JETRO
Japan External Trade Organization

JETRO Global Trade and Investment Report 2020

A global economy with increasing uncertainty and the future of digitalization -Overview-

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Japan External Trade Organization (JETRO)
Overseas Research Department

Contents

Chapter 1: World trade and Japan's trade 3

- Section 1: Current State of the world economy 4
- Section 2: World trade 8
- Section 3: Japan's trade 14
- Section 4: Impact of US-China friction on world trade 19

Chapter 2: Global FDI and Japan's FDI 23

- Section 1: Global FDI 24
- Section 2: Japan's outward FDI 28
- Section 3: Japan's inward FDI 31
- Section 4: Impact on business activities of changes in the business environment amidst increasing uncertainty 34

Chapter 3: Trends in global trade rule formation 49

- Section 1: Trade policies of major countries/regions 50
- Section 2: Current situation and challenges of the multilateral trading system 60
- Section 3: Current situation of FTAs in the world and Japan 62

Chapter 4: Digital trade 64

- Section 1: Global digital trade 65
- Section 2: Trends in global digital business 71
- Section 3: Trends in digital-related rule formation 80
- Digital Business and Rule Formation Trends by Country and Region 85

Chapter 1

World trade and Japan’s trade

World economic growth slows in 2019 and drops sharply in 2020

- According to the IMF, the world's real GDP growth rate (hereafter, growth rate) in 2019 was 2.9%, down from 3.6% in 2018. This was the lowest level since the global financial crisis in 2008 (3.0%) and 2009 (-0.1%). The large slowdown was seen in the euro area among developed countries, as well as in India and China among emerging and developing countries.
- The global growth rate for 2020 is expected to be -4.9%, surpassing 2009's (-0.1%). The assumption is that the coronavirus disease (hereafter, COVID-19) pandemic will settle in the latter half of 2020 and that containment measures will be gradually lifted. However, it is highly likely that this will be "the worst economic downturn since the Great Depression."

Real GDP growth rate/contribution by economies

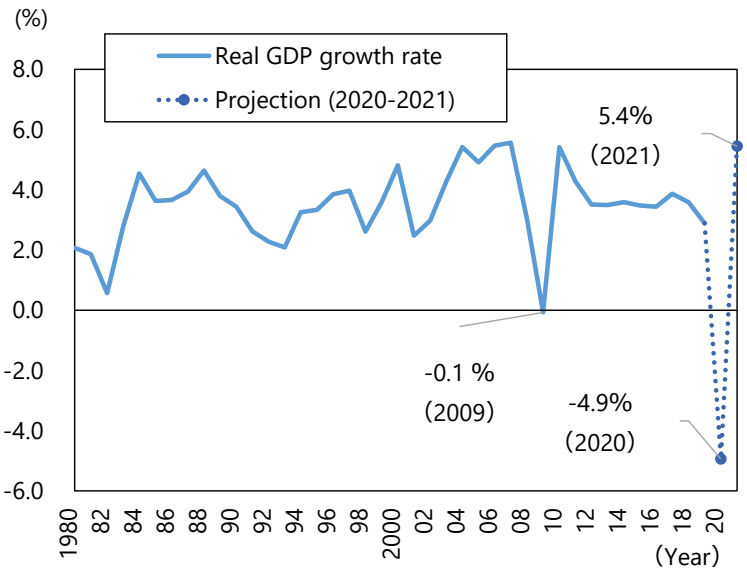
(%)

	2018		2019		2020 (Projection)	
	Growth rate	Contribution	Growth rate	Contribution	Growth rate	Contribution
World	3.6	3.6	2.9	2.9	-4.9	-4.9
Advanced economies	2.2	0.9	1.7	0.7	-8.0	-3.2
US	2.9	0.4	2.3	0.4	-8.0	-1.2
Euro area	1.9	0.2	1.3	0.1	-10.2	-1.1
Japan	0.3	0.0	0.7	0.0	-5.8	-0.2
Emerging and developing Economies	4.5	2.7	3.7	2.2	-3.0	-1.8
Emerging and developing Asia	6.3	2.1	5.5	1.8	-0.8	-0.3
China	6.7	1.2	6.1	1.1	1.0	0.2
India	6.1	0.5	4.2	0.3	-4.5	-0.4
ASEAN-5	5.3	0.3	4.9	0.3	-2.0	-0.1
Latin America and Caribbean	1.1	0.1	0.1	0.0	-9.4	-0.7
Emerging and developing Europe	3.2	0.2	2.1	0.1	-5.8	-0.4
Middle East and Central Asia	1.8	0.2	1.0	0.1	-4.7	-0.4
Sub-Sahara Africa	3.2	0.1	3.1	0.1	-3.2	-0.1

Note: 1) The definitions of advanced/emerging and developing economies follow the World Economic Outlook (WEO). ASEAN-5 refers to Indonesia, Malaysia, Philippines, Thailand, and Vietnam.
2) For India, the data and forecast are presented on a fiscal-year basis.
3) Contributions are calculated using the purchasing power parity (PPP) of the previous year, which was released in April 2020.

Source: "WEO, April/June 2020" (IMF)

Trends in world real GDP growth rate

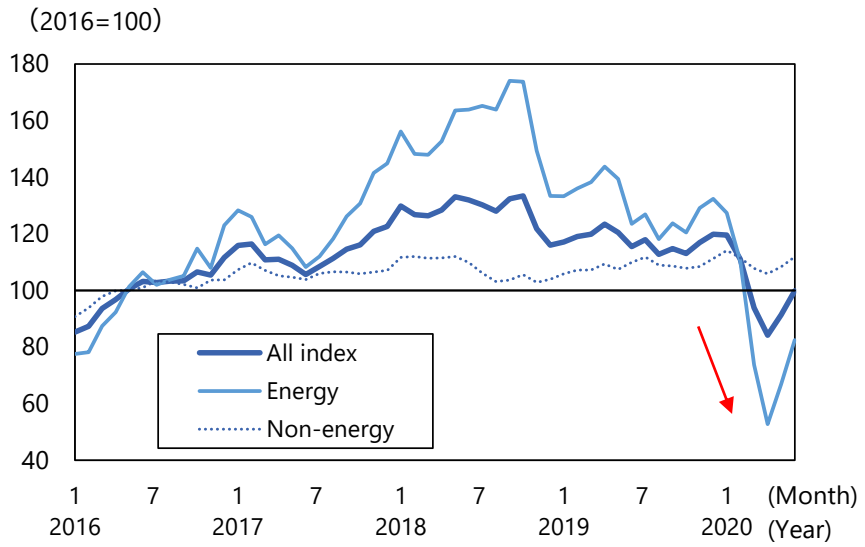


Source: "WEO, April /June 2020" (IMF)

Commodity prices impacted by decline in economic activity due to COVID-19

- Economic activity stagnated as a result of measures taken on a global scale such as restrictions on outings and international travel to combat COVID-19. This resulted in a decline in demand for commodities, significantly reducing energy prices and especially for crude oil.
- While economies are expected to be supported by stimulus measures, budget deficits are predicted to increase worldwide. Particularly in oil-producing countries, the current account balance is expected to deteriorate due to the drop in oil prices as well as the deterioration in the fiscal situation due to the measures against COVID-19. It is difficult to determine how to stabilize the resumption of economic activities while implementing public health policies and other measures.

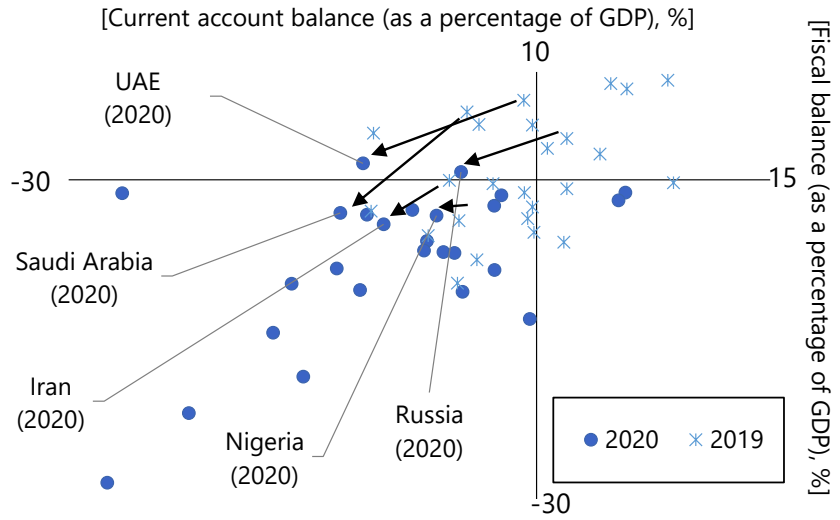
Trends in commodity price index (Monthly)



Note: Until June 2020.

Source: "Primary Commodity Prices" (IMF)

Fiscal and current account balance status and prospects of fuel exporting countries



Note: 1) Of the fuel exporting countries as defined by the IMF (50% of exports are fuel), 26 countries for which data are available are plotted.

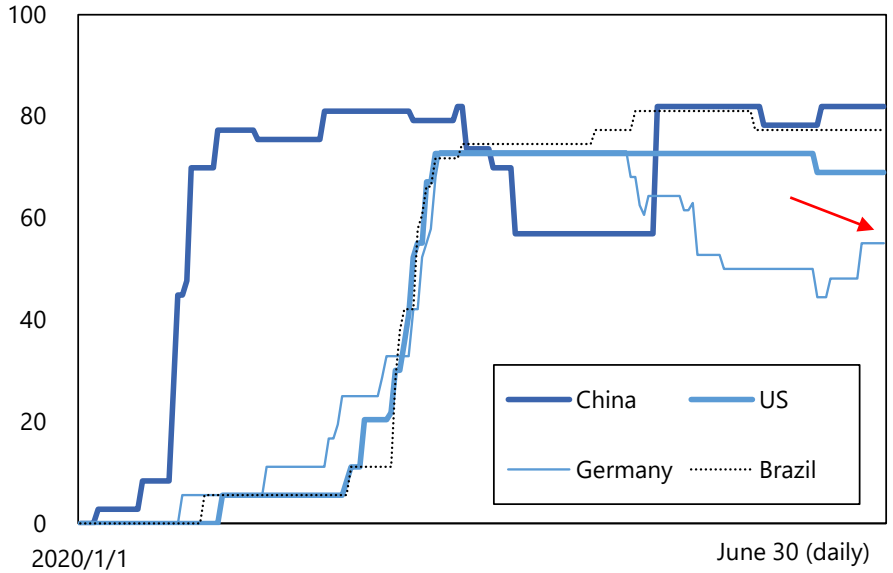
2) Fiscal balance is the general government net lending (+)/ net borrowing.(-)

Source: "WEO, April 2020" (IMF)

Increasing uncertainty in global economy with COVID-19

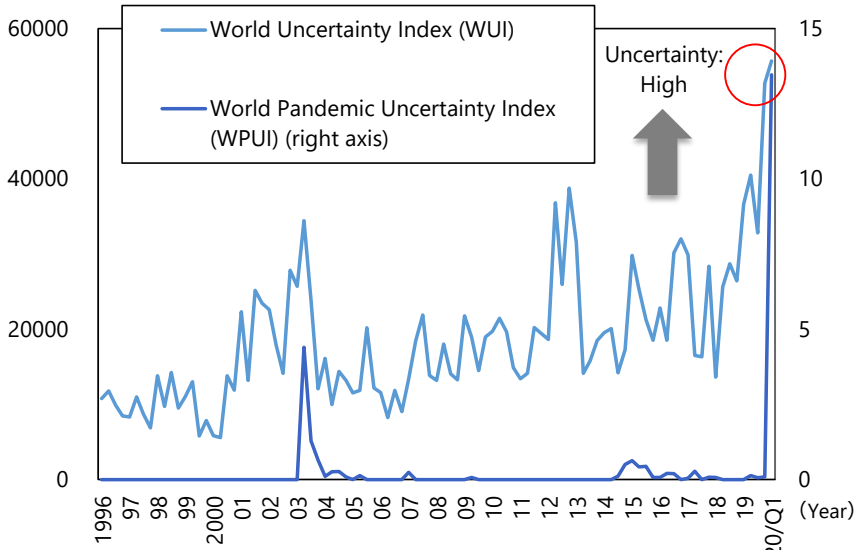
- Currently, some countries and regions are easing measures designed to prevent the spread of COVID-19. However, a second wave of the pandemic could constrain economic activity and further depress global economic growth.
- With the expansion of COVID-19, indicators of global uncertainty have reached their highest levels since 1960, when data first started to be collected. And there are many matters spreading uncertainty aside from COVID-19, such as (1) the tension between the US and China increasing in many areas; (2) the frayed relationship within "OPEC Plus," consisting of OPEC and major non-member oil-producing countries; and (3) the spread of social unrest throughout the world.

Trends in the regulatory strength index for COVID-19 prevention measures



Note: Index of the strength of government measures to prevent the spread of COVID-19. 100 is the strictest.
Source: "Oxford COVID-19 Government Response Tracker" [Hale Thomas, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020), bsg.ox.ac.uk/covidtracker (accessed on July 10, 2020)]

Trends in world uncertainty index (Quarterly)

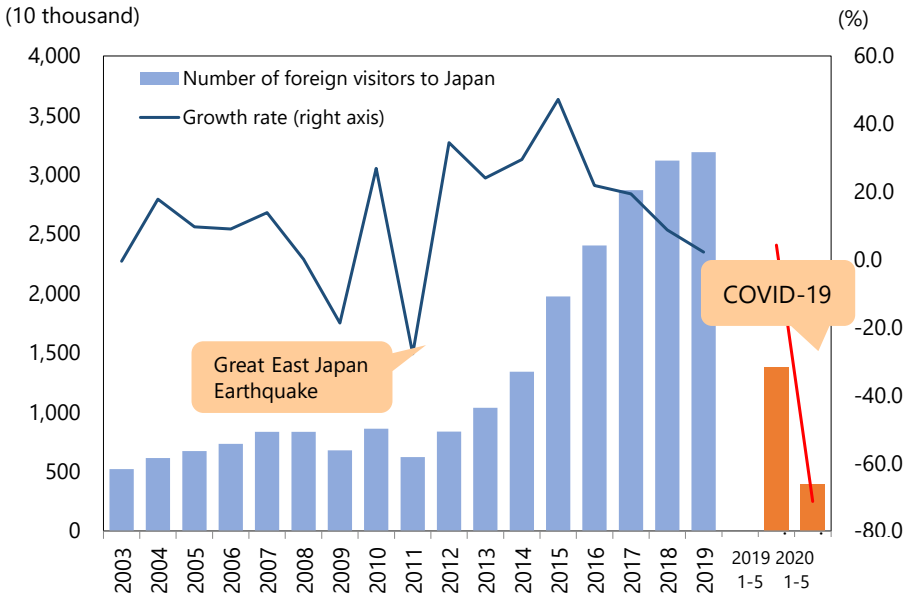


Note: The WUI is constructed based on the frequency of the use of words related to "uncertain," and WPUI based on the number of times uncertainty is mentioned in proximity to a word related to "pandemic," in the country reports of approximately 140 countries and regions by the Economist Intelligence Unit (EIU). The WUI uses indicators weighted by GDP.
Source: Ahir, H, N Bloom, and D Furceri (2018), "World Uncertainty Index," Stanford mimeo (accessed 17 July 2020).

Number of foreign visitors to Japan down 99.9% due to COVID-19

- In 2019, the number of foreign visitors to Japan reached a record high of 31.9 million. However, it began declining year-over-year in February due to the impact of COVID-19. It further declined 99.9% in April and May.
- The tertiary industry activity index, a measure that comprehensively shows the production activity levels of sectors in the tertiary industry, was 96.9 in March 2020 (2015=100). Specifically, this amounted to a 4.2% decline month-over-month and marked the second consecutive monthly fall and a record low as identified under the current standard. Looking at tertiary industry categories, the passenger transportation sector among tourism segments plunged 50.1% month-over-month.

Trends in the number of foreign visitors to Japan and growth rate



Note: Figures for April and May are estimates.
Source: Japan National Tourism Organization (JNTO) (as of June 2020)

Impact of COVID-19 on tourism-related industries (March 2020)

Industry	Indices of tertiary industry activity Monthly comparison by industry [*Note*]	Major impacts
Passenger transport	-50%	・Cancellations of international flights, cruise ships, tourist buses, etc. have occurred one after another resulting in a decrease of the number of flights, voyages, and bus trips.
Accommodations	-46%	・Cancellation of lodging reservations in tourist areas ・Requests to refrain from hosting large events
Eating and drinking places, take out and delivery services	-24%	・Cancellations of large group reservations such as tours, etc. ・Requests from the governors of each prefecture to refrain from going out
Retail trade (dry goods, apparel and apparel accessories)	-17%	・Requests for suspension of operations at amusement parks, sports facilities, etc. ・Shortening of business hours
Other retail trade	-3%	・Requests for closure of department stores and other facilities ・Partial closures of large-scale duty-free stores

Note: The indices of tertiary industry activity is a comprehensive index of the production activities of industries belonging to tertiary industries (2015 = 100, seasonally adjusted).
Source: Ministry of Economy, Trade, and Industry.

World trade in 2019 decreased in both trade value and volume

- In 2019, world trade (trade in goods, nominal export value) decreased by 2.9% from the previous year to $18.5 trillion (JETRO estimate). This is because of an increase of uncertainty caused by trade disputes, a decline in demand due to slowing global economic growth and a decline in fuel prices.
- The trade volume (export basis) also decreased by 0.1% year-on-year, a down turn from the previous year in terms of both value and volume. It was the first time in ten years, since 2009, that both sides had negative growth.

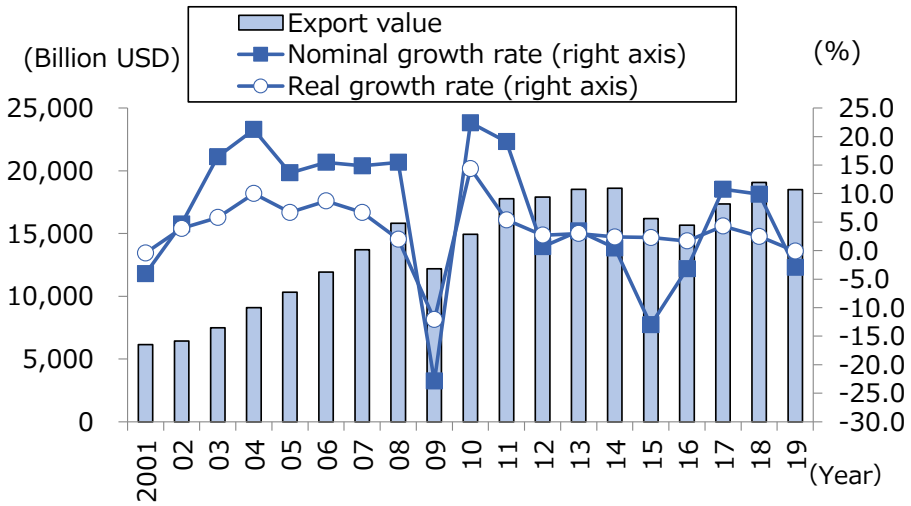
World trade related indicators

(Unit: % for growth rate and change rate)

	2015	2016	2017	2018	2019
World trade (export) (100 mil USD)	161,825	156,646	173,484	190,654	185,047
Nominal growth rate	-13.0	-3.2	10.7	9.9	-2.9
Real growth rate	2.3	1.7	4.3	2.5	-0.1
Price growth rate	-15.0	-4.8	6.2	7.2	-2.8
World trade (import) (100 mil USD)	164,769	160,008	177,732	196,293	190,290
Nominal growth rate	-13.0	-2.9	11.1	10.4	-3.1
Real growth rate	2.2	1.0	5.1	3.2	-0.2
Price growth rate	-14.9	-3.9	5.7	7.0	-2.9
Industrial production index growth rate (OECD)	0.6	0.4	3.0	2.3	-0.3
Fuel price index growth rate	-44.1	-16.5	23.9	27.3	-17.3
Crude oil price growth rate	-47.2	-15.7	23.3	29.4	-10.2
Natural gas price index growth rate	-34.8	-28.6	16.1	26.4	-36.7
Metal price index growth rate	-27.3	-5.3	22.2	6.6	3.7
Iron ore price growth rate	-42.4	4.3	21.5	-1.4	33.5
Food and beverage price index growth rate	-16.2	1.1	3.1	-1.7	-3.1
Growth rate of nominal effective dollar exchange rate	14.7	0.5	-1.0	-2.4	3.4

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 calculated 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.
Source: Trade statistics of respective economies, OECD data (June 2020), "IFS (June, 2020)" (IMF), "PCPS (June 2020)" (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: Negative trade value in many countries and regions compared to 2018

- In 2019, the trade value declined from the previous year in many countries and regions, mainly in Europe and East Asia. In exports, Germany (4.6% decrease YoY), Korea (10.4% decrease), and Japan (4.4% decrease) contributed to the slowdown. The export value of commodity exporters also declined by 6.5% from the previous year due to the impact of falling resource prices.
- The export value of China, now the largest exporter, rose 0.3% to $2.4979 trillion. $98 billion of that was the export to Vietnam, up 17.1% from 2019. Although China's exports to Vietnam accounted for only 3.9% of the total, China increased its exports of electrical equipment and general machinery.

