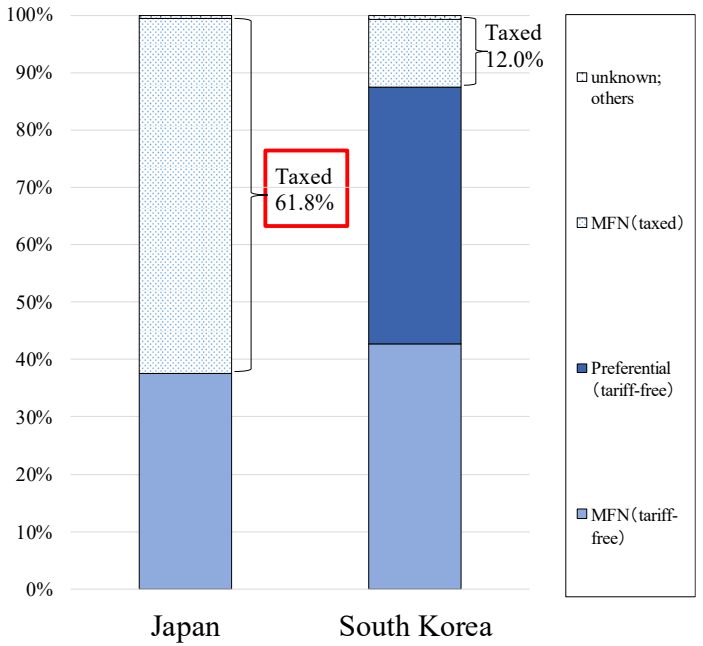
(1,000 USD, %)

| HS code | Item | Tariffs paid (estimated) | Average Applied Tariff rate | Import Value | Import ratio |
|---|---|---|---|---|---|
| 8703 | Passanger vehicles and other automobiles | 1,074,504 | 10.0 | 10,746,534 | 13.9 |
| 8708 | Parts & accessories for motor vehicles (Head 8701-8705) | 181,755 | 3.9 | 4,718,911 | 6.1 |
| 8711 | Motorcycles and cycles fitted with an auxiliary motor | 68,873 | 6.1 | 1,127,823 | 1.5 |
| 8482 | Ball or roller bearings and parts | 53,409 | 8.0 | 667,929 | 0.9 |
| 8411 | Turbojets, turbopropellers & other gas turbines, parts | 42,297 | 2.9 | 1,472,549 | 1.9 |
| 8528 | TV receivers, including video monitors & projectors | 40,438 | 6.8 | 594,125 | 0.8 |
| 9002 | Optical elements, mounted; parts & accessories | 33,697 | 6.5 | 519,055 | 0.7 |
| 8511 | Electric ignition equipment; generators; parts | 30,879 | 3.2 | 964,977 | 1.3 |
| 4011 | New pneumatic tires, of rubber | 30,578 | 4.4 | 693,193 | 0.9 |
| | Total | 2,582,393 | 3.4 | 77,053,673 | 100.0 |

Note: The amount of estimated paid tariffs was calculated by multiplying the import value of items at the six-digit HS code level by the MFN tariff rates and adding up the values of items sharing the same four-digit level code, based on the data as of April 2018.

Source: Eurostat and WTO

**Tariffs applied to EU imports from Japan and South Korea**




Note: Based on data of 2017. MFN stands for Most Favored Nation tariff rate.
Source: Eurostat

# The TPP11, which will create the wide-area economic zone in the Pacific rim

- After the United States announced withdrawal from the TPP in January 2017, the eleven countries reached agreement in principle on the "Comprehensive Progressive Agreement for Trans-Pacific Partnership (CPTPP)" (commonly called the TPP11) in November 2017 and signed the agreement on March 8, 2018. The CPTPP incorporated provisions of the TPP agreement as a whole with the exception of adoption of 22 provisions to be suspended. If ratification of each country proceeds smoothly, the agreement is projected to enter into force in early 2019.
- For Japan, new FTA networks will be established with Canada and New Zealand with the CPTPP. For the TPP11 countries, the economic zone will be formed with trading partners that take up a double-digit proportion of the export amount.
- In May 2018, Deputy Prime Minister of Thailand announced an intention to participate in the TPP11 as well as several Pan-Pacific countries and regions such as Columbia showing interest in the TPP on various political levels. An increase in the number of countries and regions will expand the economic zone that the CPTPP comprises and will raise its significance. Looking at the average tariff rates of countries and regions willing to participate, high tariff items with over double-digit rates can often be found.

## Ratio of export to TPP11 member countries (2017)

(%)

| | | Ratio of export to TPP11 member countries (export amount to partner country/total export amount) | | | | | | | | | | | | | Total export amount (100 million USD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Canada | Mexico | Peru | Chile | Australia | New Zealand | Singapore | Malaysia | Vietnam | Brunei | Japan | Amount of export to TPP 11 | Amount of export to new FTA countries | |
| Exporting Country | Canada | | 1.4 | 0.1 | 0.2 | 0.4 | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 2.2 | 4.9 | 3.2 | 4,212 |
| | Mexico | 2.8 | | 0.4 | 0.4 | 0.3 | 0.0 | 0.2 | 0.2 | 0.1 | 0.0 | 1.0 | 5.4 | 0.8 | 4,095 |
| | Peru | 2.7 | 0.9 | | 2.4 | 0.6 | 0.1 | 0.1 | 0.3 | 0.3 | 0.0 | 4.2 | 11.5 | 1.2 | 433 |
| | Chile | 2.0 | 1.8 | 2.5 | | 0.3 | 0.1 | 0.1 | 0.3 | 0.4 | 0.0 | 8.8 | 16.3 | 0.0 | 659 |
| | Australia | 0.5 | 0.1 | 0.0 | 0.1 | | 3.0 | 2.2 | 1.9 | 1.5 | 0.0 | 14.6 | 24.0 | 0.6 | 2,311 |
| | New Zealand | 1.3 | 0.7 | 0.2 | 0.3 | 16.4 | | 2.1 | 1.9 | 1.3 | 0.0 | 6.0 | 30.3 | 8.1 | 381 |
| | Singapore | 0.2 | 0.3 | 0.0 | 0.0 | 2.7 | 0.5 | | 10.6 | 3.3 | 0.2 | 4.6 | 22.4 | 0.5 | 3,734 |
| | Malaysia | 0.4 | 1.0 | 0.1 | 0.1 | 3.5 | 0.5 | 14.5 | | 3.0 | 0.2 | 8.0 | 31.2 | 1.5 | 2,179 |
| | Vietnam | 1.3 | 0.9 | 0.1 | 0.5 | 1.6 | 0.2 | 1.3 | 2.2 | | 0.0 | 7.9 | 16.0 | 2.4 | 2,122 |
| | Brunei | 0.0 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 7.6 | 11.2 | 0.8 | | 29.3 | 51.8 | 0.0 | 56 |
| | Japan | 1.4 | 1.6 | 0.1 | 0.3 | 2.3 | 0.4 | 3.2 | 1.8 | 2.2 | 0.0 | | 13.2 | 1.7 | 6,983 |

Note: The thin shaded cells indicate the values between countries or regions where FTAs have already been in effect. The dark shaded cells indicate the values between countries entering an FTA partnership for the first time through the effectuation of the TPP. The Agreement on the Global System of Trade Preferences Among Developing Countries (GSTP) and the Protocol Relating to Trade Negotiations Among Developing Countries Agreement (PTN) are not classified as FTAs.
Source: Trade statiscits of each country and "DOTS" by IMF Data updated in June 2018

## Average tariff rates of TPP11 Member countries and Countries/Regions showing interest in joining TPP

(%)

| | TPP11 Member countries | | | | | | | | | | | Countries/Regions showing interest in joining TPP | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Canada | Mexico | Peru | Chile | Australia | New Zealand | Singapore | Malaysia | Vietnam | Brunei | Japan | Thailand | Philippines | Indonesia | South Korea | Taiwan | Colombia |
| Simple average MFN applied | 4.1 | 7.0 | 2.4 | 6.0 | 2.5 | 2.0 | 0.0 | 5.8 | 9.6 | 1.2 | 4.0 | 11.0 | 6.3 | 7.9 | 13.9 | 6.4 | 6.6 |
| Agricultural products | 15.6 | 14.6 | 2.8 | 6.0 | 1.2 | 1.4 | 0.1 | 8.4 | 16.3 | 0.1 | 13.1 | **31.0** | 9.8 | 8.4 | **56.9** | 15.7 | 13.7 |
| Non-agricultural products | 2.2 | 5.7 | 2.4 | 6.0 | 2.7 | 2.2 | 0.0 | 5.4 | 8.5 | 1.3 | 2.5 | 7.7 | 5.7 | 7.8 | 6.8 | 4.8 | 5.5 |
| Electrical machinery | 1.1 | 3.5 | 1.2 | 6.0 | 2.9 | 2.6 | 0.0 | 4.2 | 7.9 | 5.1 | 0.1 | 7.6 | 3.9 | 6.1 | 6.2 | 3.9 | 3.5 |
| Transport equipment | 5.7 | 8.5 | 0.9 | 5.4 | 4.8 | 3.2 | 0.0 | 11.1 | 17.9 | 2.4 | 0.0 | 19.9 | 8.8 | 11.1 | 5.5 | 7.4 | 7.6 |
| Non-electrical machinery | 0.4 | 2.8 | 0.4 | 6.0 | 2.9 | 3.0 | 0.0 | 3.3 | 3.3 | 2.6 | 0.0 | 3.0 | 2.2 | 5.0 | 6.0 | 3.1 | 1.7 |
| Chemicals | 0.8 | 2.3 | 1.2 | 6.0 | 1.8 | 0.8 | 0.0 | 2.7 | 3.1 | 0.5 | 2.2 | 3.1 | 3.8 | 5.4 | 5.7 | 2.8 | 2.1 |
| Textiles | 2.3 | 9.8 | 6.3 | 6.0 | 4.2 | 1.9 | 0.0 | 8.8 | 9.6 | 0.8 | 5.4 | 8.6 | 9.1 | 10.4 | 9.0 | 7.4 | 7.4 |
| Clothing | 16.5 | 21.2 | 11.0 | 6.0 | 4.6 | 9.7 | 0.0 | 0.2 | 19.8 | 0.0 | 9.0 | **29.6** | 14.8 | **23.8** | 12.5 | 11.7 | **23.2** |

Source: World Tariff Profiles 2017 (WTO, UNCTAD, ITC).

# The TPP11 mostly succeeds to the content of the original TPP

- Of the suspended items in the TPP11, eleven items are in the area of intellectual property rights and it can be observed that there were gaps in opinions between the negotiating countries particularly in the area the United States was active under the original TPP. Generally, the content of suspension is limited to a part of the overall agreement and it can be said that the new agreement mostly succeeds to the rules that were agreed under the TPP.
- Under the TPP11 and Japan-EU EPA, the "statement of origin procedure" (commonly known as the "self-certification procedure") was introduced as the only certificate of origin system under FTAs. The questionnaire by JETRO on degrees of recognition of the self-certification procedure and the "verification" system, which confirms appropriateness of the use of FTAs by customs in importing countries, revealed that the degree of recognition of the verification system was relatively low.

## Suspension of the application of certain TPP provisions

| | No. of Chapter | Title | Article(s) | Item |
|---|---|---|---|---|
| 1 | Chap. 5 | Customs Administration and Trade Facilitation | Art. 5.7:1(f) | Criteria for non-application of customs duties on express shipments |
| 2 | Chap. 9 | Investment | Arts. 9.1, 9.19:1-3, 9.22:5, 9.25:2, Annex 9-L | Submission of a Claim to ISDS Arbitration concerning disputes on:<br>- "investment agreements"; and<br>- "investment authorisation" |
| 3 | Chap. 10 | Cross-Border Trade in Services | Annex 10-B | Supply of express delivery services by a Postal Monopoly |
| 4 | Chap. 11 | Financial Services | Art. 11.2, Annex 11-E | Minimum standard of treatment |
| 5 | Chap. 13 | Telecommunications | Art. 13.21:1(d) | Resolution of telecommunications disputes |
| 6 | Chap. 15 | Government Procurement | Art. 15.8:5 | Conditions for participation |
| 7 | | | Art. 15.24:2 | Further negotiations |
| 8 | Chap. 18 | Intellectual Property | Art. 18.8 | National treatment |
| 9 | | | Art. 18.37:2, Art 18.37:4 | Patentable subject matter |
| 10 | | | Art. 18.46 | Patent term adjustment for unreasonable granting authority delays |
| 11 | | | Art 18.48 | Patent Term Adjustment for Unreasonable Curtailment |
| 12 | | | Art 18.50 | Protection of Undisclosed Test or Other Data |
| 13 | | | Art 18.51 | Protection of data for biologics |
| 14 | | | Art. 18.63 | Term of Protection for Copyright and Related Rights |
| 15 | | | Art. 18.68 | Technological Protection Measures (TPMs) |
| 16 | | | Art. 18.69 | Rights Management Information (RMI) |
| 17 | | | Art. 18.79 | Protection of Encrypted program-carrying satellite and cable signals |
| 18 | | | Art. 18.82, Annexes 18-E and F | Legal remedies and safe harbours for Internet Service Providers |
| 19 | Chap. 20 | Environment | Art. 20.17:5 | Conservation of wild fauna/flora and Trade |
| 20 | Chap. 26 | Transparency and Anti-Corruption | Annex 26-A | Transparency and procedural fairness for pharmaceutical products and medical devices |

Note: Suspension of country-specific provisions (Malaysia and Brunei) are omitted from the above list.
Sources: CPTPP/TPP agreements and documents of the Cabinet Secretary of Japan.

## Awareness of Celf-certification of origin system and Verification procedure among FTA users

(%)

| | No. of firms | Celf-certification System | | | Verification Procedure | | |
|---|---|---|---|---|---|---|---|
| | | Know about it | Have heard of it but don't know details | Haven't heard of it | Know about it | Have heard of it but don't know details | Haven't heard of it |
| Total | 605 | 49.1 | 28.8 | 18.7 | 26.6 | 36.2 | 30.4 |
| Large-scale firms | 200 | 50.5 | 29.0 | 16.5 | 33.0 | 39.0 | 22.5 |
| SMEs | 405 | 48.4 | 28.6 | 19.8 | 23.5 | 34.8 | 34.3 |
| Manufacturing | 441 | 49.9 | 28.8 | 18.6 | 27.2 | 36.3 | 30.8 |
| Food & beverages | 82 | 30.5 | 37.8 | 30.5 | 17.1 | 36.6 | 42.7 |
| Textiles/clothing | 13 | 53.8 | 15.4 | 23.1 | 15.4 | 15.4 | 53.8 |
| Wood & wood products/furniture &building materials/paper & pulp | 8 | 37.5 | 62.5 | 0.0 | 37.5 | 62.5 | 0.0 |
| Chemicals | 35 | 54.3 | 22.9 | 20.0 | 28.6 | 40.0 | 25.7 |
| Medical products & cosmetics | 21 | 57.1 | 9.5 | 19.0 | 23.8 | 28.6 | 28.6 |
| Coal & petroleum products/plastics/rubber products | 33 | 57.6 | 30.3 | 6.1 | 33.3 | 39.4 | 18.2 |
| Iron & steel/non-ferrous metals/metal products | 47 | 46.8 | 23.4 | 25.5 | 25.5 | 29.8 | 40.4 |
| General machinery | 50 | 56.0 | 32.0 | 10.0 | 26.0 | 38.0 | 32.0 |
| Electrical equipment | 27 | 59.3 | 25.9 | 14.8 | 25.9 | 44.4 | 22.2 |
| IT equipment/electronic parts & devices | 11 | 45.5 | 45.5 | 9.1 | 18.2 | 54.5 | 18.2 |
| Cars/car parts/other transportation machinery | 47 | 63.8 | 25.5 | 8.5 | 46.8 | 34.0 | 14.9 |
| Precision equipment | 16 | 37.5 | 31.3 | 31.3 | 18.8 | 43.8 | 31.3 |
| Other manufacturing | 47 | 55.3 | 25.5 | 19.1 | 31.9 | 29.8 | 36.2 |
| Non-manufacturing | 164 | 47.0 | 28.7 | 18.9 | 25.0 | 36.0 | 29.3 |
| Trade/wholesale | 138 | 47.8 | 28.3 | 18.8 | 26.8 | 34.1 | 29.0 |
| Construction | 9 | 44.4 | 44.4 | 11.1 | 22.2 | 55.6 | 22.2 |
| Other non-manufacturing | 8 | 37.5 | 37.5 | 25.0 | 12.5 | 50.0 | 25.0 |

Notes: 1) The population size is the number of firms using FTAs for exports. Only industries with five or more firms are shown. 2) Highlighted cells are items chosen by 50% or more of the respondents.
Source: "FY 2017 Survey on the International Operations of Japanese Firms", (JETRO, March 2018).

# FTAs, which contribute to improvement of the competitive environment

■ Looking at examples of use of FTAs overseas, there are cases where FTAs have become essential as companies in countries and regions where FTAs are not applicable are losing in terms of sales to their competitors (domestic products in the destinations and imports from countries and regions where FTAs are applicable).