Chinese exports to major countries/regions and export product (2019, component ratio)

(Unit: %)

Product \ Destination	World	US	Japan	Korea	ASEAN	Vietnam	Germany
Total	100.0	16.7	5.7	4.4	14.4	3.9	3.2
General machinery	16.7	3.5	1.1	0.5	2.0	0.4	0.7
Computer and peripheral equipment	7.9	2.1	0.5	0.2	0.5	0.1	0.4
Electrical equipment	26.9	4.2	1.3	1.5	3.5	1.2	0.7
Communication equipment	9.1	1.9	0.4	0.4	1.0	0.3	0.2
Transport equipment	4.5	0.7	0.2	0.1	0.6	0.1	0.2
Chemicals	9.5	1.3	0.5	0.5	1.5	0.4	0.3
Industrial chemicals	5.2	0.6	0.3	0.4	0.8	0.2	0.2
Textiles and related products	10.4	1.7	0.8	0.3	1.6	0.6	0.3

Note : 1) Listed only the top 5 countries with the largest Chinese exports in 2019 and ASEAN. ASEAN consists of 10 countries. 2) Shaded figures represent countries, regions, and products where its share in total Chinese exports increased compared to 2018.
Source : Chinese trade statistics

World trade by country and region (2019)

(100 million USD, %)

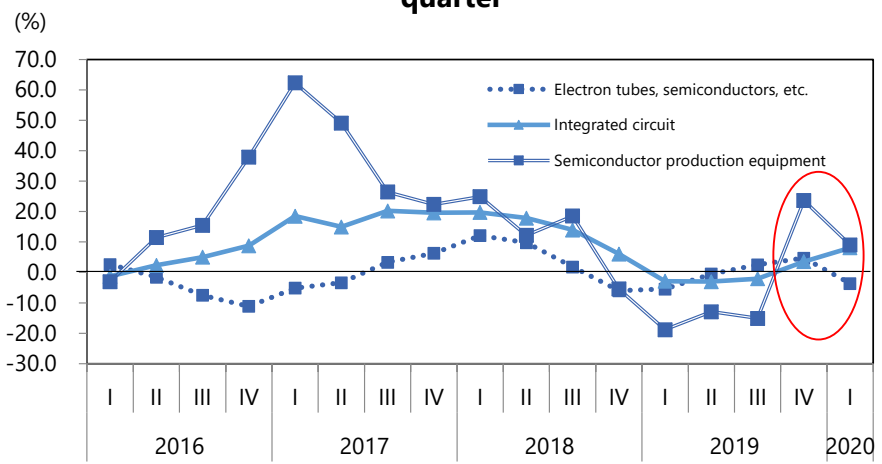
	Export					Import				
	Value	Share	Growth rate	Contribution	Volume growth rate	Value	Share	Growth rate	Contribution	Volume growth rate
NAFTA	25,533	13.8	-0.6	-0.1	1.0	34,070	17.9	-1.7	-0.3	-0.4
US	16,452	8.9	-1.2	-0.1	-0.3	24,984	13.1	-1.7	-0.2	-0.5
Canada	4,470	2.4	-0.8	0.0	2.4	4,533	2.4	-1.4	0.0	1.3
Mexico	4,611	2.5	2.3	0.1	4.4	4,553	2.4	-1.9	0.0	-1.4
EU	62,637	33.8	-3.0	-1.0	n.a.	62,871	33.0	-3.2	-1.1	n.a.
Germany	14,892	8.0	-4.6	-0.4	-2.3	12,345	6.5	-3.9	-0.3	-0.4
Netherlands	7,094	3.8	-2.4	-0.1	1.6	6,364	3.3	-1.4	0.0	2.7
France	5,697	3.1	-2.1	-0.1	0.7	6,512	3.4	-3.0	-0.1	0.2
Italy	5,327	2.9	-3.1	-0.1	-0.6	4,735	2.5	-5.9	-0.2	-1.6
UK	4,691	2.5	-3.6	-0.1	-2.6	6,896	3.6	2.4	0.1	5.2
Australia	2,709	1.5	5.4	0.1	0.7	2,138	1.1	-5.8	-0.1	-1.4
Japan	7,057	3.8	-4.4	-0.2	-2.0	7,208	3.8	-3.7	-0.1	0.3
East Asia	47,208	25.5	-1.8	-0.5	n.a.	41,935	22.0	-2.5	-0.5	n.a.
China	24,979	13.5	0.3	0.0	1.9	20,686	10.9	-1.9	-0.2	0.0
Korea	5,422	2.9	-10.4	-0.3	-1.8	5,033	2.6	-6.0	-0.2	-1.3
Taiwan	3,051	1.6	-0.9	0.0	2.7	2,864	1.5	0.9	0.0	4.6
ASEAN6	13,756	7.4	-1.9	-0.1	n.a.	13,352	7.0	-2.7	-0.2	n.a.
Singapore	3,904	2.1	-5.2	-0.1	-1.2	3,591	1.9	-3.1	-0.1	-1.2
Thailand	2,453	1.3	-2.1	0.0	-3.0	2,400	1.3	-3.8	0.0	-4.8
Malaysia	2,382	1.3	-4.3	-0.1	-2.0	2,050	1.1	-6.0	-0.1	-3.0
Vietnam	2,643	1.4	8.4	0.1	10.5	2,534	1.3	7.0	0.1	9.8
Indonesia	1,670	0.9	-7.3	-0.1	-3.4	1,704	0.9	-9.3	-0.1	-6.7
Philippines	703	0.4	4.2	0.0	3.5	1,074	0.6	-1.4	0.0	-2.9
India	3,242	1.8	-0.2	0.0	2.8	4,839	2.5	-5.9	-0.2	-2.0
Brazil	2,254	1.2	-5.8	-0.1	-3.2	1,773	0.9	-2.1	0.0	2.2
Russia	4,228	2.3	-6.0	-0.1	-1.5	2,438	1.3	2.2	0.0	4.0
Turkey	1,808	1.0	7.7	0.1	6.8	2,102	1.1	-5.7	-0.1	-5.0
South Africa	898	0.5	-4.3	0.0	-0.1	881	0.5	-5.2	0.0	-0.4
World	185,047	100.0	-2.9	-2.9	-0.1	190,290	100.0	-3.1	-3.1	-0.2
Advanced economies	110,853	59.9	-3.3	-2.0	n.a.	117,885	62.0	-3.1	-1.9	n.a.
Emerging/developing economies	74,194	40.1	-2.4	-1.0	n.a.	72,404	38.0	-2.9	-1.1	n.a.
Commodity exporters	28,160	15.2	-6.5	-1.0	n.a.	23,290	12.2	-2.3	-0.3	n.a.
Fuel exporters	19,414	10.5	-8.7	-1.0	n.a.	15,704	8.3	-0.4	0.0	n.a.
Nonfuel exporters	8,746	4.7	-1.2	-0.1	n.a.	7,586	4.0	-5.9	-0.2	n.a.
Commodity exporters Dev.	19,111	10.3	-8.7	-1.0	n.a.	14,574	7.7	-1.8	-0.1	n.a.
Commodity exporters Adv.	9,049	4.9	-1.3	-0.1	n.a.	8,716	4.6	-3.0	-0.1	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) East Asia includes China, Korea, Taiwan and ASEAN6. 5) See footnote in the main text regarding the definition of "Commodity exporters" (39 emerging/developing economies and seven advanced economies). Figures of small countries which were unavailable or unable to be estimated were excluded. 6) 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 the WTO.
Source: Trade statistics of respective economies and WTO data

Trends by product: Commodity-related products and machinery negatively impacted exports

- The growth rate of world trade by product in 2019 (on an export value basis) was negative for many products. The slowdown in commodity-related products, general machinery, chemicals, transport equipment, and electrical equipment negatively impacted world trade.
- The demand cycle for semiconductor-related products bottomed out in the fourth quarter of 2019. According to the World Semiconductor Market Statistics (WSTS), the semiconductor market is expected to recover to $426 billion in 2020, up 3.3% from the previous year (as of June 2020).

Export growth rate of semiconductor-related products by quarter



Note: 1) Changes in growth rate of export value (compared to the same period of the previous year). 2) Due to the limitation of data, created based on data from 32 countries/regions (see next page for details).
Source: Trade statistics of respective country/region

World trade by product (export basis, 2019)

(100 million USD, %)

	Value	Share	Growth rate	Contribution
Total exports	185,047	100.0	-2.9	-2.9
Machinery and equipment	74,113	40.1	-1.7	-0.7
General machinery	21,983	11.9	-2.8	-0.3
Turbines	1,485	0.8	8.2	0.1
Computer and peripheral equipment	5,718	3.1	-5.8	-0.2
Semiconductor manufacturing equipment	802	0.4	-6.7	0.0
Industrial robots	55	0.0	-9.8	0.0
Electrical equipment	27,119	14.7	-1.1	-0.2
Communication equipment	5,891	3.2	-3.1	-0.1
Electronic tubes and semiconductors	1,158	0.6	1.0	0.0
Integrated circuits	7,195	3.9	1.2	0.0
Lithium-ion storage batteries	347	0.2	15.6	0.0
Transport equipment	18,361	9.9	-1.9	-0.2
Automobiles	9,249	5.0	-0.8	0.0
Hybrid vehicles	443	0.2	49.9	0.1
Plug-in hybrid vehicle	149	0.1	13.4	0.0
Electric vehicles	256	0.1	122.3	0.1
Automobile parts (excluding engines)	3,999	2.2	-5.1	-0.1
Precision equipment	6,650	3.6	0.3	0.0
Chemicals	25,194	13.6	-2.3	-0.3
Pharmaceuticals and medical supplies	6,234	3.4	5.3	0.2
Food (a)	13,248	7.2	-0.3	0.0
Oils, fats, and other animal and vegetable products(b)	1,870	1.0	-5.2	-0.1
Mineral ore (c)	2,350	1.3	11.0	0.1
Mineral fuels etc. (d)	21,248	11.5	-9.7	-1.2
Base metal and its products (e)	11,826	6.4	-8.4	-0.6
Commodity-related products (total)	50,542	27.3	-6.1	-1.7
Fuel (d)	21,248	11.5	-9.7	-1.2
Non-fuel (metal, food and beverages)	29,295	15.8	-3.3	-0.5
Metal （c + e）	14,176	7.7	-5.6	-0.4
Food and beverages （a + b）	15,118	8.2	-1.0	-0.1

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

World trade in the first quarter of 2020 dropped sharply due to COVID-19

- The trade value of 32 countries and regions for which trade data by product through the first quarter of 2020 is available (export basis) decreased by 5.8% year-over-year in the same quarter. Transport equipment (10.7% decrease) and general machinery (9.1% decrease) contributed to the decline. Exports of pharmaceuticals and medical supplies, meanwhile, rose 13.9% maintaining positive growth.
- Looking at the growth rate in the first quarter of 2020 by country, China's exports fell sharply by 13.4% year-over-year. Exports from the US, Germany, Japan, and ASEAN5 were negative. As for trade between major countries and regions, the decline in exports and imports of China and the EU countries appears to be greater than other countries.

Trade for 32 major economies by product, on quarterly basis (YoY growth rate)

(%)

	World trade coverage ratio (2019)	2019				2020	Contribution (Q1, 2020)
		I	II	III	IV	I	
Total (exports of 32 countries/regions)	76.1	-2.9	-3.5	-2.3	-2.0	-5.8	-5.8
Machinery and equipment	82.1	-3.8	-4.0	-2.2	-1.5	-6.9	-3.0
General machinery	83.8	-3.1	-4.3	-4.6	-2.9	-9.1	-1.2
Mining and construction machines	87.5	-1.2	-7.0	0.5	-10.6	-13.6	-0.1
Turbines	70.5	10.2	9.4	11.0	6.0	1.0	0.0
Computers and peripheral equipment	85.4	-3.6	-7.6	-11.5	-7.4	-13.4	-0.5
Semiconductor manufacturing equipment	98.1	-18.8	-12.9	-15.1	23.6	9.1	0.0
Industrial robots	95.4	-11.5	-11.7	-5.2	-8.5	-3.2	0.0
Electrical equipment	83.8	-3.7	-3.8	-2.5	-0.7	-3.3	-0.5
Communication equipment	80.7	-5.5	-4.5	-2.1	-4.4	-11.4	-0.4
Electronic tubes and semiconductors	94.0	-5.4	-0.5	2.5	4.7	-3.6	0.0
Integrated circuits	93.6	-2.9	-3.0	-2.1	3.6	8.1	0.4
Transport equipment	76.1	-5.5	-5.0	0.8	-1.8	-10.7	-1.1
Automobiles	74.4	-6.3	-4.1	5.1	0.4	-10.3	-0.5
Automobile parts (excluding engines)	74.2	-6.7	-7.3	-4.8	-6.9	-9.5	-0.2
Precision equipment	85.7	-2.1	-1.9	0.5	1.0	-4.2	-0.2
Chemicals	83.3	-1.2	-2.2	-1.3	-3.0	-0.4	-0.1
Pharmaceuticals and medical supplies	86.6	3.4	3.6	10.2	7.9	13.9	0.5
Commodity-related products (total)*	72.0	-4.7	-3.6	-7.5	-7.5	-4.9	-1.4
Fuel*	72.6	-5.8	-3.2	-15.2	-14.7	-7.4	-0.9
Non-fuel products (metal, food and beverages)*	71.4	-3.9	-3.9	-0.7	-1.3	-3.0	-0.5

Note: 1) The 32 economies are Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, Greece, Hong Kong, Indonesia, Ireland, Italy, Japan, Luxembourg, Malaysia, the Netherlands, the Philippines, Portugal, Russia, Singapore, South Africa, Korea, Spain, Sweden, Switzerland, Taiwan, Thailand and the US. 2) Figures for products marked with an asterisk (*) are based on imports, those for other products are based on exports.

Source: Trade statistics of respective economies

Quarterly change in trade values of major countries and regions (YoY)

(Unit: %)

	Export					Import				
	2019				2020	2019				2020
	I	II	III	IV	I	I	II	III	IV	I
China	1.0	-0.7	-0.3	1.2	-13.4	-1.1	-3.4	-6.0	3.3	-2.3
US	1.3	-3.3	-1.8	-1.4	-3.0	0.0	0.7	-1.4	-5.4	-4.9
Germany	-5.5	-7.1	-3.0	-2.5	-6.1	-2.6	-4.8	-5.0	-3.1	-5.7
Japan	-5.7	-6.2	-1.3	-4.4	-4.4	-3.5	-0.8	-1.2	-8.6	-6.2
ASEAN5	-3.8	-5.2	-4.5	-3.0	-1.7	-1.4	-3.7	-7.1	-6.2	-2.8

Note: 1) Growth rate against world exports and imports. 2) Figures for ASEAN5 are totals for Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Source: Trade statistics of respective country/region.

Export growth rate for 32 major economies（2020 Q1, YoY % change）

(%)

Export \ Import	Total: 32 economies	East Asia-10	Japan	China	Korea	Taiwan	ASEAN-5	US	EU-14	France	Germany	Italy
Total: 32 economies	-5.8	-4.8	-8.0	-5.6	-2.4	2.6	-0.4	-4.9	-7.3	-7.8	-6.7	-8.6
East Asia-10	-7.9	-4.9	-9.9	-4.6	-6.5	3.8	-1.1	-13.0	-13.4	-15.9	-14.7	-14.4
Japan	-5.2	-3.7		-4.1	-6.4	6.5	-5.7	-8.1	-7.8	-7.2	-7.4	-7.2
China	-15.8	-10.7	-16.1		-11.3	2.2	-2.1	-25.1	-17.5	-15.9	-20.1	-17.6
Korea	-2.5	-3.5	0.2	-8.4		-5.2	4.5	5.5	-6.0	0.8	-0.7	-18.4
Taiwan	4.0	5.2	0.3	6.0	-5.7		6.1	3.7	-5.4	-16.1	-12.9	-11.7
ASEAN-5	-0.1	-0.9	-4.2	-5.2	6.9	6.0	1.2	4.4	-4.8	-13.2	-9.8	-3.3
US	-2.9	-3.5	-0.5	-14.6	6.4	10.3	4.6		0.0	1.4	1.4	-3.8
EU-14	-4.9	-6.0	-4.6	-8.0	14.9	-1.3	-7.2	2.7	-6.4	-8.2	-5.4	-7.4
France	-10.3	-22.9	-27.3	-36.1	-1.9	-7.1	-0.7	-6.1	-9.5		-10.6	-11.3
Germany	-6.4	-6.8	-11.9	-10.9	23.3	9.3	-9.3	-4.5	-8.0	-11.3		-10.2
Italy	-3.4	-11.3	7.0	-18.5	-5.4	-0.6	-5.4	7.5	-4.0	-6.2	-4.1	

Note: 1) Chart was created on an export basis. 2) The figure for 32 economies is same as left chart. The figure for East Asia is the sum of Japan, China, Korea, Taiwan, Hong Kong, and ASEAN-5. ASEAN-5 includes Indonesia, Malaysia, the Philippines, Singapore and Thailand. EU-14 includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden. 3) The figure for EU-14 includes the amount of intra-regional trade. 4) Shaded cells indicate countries/regions of which growth rates (year-on-year) were negative. The blue cells indicate countries with growth rates of -10% to -5%, and dark blue cells with white letters indicate countries/regions of which growth rates are below -10%.

Source: Trade statistics of the respective economies

World trade of COVID-19-related products

- Looking at the world trade in products required to prevent the spread of COVID-19 and medical supplies for its treatment, in the first quarter of 2020, trade of testing kits/instruments and apparatuses used in diagnostic testing rose 12.5% year-over-year, protective garments rose 15.9%, and disinfectants and sterilization products rose 17.4%. Among protective equipment, the growth rate of masks was especially large, increasing by 56.8%.
- Looking at export share by country, China accounts for nearly 40% of the world share in exports of masks, protective garments, etc. On the other hand, European countries have a large share in the export of COVID-19 test kits/instruments and apparatuses used in diagnostic testing and disinfectants and sterilization products.

Quarterly export value of products related to Covid-19 (Year-on-year change rate)

(Unit: %)

	World trade coverage	2019				2020
		I	II	III	IV	I
Test kits/ Instruments and apparatus used in Diagnostic Testing	92.9	10.0	2.5	21.0	6.2	12.5
Protective gear	79.3	-2.7	-0.8	0.3	0.1	15.9
Masks	76.0	2.2	2.9	5.4	4.3	56.8
Protective garments	75.3	-11.1	-7.6	-3.0	-0.3	1.8
Disinfectant/sterilization products	83.6	-1.5	6.6	13.9	7.1	17.4
Therapeutic respiration apparatus	79.2	4.7	6.1	7.9	3.5	1.0
Other medical devices and equipment	77.9	0.5	2.0	6.5	7.1	3.8
Other related medical supplies to Covid-19	81.0	2.3	2.8	7.5	8.3	-0.4
Total	83.8	2.1	4.1	12.2	6.4	10.8

Note: 1) This was created based on the classification of medical products related to Covid-19 (the version of April 30, 2020), announced by the World Customs Organization (WCO). For details, see "Note 2." 2) This is based on data from 32 countries/regions due to data restrictions. See the previous page for details of the 32 countries/regions.
Source: Statistics of each country/region.

Top five countries/regions for import/export of products related to Covid-19 (2019)

(Unit: Million USD, %)

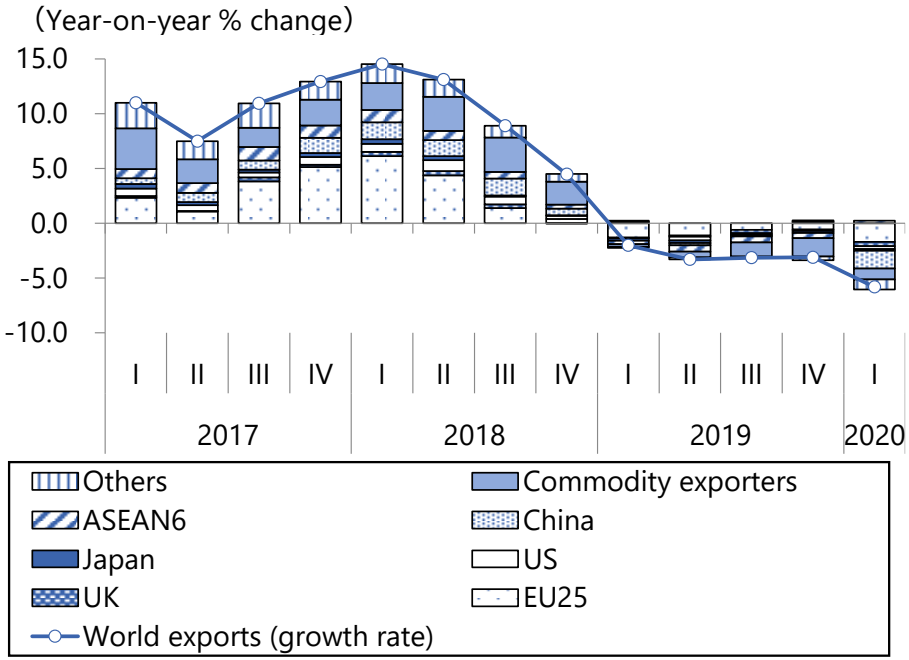
Items	Rank	Export				Import			
		Countries / region	Value	Share	Growth rate	Countries / region	Value	Share	Growth rate
Test kits/ Instruments and apparatus used in Diagnostic Testing	1	Switzerlan	30,468	19.2	20.8	US	26,711	17.5	36.6
	2	Germany	26,653	16.8	-7.0	Germany	14,387	9.4	4.3
	3	US	22,169	14.0	9.0	China	12,060	7.9	18.3
	4	Ireland	19,821	12.5	33.8	Belgium	9,851	6.5	2.5
	5	Belgium	11,447	7.2	15.3	Japan	8,551	5.6	22.0
Masks	1	China	5,518	39.5	6.2	US	4,676	30.4	8.1
	2	Germany	1,183	8.5	-0.8	Japan	1,338	8.7	4.3
	3	US	1,164	8.3	7.0	Germany	1,282	8.3	3.1
	4	Mexico	606	4.3	11.6	France	651	4.2	7.4
	5	Vietnam	470	3.4	-14.0	UK	485	3.2	6.3
Protective garments	1	China	5,825	41.5	-9.4	US	3,114	23.5	-2.7
	2	Vietnam	1,327	9.5	44.1	Germany	990	7.5	1.6
	3	Italy	799	5.7	0.2	Japan	863	6.5	1.0
	4	Belgium	542	3.9	-4.2	France	840	6.3	-1.1
	5	Germany	515	3.7	6.7	UK	540	4.1	-3.8
Disinfectant/ sterilization products	1	Germany	46,661	15.0	1.1	US	63,922	19.1	9.3
	2	Switzerlan	42,534	13.7	5.8	Germany	28,173	8.4	6.5
	3	Netherlanc	25,251	8.1	16.6	Belgium	19,218	5.7	23.0
	4	Belgium	23,261	7.5	4.8	Switzerlan	15,999	4.8	8.3
	5	US	21,791	7.0	8.8	Netherlanc	15,633	4.7	10.2
Therapeutic respiration apparatus	1	US	12,218	20.8	0.8	US	12,946	24.3	10.7
	2	Netherlanc	7,092	12.1	9.1	Netherlanc	4,988	9.3	3.5
	3	Mexico	5,377	9.1	43.0	Germany	3,940	7.4	7.1
	4	Ireland	4,779	8.1	11.4	China	3,306	6.2	16.0
	5	Germany	4,766	8.1	2.4	Japan	3,217	6.0	6.9

Note: 1) Only the top five countries/regions are listed here in terms of import/export value in 2019. 2) This was created based on the classification of medical products related to Covid-19 (the version of April 30, 2020), announced by the World Customs Organization (WCO). 3) The composition ratio is the share of the global total of each product (estimated value by JETRO). 4) Vietnam and Mexico's trade values are estimates.
Source: Trade statistics of each country/region

World trade in 2020 is expected to decrease due to COVID-19

- The growth rate of world exports in the first quarter of 2020 decreased by 5.8% year-on-year. Looking at the breakdown, EU25 (-1.7 percentage points), China (-1.6 percentage points) and commodity exporters (-1.0 percentage points) made a large contribution to the decrease in exports.
- According to the WTO outlook in April and June 2020, world trade (average export and import) is expected to decrease by 12.9% from the previous year in 2020. World trade in 2020 will experience a sudden decline, but it is unlikely that the world will experience the pessimistic scenario which is a decline of 31.9% from the previous year.

Growth rate and contribution of exports by economies, on a quarterly basis



Note: 1) World exports cover 210 economies. 2) See the footnote in the report regarding the definition of "commodity exporters." EU25 includes all EU member economies excluding two commodity exporters (Greece and Cyprus). 3. The value of each country and region indicates the contribution rate.
Source: "DOTS (June 2020)" (IMF)

World trade in goods (real) growth rate (year-over-year)

(Unit: %)

		Optimistic scenario		Pessimistic scenario	
		2020	2021	2020	2021
World trade in goods (real) growth rate		-12.9	21.3	-31.9	24.0
Export	North America	-17.1	23.7	-40.9	19.3
	Latin America	-12.9	18.6	-31.3	14.3
	Europe	-12.2	20.5	-32.8	22.7
	Asia	-13.5	24.9	-36.2	36.1
	Other regions	-8.0	8.6	-8.0	9.3
Import	North America	-14.5	27.3	-33.8	29.5
	Latin America	-22.2	23.2	-43.8	19.5
	Europe	-10.3	19.9	-28.9	24.5
	Asia	-11.8	23.1	-31.5	25.1
	Other regions	-10.0	13.6	-22.6	18.0

Note : 1) Figures for the world trade in goods are the average values for exports and imports. 2) Figures for 2020 and 2021 are projections. 3) Other regions are Africa, Middle East, and CIS.
Source : "WTO press release" (April 8, 2020)

Further challenges to weakening Japanese trade

- Concerning Japan's trade (customs clearance basis) in 2019, its exports decreased by 4.4% compared to the previous year to $705.7 billion, and the imports decreased by 3.7% to $720.8 billion. Both imports and exports declined for the first time in four years since 2015. The trade balance recorded a deficit of $15.1 billion, marking the second consecutive year of trade deficit.
- Japan's export growth has remained negative since the end of 2018. It had begun to show signs of bottoming out. However, the rate of decline has increased in 2020 due to the impact of COVID-19. Meanwhile, Japan's imports fell sharply in February 2020 with a sudden decline in imports from China followed, by a slight decline in March and April. They declined sharply again in May due to a fall in resource prices.

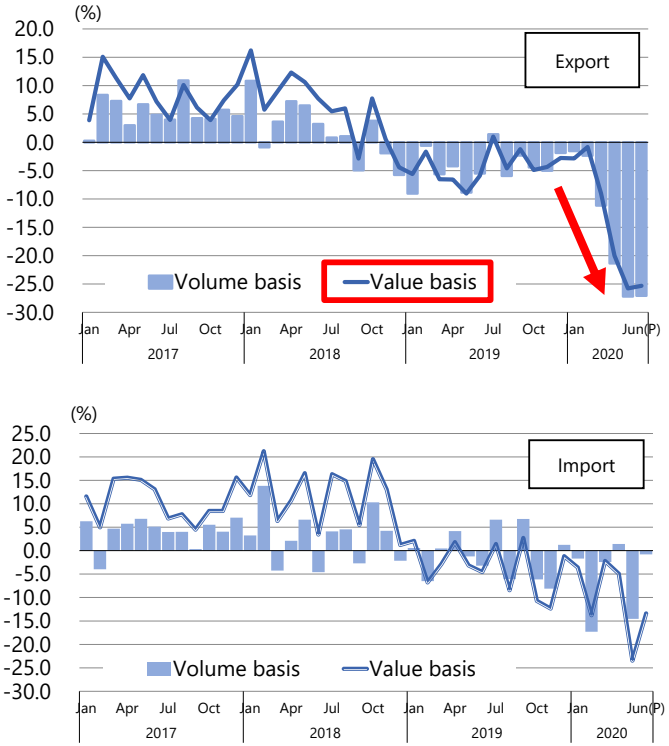
Japan's trade trends

(Million USD, %)

	2018	2019	2020						
			Jan-Jun(P)	Jan	Feb	Mar	Apr	May	June(P)
Total exports	737,846	705,682	298,509	49,695	57,729	58,931	47,951	39,092	45,111
(Growth rate)	5.8	-4.4	-14.0	-2.8	-0.8	-9.0	-20.0	-25.8	-25.3
Total imports	748,109	720,765	319,206	61,717	47,627	58,810	56,517	46,921	47,614
(Growth rate)	11.5	-3.7	-10.1	-3.6	-13.8	-2.2	-4.9	-23.4	-13.4
Trade balance	-10,263	-15,083	-20,697	-12,022	10,101	121	-8,566	-7,829	-2,503
(Year-on-year difference)	-36,513	-4,820	-12,778	838	7,130	-4,520	-9,070	778	-7,934
Export volume index	107.7	103.0	86.2	86.2	99.8	101.6	84.1	67.7	77.8
(Growth rate)	1.7	-4.3	-15.3	-1.6	-2.4	-11.2	-21.3	-27.3	-27.1
Import volume index	105.8	104.6	96.4	108.5	78.6	102.1	105.0	90.7	94.1
(Growth rate)	2.8	-1.1	-5.9	-1.7	-17.3	-2.5	1.5	-14.5	-0.8
Crude oil import price	72.8	66.8	49.1	70.3	70.6	62.2	42.2	24.9	24.4
(Dollar/barrel, growth rate)	34.3	-8.2	-27.4	12.2	13.4	-5.4	-38.7	-65.9	-66.5
Exchange rate (yen/dollar)	110.4	109.0	108.2	109.3	110.0	107.3	107.9	107.3	107.6
(Yen appreciation, %)	1.6	1.3	1.6	-0.4	0.4	3.7	3.5	2.3	0.5

Note: 1) Yen-based values are converted to dollar-based values by JETRO. 2) The volume index is on a 2015 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)

Japan's import & export growth (year on year change)

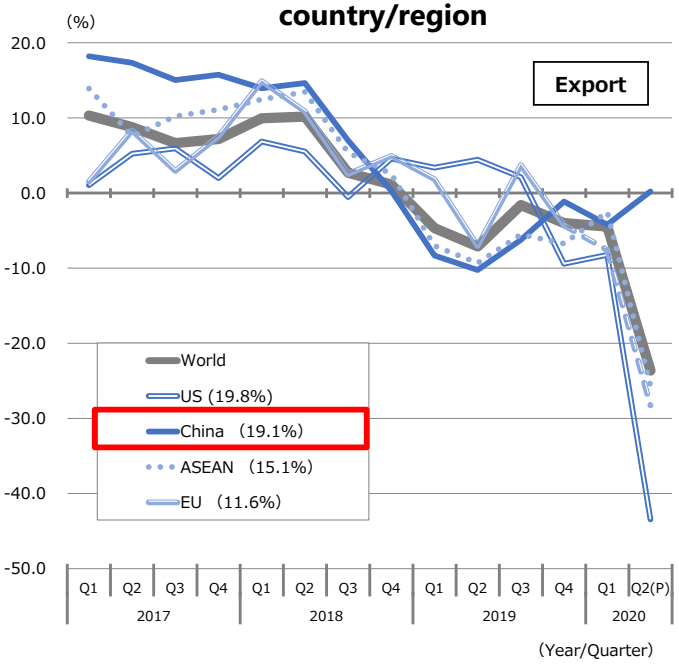


Note: Change rates on volume basis were calculated from the 2015-based volume index.
Source: "Trade Statistics" by the Ministry of Finance, Japan

Exports of general machinery and transport equipment declined

- Looking at Japan's exports by country and region, its export to China decreased for the first time in four years. Among the exports to China, production equipment (semiconductor manufacturing equipment, machine tools, industrial robots, etc.), electronic parts such as semiconductors and automotive parts struggled due to sluggish production and investment in China. In the leading US market, Japan's exports of automobiles, the main export products, declined in the second half of the year.
- Regarding Japan's export by product in 2019, semiconductor manufacturing equipment in general machinery decreased from 2018, and machine tools, mining and construction machines also declined. In transport equipment, Japan's export of automobiles for the US decreased due to the US's reshoring of production, while its export of automobile parts for China and ASEAN also decreased. This downward trend continues for 2020.

Japan's exports and imports by major country/region



Note: 1) Figures in parentheses indicate share in total export in 2019. 2) Growth rate of EU after the 1st quarter of 2020 is a comparison of 27 countries.
Source: "Trade Statistics" (MOF)

Japan's exports by main product

(Unit: Million USD, %)

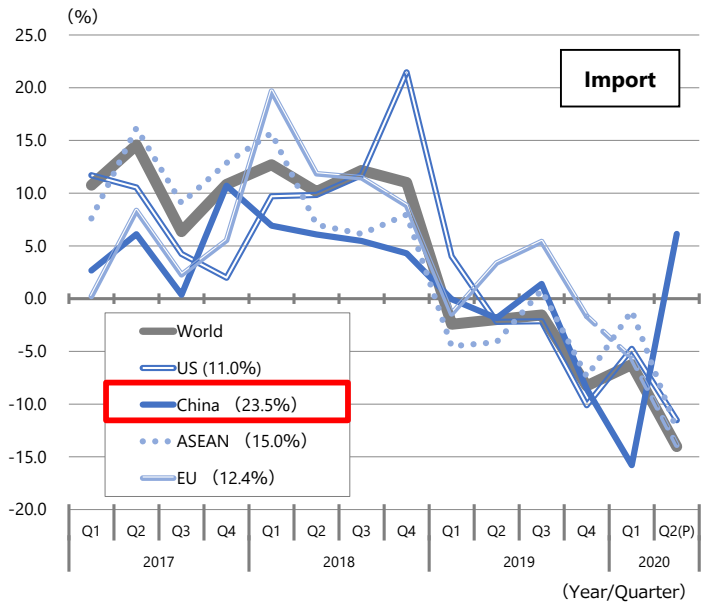
	2019	Y-o-Y change	Contribution	Jan-May in 2020	Y-o-Y change	Contribution	Year-on-year change Jan	Feb	Mar	Apr	May
Total exports	705,682	-4.4	-4.4	253,398	-11.6	-11.6					
General machinery	136,969	-7.5	-1.5	48,776	-15.0	-3.0					
Mining and construction machines	10,440	-6.6	-0.1	3,521	-28.1	-0.5					
Machine tools	6,736	-15.8	-0.2	2,064	-31.2	-0.3					
Semiconductor manufacturing equipment	22,621	-8.6	-0.3	8,748	-3.8	-0.1					
Electrical equipment	103,051	-5.8	-0.9	39,451	-1.2	-0.2					
Electronic parts such as semiconductors	36,667	-2.0	-0.1	14,814	8.2	0.4					
Communication equipment	3,920	-22.2	-0.2	1,278	-21.2	-0.1					
Transport equipment	167,838	-2.8	-0.7	52,724	-24.3	-5.9					
Automobiles	109,160	-1.5	-0.2	33,243	-25.7	-4.0					
Automobile parts (excluding engines)	33,024	-8.7	-0.4	10,495	-22.9	-1.1					
Precision equipment	40,002	-5.3	-0.3	14,908	-4.8	-0.3					
Chemicals	97,124	-0.7	-0.1	38,383	-3.1	-0.4					
Iron and steel products	36,424	-9.5	-0.5	14,158	-4.5	-0.2					

Note : Yen-based values are converted to dollar-based values by JETRO
Source : "Trade Statistics" by the Ministry of Finance, Japan

Imports impacted by decline in energy prices

- Regarding Japan's imports in 2019, its imports from ASEAN countries such as Indonesia and Malaysia shrank due to the decline in resource prices. Its Imports from the US and China, which are Japan's major trading partners, also decreased. On the other hand, the imports from the EU increased year-over-year due to an increase in aircraft, pharmaceuticals and medical supplies, and food such as wine.
- In the first quarter of 2020, China's production activity stagnated due to the impact of COVID-19, and Japan's imports from China decreased sharply, returning to a positive level in the second quarter.
- As for Japan's import by product, a drop-off in mineral fuels was significant, accounting for about 70% of the total decline in imports in 2019. This was led by a continuing downward trend of energy prices throughout 2019. The impact of price stagnation continues in 2020.

Japan's imports and imports by major country/region



Note: 1) Figures in parentheses indicate share in total import in 2019. 2) Growth rate of EU after the 1st quarter of 2020 is a comparison of 27 countries.
Source: "Trade Statistics" (MOF)

Japan's imports by main product

(Unit: Million USD, %)

	2019	Y-o-Y change	Contribution	Jan-May in 2020	Y-o-Y change	Contribution	Year-on-year change Jan	Feb	Mar	Apr	May
Total imports	720,765	-3.7	-3.7	271,592	-9.5	-9.5					
Mineral fuels	155,362	-11.0	-2.6	53,233	-21.4	-5.1					
Crude oil	73,045	-9.3	-1.0	23,055	-25.6	-2.8					
LNG	39,876	-7.0	-0.4	15,148	-16.5	-1.0					
General machinery	70,521	-3.3	-0.3	27,425	-8.8	-0.9					
Computer and peripheral equipment	24,323	8.7	0.3	10,105	-2.1	-0.1					
Electrical equipment	98,817	-2.2	-0.3	37,944	-5.1	-0.7					
Cellular phones	15,440	-12.4	-0.3	5,747	-7.9	-0.2					
Electronic parts such as semiconductors	23,562	-7.0	-0.2	9,701	2.3	0.1					
Transport equipment	33,159	3.4	0.1	10,829	-18.9	-0.9					
Chemicals	85,954	-2.9	-0.3	35,797	-0.5	-0.1					
Pharmaceuticals and medical supplies	27,336	6.4	0.2	12,167	12.4	0.5					
Food	66,670	0.5	0.0	26,081	-3.8	-0.4					
Textile and its products	37,164	-1.5	-0.1	15,293	3.9	0.2					

Note: Yen-based values are converted to dollar-based values by JETRO
Source: "Trade Statistics" by the Ministry of Finance, Japan

Rapid increase in imports of COVID-19-related products such as masks and protective garments

- Looking at Japan's imports of COVID-19-related products, the US has a large share of Japan's import of medical devices such as testing kits and therapeutic respiration apparatus. Europe, including Germany, has a large share for disinfectants and sterilization products. China has a large share for protective gear such as masks and protective garments. Specifically, China has a nearly 80% share of Japan's import of masks.
- In 2020, the demand for masks and protective garments increased in Japan. Once the production in China, a major supplier, resumed, the Japan's import of masks soared and increased significantly from April.

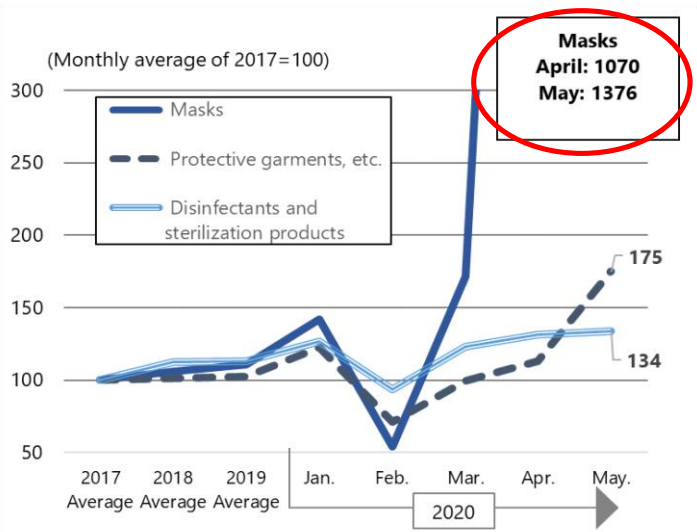
Japan's import of products related to Covid-19

(Unit: Million USD, %)

	Value of Imports			Top Supplier (2019)	Main Products
	2019	Jan-May 2020	Y-o-Y change		
Test kits/ Instruments and apparatus used in Diagnostic Testing	8,551	4,028	27.3	US (23.8%)	Test kits, Swab and Viral transport medium set
Protective gear	3,422	3,750	175.9	China (57.7%)	Masks, Protective garments, Surgical rubber gloves
Masks	1,338	2,842	426.9	China (75.3%)	
Protective garments	863	408	28.3	China (56.8%)	
Disinfectant/sterilization products	14,650	6,563	9.2	Germany (15.9%)	Alcohol solution, Hand sanitizer
Therapeutic respiration apparatus	3,217	1,256	-4.5	US (33.3%)	Pulse oximeters, Artificial respiration apparatus
Other medical devices and equipment	3,387	1,373	-3.8	US (38.5%)	CT, Multiparametric Patient Monitoring devices, Infrared
Other related medical supplies to Covid-19	4,318	1,812	2.0	China (44.4%)	Medical oxygen, Wadding, gauze, Tubular metal needles

Note: Based on the classification of Covid-19-related medical supplies by the World Customs Organization (WCO).
Source: "Trade Statistics" by the Ministry of Finance, Japan

Import of masks, protective garments, disinfectants and sterilization products

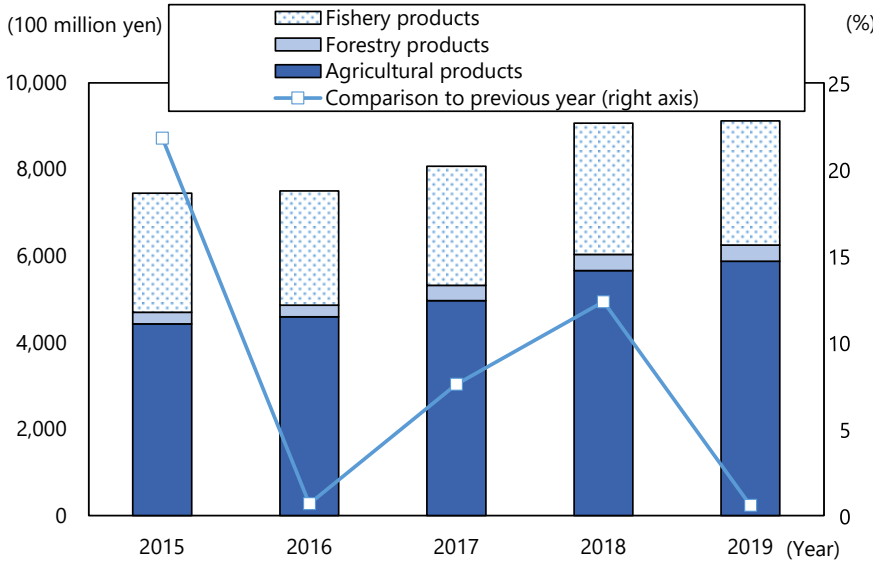


Note: 1) Based on the classification of Covid-19-related medical supplies by the World Customs Organization (WCO). 2) The average monthly import value for 2017 is 100.
Source: "Trade Statistics" (Ministry of Finance)

Japan's agricultural, forestry, and fishery exports in 2019 roughly triple that of 2000

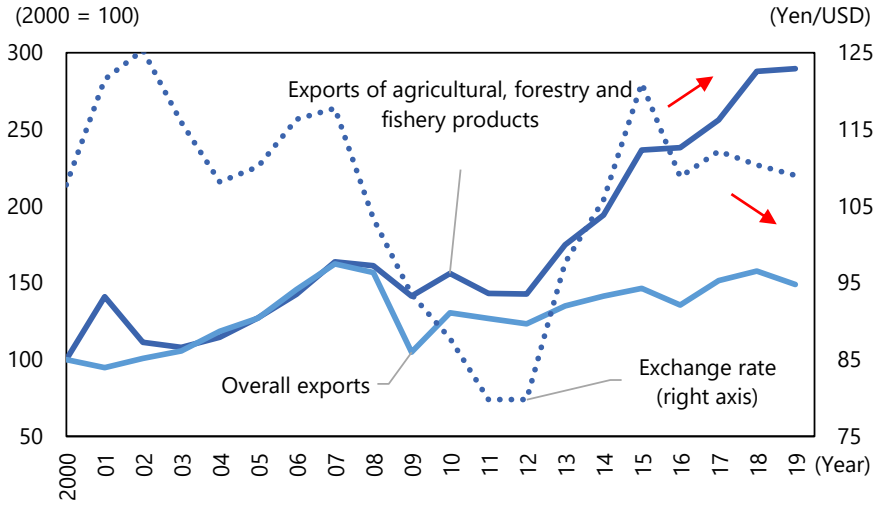
- In 2019, Japan's exports of agricultural, forestry, and fishery products increased by 0.6% from the previous year to 912.1 billion yen, a record high. After the growth rate turned positive in 2013, it increased for the seventh consecutive year but fell short of the government's target of achieving 1 trillion yen in exports by 2019.
- Exports of agricultural, forestry, and fishery products in 2019 roughly tripled since 2000. Many food exporters are paid in yen, so they are not susceptible to exchange rate fluctuations. Exports have been growing steadily due to growing popularity of Japanese food overseas and the expansion of inbound consumption. In the future, the key will be to build a stable supply system toward the high target of 5 trillion yen by 2030.

Export value of Japan's agriculture, forestry and fishery products



Note: Including alcoholic beverages, tobacco, and pearls.
Source: "Overview of Foreign Trade of Agricultural, Forestry and Fishery Products" (Ministry of Agriculture, Forestry and Fisheries)

Export value of Japan's agriculture, forestry and fishery products and exchange rate trends

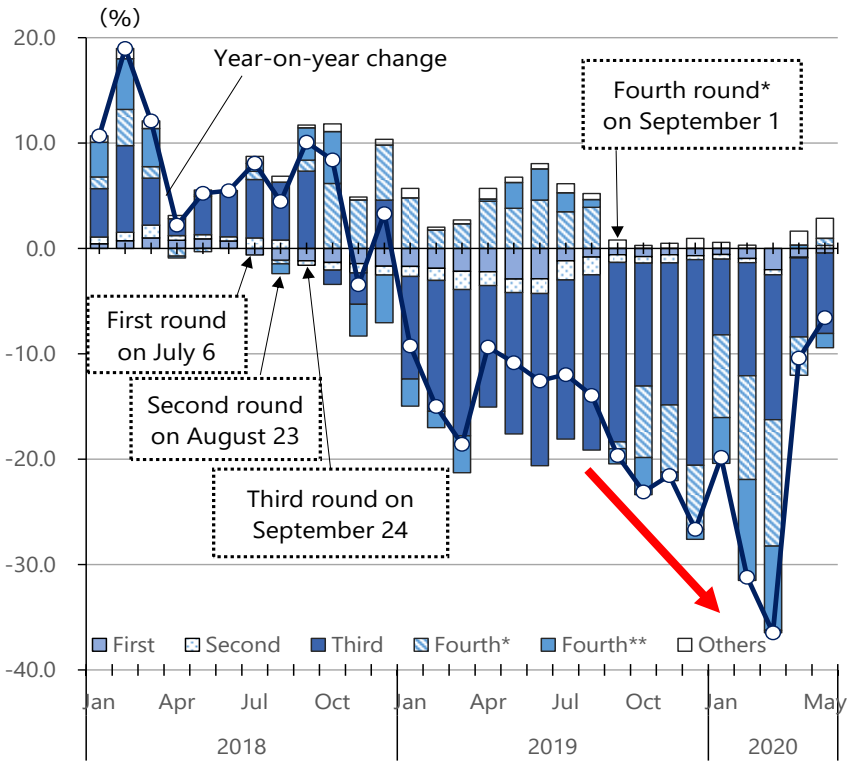


Note: The exchange rate is the average of the mid-term rates of interbank rates.
Source: "Overview of Foreign Trade of Agricultural, Forestry and Fishery Products" (Ministry of Agriculture, Forestry and Fisheries), "Trade Statistics" (Ministry of Finance), "Foreign Exchange Rates" (Bank of Japan)

US-China trade continues to shrink

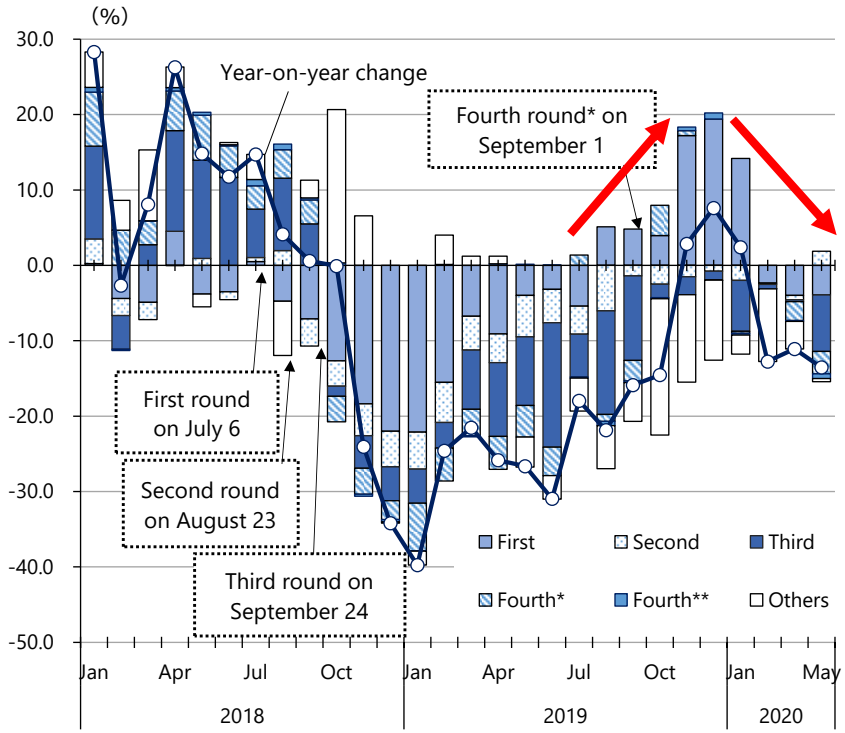
- US-China trade has continued to shrink due to additional tariff measures between the US and China since July 2018**.** The US imports from China slowed down due to the implementation of part of the additional tariff measures during the fourth round taken in September 2019. In 2020, the impact of COVID-19 was added, forcing February and March imports down by more than 30%. But the decline has slowed since April 2020.
- China's imports from the US bottomed out in January 2019 and turned to a positive year-on-year increase in November. In 2020, however, China's imports from the US became negative again due to the impact of COVID-19.

Trends in US imports from China (Year-on-year change)



Note: "Fourth*" includes target products which were imposed in September 2019. "Fourth**" includes other remaining products.
Source: "Trade Statistics" by the DOC, "Biznews" by JETRO

Trends in China imports from US (Year-on-year change)

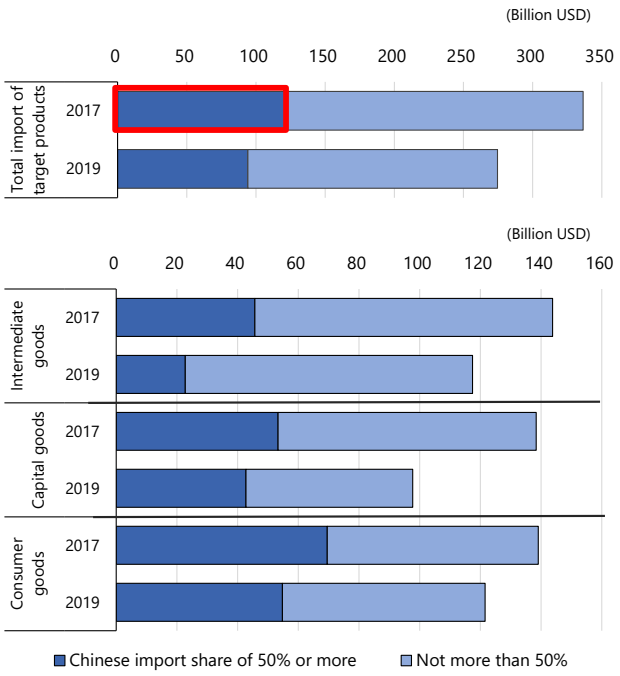


Note: 1. "Fourth*" includes target products which were imposed in September 2019. "Fourth**" includes other remaining products. Each figure was calculated from the import values excluding products which overlap with those in the first to third round. 2. The figure of January 2020 is a cumulative value of January and February. (To compare with that in the same period of last year.)
Source: "Trade Statistics" by China Customs, "Biznews" by JETRO

US imports: Increased import substitution from China to Mexico, Vietnam and Taiwan

- China has a large presence in US imports. It was found that Chinese share was more than 50% in about 40% of all the items subject to the additional tariff measures by the US.
- Although US's imports from China decreased due to the additional tariff measures, its imports increased in parts for electronics, automobiles, etc. from Mexico, wooden chairs and footwear from Vietnam, and computer parts and bicycles from Taiwan. Given that all the items above are subject to the additional tariff measures against China, this increase seems to be a result of US's shift of import partners from China to third countries.

Changes in US imports of target products after additional tariff measures against China



Note: 1) The definition of each commodity is based on the UN (BEC Classification). 2) The products covered by the first to fourth round (imposed in September 2019) were consolidated at HS 6-digit level. Value of imports from China is calculated based on China's import share in 2017 for each commodity.
Source: "Trade statistics" (US Department of Commerce), "Biznews" (JETRO), etc.