## Use of FTAs by Japanese and local companies abroad

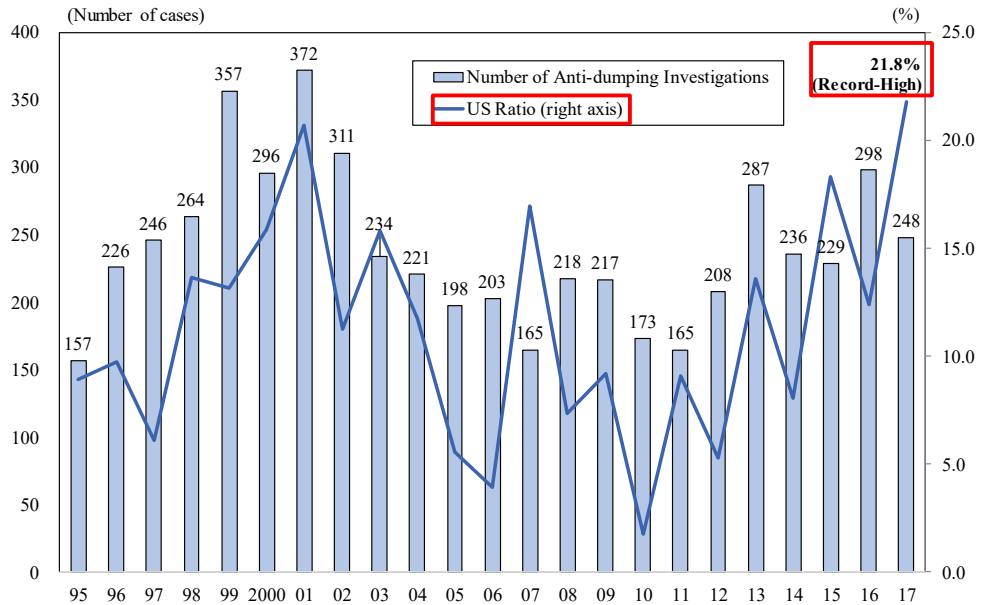
| Company information | | | Main EPA/FTA in use | Use & merits | Issues & other |
|---|---|---|---|---|---|
| Location | Nationality | Industry | | | |
| Singapore | Japan | Petrochemical manufacturing | Most of FTAs concluded by Singapore (or ASEAN) and entered into force | ●Uses for export transactions.<br>●There are an increasing number of cases where the company loses in terms of sales to competitors (domestic products in the destinations and imports from countries and regions where FTAs are applicable) in countries and regions where FTAs are not applicable. | Under FTAs which only have provisions on regional value content (RVC), it may not satisfy the requirement depending on the balance between product prices and costs. Therefore, it is best to have rules of origin that can be used for both RVC and change in tariff classification (CTC). |
| Thailand | Thailand | Trade | Japan-Thailand EPA | While Japanese products are high quality, the prices are extremely high compared to products by competitors in China and Taiwan. Thus the company uses the FTA as it is essential to raise competitiveness through cost reductions. | Some exporters in Japan have lack of knowledge in procedures for issuing certificates of origin, and in particular it is extremely difficult to deal with the situations, for example, when (1) there are requests for issuance (to exporters) or (2) there are errors in descriptions. In some cases, the use of preferential tariffs are denied or the company has no other choice but to give up on the use. |
| South Korea | Japan | Chemical manufacturing | ●South Korea-China FTA<br>●South Korea-EU FTA<br>●South Korea-ASEAN FTA | Used if South Korea's FTA matches that with a country whose needs are high. | ●The company has been repeatedly asked for fact-finding surveys (on the use of FTAs) from Indonesia and it has become a burden on operation.<br>●The company has established a new production base in South Korea, considering merits from the FTAs. |
| | South Korea | Precision equipment manufacturing | ●South Korea-EU FTA<br>●South Korea-US FTA | As exports increase, overseas offices are established. | Efficient operation of the origin management system within the company. |
| UK | Local industry organization | Scotch Whisky Association | ●Almost all FTAs<br>●The major markets for the use of FTAs are South Africa, Canada, South Korea, Turkey and Mexico | ●Recognition of Scotch whisky through the Geographical Indication (GI) protection system.<br>●Improvement of regulation environments in particular markets. For instance, restrictions on labels and storage in transactions with South Korea. | The EU-South Korea FTA has extremely strict restrictions on the rules of origin (especially transport). Goods consisting in a single consignment can be transhipped or kept in warehouse, only if they are not released into free circulation in the country of transit or warehousing. If Scotch whiskies are exported to Singapore to be exported to Asian countries including South Korea and if products are distributed and reloaded in Singapore, they lose the eligibility as products originating from South Korea and they cannot receive the FTA's preferential treatments. |
| US | Japan | Chemical manufacturing | NAFTA | Export sales of products to Mexico. | ●No particular issues. The company is responding appropriately based on customers' and authorities' requests.<br>●Exports to Mexico have had a share of approximately two-third of the overall sales amount up until recently, but the company has increased sales within the US in recent years, thus reducing the impacts from trade policies. |
| | Japan | Machine manufacturing | NAFTA | Uses in exports to Mexico, exports to Canada and imports from Canada. | ●When the company import parts from the parent company in Japan and implements them in the US, exports of the completed products to Mexico and Canada may excluded from the application of the NAFTA.<br>●If the NAFTA is abolished and the products become subject to tariffs, it would affect the business. |
| Canada | Japan | Car parts manufacturing | NAFTA | Used in imports of raw materials from the US and exports of completed products to the US. | ●The company deploys staff in charge of the use of the NAFTA. While there are sometimes errors in paperwork such as missing information on required items, the company does not feel any inconvenience about the process of the use.<br>●While the company is monitoring developments of renegotiations of the NAFTA, it is not overly worried. The company is somewhat concerned about the US' request regarding the rules of origin, but given the car industry in Canada, the US and Mexico is highly integrated, it considers it unlikely that there will be any changes that would damage the integrated industry. |
| | Canada | Machine manufacturing | NAFTA | Uses in parts procurement (imports) from the US and Mexico. | ●The company has to pay the tariffs as a result of errors in paperwork and has to bear costs when exporters did not issue the certificate of origin. However, such costs are minor and have not become a significant issue during the use.<br>●The company is monitoring developments of renegotiations of the NAFTA. |
| Mexico | Japan | Car manufacturing | ●NAFTA<br>●Mexico-EFTA FTA, etc. | FTAs and preferential trade agreements are used in almost all exports as the use of FTAs is presumed from the establishment as the company is in the automobile industry. | ●The company has become subject of verification twice so far. One was for the FTA with the EFTA. The other was for exports to Puerto Rico (NAFTA) and was from the Customs and Border Protection (CBP) in Charleston, US, which has jurisdiction over Puerto Rico.<br>●The company is considering the use of the CPTPP for Canada if the rules of origin under the NAFTA becomes excessively strict compared to the CPTPP in relation to the renegotiation of the NAFTA. There is also a possibility that the company will also use the CPTPP for Chile and Peru as an integrated measure. |
| | Mexico | Car parts manufacturing | NAFTA | Uses in exports to the US. | No particular issues. |

Source: Reports from JETRO's overseas offices

# Use of trade remedy measures remains at high levels

- According to the WTO, trade-restrictive measures (not including trade remedy measures such as anti-dumping, etc.) invoked between October 2017 and May 2018 averaged six measures per month in the G20, which was three higher per month compared to the previous half-year period. The number of initiated anti-dumping investigations totaled 248 for all WTO member countries in 2017, marking a high level. By country, the United States had the most at 54. The ratio of the United States to total initiated investigations reached its highest-ever mark of 21.8% in 2017. In terms of fields, steel and metal related had the largest number at around 30 to 40% of the total.
- According to Global Trade Alert, a private sector UK database for monitoring world trade policy, trade-restrictive measures (including trade remedy measures and subsidies , etc.) invoked by G20 countries totaled 686 in 2017, which marked the lowest number since it began monitoring in 2009. Even after the start of 2018, during the first half there were 244 in the entire G20, signaling a low level. The United States stood out from the rest with 92, or about 40% of the total. Indicating the country is carrying out measures at a relatively high pace compared to past years.

**Number of anti-dumping investigations initiated worldwide**




Note: Based on data of reporting countries.
Source: WTO Secretariat

**Number of trade restrictive policies of G20 countries by year**

(Number of measures)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 Jan - Jun | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| US | 129 | 143 | 183 | 221 | 165 | 184 | 131 | 112 | 143 | 92 | 1,503 |
| Germany | 175 | 129 | 122 | 129 | 159 | 132 | 104 | 101 | 46 | 5 | 1,102 |
| India | 89 | 96 | 58 | 90 | 124 | 96 | 98 | 63 | 90 | 34 | 838 |
| Russia | 70 | 54 | 40 | 56 | 91 | 87 | 99 | 85 | 13 | 2 | 597 |
| Argentina | 45 | 58 | 103 | 65 | 69 | 52 | 53 | 44 | 34 | 20 | 543 |
| Brazil | 44 | 43 | 71 | 58 | 75 | 74 | 67 | 42 | 42 | 15 | 531 |
| UK | 43 | 38 | 44 | 33 | 37 | 45 | 49 | 68 | 48 | 4 | 409 |
| Japan | 24 | 37 | 40 | 79 | 72 | 60 | 43 | 24 | 22 | 2 | 403 |
| China | 47 | 33 | 60 | 38 | 26 | 42 | 30 | 40 | 46 | 12 | 374 |
| Italy | 33 | 36 | 38 | 34 | 34 | 48 | 33 | 46 | 46 | 6 | 354 |
| France | 36 | 34 | 37 | 33 | 34 | 39 | 31 | 40 | 31 | 4 | 319 |
| Indonesia | 28 | 26 | 22 | 48 | 29 | 39 | 53 | 28 | 31 | 3 | 307 |
| Saudi Arabia | 32 | 25 | 32 | 52 | 38 | 22 | 33 | 25 | 13 | 3 | 275 |
| Australia | 10 | 11 | 19 | 20 | 44 | 16 | 35 | 27 | 41 | 8 | 231 |
| South Africa | 12 | 11 | 23 | 32 | 24 | 26 | 32 | 27 | 21 | 11 | 219 |
| Turkey | 25 | 27 | 21 | 21 | 27 | 17 | 27 | 21 | 19 | 4 | 209 |
| Canada | 18 | 15 | 14 | 15 | 25 | 14 | 29 | 24 | 28 | 24 | 206 |
| South Korea | 18 | 20 | 19 | 29 | 20 | 19 | 17 | 14 | 9 | 0 | 165 |
| Mexico | 11 | 13 | 15 | 19 | 11 | 17 | 25 | 16 | 10 | 4 | 141 |
| Total (G20) | 845 | 790 | 891 | 1,017 | 1,033 | 952 | 945 | 781 | 686 | 244 | 8,184 |

Note: 1. Data of 2018 was calculated as of July 2. Regarding Germany, UK, Italy and France, the data for policies of the EU partially overlap when added altogether, therefore double-counted EU measures are subtracted.
2. The policies include trade remedy measures, subsidies, financial support for overseas investment by public organizations, and credit guarantees by governments.
Source: Global Trade Alert Database.