Increase in US imports of target products subject to additional tariff measures by country and region, 2019

(Million USD ,%)

	Increase in US imports 2017 → 2019	Major increased imports from each country/region among additional tariff products		Import share (2019)	Change in import share 2017 → 2019
China	-61,917				
Mexico	+ 40,544	854442	Cables for communication and power supply (with connectors)	27.1	+ 1.7
		870870	Road wheels and parts and accessories for motor vehicles	27.6	+ 4.8
		847330	Parts and accessories for computer, such as printed circuit boards	3.9	+ 2.6
Vietnam	+ 10,945	940161	Seats with wooden frames, upholstered	25.2	+ 13.1
		640391	Footwear (outer soles of rubber/plastic, uppers of leather, not for sports)	25.5	+ 5.2
		640419	Footwear (outer soles of rubber/plastic, uppers of textile materials, not for sports)	33.8	+ 9.0
Taiwan	+ 10,659	847330	Parts and accessories for computer, such as printed circuit boards	24.6	+ 18.3
		950691	Equipment for general physical exercise	26.9	+ 6.5
		871200	Bicycles	39.2	+ 10.1
Canada	+ 8,027	940510	Chandeliers and other electric ceiling or wall lighting fittings	10.9	+ 3.0
		940340	Wooden furniture (kitchen)	19.8	+ 4.3
		940161	Seats with wooden frames, upholstered	3.5	+ 0.0
India	+ 7,137	681099	Cement/artificial stone products (excluding tiles, etc.)	14.3	+ 11.9
		940490	Bedding (excluding mattresses and sleeping bags)	13.7	+ 2.4
		640391	Footwear (outer soles of rubber/plastic, uppers of leather, not for sports)	3.1	+ 0.2

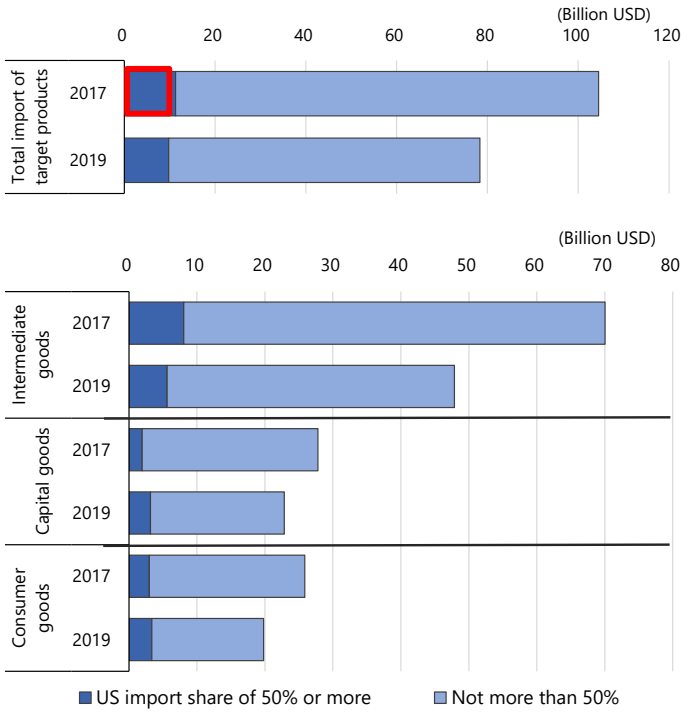
Note: 1) The target products of additional tariff measures in the United States covered by the first to fourth round (imposed in September 2019) are consolidated at HS6-digit level (approximately 5,000 items). Top 5 countries/regions with increase in imports by country for target products subject to additional tariff measures (2017 → 2019). 2) Major products with an increase in value of imports by country and an increase in share of imports of country/region, targeting products with a Chinese share of at least 50% in 2017 (top value of imports).

Source: "Trade statistics" (US Department of Commerce), "Biznews" (JETRO), etc.

China's imports: Procuring resources and food from the Middle East, Russia and Brazil instead of the US

- Among all the items subject to the additional tariff measures by China, it was only in 10% of the items that the US accounted for more than 50% of the total China's import.
- With regard to China's imports from the US which declined due to additional tariff measures, the import share of food-exporting and resource-exporting countries replaced the US; commodity-related items such as liquid propane gas and light oil from Saudi Arabia and Russia, and soybeans and swine from Brazil instead of the US.

Changes in China imports of target products after additional tariff measures against the US



Note: 1) The definition of each commodity is based on the UN (BEC Classification). 2) The products covered by the first to fourth round (imposed in September 2019) were consolidated at HS 6-digit level. The value of imports from the United States is calculated based on the US import share of each commodity.
Source: "Trade statistics" (China Customs), "Biznews" (JETRO), etc.

Increase in China's imports of target products subject to additional tariff measures by country and region, 2019

(Million USD, %)

	Increase in China's imports 2017 → 2019	Major increased imports from each country/region among additional tariff products		Import share (2019)	Change in import share 2017 → 2019
US	-26,141				
Saudi Arabia	+ 22,148	290250	Styrene	32.7	+ 12.2
		271112	Liquid propane gas	9.4	+ 3.4
		290711	Phenol (hydroxybenzene)	33.9	+ 29.7
Russia	+ 19,081	030367	Alaska pollack (Frozen)	92.9	+ 4.6
		271012	Light oil and preparations (gasoline, kerosene, etc.)	19.6	+ 2.9
		261690	Precious metal ore (excluding silver ore)	20.4	+ 5.6
Brazil	+ 16,513	120190	Soybeans, other than seeds	65.1	+ 12.3
		520100	Cotton, not carded or combed	26.1	+ 20.5
		020329	Meat of swine (Frozen, with bone excluding carcass)	16.4	+ 9.5
Vietnam	+ 8,092	853890	Switches for electrical control/distribution, protective equipment	7.0	+ 6.2
		851762	Voice, image data transmission / reception devices (switching, routers, etc.)	3.5	+ 0.7
		870840	Gear boxes for motor vehicles	4.5	+ 2.0
Germany	+ 6,407	870323	Passenger cars with engine over 1,500 cc but not over 3,000 cc	38.6	+ 8.2
		848180	Cock (of iron or steel, and copper)	23.5	+ 0.7
		848390	Transmission elements presented separately and parts (crank shafts, etc.)	28.6	+ 2.9

Note : 1) The products of additional tariff measures in China covered by the first to fourth round (imposed in September 2019) are consolidated at HS6-digit level (approximately 4,500 items). The top 3 countries with increase in imports by country for target products subject to additional tariff measures (2017 → 2019), and the top 2 countries for increased imports for target products other than commodity-related items (HS26-27). 2) Major products with an increase in value of imports by country and an increase in share of imports of country/region, targeting products with a US's share of at least 5%
Source : "Trade statistics" (China Customs), "Biznews" (Jetro), etc.

Changes in world trade flows due to US-China trade friction

- Among all the items subject to the US's additional tariff measures, it was in computer parts that the US witnessed the biggest change in its import partner countries. Looking at the world trade of computer parts, Taiwan and Korea in particular increased its export to both the US and China. At the same time, while China's exports of the item to the US shrunk, its exports to Korea and other areas of Asia expanded.
- China's additional tariffs aimed at the US have changed the world trade in soybeans. The US share of global exports to China has shrunk sharply, and instead, those from Central and South America such as Brazil to China have expanded. The US exports to Mexico, Europe, and Africa increased their global share.

Changes in global share of trade in major countries and regions (2017-2019)

【Parts and accessories for computer, such as printed circuit boards】

(Unit: % point)

Export \ Import	Asia	Japan	China	Korea	Taiwan	ASEAN	NAFTA	US	Europe	Others
Asia	+ 1.7		+ 1.6	+ 1.0	+ 0.8		- 0.9	- 1.3	- 0.6	
Japan										
China	+ 0.7			+ 0.8			- 4.0	- 4.0		
Korea	+ 1.5		+ 1.5				+ 1.1	+ 1.1		
Taiwan	+ 1.8		+ 1.1			+ 0.9	+ 1.3	+ 1.0		
ASEAN	- 1.1					- 0.8	+ 0.7	+ 0.8		
Thailand	- 0.6									
Vietnam	+ 0.8									
NAFTA										
US										
Europe										
EU										
Others										

【Soybeans】

(Unit: % point)

Export \ Import	Asia	Japan	China	NAFTA	US	Mexico	Latin America	Europe	Middle East	Africa	Oceania
Asia											
NAFTA	- 6.6		- 7.9	+ 0.7		+ 0.7		+ 0.7		+ 1.2	
US	- 5.8		- 6.6	+ 0.7		+ 0.7		+ 0.7		+ 1.2	
Latin America	+ 2.7		+ 3.1				+ 1.0	- 0.9			
Argentina	+ 1.3		+ 1.3								
Brazil	+ 1.8		+ 2.1						+ 0.9		
Europe											
EU											
Russia											
Ukraine											
Others											

Note: 1) World trade and trade by country/region were calculated on an export basis. The world trade value is estimated by JETRO. The HS codes for each product are as follows; computer parts and accessories: HS847330, soybeans: HS120190. 2) The colors of the cells show the increase/decrease in the share of world trade in countries/regions in four stages. (For only the change of 0.5% points or more, the differences are indicated.)

Increase [Blue]: Dark: plus 0.5% points or more, light (shaded): plus 0.0% to less than 0.5% points

Decrease [Red]: Dark: minus 0.5% points or less, light (cross-hatched): minus 0.5% to 0.0% points

Source: Data created by JETRO from trade statistics of respective economies.

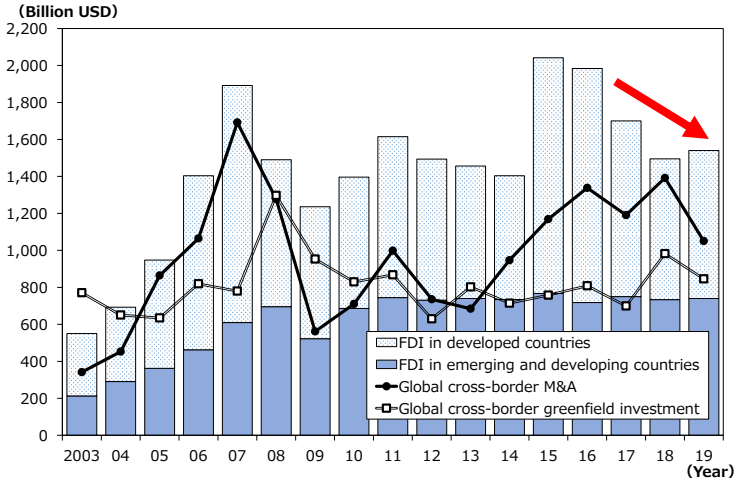
Chapter 2

Global FDI and Japan's FDI

Continued stagnation of global FDI

■ According to the United Nations Conference on Trade and Development (UNCTAD), global inward FDI in 2019 (on a balance of payment basis, net, flow) increased by 3.0% from the previous year to $1.5399 trillion. This is mainly due to an increase in the EU. Although the global inward FDI increased slightly from 2018, it has remained well below the peak of $2.0418 trillion in 2015 since 2017, showing a stagnant trend.

Trends in global inward FDI



Top 10 countries/regions in the world in terms of FDI (2019)

(Unit: Million USD)

	Inward FDI		Outward FDI	
1	United States	246,215	Japan	226,648
2	China	141,225	United States	124,899
3	Singapore	92,081	Netherlands	124,652
4	Netherlands	84,216	China	117,120
5	Ireland	78,234	Germany	98,700
6	Brazil	71,989	Canada	76,602
7	Hong Kong, China	68,379	Hong Kong, China	59,279
8	United Kingdom	59,137	France	38,663
9	India	50,553	Korea, Republic of	35,531
10	Canada	50,332	Singapore	33,283

Note: 1) Excluding the financial centers in the Carribean region
2) Due to the difference in the accounting principle, the figure for Japan in this table does not exactly match that for "Japan's foreign direct investment" below.
Source: Data of UNCTAD

Inward FDI (Net and Flow) for Major Countries and Regions in 2019

(Million USD, %)

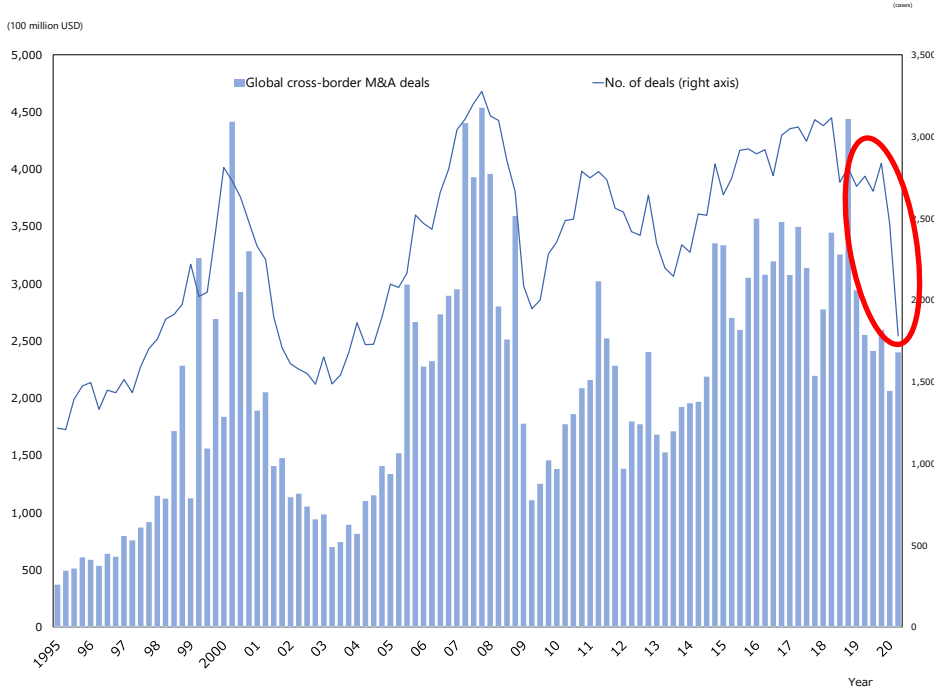
		Inward FDI					Outward FDI				
		2018	2019	Increase rate	Composition	Contribution	2018	2019	Increase rate	Composition	Contribution
Developed economies	US	253561	246215	-2.9	16.0	-0.5	-90623	124899	-	9.5	21.9
	Canada	43459	50332	15.8	3.3	0.5	49879	76602	53.6	5.8	2.7
	EU28	415117	446896	7.7	29.0	2.1	345280	455245	31.8	34.7	11.1
	Netherlands	114306	84216	-26.3	5.5	-2.0	-18843	124652	-	9.5	14.5
	Ireland	-28089	78234	-	5.1	7.1	727	18103	2388.5	1.4	1.8
	UK	65300	59137	-9.4	3.8	-0.4	41425	31480	-24.0	2.4	-1.0
	Germany	73570	36359	-50.6	2.4	-2.5	78813	98700	25.2	7.5	2.0
	France	38185	33965	-11.1	2.2	-0.3	105636	38663	-63.4	2.9	-6.8
	Switzerland	-53151	-21740	-	-	2.1	60782	11097	-81.7	0.8	-5.0
	Australia	68048	36156	-46.9	2.3	-2.1	6362	5397	-15.2	0.4	-0.1
	Japan	9858	14552	47.6	0.9	0.3	143161	226648	58.3	17.3	8.5
Emerging and developing economies	East Asia	410616	384108	-6.5	24.9	-1.8	344382	279830	-18.7	21.3	-6.5
	China	138305	141225	2.1	9.2	0.2	143040	117120	-18.1	8.9	-2.6
	Hong Kong	104246	68379	-34.4	4.4	-2.4	82201	59279	-27.9	4.5	-2.3
	Korea	12183	10566	-13.3	0.7	-0.1	38220	35531	-7.0	2.7	-0.3
	Taiwan	6998	8213	17.4	0.5	0.1	18058	11861	-34.3	0.9	-0.6
	ASEAN	148885	155726	4.6	10.1	0.5	62862	56039	-10.9	4.3	-0.7
	Singapore	79738	92081	15.5	6.0	0.8	29761	33283	11.8	2.5	0.4
	Indonesia	20563	23429	13.9	1.5	0.2	8053	3380	-58.0	0.3	-0.5
	Vietnam	15500	16120	4.0	1.0	0.0	598	465	-22.2	0.0	0.0
	India	42156	50553	19.9	3.3	0.6	11447	12104	5.7	0.9	0.1
	Central and South America	148920	164236	10.3	10.7	1.0	127	41598	32539.1	3.2	4.2
	Brazil	59802	71989	20.4	4.7	0.8	-16336	15515	-	1.2	3.2
	Mexico	34746	32921	-5.3	2.1	-0.1	7712	10228	32.6	0.8	0.3
	CIS	25834	46437	79.8	3.0	1.4	36648	22939	-37.4	1.7	-1.4
	Russia	13228	31735	139.9	2.1	1.2	35820	22530	-37.1	1.7	-1.3
	Middle East	30169	27915	-7.5	1.8	-0.2	50415	35506	-29.6	2.7	-1.5
	Turkey	12981	8434	-35.0	0.5	-0.3	3607	2841	-21.2	0.2	-0.1
	UAE	10385	13787	32.8	0.9	0.2	15079	15901	5.4	1.2	0.1
	Africa	50577	45368	-10.3	2.9	-0.3	8157	5337	-34.6	0.4	-0.3
	Egypt	8141	9010	10.7	0.6	0.1	324	405	25.2	0.0	0.0
	South Africa	5450	4624	-15.1	0.3	-0.1	4076	3119	-23.5	0.2	-0.1
Total	Developed economies	761391	800239	5.1	52.0	2.6	534,028	916,879	71.7	69.8	38.8
	Emerging and develop	733831	739641	0.8	48.0	0.4	452,323	396,891	-12.3	30.2	-5.6
	World	1495223	1539880	3.0	100.0	3.0	986,351	1,313,770	33.2	100.0	33.2

Note: 1) The figures for developed economies are totals for 38 countries/regions based on UNCTAD category of inward FDI.
2) The figures for emerging and developing countries derived by subtracting developed countries from world (excluding Caribbean financial centers).
3) The figures for East Asia are totals for China, South Korea, Taiwan, Hong Kong, and ASEAN. 4) Figures for Central and South America exclude Caribbean financial centers.
5) Due to differences in FDI data compilation, the figures for Japan (Directional Principle) in the table do not agree with the "Japan's FDI" (Asset and Liability Principle) in Table 12 attached to the Report.
6) "-" before the values indicates withdrawal excess.
Source: the United Nations Conference on Trade and Development (UNCTAD)

Global cross-border M&A turns downward

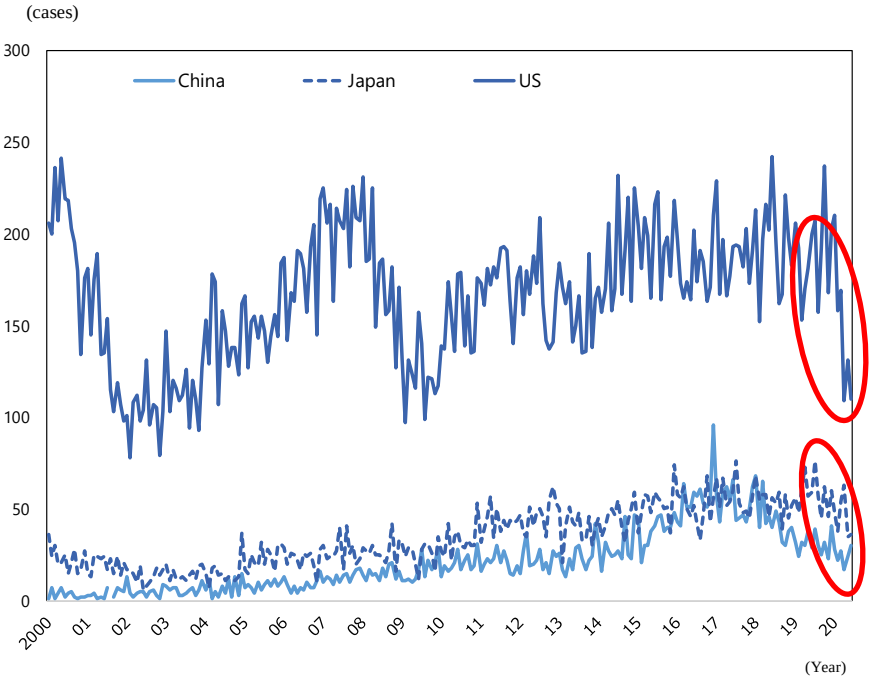
- Global cross-border mergers and acquisitions conducted in 2019 fell 24.5% from 2018 to $1.0503 trillion. Affected by COVID-19, Q1 2020 was down 29.8% to $206.5 billion and Q2 was down 6.0% to $240 billion.
- The number of cross-border M&A deals worldwide was 1,781 in the second quarter of 2020, down about 1,000 from the same period in 2019. This was below the level of Q2 2009 (1,946 cases) during the global financial crisis, and the lowest level in about 16 years since Q3 2004 (1,730 cases). In 2020, the numbers of acquisitions of foreign companies by American, Chinese and Japanese investors have declined respectively.

Global cross-border M&A deals and number of deals (quarterly)



Source : Thomson One (Refinitiv) (as of July 3, 2020)

Cross-border M&A deals by American, Chinese and Japanese companies



Note : The nationality of the acquiring company is the nationality of the ultimate parent company.
Source : Thomson ONE (Refinitiv) (as of July 3, 2020)

Despite stagnation in Asian markets, Chinese and Taiwanese companies are investing more in ASEAN

- An overview of cross-regional greenfield manufacturing investments shows that 2019 was characterized by a decline in investment toward Asia. However, Chinese and Taiwanese companies expanded their investments in ASEAN in the same year. This is because ASEAN members like Vietnam are becoming host states for Chinese and Taiwanese companies to insulate themselves from additional tariffs between the US and China.

Number of Greenfield Manufacturing Investments Between Major Regions Worldwide (2019)

(Upper: Number of cases, Lower: Year-on-year change (%))

Investee → / ↓ Investors	Asian and Pacific Countries	China	ASEAN	India	North America	United States	Central and South America	Western Europe	Other Europe	Middle East	Africa	World
Asian and Pacific Countries	311	66	147	54	108	106	**92**	88	**110**	**26**	77	812
	-31.3	-26.7	-27.2	-37.2	-21.7	-18.5	31.4	-19.3	22.2	85.7	-2.5	-14.8
Japan	109	28	57	17	53	53	29	**42**	35	2	**16**	286
	-20.4	0.0	-9.5	-43.3	-18.5	-11.7	-21.6	61.5	-18.6	0.0	77.8	-10.3
China	64	-	**29**	20	12	11	**33**	19	**35**	8	38	209
	-19.0	-	16.0	-23.1	-40.0	-42.1	120.0	-40.6	66.7	300.0	-7.3	-0.5
Taiwan	**59**	21	**31**	6	1	1	3	1	6	0	0	**70**
	28.3	0.0	106.7	-25.0	-83.3	-83.3	0.0	-80.0	20.0	-	-	7.7
ASEAN	25	6	7	5	5	5	2	4	2	4	2	44
	-51.9	100.0	-79.4	66.7	-37.5	-37.5	Total increase	-50.0	-66.7	300.0	-60.0	-45.0
India	5	1	1	-	9	9	3	**12**	**12**	8	**14**	63
	-61.5	-75.0	-75.0	-	-10.0	12.5	-25.0	50.0	33.3	-11.1	27.3	-1.6
North America	121	41	27	27	**70**	**53**	**138**	**131**	60	**15**	**31**	**566**
	-22.9	-26.8	-15.6	-32.5	62.8	60.6	27.8	84.5	-55.2	7.1	93.8	4.2
US	109	35	27	27	**17**	-	**112**	**115**	54	**14**	**20**	441
	-26.4	-31.4	-15.6	-28.9	70.0	-	27.3	74.2	-56.1	7.7	33.3	-4.8
Central and South America	3	2	0	1	13	11	21	8	3	1	2	51
	-62.5	-60.0	-	-50.0	-23.5	-26.7	-27.6	33.3	-75.0	Total increase	Total increase	-29.2
Western Europe	252	92	47	72	215	**204**	154	310	320	**18**	**88**	1,357
	-17.9	-20.7	-4.1	-19.1	-3.6	6.3	-3.1	-20.7	-13.3	28.6	15.8	-11.8
Other Europe	**28**	2	2	3	6	6	3	11	**26**	4	**12**	90
	21.7	-33.3	100.0	0.0	200.0	200.0	-66.7	-86.7	85.7	300.0	33.3	-36.2
Middle East	**15**	2	3	5	**13**	**13**	2	10	8	3	**13**	**64**
	15.4	100.0	-25.0	25.0	44.4	62.5	Total increase	-41.2	0.0	-25.0	8.3	1.6
Africa	0	0	0	0	1	1	1	3	2	1	**16**	24
	Total reduction	-	-	Total reduction	-50.0	-50.0	-50.0	-25.0	-50.0	-66.7	14.3	-25.0
World	730	205	226	162	426	**394**	**411**	561	529	**68**	**239**	2,964
	24.3	24.4	21.0	28.6	-1.8	3.1	9.0	-17.6	-16.2	36.0	16.0	-11.3

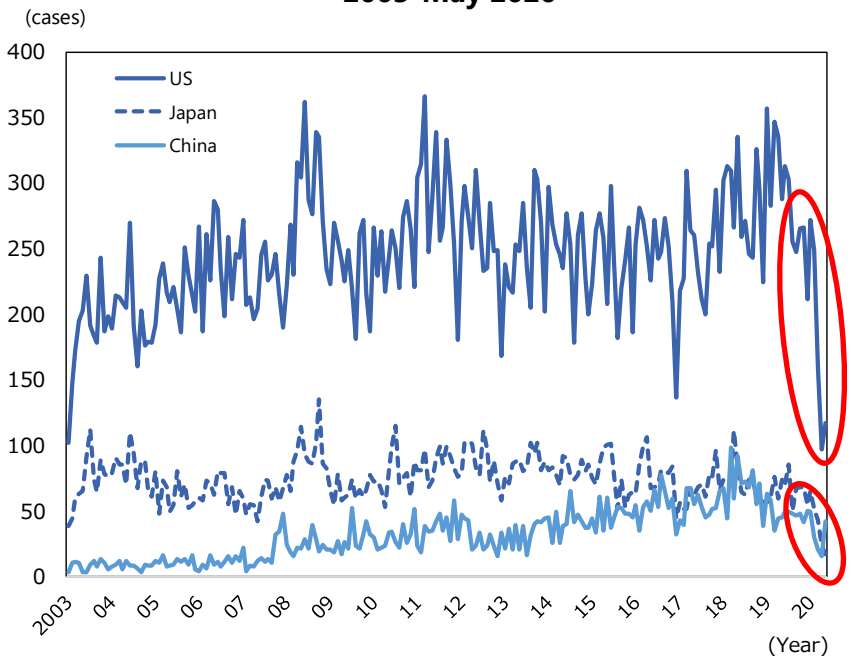
Note : 1) Counted investments are limited to those in the manufacturing/production of goods. 2) The figures in bold and shaded indicate more than 10 investments and a year-on-year increase. 3) Regions are classified according to FT.