# United States trade policy leaning toward unilateral measures

- In 2017, the Trump administration: (1) initiated various investigations based on domestic laws; (2) actively utilized trade remedy measures; and (3) started renegotiation of existing free trade agreements. In 2018, based on the results of these investigations, the Trump administration authorized a number of unilateral measures, including the levying of additional tariffs pursuant to Article 232 of the Trade Expansion Act of 1962 and Article 301 of the Trade Act of 1974.
- Since the establishment of the WTO, the United States has conducted several investigations pursuant to Article 301 of the Trade Act against "unfair practices," etc., of foreign countries. Nevertheless, Article 301 investigations under the WTO system have in most cases been resolved following WTO rules.
- Investigations of steel and aluminum imports pursuant to Article 232 of the Trade Expansion Act determined additional tariffs are needed after finding these imports "threaten to impair national security," and since then tariffs have started to be collected. China, India, the EU, Canada and Mexico, etc., have requested consultations under WTO dispute settlement procedures regarding these measures, the future outcome of these talks will be in focus.

**Major trade-related decisions taken by the Trump administration**

| Date | Outline of measures |
|---|---|
| 23-Jan-17 | Withdrawal of the United States from the TPP |
| 31-Mar-17 | President orders to analyze factors of trade deficit and to enhance enforcement of trade remedies and violations of trade laws |
| 18-Apr-17 | Assessing the extent of enforcement of the Buy American Law and impact of trade agreements |
| 18-Apr-17 | Launch the Japan-US Economic Dialogue |
| 20-Apr-17 | Initiation of investigation on the effects on national security of steel imports based on Section 232 of the Trade Expansion Act of 1962 |
| 27-Apr-17 | Initiation of investigation on the effects on national security of alminum imports based on the Trade Expansion Act |
| 29-Apr-17 | Establishment of Office of Trade and Manufacturing Policy |
| 18-May-17 | Notification to the Congress on renegotiation of the NAFTA |
| 14-Aug-17 | Investigating the effects of violation of IP rights and compulsory technical transfer requirements by China, based on Section 301 of the Trade Act of 1974 |
| 16-Aug-17 | First round of the NAFTA renegotiation |
| 22-Aug-17 | Launch the Special Session of the US-Korea FTA Joint Committee |
| 28-Nov-17 | The US Department of Commerce self-initiated antidumping and countervailing duty investigations of imports of certain aluminum sheets from China |
| 23-Jan-18 | President Trump approves global safeguard measures on large residential washers and crystalline silicon photovoltaic cells and modules |
| 8-Mar-18 | Determination of additional import tariffs on steel and alminum based on the investigation conducted under Section 232 of the Trade Expansion Act of 1962 |
| 22-Mar-18 | Determination of additional import tariffs on imports from China and strengthened investment restriction on Chinese investment in the US, based on the investigation conducted under Section 301 of the Trade Act of 1974 |
| 27-Mar-18 | Agreement in principle of the Special Session of the US-Korea FTA Joint Committee announced |
| 23-May-18 | Initiation of investigation under Section 232 of the Trade Expansion Act of 1962 regarding the effects of imported vehicles and automotive parts on national security |
| 6-Jul-18 | Initiates imposition of additional import tariffs on certain products from China based on the investigation conducted under Section 301 of the Trade Act of 1974 |

Sources: White House, JETRO website

**Examples of the start of major investigations by the United States under Article 301 of the Trade Act (China, EU and Japan related)**

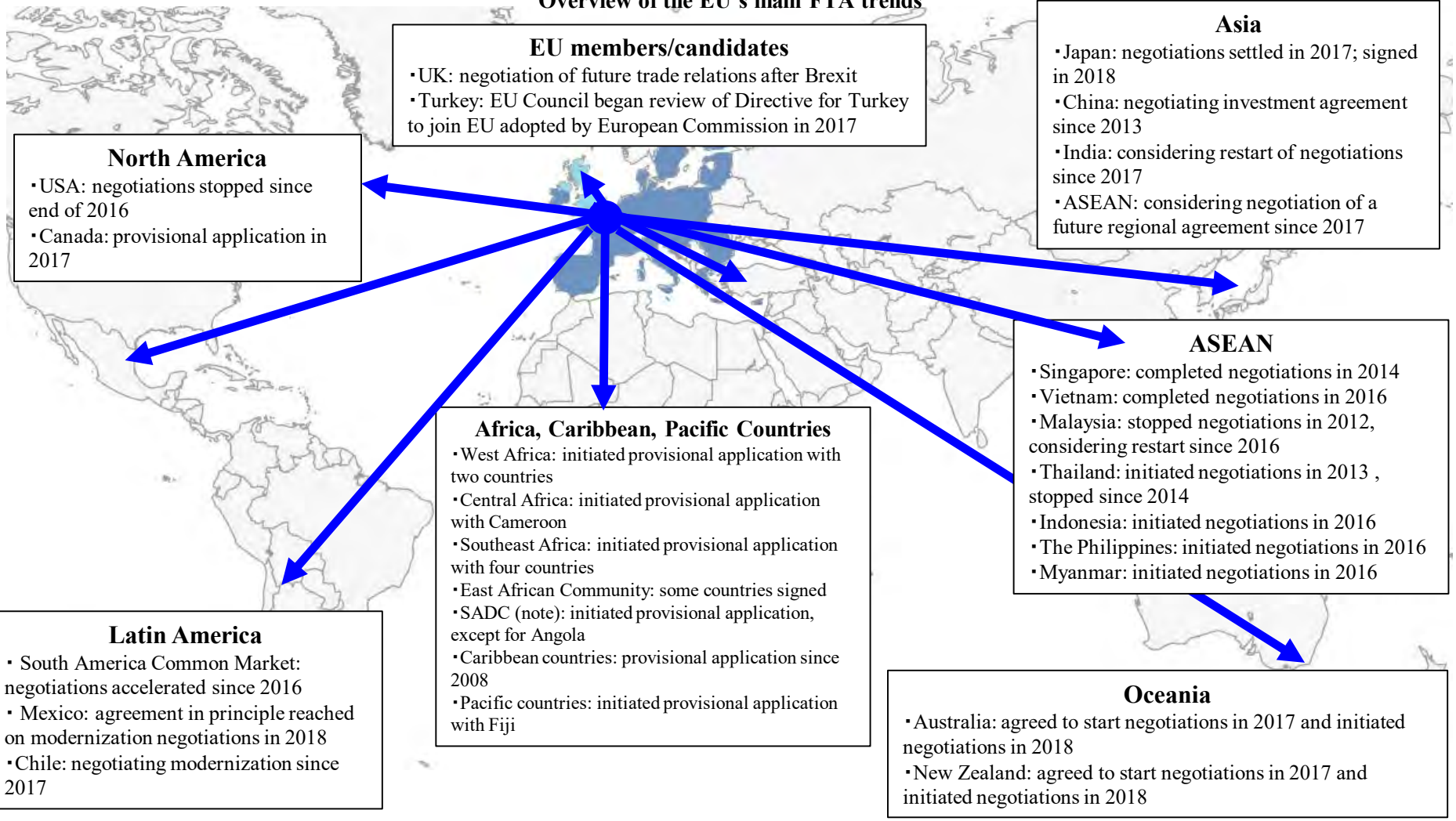
| Country/ Region | Scope | Year of start of Article 301 investigation | Summary of US investigation | Result |
|---|---|---|---|---|
| China | Wind power facilities | 2010 | Investigation began following a complaint by the United Steelworkers Union. At the same time, requested WTO consultations. | China eliminated the subsidy, effectively ending the dispute. |
| | Intellectual properties | 2017 | Investigation of authority conducted on China's technology export/import control order. At the same time, requested WTO consultations. | Announced additional tariffs. China also requested WTO consultations. |
| EU | Bananas | 1995 | Investigation of authority conducted on banana imports, sales, and distribution system. At the same time, requested WTO consultations. | With approval of the WTO Dispute Settlement Body, sanctions were invoked. Sanctions were lifted following the EU's corrective measures. |
| | Wheat gluten | 1997 | Investigation of subsidies began following complaint by United States industry groups. Later bilateral talks set up. | Dispute settled through bilateral talks. Investigation terminated and no WTO consultations were held. |
| | Processed cheese | 1997 | Investigation started on authority regarding EU's export subsidies. At the same time, requested WTO consultations. | Ended at the discussion stage, but the United States continued to closely monitor situation. |
| Japan | Automotive componen | 1994 | Investigation of authority regarding restrictions on automotive repair parts market. Sanction list announced the following year. | Japan requested WTO consultations. A settlement was reached through bilateral talks without invoking sanctions. |
| | Photographic film | 1995 | Investigation of authority began after complaint by US film manufacturers. Practice certified as unreasonable; requested WTO consultations. | Adopted report of WTO panel. No violations found by Japan side. |
| | Apples | 1997 | Investigation began on authority of Japan's plant quarantine measures. At the same time, requested WTO consultations. | Adopted report of WTO and Appellate Body. Japan amended its measures. |

Source: Prepared based on WTO Secretariat documents and the White Paper about Unfair Trade (Ministry of Economy, Trade and Industry), etc.

# Trends in the EU's multi-dimensional FTA negotiations

- The EU is reviewing and negotiating FTA with the South America Common Market (MERCOSUR) and Asian countries, including Japan-EU EPA. Furthermore, the EU is negotiating the modernization of existing FTA with Mexico and Chile. This shows the EU pursuing a multi-dimensional FTA strategy.

**Overview of the EU's main FTA trends**



### EU members/candidates
- UK: negotiation of future trade relations after Brexit
- Turkey: EU Council began review of Directive for Turkey to join EU adopted by European Commission in 2017

### North America
- USA: negotiations stopped since end of 2016
- Canada: provisional application in 2017

### Asia
- Japan: negotiations settled in 2017; signed in 2018
- China: negotiating investment agreement since 2013
- India: considering restart of negotiations since 2017
- ASEAN: considering negotiation of a future regional agreement since 2017

### ASEAN
- Singapore: completed negotiations in 2014
- Vietnam: completed negotiations in 2016
- Malaysia: stopped negotiations in 2012, considering restart since 2016
- Thailand: initiated negotiations in 2013 , stopped since 2014
- Indonesia: initiated negotiations in 2016
- The Philippines: initiated negotiations in 2016
- Myanmar: initiated negotiations in 2016

### Africa, Caribbean, Pacific Countries
- West Africa: initiated provisional application with two countries
- Central Africa: initiated provisional application with Cameroon
- Southeast Africa: initiated provisional application with four countries
- East African Community: some countries signed
- SADC (note): initiated provisional application, except for Angola
- Caribbean countries: provisional application since 2008
- Pacific countries: initiated provisional application with Fiji

### Latin America
- South America Common Market: negotiations accelerated since 2016
- Mexico: agreement in principle reached on modernization negotiations in 2018
- Chile: negotiating modernization since 2017

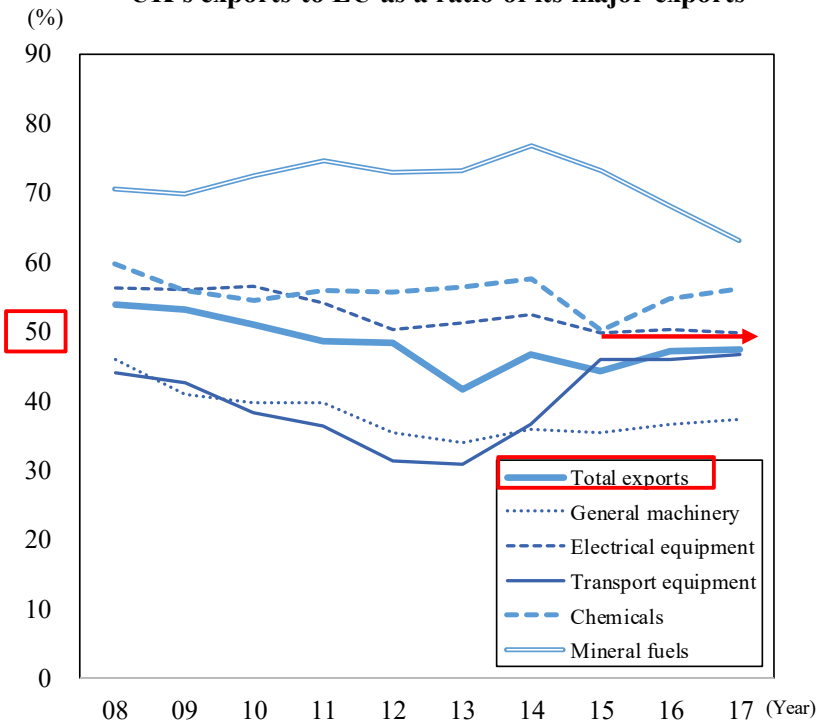
### Oceania
- Australia: agreed to start negotiations in 2017 and initiated negotiations in 2018
- New Zealand: agreed to start negotiations in 2017 and initiated negotiations in 2018

Note: EU has economic partnership agreements with SADC (Southern Africa Development Community) member countries Botswana, Namibia, Mozambique, South Africa, Swaziland, and Angola.
Source: Prepared based on European Commission documents and JETRO's "List of FTAs of the World and Japan (2017)."

# UK faced with urgent task of building trade relations with other countries

- Exports to the EU account for 47.5% of the UK's total export amount. Major trade items include mineral fuels (63.2%), chemicals (56.2%), electrical equipment (49.8%), and transport equipment (46.7%), among others. In each case, exports to the EU account for over 50% or close to that amount. The UK faces the urgent task of building and strengthening trade relations with other countries outside the EU, with an eye on the time after its exit from the EU.
- The EU accounts for 40.5% of the UK's inward direct investment balance, while the EU accounts for 40.8% of outward direct investment. This is low compared to the average for the entire EU. Among major countries, the UK has seen its declining inward and outward investment amounts from the EU year on year, and the share of EU investments has also declined compared to the previous year.

**UK's exports to EU as a ratio of its major exports**




Source: UK trade statistics.

**Intra-EU ratio of FDI stock of major EU countries**

(Million euros, %)

| Inward stock | Intra-EU | External | Intra-EU ratio | | | | |
|---|---|---|---|---|---|---|---|
| | Value | Value | 2013 | 2014 | 2015 | 2016 | Difference |
| EU | 7,801,846 | 6,268,261 | 60.2 | 59.2 | 56.1 | 55.4 | -4.8 |
| UK | 533,964 | 784,099 | 50.3 | 47.9 | 45.4 | 40.5 | -9.8 |
| Germany | 533,878 | 211,830 | 75.6 | 75.7 | 75.3 | 71.6 | -4.0 |
| France | 483,563 | 178,214 | 72.4 | 73.4 | 72.1 | 73.1 | 0.7 |
| Spain | 408,853 | 109,081 | 80.3 | 78.9 | 78.3 | 78.9 | -1.4 |
| Italy | 291,901 | 35,155 | 89.7 | 89.7 | 89.3 | 89.3 | -0.4 |
| Netherlands | 1,880,871 | 1,993,569 | 52.3 | 52.5 | 48.4 | 48.5 | -3.8 |
| Luxembourg | 1,557,869 | 1,889,783 | 44.9 | 43.7 | 45.4 | 45.2 | 0.3 |

| Outward stock | Intra-EU | External | Intra-EU ratio | | | | |
|---|---|---|---|---|---|---|---|
| | Value | Value | 2013 | 2014 | 2015 | 2016 | Difference |
| EU | 9,020,470 | 7,598,790 | 55.2 | 55.5 | 54.8 | 54.3 | -0.9 |
| UK | 558,016 | 808,296 | 39.7 | 39.8 | 42.7 | 40.8 | 1.1 |
| Germany | 714,778 | 552,422 | 62.9 | 59.5 | 58.2 | 56.4 | -6.5 |
| France | 673,664 | 521,086 | 59.6 | 58.4 | 57.1 | 56.4 | -3.2 |
| Spain | 187,869 | 302,455 | 44.2 | 40.2 | 41.6 | 38.3 | -5.9 |
| Italy | 278,160 | 169,937 | 69.6 | 67.8 | 65.5 | 62.1 | -7.5 |
| Netherlands | 2,404,706 | 2,428,318 | 53.6 | 55.5 | 50.5 | 49.8 | -3.8 |
| Luxembourg | 2,338,037 | 1,854,417 | 56.9 | 55.1 | 55.8 | 55.8 | -1.1 |

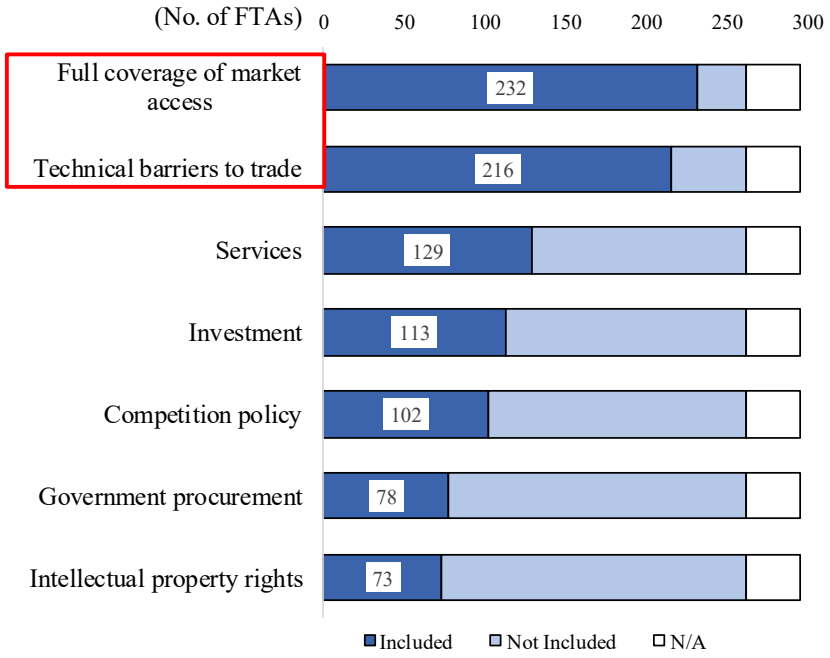
Notes: 1) Difference stands for the difference between intra-EU ratios of 2016 and 2013.
2) Data only available from 2013 due to change in method of BOP.

Source: Eurostat.