Source : fDi Markets (FT)

Global FDI slows further

- The number of cross-border greenfield investments by American, Chinese, and Japanese companies has been declining markedly since February 2020. In addition to the prolonged US-China conflict, uncertainty has increased due to the unexpected emergence of COVID-19. As a result, global FDI is expected to slow down further in the future.
- According to UNCTAD, global FDI in 2020 is expected to be between $920 billion and $1.08 trillion (down 30%-40% from the previous year) due to COVID-19. It could potentially cause damage that is greater in magnitude than that in 2009 during the global financial crisis ($1,236.1 billion).

Monthly Cross-Border Greenfield Investments by American, Chinese, and Japanese Companies, January 2003-May 2020



Source : fDi Markets (FT) (as of July 6, 2020)

Forecast of Inward FDI in 2020 (net, flow)

(Billion USD)

	2017	2018	2019	2020 (Forecast)
World	1700	1495	1540	920～1,080
Developed economies	950	761	800	480～600
Europe	570	364	429	240～300
North America	304	297	297	190～240
Emerging and developing economies	701	699	685	380～480
Africa	42	51	45	25～35
Asia	502	499	474	260～330
Central and South America	156	149	164	70～100
Transitional economy	50	35	55	30～40

Note : 1) Figures for 2020 are projections based on UNCTAD estimates.

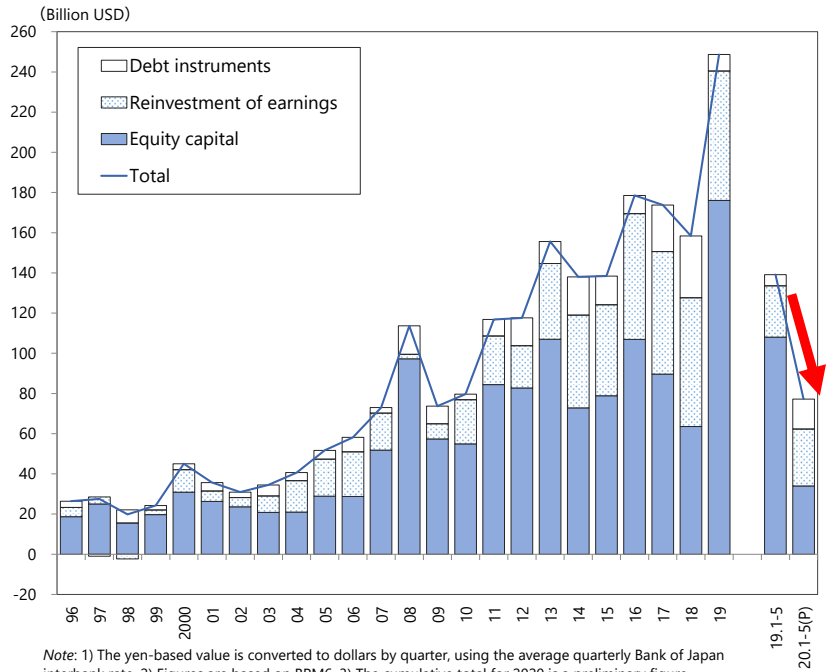
2) Geographic classifications are based on UNCTAD classifications.

Source : "World Investment Report 2020" (UNCTAD)

Japan's FDI dropped sharply in 2020 from a record high in 2019

- Japan's outward FDI in 2019 increased by 57.0% from 2018 to $248.7 billion (on a balance of payment basis, net, flow), reaching a new record high. By region, Japan's investments in Europe, the country's most popular destination, doubled while those in North America also expanded (a 2.6-fold gain).
- However, Japan's investment in January-May 2020 (preliminary figures) fell 44.5% YoY. This is because the increase in investment in 2019 was largely due to large-scale M&A deals, and because COVID-19 has decreased investment incentives.

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 2020 is a preliminary figure.
Source: "Balance of Payments Statistics" (Ministry of Finance, Bank of Japan)

Japan's outward FDI by country/region

(Unit: Million USD, %)

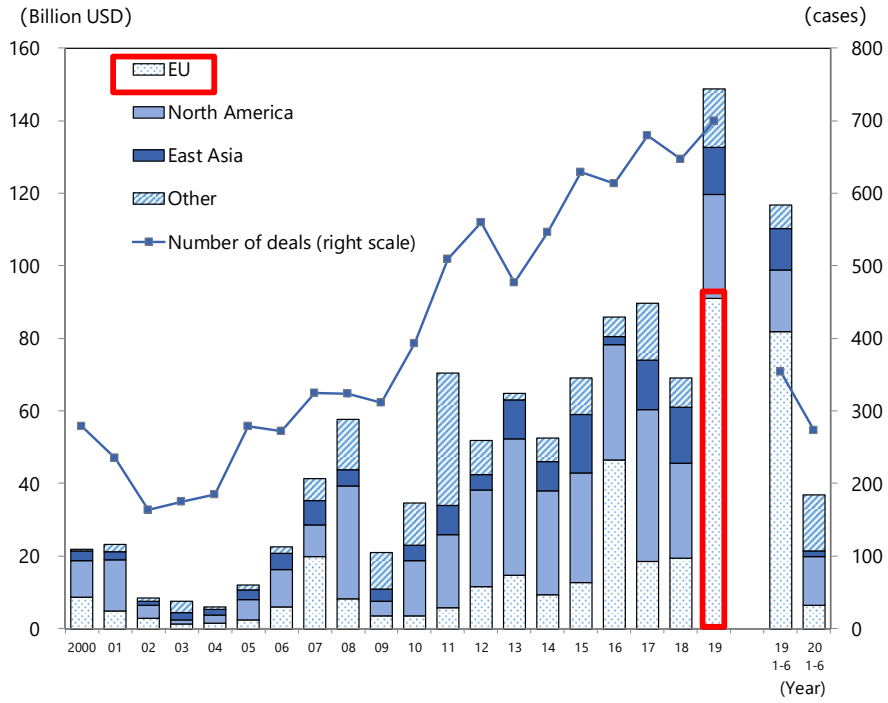
	2019	Share	Growth rate	Jan-May, 2020 (P)	Share	Growth rate
Asia	60,690	24.4	9.6	19,310	25.0	-23.2
China	14,371	5.8	19.8	5,897	7.6	-3.2
ASEAN	34,745	14.0	11.1	9,732	12.6	-35.5
Singapore	15,671	6.3	-5.3	2,789	3.6	-8.5
Indonesia	8,391	3.4	157.1	1,484	1.9	-75.0
India	5,074	2.0	53.2	1,414	1.8	-23.2
North America	51,652	20.8	159.1	22,941	29.7	-19.3
US	48,269	19.4	180.8	21,587	28.0	-18.4
Latin America	14,635	5.9	-41.9	8,388	10.9	843.9
Brasil	2,569	1.0	48.8	1,382	1.8	50.2
Oceania	11,860	4.8	522.8	3,601	4.7	1.4
Australia	11,308	4.5	251.7	3,346	4.3	5.0
Europe	110,757	44.5	106.9	22,213	28.8	-72.4
EU	72,744	29.3	52.7	15,232	19.7	-
UK	5,799	2.3	-71.1	△ 1,807	-	-
Switzerland	37,529	15.1	921.8	6,331	8.2	-81.5
World	248,675	100.0	57.0	77,231	100.0	-44.5

Note: 1) The yen-based value is converted to dollars by quarter, using the average quarterly Bank of Japan interbank
2) The cumulative total for 2020 is a preliminary figure.
3) The cumulative total for the EU in 2020 was calculated based on its 27 member countries. (The growth rate is a comparison based on the 27 member countries.)
Source: "Balance of Payment Statistics" (Ministry of Finance, Bank of Japan)

Downturn in 2020 mainly due to reactionary decline following a large-scale M&A deal, number of deals also decreased

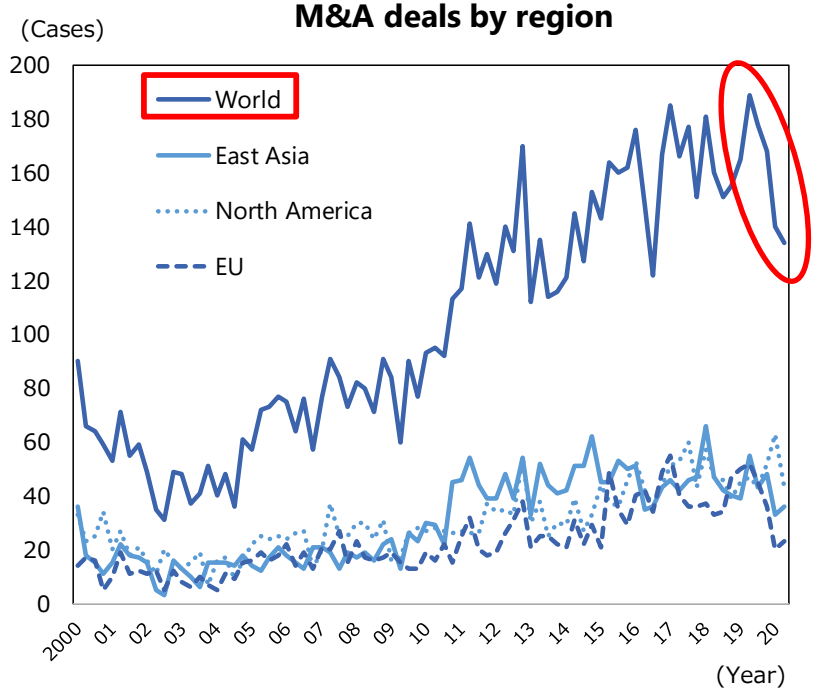
- Japanese companies' cross-border M&A activities targeting overseas markets (outward M&A) increased 2.2 times to $148.8 billion in 2019, marking a record high. The main contributing factor was Takeda Pharmaceutical's acquisition ($76.9 billion) of a sector peer company in Ireland in January. The deal accounted for about 50% of Japan's total external M&A in 2019.
- In 2020, however, the total amount of outward M&A decreased significantly in the first half of the year due to the reactionary decline, and the number of M&A transactions decreased significantly due to the impact of COVID-19.

Changes in Japan's Outward M&A values and cases



Note : 1) Figures for East Asia are the totals for China, Korea, Taiwan, Hong Kong, and ASEAN. 2) The EU figures for 2020 (cumulative) are based on 27 countries.
Source : Thomson ONE (Refinitiv) (as of July 3, 2020)

Quarterly trends in the number of Japan's outward M&A deals by region

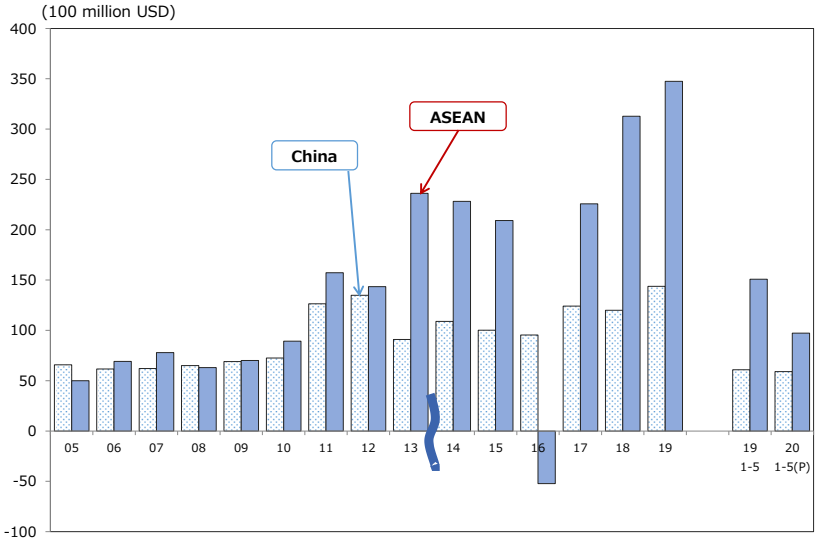


Note : 1) Figures for East Asia are the totals for China, Korea, Taiwan, Hong Kong, and ASEAN. 2) The EU figures for 2020 are based on 27 countries.
Source : Thomson ONE (Refinitiv) (as of July 3, 2020)

The reacceleration of ASEAN shifting under US-China friction

- Looking at Japan's FDI in Asia, due to rising manufacturing costs in China and other factors, Japan's FDI in ASEAN has exceeded its FDI in China since 2013. In addition, since 2018, intensified conflict between the US and China has encouraged Japanese companies to further invest in ASEAN. The gap of Japan's FDI between ASEAN and Chinese investment increased from $10.2 billion in 2017 to $20.4 billion in 2019.
- Among Japanese companies, the proportion of those choosing Vietnam continues to increase as a target for future overseas business expansion, exceeding 41.0% (an increase of 5.5 percentage points from 2018 fiscal year) in fiscal year 2019. It is the first time for the proportion to surpass 40%.

Comparison of FDI by Japan in ASEAN and China (Net, Flow)



Note: 1) The figure excludes Thai flooding-related financial and insurance investments (2011 Fourth Quarter $3.924 billion, 2012 First Quarter -$3.674 billion).
2) Figures from January 2014 onward are based on new IMF standards (Balance of Payments Manual, 6th Edition).
Source: "Balance of Payments Statistics" (Ministry of Finance, Bank of Japan).

Overseas business expansion targets for the next three years (multiple responses)

(%)

	2011 (1,602)	2012 (1,149)	2013 (1,119)	2014 (1,001)	2015 (895)	2016 (992)	2017 (938)	2018 (1,050)	2019 (1,028)	Difference from the previous fiscal year
China	67.9	59.2	56.9	56.5	53.7	52.3	49.4	55.4	48.1	-7.3
ASEAN6	56.3	69.0	74.8	73.5	73.2	70.5	69.2	67.3	71.1	3.8
Vietnam	20.3	25.9	29.6	28.7	32.4	34.1	37.5	35.5	41.0	5.5
Thailand	27.9	41.2	47.0	44.0	41.7	38.6	36.7	34.8	36.3	1.5
Indonesia	24.7	32.0	35.0	34.4	31.8	26.8	24.8	23.4	23.6	0.2
India	21.8	19.4	19.2	16.1	20.1	18.5	18.2	20.9	20.2	-0.7
US	21.1	26.0	25.4	31.3	33.7	33.5	29.0	32.3	31.6	-0.7
Mexico	3.1	5.6	7.6	10.1	10.9	8.5	6.9	4.6	5.4	0.8

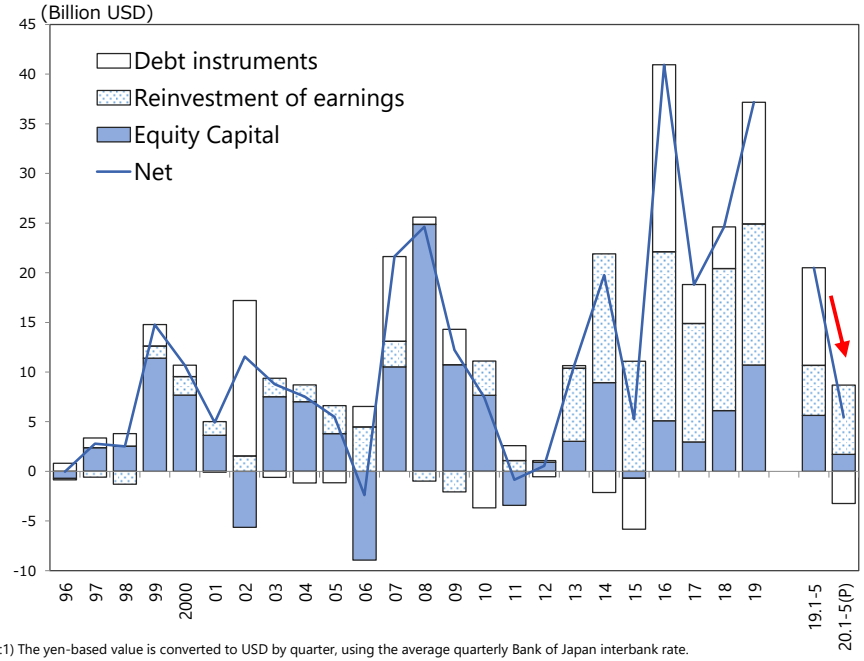
Note:1) Figures in parentheses are the number of companies counted for each year. Companies that responded "Expansion of new investment or overseas existing business" in FY2011 and FY2012 exclude those that did not respond regarding functions expanding overseas. From FY2013 onward, companies that "currently have overseas bases and intend to further expand in the future" exclude those that have not responded regarding functions that will expand overseas. 2) Percentage of companies that expand 1 or more functions in each country or region. 3) Shaded figures show year-on-year increase.

Source : FY2019 JETRO Survey on Japanese Enterprises' Overseas Business Development

2019's inward investment in Japan was the second highest level ever

- Japan's inward FDI in 2019 totaled $37.2 billion, marking 51.0% increase from 2018. The inward FDI from North America was $14.5 billion, about 2.5 times higher than 2018. For example, Johnson & Johnson Corp. of the US bought Ci:z Holdings Co., Ltd. which manages the cosmetic brand Dr. Ci:Labo.
- In 2020, Japan's inward FDI shrank due to the decline and lowered interest in investment as result of COVID-19.

Trends in Japan's inward FDI by type (net, flow)



Note:1) The yen-based value is converted to USD by quarter, using the average quarterly Bank of Japan interbank rate.
2) BPM6 Criteria 3) The cumulative total for 2020 is a preliminary figure.
Source: "Balance of Payments Statistics" (MOF, BOJ)

Japan's inward FDI by major country and region (net, flow)

(Million USD, %)

	In 2018	In 2019	Composition ratio	Growth rate	In 2020 January-May (P)	Composition ratio	Growth rate
World	24613	37,175	100.0	51.0	5456	100.0	-73.4
North America	5880	14,536	39.1	147.2	1531	28.1	-68.9
US	5800	14,423	38.8	148.7	1512	27.7	-68.8
Central and South America	4424	3,670	9.9	-17.0	-93	-	-
Europe	6776	7,551	20.3	11.4	2367	43.4	-71.8
EU	4570	6,860	18.5	50.1	2273	41.7	-0.1
Asia	4674	8,989	24.2	92.3	2103	38.6	-16.9
China	805	1,911	5.1	137.6	317	5.8	-60.4
Hong Kong	749	2,091	5.6	179.2	-233	-	-
Taiwan	426	1,164	3.1	173.0	221	4.0	-27.3
Korea	1944	837	2.3	-57.0	200	3.7	-40.3
ASEAN	742	3,003	8.1	304.7	1590	29.1	233.1
Singapore	-630	1,452	3.9	-	1646	30.2	20807.7
Thailand	1211	1,044	2.8	-13.8	108	2.0	-65.7
Oceania	1,500	1,715	4.6	14.3	-499	-	-

Note : 1) The yen-based value is converted to USD by quarter, using the average quarterly Bank of Japan interbank rate.
2)The cumulative total for 2020 is a preliminary figure. 3) The cumulative total for EU in 2020 is on a 27-country basis (growth rates are compared on a 27-country basis).
Source: "Balance of Payments Statistics" (Ministry of Finance, Bank of Japan)

Revised Foreign Exchange and Foreign Trade Act takes effect

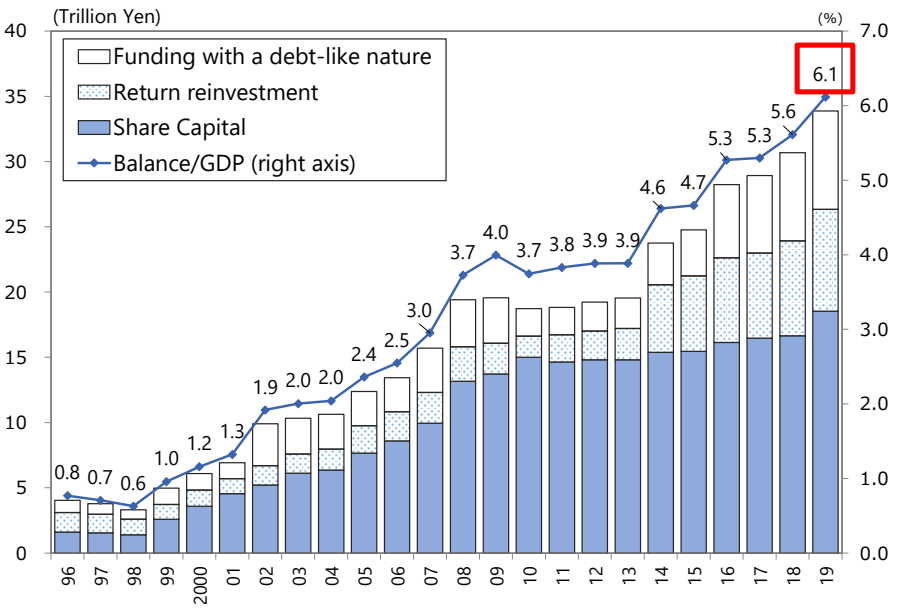
- In May 2020, the revised Foreign Exchange and Foreign Trade Act came into force to cope with foreign investments that could compromise national security and relevant concerns. The shareholding threshold, which determines whether a prior notification is required at the time of acquisition of shares of listed companies with foreign capital, was reduced from 10% to 1%. On the other hand, deregulations including the standardization of notifications by investment associations (funds) made it possible to raise funds more smoothly.
- The balance of inward investment in Japan in 2019 was 34 trillion yen, an increase of 3.2 trillion yen from the previous year. The increase put the balance within reach of the government target of 35 trillion yen by the end of 2020.

Points of revision of the Foreign Exchange Act (May 2020)

		Before revision	After revision
Tightening of regulations	Investment ratio requiring prior notification	10%	1% (Note 1)
	Action requiring prior notification	Changes to company business objective, etc.	Appointment of directors and transfer/abolition of important business operations were added
Relaxation of regulations	Prior notification exemption system		Conditions include investment not under active management and no access to non-public technical information
	Investment association (fund) notification	Filed under the name of each foreign investor	Filed under the name of the fund (Note 2)

Note :1) Standards for agenda proposals at general meetings of shareholders under the Companies Act. 2) Foreign investors have a 50% stake or GP is a foreign investor.
Source : Ministry of Finance

Change in inward direct investment balance

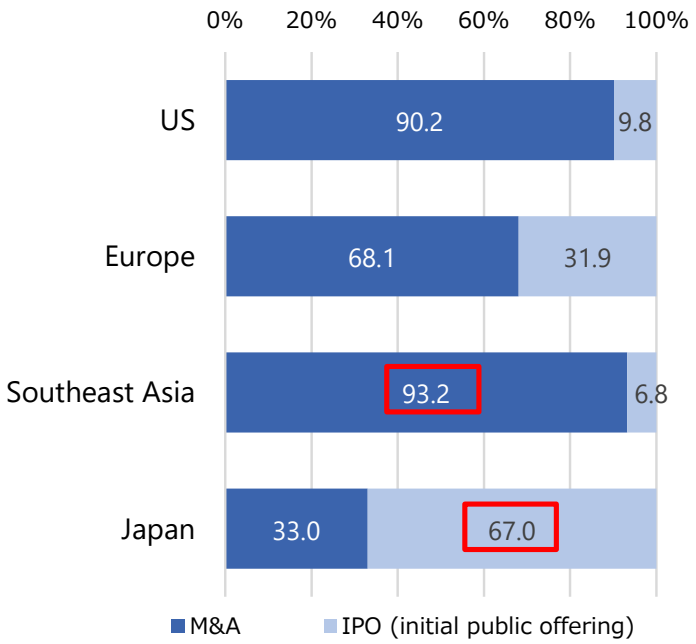


Note: BPM6 Standards.
Source: "External Assets and Liabilities of Japan" (Ministry of Finance, Bank of Japan) and Cabinet Office statistics

Possibility of attracting startups from Asia to Japan

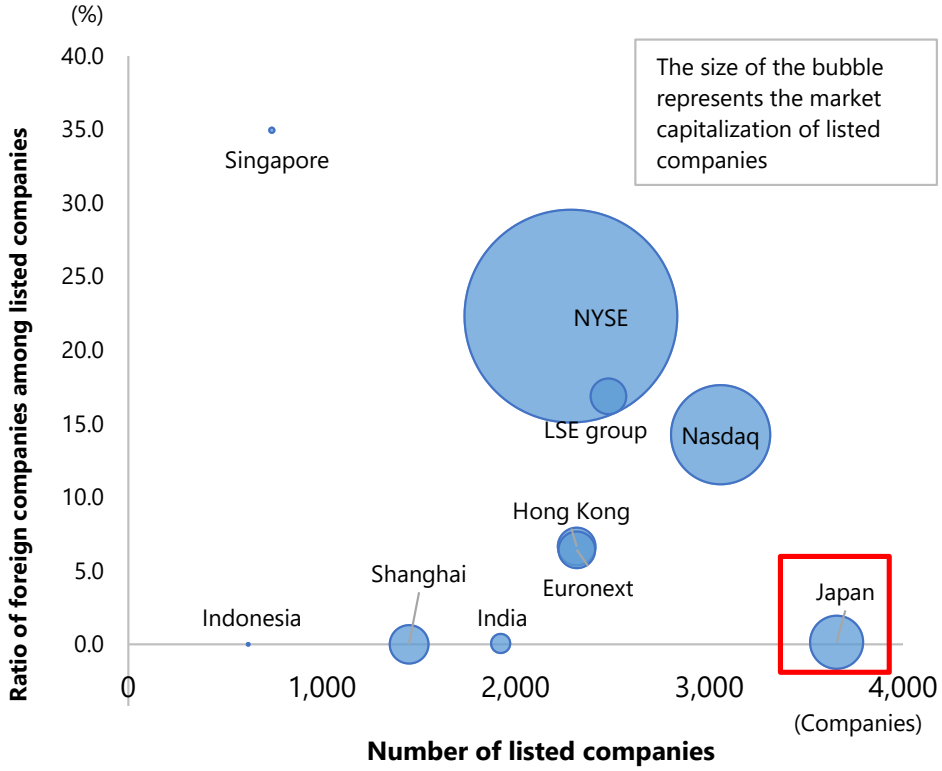
- The investment recovery (exit) of Southeast Asian startups is concentrated on M&A because the stock market is undeveloped, and IPOs (initial public offerings) are limited to 10% or less. Conversely, there are entrepreneurs who do not want to sell or transfer their own company.
- The market capitalization of companies listed on the Tokyo Stock Exchange is the third largest after the New York Stock Exchange (NYSE) and Nasdaq, and its number of listed companies is the largest in the world with 3,657 companies. The listing of Asian startups with exits on the Tokyo Stock Exchange is expected to strengthen collaboration between these startups and Japanese companies.

Global startup exit trends by region



Note: Europe includes sales to operating companies, while Southeast Asia includes secondary sales in M&A.
Source: White Paper on Ventures, 2019, cento ventures"Southeast Asia Tech Investment in 2019.

Percentage of foreign companies on the world's major exchanges

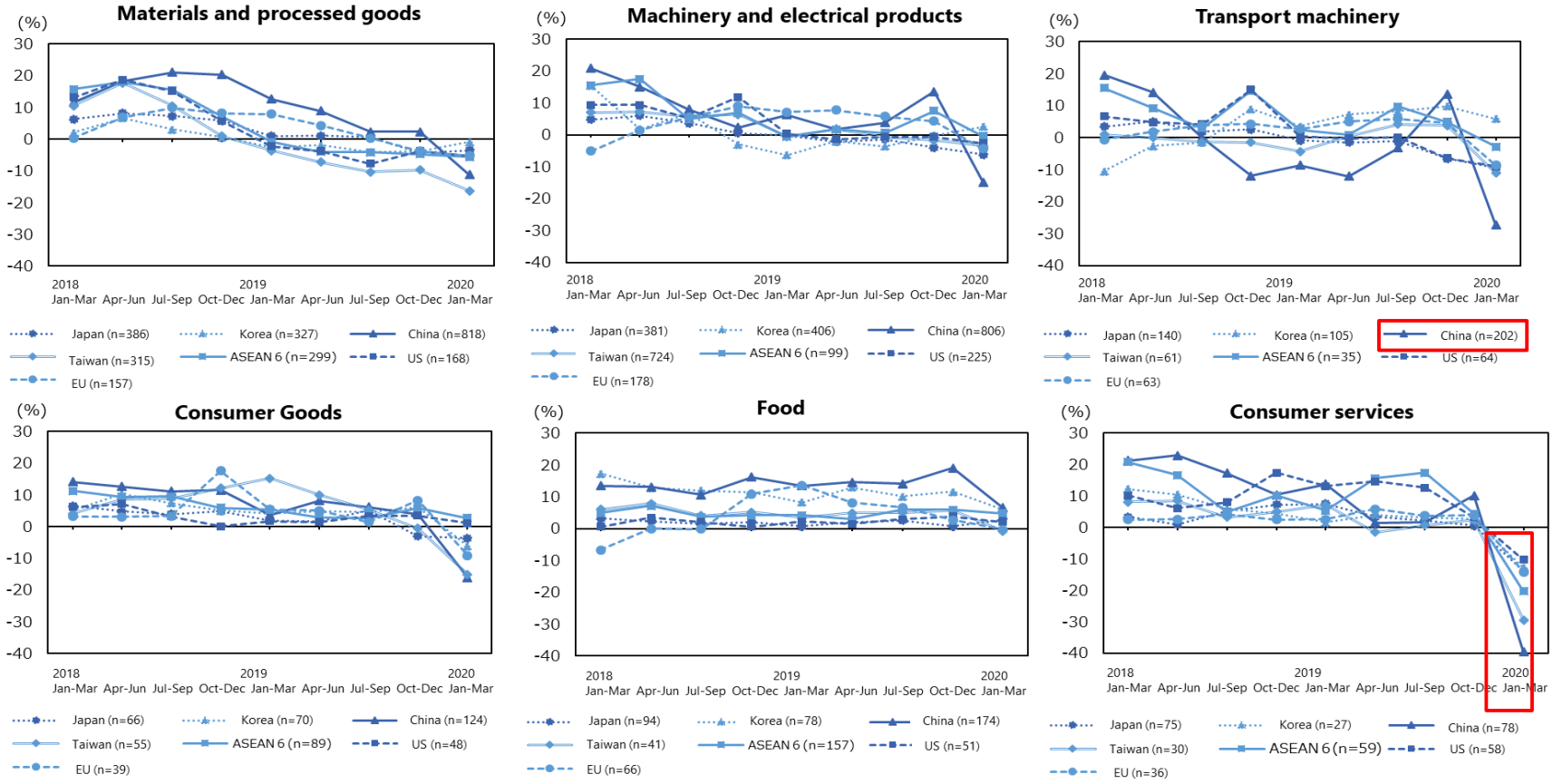


Source: World Exchange Federation (WEF)

US-China friction and COVID-19 are negatively affecting performance in a wide range of industries

- Due to the US-China trade friction and other factors, there has been a negative impact on the performance of companies in major countries in the materials and machinery fields since the second half of 2018.
- Since the beginning of 2020, the spread of COVID-19 infections has had a negative impact on a wide range of industries.

Average quarterly sales growth rate of listed companies by industry (YoY)

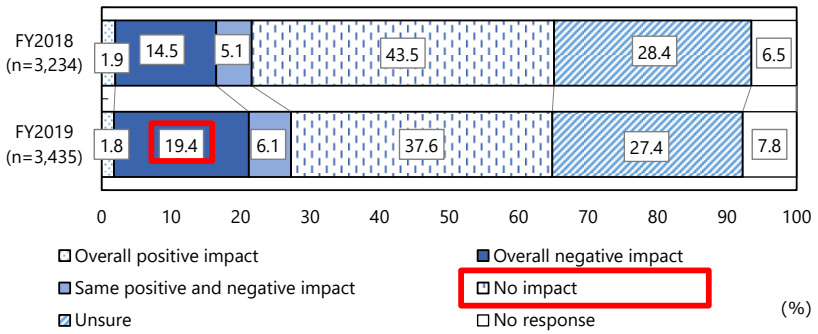


Note: 1) Industries are classified by SPEEDA. 2) China includes Hong Kong. ASEAN6 are the Philippines, Indonesia, Malaysia, Singapore, Thailand, and Viet Nam. Figures for Europe are the sum of EU27, the United Kingdom, and EFTA members (Switzerland, Iceland, Liechtenstein, and Norway). 3) Currencies are based on U.S. dollars in ASEAN6 and euros in Europe. Others are on a local currency basis. 4) The growth rate is the average growth rate of listed companies (n) for which quarterly sales are available until the first quarter of 2020.
Source: SPEEDA

Negative impact of US-China trade friction on 20% of SMEs

- According to a JETRO's annual survey (Nov.-Dec. 2019), the proportion of SMEs in Japan which responded that protectionist trade friction between the United States and China had a negative impact increased by 4.9 percentage points from 2018 fiscal year with a total of 19.4% of respondents.
- In the interviews conducted in parallel with the survey, a large proportion of SMEs said the negative impact included a decline in orders from customers in addition to the deterioration in the business conditions of customers.

Impacts of protectionism in US-China trade friction



Note: n is the total number of responses by SMEs in this survey.
Source: 2019 Survey on Overseas Business Expansion of Japanese Companies (JETRO)

Negative impact

Deterioration in customer economy and decrease in sales

- I feel that the US-China friction is negatively affecting us indirectly. Exports from Chinese factories to North America decreased from the previous year. **In the US market, sales of new cars have peaked out due to the economic slowdown, and sales of passenger cars in particular are declining.** (Shikoku/Iron & Steel/Non-ferrous Metals/Metal Products)
- Due to the tensions between the US and China, exports from China to the US declined, which led **to a decline in demand for products in China**. As a result, Chinese competitors have begun to allocate excess inventory to Southeast Asia, our market, and the competitive environment surrounding us has intensified. (Kyushu/Okinawa/Wood & wood products/furniture & building materials/paper & pulp)

Decrease in orders from customers

- Though our products were processed in Japan and exported to US base, they became subject to additional tariff because they used parts originating in China. **The transaction with the Company will be completed by the end of this year, partly because of the increase in procurement costs for customers.** (Hokkaido/Tohoku/General machinery)
- As other companies' parts supplied to US end-users included parts made in China, the customer is **restraining capital expenditure** and we are being affected by this. (Hokuriku/Electric Equipment)

Other

- Our products became subject to additional US tariffs. Higher prices in the US have prompted **customers to switch to US products made by local manufacturers**. (Kanto/Koshinetsu/Electric Machinery)
- Our products are exported to the US from our production base in China and are affected by the additional tariff measures taken by the US against China. In addition to direct impacts, we are also indirectly affected. For example, **clerical costs are incurred for searching for subcontracted manufacturers in ASEAN**. (Kansai/Other manufacturing)
- Indirect negative impacts are felt. **The uncertainty** created by the US-China trade friction and other factors has made it **difficult to decide the timing of exchange reservations and exchanges**. (Kyushu/Okinawa/Others)

Positive impact

Increase in orders

- US companies in China sought suppliers within China under the influence of additional tariffs. **Inquiries** have been received from **Chinese companies** delivering to such US companies. (Kansai/General machinery)
- Competitors of a US company, our largest customer, export finished assembled products to the US from China, but are subject to additional tariffs from the US against China. The tailwind for that customer. **The volume of orders to us, who supply parts, will increase in the future.** (Kansai/IT equipment/electronic parts & devices)

Increase in market share

- Chinese companies are avoiding product procurement from our US competitors. This created an opportunity for **us to expand our market share** in China. (Kanto/Koshinetsu/Steel/Nonferrous Metals/Metals Products)
- Although there was price competition with Chinese products, **the additional tariff measures against China made it advantageous for products exported from Japan.** (Kanto/Koshinetsu/Others)

Decrease in purchase price

- **Decline in raw material prices** in China due to deterioration in US-China relations. **Emerge as a new source of raw materials**. (Shikoku/Textiles/clothing)
- Chinese companies are lowering their selling prices because of declining US sales. For us, **the purchase price of dies and tools** from China **is declining**. (Kanto/Koshinetsu/Coal & petroleum products/plastics/rubber products)

Source: interviews with each company

Supply chain restructuring from China to Vietnam and Thailand

- According to a JETRO's survey, the major patterns of supply chain restructuring were all shifted from China. Vietnam has been the leader as a destination for supply chain transfer/change. Since the 2000's, global companies such as the Samsung Electronics Group and Canon have established factories in Vietnam, increasing its presence as a base for exports to the US.
- Companies that transfer production often change their supply chains partially, rather than completely closing factories or building new facilities. Companies are seeking optimal supply chains by utilizing existing assets.

Major supply chain restructuring patterns

(Multiple responses)

	Before change	After change	Number of cases
Production (n=142)	China	Vietnam	37
		Thailand	21
		Japan	9
Procurement (n=161)	China	Vietnam	36
		Thailand	14
		Taiwan	10
		Japan	9
Sales (n=79)	China	Vietnam	9
		Thailand	7
		Japan	3
		Taiwan	3

Note : n is the total number of patterns of restructuring among SMEs. The number of cases is the total number of cases of transfer/change that have already been or will be implemented.
Source : 2019 Survey on Overseas Business Expansion of Japanese Companies (JETRO)

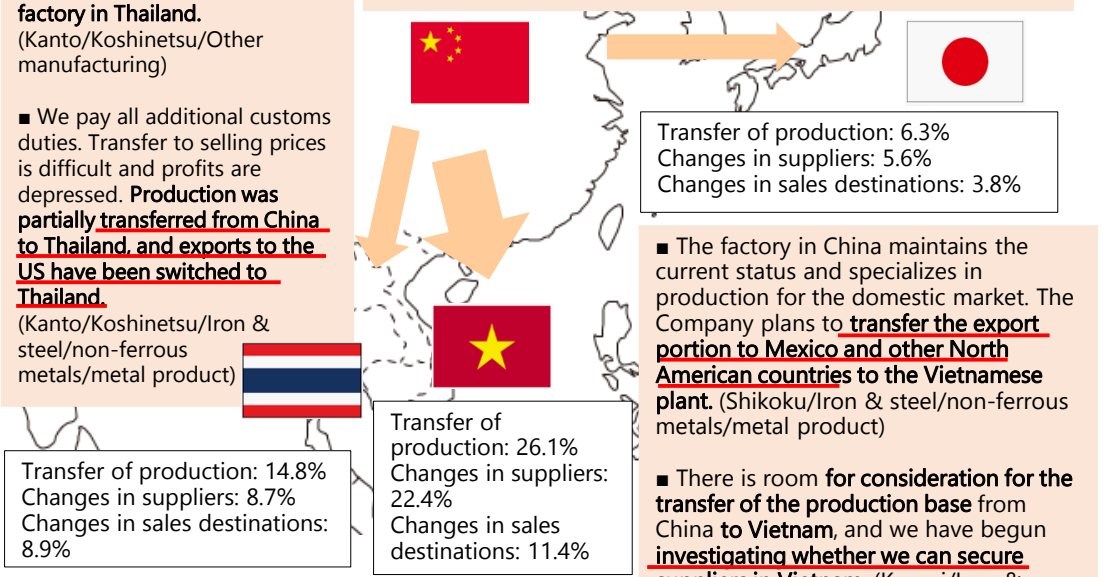
Major supply chain restructuring patterns and company opinions

■ Full-fledged decision was made to transfer production of products exported to the US, which are manufactured at the Company's own Chinese plant, after the additional tariff was imposed by the US. By the first half of 2020, **the entire** manufacturing of export products to the US will be **transferred from China to its own factory in Thailand.** (Kanto/Koshinetsu/Other manufacturing)

■ We pay all additional customs duties. Transfer to selling prices is difficult and profits are depressed. **Production was partially transferred from China to Thailand, and exports to the US have been switched to Thailand.** (Kanto/Koshinetsu/Iron & steel/non-ferrous metals/metal product)

■ Under the additional tariff measures, **production** of some products for the US market was **temporarily transferred from China to Japan**. (Kanto/Koshinetsu/Other manufacturing)

■ Products manufactured at the Chinese plant and exported to the United States were subject to additional customs duties imposed by the United States against China. As a result**, semi-finished products from China are exported to Japan, the final process is carried out in Japan, and the product is exported from Japan to the United States**. (Chugoku/Coal & petroleum products/plastics/rubber products)



■ The factory in China maintains the current status and specializes in production for the domestic market. The Company plans to **transfer the export portion to Mexico and other North American countries to the Vietnamese plant.** (Shikoku/Iron & steel/non-ferrous metals/metal product)

■ There is room **for consideration for the transfer of the production base** from China **to Vietnam**, and we have begun **investigating whether we can secure suppliers in Vietnam.** (Kansai/Iron & steel/non-ferrous metals/metal product)

Note: The percentages indicate the percentages when the transfer/change patterns of SMEs are taken as 100.
Source: 2019 Survey on Overseas Business Expansion of Japanese Companies (JETRO)

80% of Japanese companies operating overseas expect decreased sales in 2020 due to COVID-19

- According to a survey conducted by JETRO in collaboration with Japanese chambers of commerce and industry in each country/region, about 80% of Japanese companies operating overseas expect sales in 2020 will decline from 2019.

2020 full-year sales forecast of Japanese companies in major countries/regions (year-on-year)

(a) Target country/region (n = Number of respondent companies)	(b) Survey period	(c) Ratio of companies which answered "decrease"	(d) Target fiscal term	(e) Target industry	(a) Target country/region (n = Number of respondent companies)	(b) Survey period	(c) Ratio of companies which answered "decrease"	(d) Target fiscal term	(e) Target industry
China/East China （n=942）	Jun. 28-Jul. 2	76.0%	Full year of 2020	All	US （n=937）	Jun. 26-Jul. 1	71.7%	Jun. 2020	All
China/South China （n=355）	Apr. 2-10	**93.2%**	Full year of 2020	All	Canada （n=86）	May 26-28	69.8%	Apr. 2020	All
Hubei, China （n=83）	May 11-18	**96.4%**	Full year of 2020	All	Mexico （n=188）	Jun. 25-29	**90.4%**	At time of survey (Comparison to figures before Covid-19)	All
Vietnam （n=582）	Jun. 18-24	71.0%	Full year of 2020	All	Germany （n=238）	May 6-20	**80.7%**	This term (no time specified)	All
Thailand （n=498）	Mar. 9-13	**88.4%**	At time of survey	All	Czech Republic （n=69）	May 28-Jun. 5	**95.7%**	First half of 2020	All
Philippines （n=226）	Jun. 8-11	**85.3%**	Full year of 2020	All	UK （n=87）	May 18-21	66.7%	Apr. 2020	All
Malaysia （n=132）	May 12-15	**89.4%**	Full year of 2020	Manufacture	Russia （n=118）	Mar.18-20	**94.9%**	Full year of 2020	All
Indonesia （n=347）	Jun. 8-16	**84.4%**	Apr-Jun, 2020	All	UAE （n=127）	Jun. 2-4	**97.6%**	Not specified	All
India （n=430）	Apr. 24-28	**91.4%**	Apr-Jun, 2020	All					

Note: 1) Figures under (c) in bold and underlined indicate 80% or more. 2) Regarding (c), while questions and the number of options differ depending on the survey, JETRO has grouped them into the following three categories: “decrease,”“remain the same (no effect)” and “increase.” (Replies of “Unknown (not sure)” were excluded from the total.) Regarding the drop in sales in the UAE, the figure was calculated with replies other than "No impact." 3) Although definitions such as of "sales," "revenue" and "performance," differ depending on the survey, “sales” is used here (Respondent companies may have answered by including business in other locations).
Source: Survey on the impact of COVID-19 conducted by Japan's Chamber of Commerce and JETRO's overseas offices in each country.

Main reason for operational decline in relation to COVID-19 was the decrease in both domestic and overseas demand

- The main reason for the operational decline of Japanese companies in relation to COVID-19 was the decrease in both domestic and overseas demand. This was followed by the supply disruption due to the division of domestic and overseas supply chains. In terms of external shocks to global supply chains, it is said that the Great East Japan Earthquake and the 2011 Thailand floods caused a “supply shock,” while the Asian currency crisis and the global financial crisis caused a “demand shock.” Although the COVID-19 crisis contains elements of a "supply shock," it seems that it has had a larger "demand shock" impact.

Factors behind operational decline of Japanese companies in major countries/regions (in order of response ratio, multiple answers)

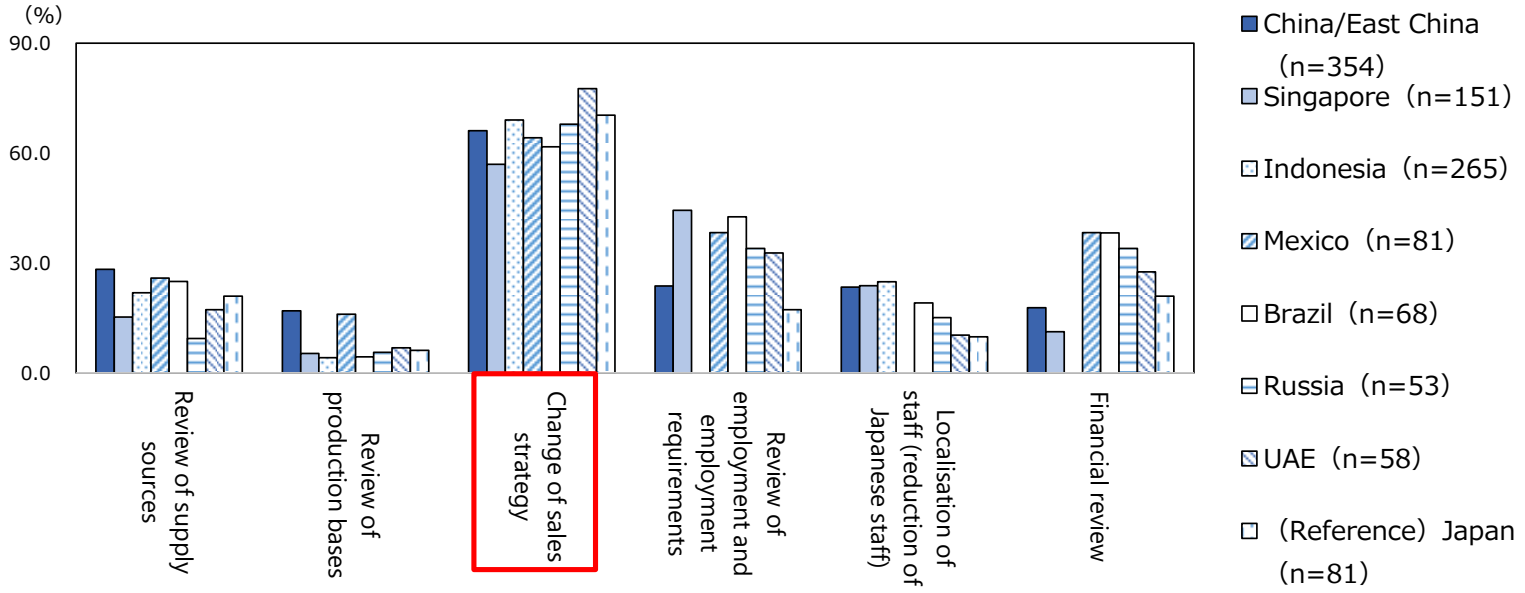
(a) Target country/region (n = Number of respondent companies)	China/East China （n=719）	China/South China （n=131）	Malaysia （n=109）	Indonesia （n=289）	India （n=259）	US （n=288）
Industry	All	All	Manufacturing	All	Manufacturing	Manufacturing
Factors	1 Decrease in domestic demand	1 Decrease in domestic demand	1 Decrease in foreign demand	1 Decrease in domestic demand	1 Operational regulations by the government	1 Decrease in domestic demand
	2 Decrease in foreign demand	2 Decrease in foreign demand	2 Decrease in domestic demand	2 Decrease in foreign demand	2 Decrease in domestic demand	2 Shortage of human resources
	3 Operational regulations by the government	3 Disruptions of domestic SC	3 Operational regulations by the government	3 Disruptions of overseas SC	3 Disruptions of domestic SC	3 Disruptions of overseas SC
	4 Disruptions of overseas SC	4 Shortage of human resources	4 Disruptions of domestic SC	4 Shortage of human resources	4 Shortage of human resources	4 Operational regulations by the government
	5 Disruptions of domestic SC	5 Disruptions of overseas SC	5 Shortage of human resources	5 Disruptions of domestic SC	5 Logistics constraints and high costs	5 Disruptions of domestic SC
	6 Shortage of human resources	6 Operational regulations by the government	6 Disruptions of overseas SC	— Operational regulations by the government	6 Decrease in foreign demand	6 Logistics constraints and high costs
	— Logistics constraints and high costs	— Logistics constraints and high costs	— Logistics constraints and high costs	— Logistics constraints and high costs	Disruptions of overseas SC	— Decrease in foreign demand

Note: 1) While questions and the number of options differ depending on the survey, JETRO has grouped them into the above seven categories. If there are multiple options in the same category, the one with the highest response rate was compared. Where a hyphen ("-") is used, no option was established. 2) "SC" stands for "supply chains." "Disruptions of SC" refers to incidents such as the delay or suspension of delivery of products, parts and raw materials. "Shortage of human resources" means shortage of labor. 3) The survey period was as follows: China/East China (June 28-July 2), China/South China (April 2-10), Malaysia (May 12-15), Indonesia (June 8-16), India (April 24-28), US (June 26-July 1).
Source: Survey on the impact of COVID-19 conducted by Japan's Chamber of Commerce and JETRO's overseas offices in each country/region.