# Areas covered by FTAs continue to expand

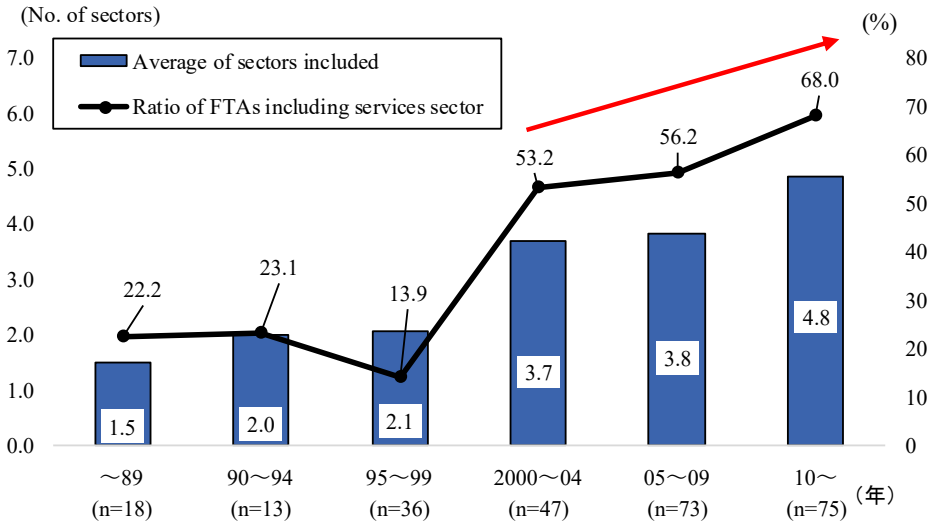
- Based on data of tendencies of FTAs already in effect around the world, a majority of FTA not only include tariff reductions or eliminations, but also to some extent rules related to standards and certifications. On the other hand, less than half of all FTAs include detailed provisions on competition, government procurement and intellectual properties.
- When viewing the average number of items covered by FTA by time period, the more recent FTAs cover more items. For example, even when looking at the percentage of agreements covering the service field, only around 20% of FTA that took effect prior to the year 2000 include this field, while the number rose sharply in the 2000s. Some 68.0% of FTA in effect in the 2010s contained provisions covering the service field.

**Outlook of worldwide FTAs by sectors**




Sources: JETRO Survey and "Design of Trade Agreements" database.

**Average number of sectors included in FTAs and ratio of FTAs including services sector**




Notes: 1) Number of sectors indicates the average of sectors covered among the seven major sectors analyzed in DESTA database (tariffs, NTBs, services, investment, competition, government procurement and intellectual property).
2) N stands for number of FTAs which came into effect during that period and covered by DESTA.
3) During 1995 - 1999, 14 FTAs (covering goods only) among former Soviet Union countries came into effect, which explains the reason why the ratio of FTAs including services is especially low during this period.
Sources: JETRO Survey and "Design of Trade Agreements (DESTA)" database.

# The world's FTA have grown based on WTO rules

- Examining the characteristics of FTAs of major countries shows that the United States has preferred comprehensive FTA from an early stage, including NAFTA. The EU has used FTAs based on counterparty and purpose; therefore overall the average number of items covered is relatively small. In recent years, there is a growing trend to review existing FTAs, as evidenced by the re-negotiations of NAFTA and China's upgrading negotiations.
- Looking at the overall tendencies of FTAs by field, in terms of standards and certifications, there are 202 FTAs that contain chapters or clauses concerning TBT. This number is 199 for SPS, and nearly all of these (186) contain chapters or provisions on both TBT and SPS. There are many cases where these chapters or provisions refer to related WTO agreements. As for trade remedy measures, there are 235 FTAs that contain provisions on safeguards, and 222 FTA that contain the same on anti-dumping. In each of these cases, the number of agreements with some reference to related WTO agreements is 180 and 192, respectively. A majority of FTA can be assessed as containing details in compliance with WTO rules, in principle.

## Characteristics of FTAs of major countries/regions

| Country/regions | Number of applicable FTAs | Average number of items (0-7) | Coverage ratio by item (%) (Displayed using 7 shades) | | | | | | | Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Tariffs | Standards/ certification | Services | Investment | Competition | Government procurement | Intellectual properties | |
| United States | 14 | 6.1 | 100 | 93 | 100 | 93 | 43 | 93 | 93 | Nearly exhaustive, but only 6 agreements in terms of competition. Narrow band of coverage (4 items) in FTAs with Israel and Jordan. |
| Japan | 15 | 5.6 | 100 | 93 | 93 | 93 | 87 | 33 | 60 | Excluding the Japan-ASEAN FTA, all FTAs cover services and investment. Only five FTAs on government procurement and nine FTAs on intellectual properties. |
| South Korea | 15 | 5.1 | 87 | 93 | 73 | 73 | 80 | 47 | 60 | Average number items of 5.8 across 13 FTAs, excluding partial FTAs, is second highest after the United States. Government procurement is area of comparatively limited coverage. |
| EU | 30 | 4.3 | 97 | 90 | 67 | 30 | 57 | 53 | 33 | Split across relationship building with surrounding countries (association agreements, etc.), economic partnerships with emerging countries, and comprehensive FTA based on "Global Europe" strategies. |
| Mexico | 17 | 4.0 | 71 | 76 | 59 | 59 | 35 | 47 | 53 | High average number items of 5.6 when excluding 12 comprehensive FTAs covering trade items. Competition has relatively limited coverage with 6 of 12 FTAs. |
| China | 14 | 3.8 | 93 | 86 | 71 | 64 | 21 | 0 | 43 | In recent years, concluding more comprehensive FTAs, but government procurement not covered at all in 14 applicable FTAs. Competition is also limited to only 3 FTAs. |

Notes: 1) The average number of items is the average items covered in the seven (tariffs, standards/certification, services, investment, competition, government procurement and intellectual properties). If all covered, the score is seven; and if no items are covered, the score is zero. 2) Coverage indicates the percentage of each item included in the country/region's FTAs.

Source: Prepared based on "World and Japan's FTAs" (JETRO) and the DESTA database.

## Factors contained in FTA articles: TBT/SPS and Trade remedies

| Scope | Themes | Factors contained in FTA articles | No. of FTAs |
|---|---|---|---|
| NTBs | TBT | Contain a TBT chapter or provision(s). | 202 |
| | | Contain a reference to the WTO Agreement on TBTs. | 169 |
| | | Encourage the use of international standards. | 115 |
| | | Contain provisions that stipulate the (partial) harmonization of TBT. | 59 |
| | SPS | Contain a SPS chapter or provision(s). | 199 |
| | | Contain a reference to the WTO Agreement on SPS. | 158 |
| | | Contain provisions that stipulate the harmonization of SPS provisions. | 59 |
| Trade Remedies | Anti-dumping | Contain provisions on anti-dumping. | 222 |
| | | Contain a reference to the WTO Agreement on Anti-dumping. | 192 |
| | Subsidies | Contain provisions on subsidies. | 211 |
| | | Contain a reference to the WTO Agreement on Subsidies and Countervailing measures. | 178 |
| | Safe-guards | Contain provisions on safeguard measures. | 235 |
| | | Contain a reference to the WTO Agreement on Safeguards. | 180 |
| | | Agree on conditions under which partners will be excluded from multilateral safeguard measures | 53 |

Sources: JETRO Survey and "Design of Trade Agreements" database.

# WTO framework facing a major challenge

- At the Eleventh WTO Ministerial Conference (MC11) that took place in December 2017 in Buenos Aires, Argentina, an agreement could not be reached between WTO member countries on the main issues, but a number of initiatives were launched to discuss the creation of rules first by like-minded countries and regions with the goal of starting up negotiations in the future involving all member countries with regard to new trade issues, such as the development of international rules on e-commerce.
- Within the WTO's three functions (legislative, monitoring, judicial), the WTO's judicial function (dispute settlement system), which has received the highest praise to date, is in danger of becoming paralyzed. The number of members on the Appellate Body, which corresponds to the appeals body under the WTO's dispute settlement system, has fallen to four from its fixed number of seven. The United States refused to participate in the selection process for successor to the its member whose term ended. The country is demanding a review of the functions of the Appellate Body.

**Outline of new WTO frameworks among like-minded countries**

| Field | Number of countries and regions (note) | Outline |
|---|---|---|
| Electronic commerce | 71 | Examining aspects related to international trade in electronic commerce. Deepening the discussion for future multilateral negotiations. |
| Investment facilitation for development | 70 | With the aim of economic development, considering multilateral frameworks to facilitate direct investment from the perspectives of improvement of transparency of investment regulations and predictability. |
| Services Domestic Regulation | 58 | Deepening discussions on improvement of the transparency of regulations on the service field, and on regulations not being more restrictive than necessary. |
| Work program for MSMEs | 85 | Setting up a working group to strengthen MSMEs' involvement in trade and strengthening existing WTO initiatives. |

Note: Number at the time of adoption of the joint statement at the WTO Ministerial Conference in Buenos Aires
Source: Materials of WTO Secretariat and various news reports

**WTO's functions and their evaluation**

| Function | | Evaluation | | Issues |
|---|---|---|---|---|
| **Legislative** | Formation of multilateral trade rules and negotiations on trade liberalization | △ | Began examining new trade issues by volunteers at the 11th ministerial meeting | Difficulty of decision-making involving all members. Maintaining United States' involvement in the WTO. |
| **Monitoring** | Investigation of fulfillment of existing trade rules and curtailing of protectionism through publications | ○→△ | While visualizing problems, measures to curtail protectionism have extremely limited effect | Ensuring effectiveness through cooperation with other international institutions and multilateral forums. |
| **Judicial** | Judicial settlement and performance of trade disputes using the Dispute Settlement Body | ◎→△ | Contributed to dispute settlements based on rules, but now Appellate Body faces threat of its function being paralyzed | Resolving appointment issue of Appellate Body members is an urgent task |

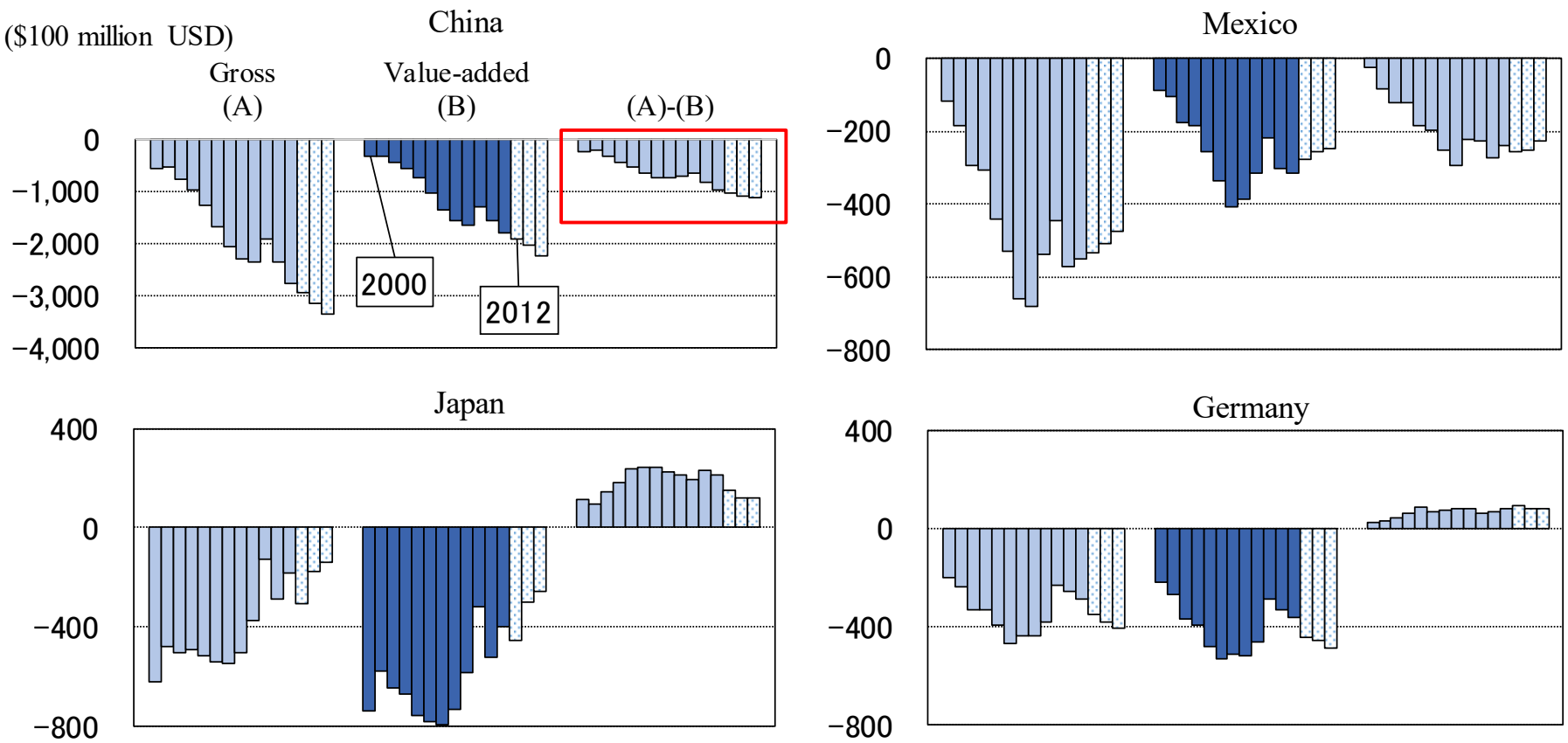
Note: Symbols are intended to indicate an image of the WTO's situation; they do not undervalue the WTO's meaning and functions.

Source: Prepared from various media reports and the results of interviews

# A different world seen through value-added trade

- Trade trends of major countries (Japan, the US, China and Germany) indicate that, for example, the value of the US imports from China (2014) totaled $503.6 billion on a gross basis, but on an value-added basis these same imports only amounted to $353.3 billion. Thus, the US trade deficit with China on a value-added basis was $223.1 billion, resulting in a $112.1 billion gap in terms of a gross basis (-$335.2 billion).

**Trade balance as seen from the US**




Notes: 1) 2012 to 2014 represent provisional values. Be aware that simple comparisons cannot be made for 2011 and prior.
2) Gross imports for 2012 and thereafter is calculated based on total imports of each country and partner share.
Source: OECD

# Will plurilateral discussions on e-commerce advance?

- At the Ministerial Conference held in December 2017 (MC11), the 71 countries/regions member to the WTO issued a joint statement on the initiation of exploratory work "toward future WTO negotiations on trade-related aspects of electronic commerce". Since the first meeting held in March 2018, around 80 countries and regions including China have participated in discussions.
- Examining the communications submitted to the WTO since MC11 indicates that some of the issues are commonly mentioned, such as consumer protection and levying of taxes on electronic transmissions, etc. In regards to digital trade, each country and region will establish regulations to pursue its legitimate objectives for its public policy, but there are many cases in which the interpretation of the scope of "legitimate" differs between major countries and regions.

**Signatory countries/regions for exploratory work on e-commerce**

| Region | Country |
|---|---|
| Asia | Australia, Brunei Darussalam, Cambodia, Hong Kong, Japan, South Korea, Laos, Malaysia, Myanmar, New Zealand, Singapore, Taiwan |
| Americas | Argentina, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Mexico, Panama, Paraguay, Peru, United States, Uruguay |
| Europe/ Russia・CIS | Albania, EU, Iceland, Kazakhstan, Leichtenstein, Macedonia, Moldova, Montenegro, Norway, Russia, Switzerland, Ukraine |
| Middle East / Africa | Bahrain, Israel, Kuwait, Nigeria, Qatar, Turkey |

Note: EU includes all of its 28 members as signatory countries.
Source: WTO Joint Statement (WT/MN(17)/60)

**Agenda of e-commerce discussions as seen from proposals submitted to the WTO since MC11**

| Issues | Details |
|---|---|
| Privacy protection | It is urged to establish an environment where consumers and business can engage in digital trade such as e-commerce in a more secure manner by developing appropriate legislation on the protection of personal information, etc., in each country and region. |
| Consumer protection | There is a need to develop appropriate legislations on consumer protection against online business fraud in each country and region. |
| Electronic signatures and authentication | Electronic authentication not only facilitates trade, but is also considered as an important factor for promoting the expansion of online transactions. Domestic regulations to facilitate electronic signatures and authentication as well as mutual authentication between countries need to be installed, and an international framework for these regulations is desired to be formed through international discussions. |
| Electronic payment | An environment should be developed where electronic payments can be used securely for further growth of digital trade. Electronic payments are greatly affected by the domestic laws and regulations of each country and region; therefore, international discussions are needed to explore frameworks for sound domestic regulations. |
| Customs duties on electronic transmission | This concerns the WTO's current moratorium of not imposing tariffs on electronic transmissions. Not only developed countries but also emerging countries have strong interests in dicussions on this issue. |
| Cross-border data transfer | The cross-border data transfer forms a core aspect of digital trade. In its communications to the WTO, the United States asserted that trade rules should allow the cross-border transfer of data without discriminatory restraints on consumers or business. |
| Scope of "legitimate" objectives in public policies | While data transfers for promoting digital trade should be liberalized to some extent, there is a need to discuss the scope of "legitimate" objectives deemed necessary by countries/regions for their public policies and national security. |
| Development/cooperation | The issue of development needs to be incorporated into international discussions as digital trade can be strongly linked to overall development of emerging countries. |

Notes: The issues mentioned above are only a part of the topics addressed in the communications submitted to the WTO since MC11, and therefore, the list is not exhaustive.
Source: Communications submitted to the WTO (JOB/GC/174 - 182, 188 - 190).

# The United States aims to liberalize digital trade / The EU prioritizes to integrate its regional markets

- The United States, which has the large number of highly internationally competitive companies, seeks to eliminate regulations that result in barriers for its companies' entry into other countries' markets in order to further liberalize digital trade. Chapters on e-commerce in the United States' FTAs have seen a gradual expansion in the scope of applicable rules. In its communications to the WTO, the United States cites the need for discussions on the formation of high standard rules, such as the liberalization of cross-border data transfers.
- The EU, which sees the relative decline in the competitiveness of its companies as a threat, is working to build the Digital Single Market (DSM). In its FTAs and communications to the WTO, there are few discussions on advancing liberalization. On the other hand, there are examples where the regulations of the large EU market (personal data protection, etc.) have influenced the regulations of other countries and regions.