70% of businesses considering a change in sales strategy as part of revisions to their business strategies and models

- In response to COVID-19, about 60% of Japanese companies operating overseas are considering revisions to their business strategies and models. Specifically, procurement and production accounted for about 20% and 10% of responses respectively, while changes in sales strategy accounted for roughly 70%. Other significant revisions include changes to HR practices such as employment and benefits, and financial aspects.

Business strategies and review of business models by Japanese companies overseas in response to Covid-19 (multiple answers)



Note: 1) The survey periods are as follows: June 28 - July 2 (China/East China), June 9-12 (Singapore), June 8-16 (Indonesia), June 25-29 (Mexico), June 12-22 (Brazil), May 20-29 (Russia), June 2-4 (UAE), May 29 (Japan). 2) The content and number of answers to questions vary depending on the survey. The aggregated figures in this graph are solely based on companies which answered this question. The survey in Indonesia does not include "Review of employment and its terms" nor "Financial review," and the survey in Mexico does not include "Localisation of staff." "Supply sources," "production bases" and "sales destinations" does not necessarily mean the countries surveyed, given the possibility that respondents took into account business other than that in the countries surveyed. 3) The subject industries in all surveys include manufacturing and non-manufacturing.
Source: Survey on the impact of COVID-19 conducted by Japan's Chamber of Commerce and JETRO's overseas offices in each country. Questionnaire from JETRO's ASEAN Webinar on May 29.

Northeast Asia: Impacts on logistics during the post-peak period and on the return of expatriates during the recovery

- Japanese companies operating in China faced business management issues due to various restrictions on the resumption of operations, restrictions on transfers across provinces and cities, and the suspension of visas. As of the end of June, in particular, due to the suspension of visas and the decline in flights, Japanese expatriates and business travelers are unable to travel to China, and businesses cannot be operated smoothly.
- In Northeast Asia, large budgets have been allocated in each country and region to control the spread of infection and normalize economic activities. Efforts to reopen the economies of Northeast Asia including the relaxation of restrictions on travel will serve as a test for the rest of the world. As economic activity has normalized, some Japanese companies are expanding their businesses in response to the spread of COVID-19.

Major challenges for Japanese companies in China

Time	Main Issues
Expansion of infections (January to mid-February)	・Shortage of masks, disruptive solutions and other quarantine products required for resumption of operations ・Discrepancy between notifications at the central and provincial level and actual operations at the site level
Post-peak period of infections (from late February - March)	・Transfer restrictions across provinces and cities, due to 14-day sequestration measures, etc., and the accompanying disruptions in domestic logistics. Effects on supply chains ・Discrepancies between the period of proof of force majeure and the date of actual resumption of operations ・Valid period of visa and residence permit expires during temporary return to Japan, and procedures for extension cannot be carried out.
Period of economic recovery (from April)	・Due to the decline in air flights between Japan and China and the impact of the suspension of visas, expatriates temporarily returned to Japan, new employees scheduled to be dispatched to China, and business travelers are unable to enter China, and companies are forced to continue their business on the assumption that these employees are not there. ・International logistics centering on air cargo became bottlenecks ・Factory utilization rates in China, etc. have not recovered due to sluggish domestic and external demand. ・The Health Code of the Health Management App does not respond to applications from foreign nationals, hindering the lives of Japanese expatriates.

Source: Questionnaires by the Japan Chamber of Commerce and Industry, and interviews conducted by JETRO.

Examples of business expansion by Japanese companies due to COVID-19

Company Name	Contents
MOSHI MOSHI HOTLINE DALIAN, INC.	A 100% subsidiary of BPO giant Relia, Inc. With the increase in telecommuting work worldwide, inquiries from other countries, such as those from Japan headquarters and Vietnam, increased sharply.
Yale Japan Co., Ltd.	Support for advancement into major e-commerce platforms such as China. Purchases in cross-border e-commerce in China increased sharply due to increased stay-at-home consumption and restrictions on visits to Japan as a result of the spread of COVID-19. The number of listing support projects has also doubled.
Terumo Corporation	Demand for temperature monitors soared due to the impact of COVID-19. Production is increasing at a plant in Hangzhou City, Zhejiang Province. Demand increased sharply due to an increase in use of thermometers at companies and hotels in addition to household demand.
Suzuran Medical Inc.	Manufacturer of medical products. Demand for masks and other medical products in China is expected to continue, and the company invested 3.5 billion yen to build a new plant in Jiangsu Province. The company plans to secure space at the new plant to accommodate increased production of masks in the event of an emergency.

Source: JETRO from various media

ASEAN: Changing sales strategies over reorganizing production and procurement

- In Southeast Asia, the number of infections was particularly high in Singapore, Indonesia, the Philippines, Malaysia, and Thailand. Since mid-March, entry and operational restrictions have been imposed in the region. This affected the supply chains of Japanese manufacturers in Malaysia and beyond. In Vietnam, some said the impact on production and sales was smaller than that of other countries and regions.
- As a countermeasure against these impacts, local Japanese companies are focusing more on responding to the decline in sales by, for example, revising their sales strategies rather than reorganizing their production bases and suppliers. The recovery of the domestic and overseas markets and the relaxation of restrictions on travel remain hopes for the future. It is also conceivable that COVID-19 will be used as an opportunity to localize human resources.

Impact on Japanese companies' supply chains in ASEAN countries

Impact	Summary
Decline in production and orders due to **economic contraction**	(Apparel manufacturer in Indonesia) Regarding sales in Indonesia, half of the retail stores that handle our products suspended operation from late March. This is because the retail facilities themselves were temporarily closed or shortened operating hours. (Transport equipment manufacturer in Thailand) Impact of production adjustments by customers, orders in Thailand decreased significantly. The company manufactures products for export, but the factory operation rate is 30%. (late April)
Decrease in production efficiency due to **measures to prevent infections at plants**	(Electrical equipment manufacturer in Vietnam) In early April, production was temporarily suspended due to the installation of partitions in work spaces, etc., in order to prevent infectious diseases following Prime Minister Decision No. 16.
Able to operate, but **difficult or impossible for employees to commute** due to suspension of public transportation	(Non-manufacturing in the Philippines) Though the business was permitted during the enhanced community quarantine (ECQ), it was not possible to secure the store staff because of the suspension of public transportation, and only about 30% of the stores could be operated.
Production is difficult due to **shutdown of domestic and overseas suppliers** of raw materials, packaging materials, etc.	(Headquarters of electric and electronic manufacturer in Singapore) Malaysia's mobility restriction directive makes it impossible to procure raw materials from our suppliers. Cost increase due to conversion of orders to other companies is inevitable. (Early April) (Parts supplier in the Philippines) The best supplier for the sourcing of raw materials is located in the area where the modified enhanced community quarantine (MECQ) is in place. We can secure parts from other suppliers, but if it is prolonged, it will lead to a decline in our competitiveness. (late May)
Increased transportation costs due to **reduced flights**, difficulties in arranging flights, and the suspension of airline flights, making it impossible to import/export	(Distribution-related company in the Philippines) Products made in the Philippines can be delivered on land, but air freight shipments cannot be used due to reduced flights and higher freight rates. Ship flights can be secured. (Early April) (Electric and electronics manufacturer in Malaysia) Due to the flight cancellation, the lead time to Japan is 0.5 to 1.5 days behind schedule at the shortest, and 2.5 to 5.5 days behind schedule at the longest. (Mid-May)
Customs personnel system was kept to a minimum, resulting in a slowdown in customs clearance speed and **delays in logistics**.	(Distribution-related company in Cambodia) Due to the congestion of borders, it has been taking about 3 days for imports from Vietnam, which used to take only a day or so. (late March)

Source: Interviews with Japanese companies in each country, "Biznews" (JETRO)

Southwest Asia: 80% of Japanese manufacturers are interrupted due to lockdown in India

- In Southwest Asia, infections were confirmed in Sri Lanka and India in late January followed by Pakistan in February and Bangladesh in March. In April, the number of people infected increased sharply reaching about 1.4 million people in mid-July. 70% of cases are in India. Since mid-March, these four countries have imposed restrictions on entry, movement, and operations, influencing the operations of Japanese companies. Restrictions began to be relaxed in early May.
- 80% of Japanese manufacturers discontinued production due to the lockdown in India. The impact of the country's lockdown has been reported by Japanese manufacturers in ASEAN, and COVID-19 has affected the emerging supply chain in India. Conversely, in a survey of Japanese companies in India, few responded that they would discontinue investment.

Impact on Japanese companies' supply chains in major Southwest Asian countries

Impact	Summary
Difficult to operate due to **shrinkage of market**, including export destinations	(Manufacturer in Pakistan: The problem is that products will not sell due to the economic downturn. The government's economic stimulus measures are expected. Our financial position is difficult, but we are concerned that our clients' financial position will become tighter and bankruptcy may occur. (late April) (Textile-related company in Bangladesh) Overall, the order after autumn has declined dramatically, making it difficult to operate on the same scale as in the past. It is expected that difficult conditions will continue until the consumer market recovers. (late June)
Delay in customs clearance due to reduction in the number of **customs personnel**	(Distribution company in India) Although marine transportation is operated, it takes time for quarantine and customs clearance due to shortage of workers, etc. In air transportation, cargo aircraft are partially operated, but in principle only fresh goods are handled, and general cargo is not accepted. (Early April) (Distribution company in Bangladesh) Customs clearance is carried out. However, because the number of customs clearance staff is limited, the work has been delayed compared to normal times.
Higher transportation costs due to **reduced flights** and difficulty in arranging	(Distribution company in India) Cargo aircraft are partially operated, and general cargo is accepted, but freight costs remain high due to the balance between supply and demand. (Mid-June)
Impact on the company caused by **suppliers** not being allowed to operate	(Manufacturer in India) Packaging material supplier ceased operation, and if lockdown continues in the future, production will be affected. (late March)
Non-attendance by employees due to **restrictions on domestic travel**	(Transport equipment manufacturer in India) We can operate the factory, but the movement across states is restricted, and enough number of personnel cannot not collected. (late May) (Transport equipment manufacturer in India) In order to completely return to the production system, it will be necessary to have 3 shifts (including production at night shifts), but since the ban on overnight stays from 9:00 p.m. to 5:00 a.m. continues, it is difficult to establish a system for night shift. (mid-June)

Source: Interviews with companies in each country

North America: Ensuring the safety of employees when resuming operations and diversifying procurement within the region

- The number of COVID-19 infections in North America has increased sharply since March, and there are no signs of troughs as of the end of June. Around 30% of Japanese companies in the United States and Canada suspended production at the end of April, however, many of them resumed production at the end of May. Ensuring the safety of employees became an important issue for each company in resuming operations. 70% of companies maintain employment utilizing federal government COVID-19 support measures (e.g., PPP, unemployment insurance).
- The impact of COVID-19 on the supply chain with Asia is limited because the procurement ratio in North America has been high. Conversely, in order to reduce procurement risk caused by the US-China tensions, there are moves to consider strengthening supply chains and diversifying suppliers in North America.

Trends in sales and production of Japanese companies operating in North America

	Impact	End of March	End of April	End of May	End of June
US	Sales decline in the past month	68.8%	73.9%	75.5%	71.7%
	Production suspension or production cutbacks	54.2%	80.4%	78.0%	71.3%
	Production discontinuation	28.5%	28.2%	3.3%	1.7%
Canada	Sales decline in the past month	78.9%	70.7%	69.8%	55.3%
	Production discontinuation or production cutbacks	68.9%	84.0%	87.5%	44.0%
	Production discontinuation	37.9%	40.0%	3.1%	0.0%

Note: Percentage of companies that responded. The survey was conducted at the end of March, April, and May. The United States (March 24-26, April 28-30, May 27-June 1, June 26-July 1, 2020), Canada (March 24-26, April 29-May 1, May 26-28, June 29-July 3, 2020), respectively.
Source: JETRO's quick survey

Procurement ratio of Japanese companies operating in North America by region

Procurement source	US	Canada	Mexico	Japan	China	ASEAN	Other
Japanese companies in the US	59.1%	0.9%	2.2%	24.7%	5.0%	3.1%	5.0%
Japanese companies in Canada	23.2%	31.5%	1.4%	22.6%	8.2%	4.4%	9.0%

Note: Proportion of raw materials and parts procured by manufacturing companies in the United States
Source: JETRO 2019 Survey of Japanese Companies Establishing Operations in the US and Canada

Examples of impact on Japanese companies operating in North America

Fields	Comments on impacts and issues obtained through hearings with individual companies
Automotive Industry	Many auto parts manufacturers reduced or suspended production due to the suspension of production by automobile manufacturers. From mid-May onward, production by automobile manufacturers will resume gradually, but full-scale operations are expected to start from summer onward. The procurement rate of parts from Japan and North America was high while the rate for parts from China was low, so supply chains were relatively unaffected.
Manufacturing industry	Challenges include ensuring social distance within the factory and thoroughly wearing personal protective equipment are crucial. Concerns about whether employees temporarily laid off will return to work after business resumes due to an increase in unemployment insurance. The price of airfare from Japan dramatically increased, and with longer lead times, some shipments were significantly delayed. The situation, however, is improving.
Restaurant	Although some restaurant shifted to to-go and delivery-oriented operation, sales declined. Even after the resumption, customer capacity in the restaurant will be forced to be limited. Therefore, they cannot expect the level of sales before COVID-19, and it is essential to expand sales tools outside the store.
Food Manufacturing	Demand increase as stay home was recommended led production volume increased. On the other hand, it is a temporary special demand, and demand is expected to decrease as the economy resumes.
Finance	Unlike the Great recession, financial institutions have not been damaged. They have an environment in which it is easy to raise funds and lend money amid zero interest rates.
Real estate	New store openings, such as restaurants and retailers, were postponed or discontinued. On the other hand, the impact of COVID-19 caused land and property prices to decline, leading to an increase in inquiries from investors and other buyers.

Source: JETRO's quick survey and interviews with individual companies

Central and South America: Even after resumption, operating rate has been sluggish, and drug import procedures are to be simplified.

- In Argentina, Colombia and Chile, restrictions on going out will continue after July. Mexico and Brazil, on the other hand, resumed their economies in stages from June while continuing social-distancing measures. Even after the resumption of operations in Mexico, capacity utilization rates remained sluggish due to sanitation regulations and shrinking demand. There is no government support for companies, and some Japanese companies face financial difficulties. In Brazil, the government's emergency economic stimulus measures, including compensation for salaries, tax reductions, waivers, and deferrals, as well as the relaxation of labor regulations, alleviated the negative impact on Japanese companies.
- In addition to COVID-19, Mexico was also required to respond to USMCA (effective July 1) which required an extremely high rate of procurement in the automotive sector in the region. In Brazil, many Japanese companies will review their sales strategies under the new circumstances. COVID-19 simplifies Brazilian import procedures for pharmaceuticals and medical devices providing a tailwind for Japanese companies.

Quarantine policies of major Central and South American countries

Country	Details of main quarantine policies
Mexico	・ Declaration of state of emergency on March 30. Prohibit operations except in essential industries.
	・ Automobiles were designated as essential industries on May 15. Gradual operation resumption starting on the 18th.
	・ From June 1, the operation is allowed to resume according to the spread warning level of each state.
Brazil	・ State-by-State measures. In Sao Paulo, operation was prohibited other than in essential industries from March 24.
	・ From June 1, the operation is allowed to resume according to the spread warning level of each state.
Argentina	・ On March 19, travel restrictions were issued. Excluding some exceptions, it will continue from July onward.
	・ Some industries including automobiles were permitted to resume operations from May 20.
Colombia	・ Declaration of state of emergency on March 17. Except for daily necessities, bans on going out. It continued after July.
	・ Industries resumed operations from the second half of April, specifying detailed industries by region.
Peru	・ Declaration of state of emergency on March 15. Except for daily necessities, bans on going out. Only the high-risk age group will be prohibited from going out from July.
Chile	・ On March 18, the President declared a state of disaster emergency. Beginning on the 26th, people were not allowed to go outside except for daily necessities. The ban continues for most of the metropolitan provinces even after July.

Source : Various government announcements

Survey Results for Japanese Affiliates

Difficulties encountered when Japanese companies operating in Mexico resumed operations (excerpt)

Contents	Response rate
Change in sales strategy	61.8%
Review of Employment and Terms of Employment	42.7%
Review of suppliers	25.0%

Note: Valid responses: 208 companies. Multiple answers
Source: A survey conducted by JETRO and the Japanese Chamber of Commerce and Industry in Mexico (June 25-29)

Review of business strategies of Japanese companies operating in Brazil due to COVID-19

Contents	Response rate
Shrinking demand	49.5%
Implementation of sanitary measures designated by the authorities	46.2%
Financial Position	19.2%

Note: 68 valid respondents. Multiple answers
Source: A survey conducted by JETRO and the Japanese Chamber of Commerce and Industry in Brazil (June 12-22)

Europe: Decline in demand is the biggest challenge due to restrictions on travel and production activities.

- The biggest challenge facing Japanese companies has been the decline in demand due to shift to work-from-home and store closures. As a result of restrictive measures on travel implemented in many countries, Japanese company employees, mainly in administrative divisions, have been working from home. Border controls among EU members were also introduced on an interim basis, temporarily restricting freedom of movement. Many Japanese companies have established offices in one EU member state and they are in charge of their business's development in some other member states, so movement restriction has been also a big challenge.
- In terms of hedging the risk, the importance of diversifying customer segments is prominent especially in the food sector. Some companies have managed to offset their sales drop/decline to restaurants by sales to the retail sector. There is also growing interest in the development of new markets and the expansion of new businesses. The European Commission has attached greater importance to the "European Green Deal" and "Digital Transformation" to be climate neutral by 2050 and sees them as a key driver to the post-COVID recovery.

Percentage of telecommuters among Japanese companies operating in Europe

	Survey period	0%～ Less than 50%	50%～ Less than 100%	100% (All at Home)
UK	Mid-May	14%	30%	56%
Czech Republic	Late May and early June	56%	32%	12%
Belgium	Mid-May and late May	25%	75%	

Status of business operation of Japanese companies in Europe after lockdown

	Survey period	Temporarily closed	Continue business by downsizing	Continue business with the same scale of activity
UK	Mid-May	2%	53%	44%
Czech Republic	Late May and early June	3%	64%	32%
Belgium	Mid-May and late May	4%	53%	44%

Source: A survey conducted by the Japanese Chamber of Commerce and Industry in the United Kingdom and JETRO London (May 18-21, 2020), a survey conducted by JETRO Prague (May 28-June 5, 2020), and a survey conducted by the Embassy of Japan in Belgium and JETRO Brussels (May 14-27, 2020).

Impact of COVID-19 on Japanese companies in Europe

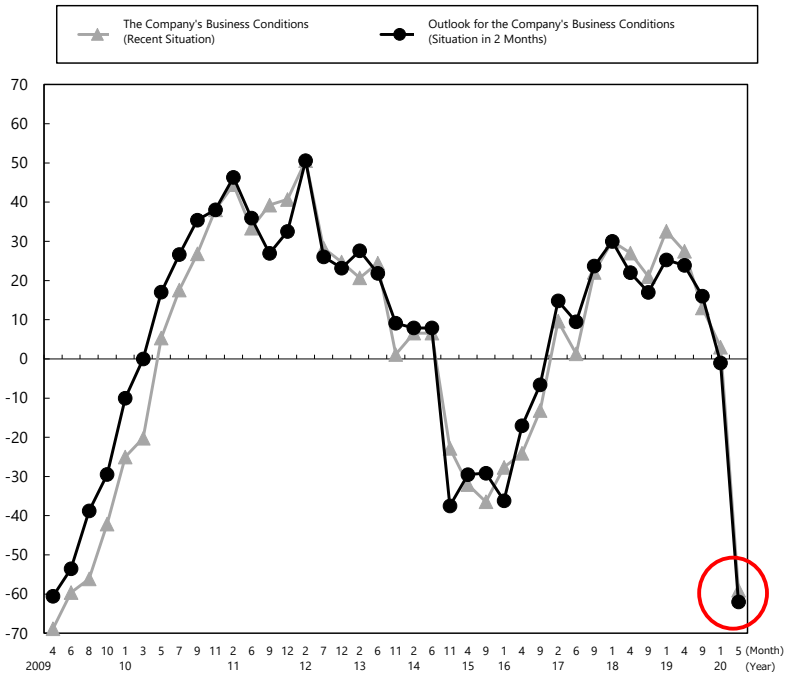
	Survey period	Sales declined	Employment impacted
UK	Mid-May	66%	38%
Germany	Early and mid-May	81%	-
Netherlands	Late May and early June	83%	-
Czech Republic	Late May and early June	96%	38%

Source: A survey conducted by the Japanese Chamber of Commerce and Industry in the United Kingdom and the JETRO London (May 18-21, 2020), a survey conducted by three JETRO offices in Germany (May 6 - 20, 2020), a survey conducted by the Japanese Chamber of Commerce and Industry in the Netherlands (May 29 - June 3, 2020), and a survey conducted by the JETRO Prague (May 28 - June 5, 2020).

Russia: Economic conditions comparable to the aftermath of the global financial crisis

- In Russia, restrictions on going out have been put into effect in major cities, creating serious restrictions on the business operations of Japanese companies. Business confidence reached lows at similar levels to the aftermath of the global financial crisis. Some companies are focusing on credit and credit management. They are also considering laying off or restricting hiring of local employees. On the other hand, the supply chain has not suffered from serious business difficulties due to sluggish domestic consumption and economic activity.
- According to the Outlook for Business Operations in the Next 1-2 Years, 12% of companies responded "Shrink or Withdraw," which was only about half of the level at the time of the crude oil price crash at the end of 2014. The solid expectations of the market's potential over the medium to long term also became evident.

Trends in Business Conditions DI for Japanese Companies in Russia and Business Outlook DI in 2 Months



Note: Survey period: May 20-29, 2020. Survey targeted Japanese companies operating in Russia (about 240 companies), of which 101 companies responded.
Source: "Survey on Business Conditions of Japanese Companies in Russia" (May 2020) (JETRO)

Impact on Japanese companies in Russia following the spread of COVID-19 infections (multiple responses as of late May 2020)

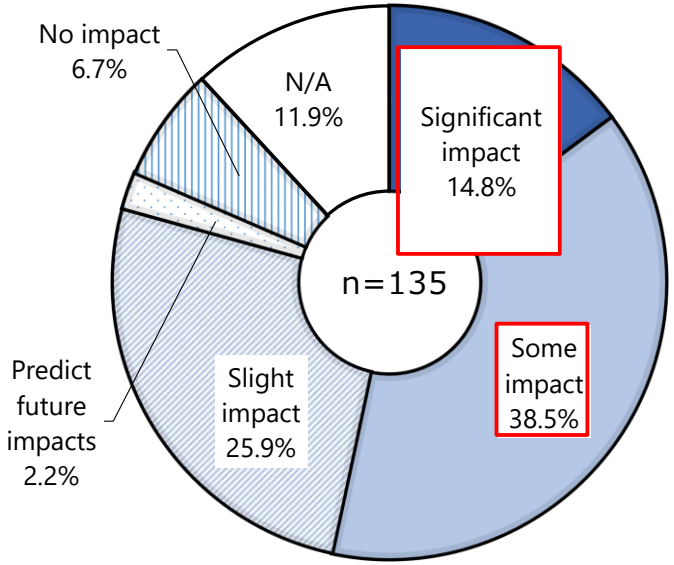
Contents	Ratio (%)
Suspension of new contracts, orders and shipments	60.4
Difficulty in collecting receivables due to business difficulties of business partners (including bankruptcies)	35.6
Delays in logistics and customs clearance	28.7
Reduction in workforce and layoffs of local employees due to business downsizing	11.9
Lack of local employees due to the introduction of non-working days	4.0
New contracts and an increase in the number of transactions	3.0
Acceleration of logistics and customs clearance	2.0
None	10.9
Other	9.9

Note: Survey period: May 20-29, 2020. Survey targeted Japanese companies operating in Russia (about 240 companies), of which 101 companies responded.
Source: "Survey on Business Conditions of Japanese Companies in Russia" (May 2020) (JETRO)

Middle East: Continued stagnation in air cargo and other logistics, restricted movement of people, and falling oil prices

- In the Middle East, the number of infections has increased again, and the second wave of COVID-19 can be linked to easing restrictions such as the resumption of work and commerce after the end of Ramadan (end of May). In a survey conducted in June targeting Japanese affiliates in the UAE which serves as a regional hub, approximately 80% of companies responded that this had an impact on the decline in sales. In addition, more than half of the companies responded that "there was a negative impact on logistics." Some people said the impact of the decrease in oil prices was a bigger factor in the decline of sales (compared to the impact of COVID-19).
- Regarding the outlook for the future, about 40% of respondents expect the COVID-19 pandemic to conclude enabling them to normalize their operations in the first half of 2021. Approximately 40% of companies said they would review their business strategies, of which approximately 80% said they would change their sales strategies. While each company is considering revising its strategy, other fields such as e-commerce grew due to the impact of stringent stay-at-home measures.