**E-commerce Chapter of US FTAs in force and US Communications to WTO**

| Articles | FTAs in Force | | | | | | | | | | | | WTO | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chile Jan. 2004 | Singapore Jan. 2004 | Australia Jan. 2005 | Morocco Jan. 2006 | CAFTA Mar. 2006 | Bahrain Aug. 2006 | Oman Jan. 2009 | Peru Feb. 2009 | South Korea Mar. 2012 | Colombia May. 2012 | Panama Oct. 2012 | TPP (Reference) With-drawn | Jul. 2016 | Apr. 2018 |
| Definitions | ○(6) | ○(4) | ○(8) | ○(4) | ○(6) | ○(5) | ○(5) | ○(8) | ○(9) | ○(8) | ○(6) | ○(1) | | |
| Scope and general provisions | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(1,2) | ○(2) | | |
| Custom duties on electronic transimissions | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(1) | ○(1) |
| Non-Ddiscriminatory treatment of digital products | ○(4) | ○(3) | ○(4) | ○(3) | ○(3) | ○(4) | ○(3) | ○(3) | ○(3) | ○(3) | ○(3) | ○(4) | ○(2,12) | ○(3) |
| Domestic electronic transaction framework | | | | | | | | | | | | ○(5) | | |
| Electronic authentication and electronic signatures | | | ○(5) | | | | | ○(6) | ○(4) | ○(6) | | ○(6) | ○(9) | |
| Online consumer protection | | | ○(6) | | | | ○(4) | ○(5) | ○(5) | ○(5) | | ○(7) | | |
| Personal information protection | | | | | | | | | | | | ○(8) | | |
| Paperless trading | | | ○(7) | | | | | ○(7) | ○(6) | ○(7) | | ○(9) | | |
| Principles on access to and use of the internet for electronic commerce | | | | | | | | | ○(7) | | | ○(10) | ○(4) | ○(2) |
| Cross-border transfer of information by electronic means | | | | | | | | | ○(8) | | | ○(11) | ○(3) | ○(2) |
| Internet interconnection charge sharing | | | | | | | | | | | | ○(12) | | |
| Prohibition on requiring to locally locate computing facilities | | | | | | | | | | | | ○(13) | ○(5) | ○(2) |
| Measures regarding unsolicited commercial electronic messages | | | | | | | | | | | | ○(14) | | |
| Cooperation | ○(5) | | | | ○(5) | | | | | | ○(5) | ○(15) | | |
| Cooperation on cybersecurity matters | | | | | | | | | | | | ○(16) | | ○(5) |
| Prohibition on Requiring trasnfer of or access to source code | | | | | | | | | | | | ○(17) | ○(7) | ○(4) |
| Dispute settlement | | | | | | | | | | | | ○(18) | | |
| Transparency (publication of regulations) | | | | | ○(4) | | | ○(4) | | ○(4) | ○(4) | | | |

Note: Month and year indicates when the FTA came into force or when the communication to WTO was submitted. The numbers in parenthesis indicate where an ariticle is placed in each e-commerce chapter (ex: ○(5) means the article is the 5th article in the e-commerce chapter).
Source: US FTAs in force and its communications to the WTO (JOB/GC/178, JOB/GC/94)

# China successful at growing local companies / Africa aiming to achieve economic growth through digitalization

- China was a latecomer compared to developed countries in terms of Internet infrastructure development, but under policies sometimes called “digital protectionism” by other countries and regions, local companies have grown to become major global digital companies. China’s domestic regulations on digital trade contain strict regulations on foreign companies across a wide range of areas, restricting their market entry.
- Some emerging countries consider digital trade to be a development issue from the perspective that economic digitalization is linked to the growth of an entire country. African countries consider industrial policy in the digital field to be necessary for their economic development and have voiced concerns opposing the creation of liberalized rules that might shrink their policy space.

## Examples of China's domestic regulations related to digital trade

| Category | Subcategory | Example of regulations |
|---|---|---|
| Fiscal Restrictions and Market Access | Public Procurement | A number of regulations that place foreign companies at a disadvantage have been reported, including so-called Buy Chinese regulations that encourage procurement of domestic products. |
| Establishment Restrctions | Foreign Investment | Particularly severe restrictions have been placed on foreign investment in certain sectors.<br>M&A deals are screened, and a system is in place where relevant government entities can block an investment on the grounds of national security, etc. |
| | Intellectual Property | Various regulations have been established on foreign technologies and products due to government policies to promote domestic innovation. The core components of IT systems categorized above a certain grade level of security must be made in China. |
| Restrictions on Data | Data Policies | China's Cybersecurity Law requires "Key information infrastructure operators" to store personal information and other "important data" in China. Security Assessments need to be conducted in case where the operators transfer such data to a third country. |
| | Intermediary Liability | Contents on a website must be taken down if notification of copyright infringement is issued. They are also required to introduce content monitoring programs. |
| | Content Access | Access to some websites is blocked, and constant monitoring of internet access is conducted in China. At least 14,000 search words are filtered as well. |
| Trading Restrictions | Online Sales and Transactions | A license is required to operate a website in China. The websites of companies without a license will be blocked without notice. |

Notes: This table cites only a part of regulations currenly implemented in China, and the list is not exhaustive.
Source: "Digital Trade Restrictiveness Index" (ECIPE), "2017 Report on Compliance by Major Trading Partners with Trade Agreements -WTO, EPA/FTA and IIA-" (Ministry of Economy Trade and Industry, Japan), and circulars and related documents on each regulation.

## Overview of digital trade policies of major countries/regions

| Country/ region | Characteristics |
|---|---|
| US | ・In order to support its highly competitive companies to expand their business abroad, the government has promoted liberalization of digital trade by improving market access.<br>・The US leads other countries in standardizing rules through FTAs. In addition, it urges WTO members to discuss high-standard rules, such as liberalizing cross-border data transfers.<br>・A data transfer framework called Privacy Shield was concluded and is currently operational with the EU. |
| EU | ・Concerned with the decrease of local companies' competitiveness in the digital economy, the EU has been implementing its Digital Single Market strategy to unify its market by removing trade barriers.<br>・The EU has relatively many FTAs with e-commerce provisions, but it is not very ambitious in further liberalizing digital trade. |
| China | ・China has imposed many domestic regulations to limit business opportunities for foreign countries, which has been referred to as digital protectionism.<br>・Although China has concluded FTAs with e-commerce chapters with South Korea and Australia, the country has not been enthusiastic about improving market access or liberalizing digital trade. |
| African Countries | ・African countries claim they need industrial policies for growth of local digital companies and domestic digital economies. Some of the countries oppose high-standard liberalization due to the concern that liberalization might narrow policy space for implementation of industrial policies. |
| Japan | ・After joining TPP negotiations, Japan has been enthusiastic about promoting liberalization of digital trade. Similar provisions to the TPP are observed in its FTAs with Mongolia and the EU.<br>・In its communications to the WTO, Japan emphasizes the importance of discussion on some of the provisions in the TPP, such as free flow of information across borders. |

Source: Various materials

# EU actively pursuing formation of non-trade related rules in the digital field

- With major companies in the United States occupying a dominate position in the digital economy, the EU's independent efforts to combat the formation of rules and active implementation of these rules stand out. In particular, since the start of 2018 the EU has launched in rapid succession innovative new policy proposals mainly targeting digital companies from the United States, giving rise to international discussions on the matter.
- Additionally, the EU has also attempted to levy certain restrictions on the activities of major digital companies through an active application of its competition laws. However, the development of the digital economy has brought about new problems not fully considered in existing competitions laws, such as (1) evaluation of data and (2) the impacts that the evolution of artificial intelligence (AI) will have on competition (in particular the concept of cartels), etc.

## EU strategy for rule-making in digital field

European Commission; Digital Single Market strategy
(Published in May 2015, and the Mid-Term Review in May 2017)

| Three Pillars | Major actions |
|---|---|
| ① Better access for consumers and businesses to digital goods and services across Europe | Strengthening the application of the EU competition law to the digital field by Directorate-General for Competition |
| ② Creating the right conditions for digital networks and services to flourish | Proposal of digital taxation system |
| | Proposal of Regulation for online platforms |
| ③ Maximising the growth potential of the Digital Economy | Modernization of EU standardization policy including strengthening standardization in the ICT field |

Note: Cases indicated above are exemplified by distinctive contents from the perspective of rule formation.
Source: Materials of European Commission.

## Recent major cases in the digital field concerning Europe's competition laws

| Case | Authority | Date | Theme | Result/Ruling |
|---|---|---|---|---|
| Microsoft's acquisition of Linkedin | European Commission | December-16 | Mergers and Acquisitions | Approved acquisition under condition of complying with promises under five-year monitoring of performance |
| Response to screening of Facebook's acquisition of WhatsApp | European Commission | May-17 | Mergers and Acquisitions | Facebook fined 110 million euro |
| Amazon's agreement with e-book publishers | European Commission | May-17 | Abuse of dominant position | Amazon adopted promise to eliminate competition concerns |
| 1) Google's search engine<br>2) Google's mobile OS | European Commission | June-17<br>July-18 | Abuse of dominant position | Google fined 2,420 million euros and 4,340 million euros |
| Qualcomm's exclusive supply of communication chips (LTE band chip sets) for smartphones and tablets to Apple | European Commission | January-18 | Abuse of dominant position | Qualcomm fined around 1,000 million euros |
| Online travel reservation system in Lithuania | Court of Justice of the European Union | January-16 | Cartels | Determined as cartel; fine levied by Lithuania's Competition Council |
| Restrictions on online sales of high-end cosmetics | Court of Justice of the European Union | December-17 | Geo-blocking | Determined as not in violation of EU competition laws when certain conditions are satisfied |
| Streaming platform for online video games | European Commission | Currently under investigation | Geo-blocking | - |

Notes: 1) For the Lithuania cartel case and for the cosmetic sales restriction case, the Supreme Administrative Court of Lithuania and the Frankfurt Superior District Court, respectively, referenced preliminary rulings concerning the interpretation of EU laws by the Court of Justice of the European Union.
Source: Prepared referencing the European Commission, Fair Trade Commission and various other media reports.

**JETRO Global Trade and Investment Report 2018: Global Economy Connected via Digitalization**

**Overview**

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Note: Figures may not sum up to the total because some are less than one unit.