Impact of COVID-19 on logistics at Japanese companies in the UAE



Note: Survey period: June 2-4, 2020. Surveyed companies are Japanese companies based in the UAE (135 companies responded)
Source: "Emergency Survey on COVID-19 Countermeasures and Their Impact" (2nd)) (The JETRO Dubai)

Comments from Japanese companies in the UAE (related to human mobility and logistics)

Contents	Corporate Comments
Movement of people	Limitation of sales and marketing activities due to inability to travel abroad.
	Existing customers can meet via on-line tools (e.g. Zoom and Teams), but new business negotiations need direct interviews.
	Only limited services can be completed in the UAE; it is difficult to visit neighboring countries.
	Candidates for investment cannot be inspected locally, and investment decisions and implementation are delayed.
Logistics	Delays in parts procurement from overseas affiliated factories and suppliers have been remarkable, and this has had a major impact on shipments and sales from the company.
	Unless the transportation conditions from the exporting countries (especially air shipments) are restored, conditions will remain severe.
	Business restrictions of distributors in each country have affected the Compan's operation. In Africa in particular, logistics and banking are not functioning and shipments are almost impossible.

Note: Survey period is June 2-4, 2020. Surveyed companies are Japanese companies based in the UAE (135 companies responded)
Source: "Emergency Survey on COVID-19 Countermeasures and Their Impact" (2nd) (The JETRO Dubai)

Africa: Concerns include restrictions on re-entry of expatriates and stability of local healthcare systems

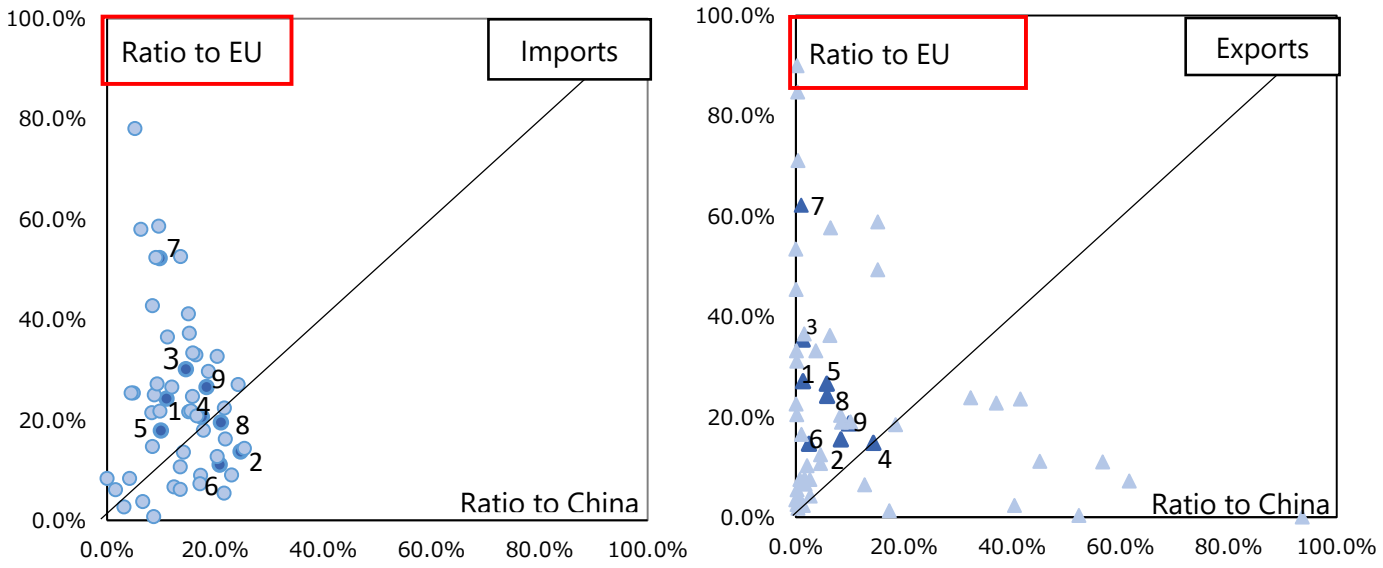
- In Africa, where there are more than 600,000 cases of COVID-19, countries responded fast with various measures including border controls at the initial stage. However, economic activity gradually resumed from May onwards without controlling the spread of the disease. Concerns among Japanese companies include the risk of infection among employees upon resumption of production at production sites, restrictions on re-entry for resident employees who have temporarily evacuated from offices, and the stability of local healthcare systems.
- The target markets of Japanese companies operating in Africa depend heavily on the local markets (approximately 80% in South Africa and Nigeria, and approximately more than 50% in other countries), and activity restrictions in these countries directly affect the companies. Due to the structure of exports and imports, supply chains in each country are susceptible to the economic stagnation in Europe. Exports to Europe were sluggish for the Japanese automotive parts manufacturers operating in North Africa.

2020 Real GDP Growth Rate (Forecast) of Select African Countries

	Country Name	Predicted value (%)
1	Egypt	2
2	Ethiopia	1.9
3	Cote d'Ivoire	1.8
4	Ghana	1.5
5	Mozambique	1.4
6	Kenya	-0.3
7	Morocco	-3.7
8	Nigeria	-5.4
9	South Africa	-8.0

Note: Egypt and Morocco are classified into the Middle East by the IMF. Figures as of April 2020
Source: The IMF World Economic Outlook (revised June 2020)

Share of trade with EU and China in 54 African countries (3-year average for 2017-2019)



Note: Figures in the chart correspond to country names in the left-hand chart.
Source: "Direction of Trade Statistics"(IMF)

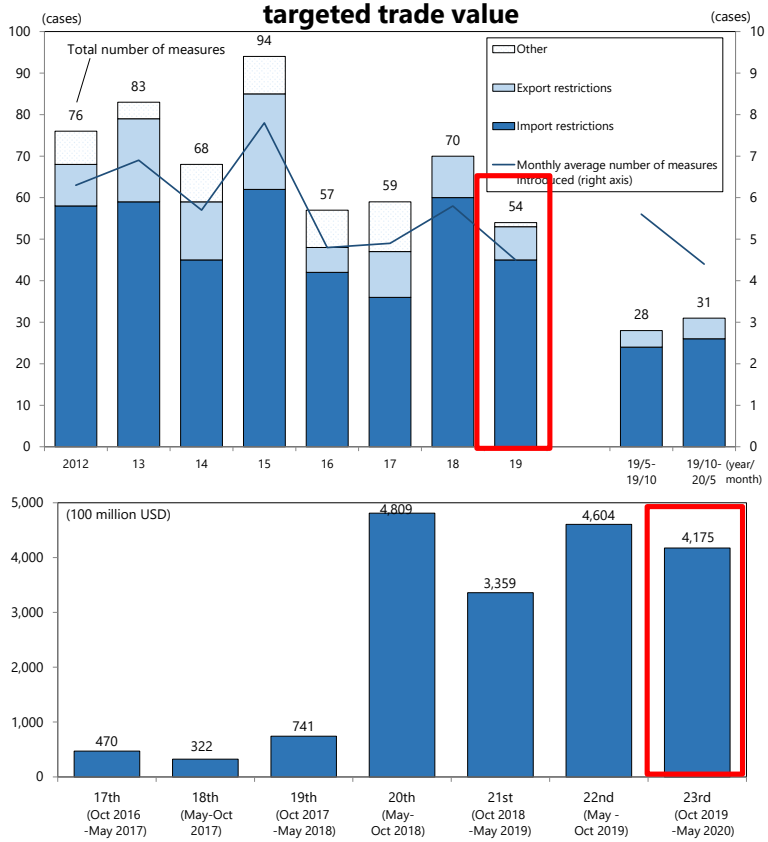
Chapter 3

Trends in global trade rule formation

Impact of trade protectionism remains, but the number of cases declines

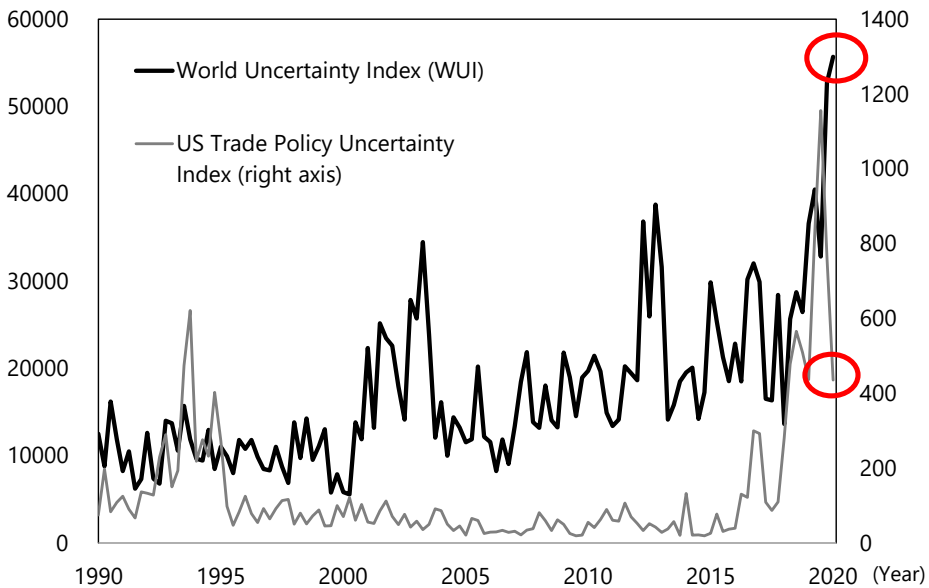
- According to the WTO's Monitoring Report, the number of trade-restrictive measures introduced by G20 countries in 2019 was 54, the first decline in three years. Conversely, the trade value subject to trade-restrictive measures was $417.5 billion, the third largest ever.
- Due to the intensified US-China trade friction, the global uncertainty index tended to trend in relation to US trade policy. However, the US-China Economic and Trade Agreement ("Phase One Trade Deal") went into force in 2020 and led to a rapid decline in US trade policy uncertainty. Meanwhile, as COVID-19 spread widely in Europe, the US, and other areas, the global uncertainty index rose again recording its worst ever level.

Number of trade-restrictive measures taken by G20 countries and their targeted trade value



Note: This does not include trade facilitating measurese and those related to COVID-19. The number of times in the figure below refers to the issue number of the report. Figures in parentheses are aggregation periods.
Source: WTO Secretariat

Global uncertainty and US trade policy uncertainty

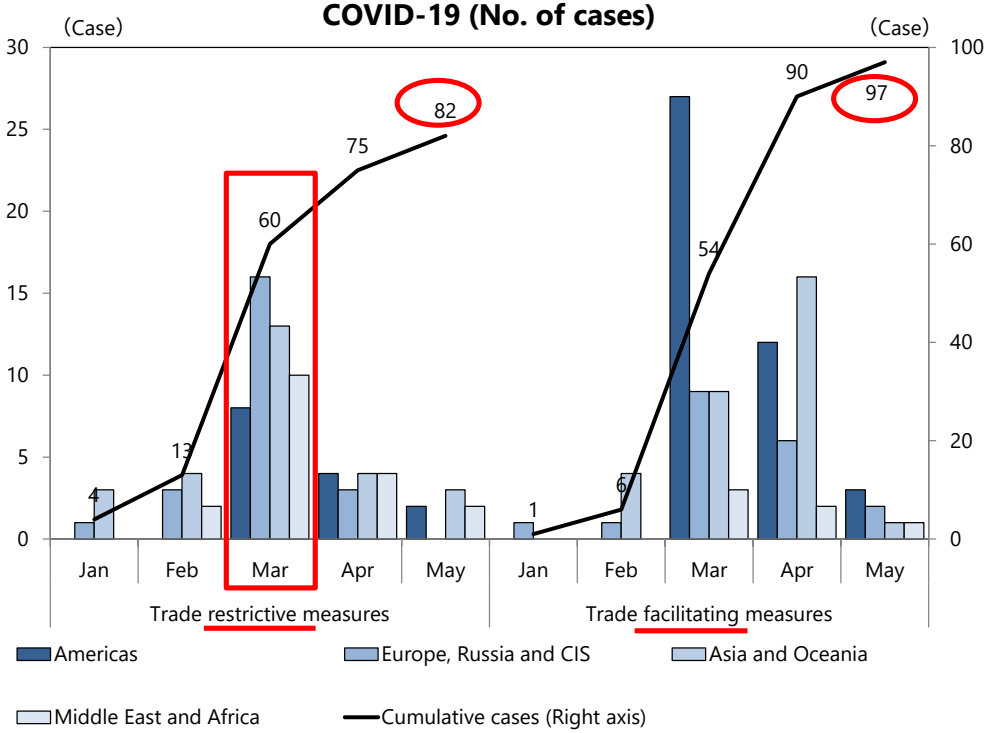


Note: 1) The WUI is an index based on the frequency on term "uncertain" used in the Economist Intelligence Unit (EIU)'s country reports for about 140 countries and regions. The WUI uses GDP-weighted indicators. 2) The U.S. Trade Policy Uncertainty Index is an index based on the articles from major U.S. newspapers that contain certain terms related to trade policy. 3) Both are project-based figures by IMF and universities. The larger the index, the greater the uncertainty.
Source: "Economic Policy Uncertaity Project" and "World Uncertainty Index"

Series of trade-related measures introduced in response to COVID-19

- In response to the spread of COVID-19, a series of trade-restrictive measures have been introduced around the world. Particularly since March, export restrictions of sanitary supplies increased. On the other hand, there have been a series of trade-facilitating measures such as reduction of tariffs and simplification of import procedures: a cumulative total to 97 as of May 2010, exceeding the total number of trade restrictive measures (82) based on JETRO's research.
- Trade restrictions necessary to protect human life or health are allowed as exceptions to free trade in several WTO rules, such as Article XX(b) of GATT. However, the WTO and other organizations are increasingly wary that restrictions on exports of pharmaceuticals and food could threaten the lives and health of people in the global supply chain and partner countries.

Trade-related measures in response to COVID-19 (No. of cases)



Note: 1) Only measures with clear relationships with Covid-19 are included. 2) Cumulative cases also include the measures which have been lifted by May 2020. 3) Measures of which introduction dates are unknown were replaced with the dates of notification to the WTO.
Source: WTO,WCO, "Biznews" by JETRO

Exception to trade liberalization associated with COVID-19

Article		Exceptions to liberalization	When applied to COVID-19	Relevant measures
GATT				
	Article XI 2(a)	Preventing and mitigating critical shortages of food and other products essential for exporting countries	Prevention and treatment of infectious diseases by ensuring a sufficient supply of medical and hygiene products such as masks and other protective gears and some medical devices such as ventilators	Prohibiting or restricting exports to meet domestic demand for medical and sanitary supplies, or improving access to these supplies by eliminating tariffs and facilitating import procedures
	Article XX(b)	Protecting the lives and health of humans, animals and plants		
	Article XX(j)	To acquire and distribute scarce products		
	Article XXI(b)	Supplies to military facilities	To mobilize military forces in cities under lockdown and contingent facilities	
GATS				
	Article XIV(a)	Protection of public morals and the maintenance of public order	Prevention of viral spread by human movement	Prohibition and restriction of entry from infection-spreading areas
	Article XIV(b)	Protecting the lives and health of humans, animals and plants	Prevention of deaths due to medical care breakdown	
SPS	Article 5, Paragraph 7	Ensuring the lives, physical safety and health of the people based on evidence	Prevention and subsidence of pandemics based on the possibility that wildlife is an infectious source	Strengthening sanitation and quarantine measures
TBT	Article 2.2	Measures for legitimate policy purposes (protection of human health)	Ensuring prompt distribution of medical devices and pharmaceuticals	Relaxation of certification and standards of medical devices
TRIPS	Article 31	Patents may be exploited by third parties without the consent of the patentee under certain conditions	Restrictions on patent rights of pharmaceutical companies that have developed specific drugs	Strengthening of compulsory licensing by some countries
Government procurement (plurilateral)	Article III 2	Protecting the lives and health of humans, animals and plants	Rapid increase in demand for specified products such as pharmaceuticals and medical devices	Purchase of goods and services by the government

Source：WTO agreements

Trade-related measures by each country/region in response to COVID-19

- The introduction of export restrictions and embargoes began early in Asia, starting in late January 2020. Europe and the US also started export restrictions, reflecting the expansion of COVID-19 since March.
- In terms of trade-facilitating measures, there was also a temporary relaxation of standards and certifications, in addition to border measures such as tariff elimination and the simplification of import procedures for the purpose of expanding access to medical and sanitary supplies.

Trade-related measures by each country/region in response to COVID-19

	Countries and regions	Date	Details of measures
Export restrictions and embargoes	Vietnam	Jan. 30	Requested cooperation from manufacturers of protective equipment for viral infection to refrain from profit-seeking export sales (de facto export restrictions).
	India	Jan. 31	Full ban on export of masks.
	Vietnam	Feb. 2	Instructed delivery services to suspend accepting medical masks, disinfectant solutions, and other items for international delivery.
	Thailand	Feb. 5	Export controls for masks.
	Russia	Mar. 2	Temporary export ban on certain types of medical products such as masks, protective clothing, and antiviral agents.
	India	Mar. 3	Restricted exports of APIs and formulations made from these APIs.
	Turkey	Mar. 4	Modifications to the notice on goods, which export is prohibited or needs an additional licence.
	Vietnam	Feb. 28	Temporary export ban on commercial export of medical masks.
	EU	Mar. 15	Temporary application making the exportation of certain products outside of the EU subject to the production of an export authorization.
	Indonesia	Mar. 18	Provisional ban on personal protective equipment.
	Australia	Mar. 18	Temporary measure to prevent non-commercial exports of personal protective equipment and sanitisers.
	UK	Mar. 20	Ban on parallel export of certain categories of medicines.
	Switzerland	Mar. 26	Exportation of masks and gloves being subject to export authorization.
	Indonesia	Mar. 26	Prohibition of the export of ethyl alcohol.
	US	Apr. 10	Temporary export authorization for certain personal protective equipment.

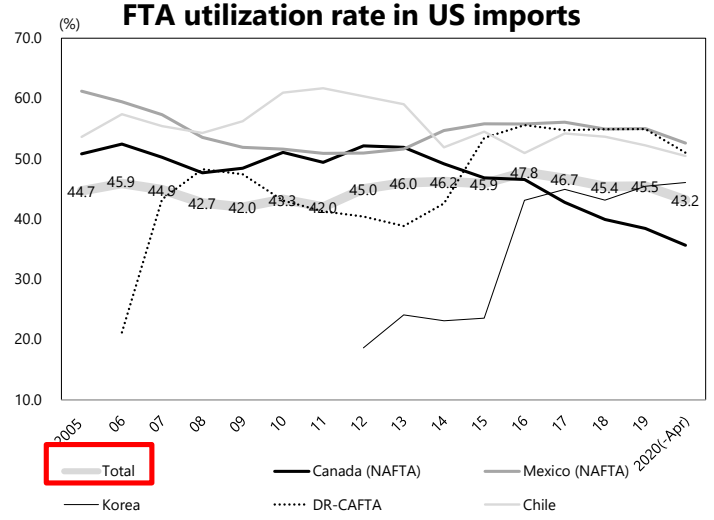
	Countries and regions	Date	Details of measures
Import relaxation	Vietnam	Feb. 7	Temporary elimination of custom duties on products on the medical products.
	Canada	Mar. 16	Measures to facilitate the importation of vital medical supplies.
	US	Mar. 17	Elimination of masks and other medical products from additional tariff List 4A against China.
	Brazil	Mar. 17	Elimination of import dutios on ventilators.
	Indonesia	Mar. 23	Temporarily exemption of pre-shipment inspections and submission of inspection reports when importing medical and hygiene products.
	Mexico	Apr. 6	Facilitation import procedures for pulmonary ventilators and the parts.
	Thailand	Apr. 15	Machinery used for agricultural, civil engineering and other purposes is exempted from tariffs.
Quarantine	Russia	Jan. 30	Temporarily restricts import of certain animals, including insects, reptiles, live fish and hydrobionts from China.
	Mauritius	Mar. 16	Temporarily restricts imports of live animals, including fish from China and other certain countries.
	Indonesia	Mar. 19	Target pets brought in from Hong Kong for testing
	Switzerland	Apr. 16	Relaxation of labelling requirements for food products.
Standards	Switzerland	Feb. 28	Granting a general authorisation for placing certain disinfectants on the basis of alcohol or active chlorine on the market.
	Brazil	Mar. 13	Establishes exceptional and temporary criteria and procedure for the petitions for the market authorization of medicines and biological products.
	US	Mar. 26	Temporary policy regarding nutrition labeling of certain packaged food.

Source: WTO,WCO, "Biznews" by JETRO

The United States continues unilateral measures based on domestic law

- In 2019, the US continued to use additional tariffs under Article 232 of the Trade Expansion Act and Article 301 of the Trade Act. Trade remedy measures (anti-dumping, offsetting tariffs) were also implemented in 53 cases, the highest level ever.
- The utilization rate of US FTAs is stable at around 45%. The US-Japan Trade Agreement and US-Japan Digital Trade Agreement entered into force in January 2020, and the USMCA entered into force in July 2020. The administration is eager to negotiate bilateral FTAs with an emphasis on individual agreements with the United Kingdom, Brazil, Kenya, and other countries.

FTA utilization rate in US imports



Note: 1) The top 5 countries and regions for which FTAs are used. 2) Calculated using annual figures regardless of the effective month.
Source: US International Trade Commission

Major trade actions under the Trump Administration since 2019 (excluding trade controls and investment regulation)

Yr	Date	Article 232 of the Trade Expansion Act of 1962 (Measures for Security)
2019	May. 17	Announced to postpone the decision on automobiles and parts for as long as 180 days
	May. 17	Eliminated additional tariffs on steel and aluminum for imports from Canada and Mexico
	Jul. 12	President denies security threat regarding uranium imports
	Oct. 16	Lifting the additional tariff on Turkey's steel to 50% again on account of military intervention in Syria → Lifted on October 23
	44148	President's decision on automobiles and parts expires.
	Dec. 2	President announced the resurgence of additional tariffs on steel and aluminum imports from Brazil and Argentina
2020	Feb. 8	Expanded tariff coverage for steel and aluminum
	Feb. 27	Measures were not implemented although security threat was recognized on the import of titanium sponges
	May. 4	Investigation on transformer components initiated
	May. 6	Investigation on mobile cranes initiated
	Jun. 2	Investigation on vanadium initiated

Yr	Date	Article 301 of the Trade Act, 1974 (Measures Taken by Unfair Trade Practices)
2019	May. 10	Increased the rate of the third round of additional tariffs on China from 10% to 25%
	Jul. 10	Launched an investigation on the French Digital Taxation Act
	Aug. 23	Announcement to increase of the rates of the first to third round of additional tariffs on China to 30% and the fourth to 15%
	Sep. 1	List 4A of additional tariffs on China implemented
	Oct. 11	Deferred increase on the rate of the first to third round of additional tariffs on China
	Oct. 18	Implementation of tariffs against the EU in response to disputes over the provision of subsidies to Airbus
	Dec. 2	France's digital taxation is recognized as an unfair trade practice, implies retaliatory tariffs
	Dec. 13	Agreed on phase one of the economic and trade negotiations with China and postponed the implementation of List 4B of additional tariffs on China
2020	Jan. 22	Agreed to accelerate discussions on the formulation of tax rules on digital taxation in France
	Feb. 14	Phase One of the U.S.-China Economic and Trade Agreement entered into force. Reduction of the additional tariff rate for List 4A from 15% to 7.5%
	Mar. 18	Increased additional tariffs on large EU aircraft from 10% to 15%
	Jun. 2	Announced the start of investigation on digital taxation in 10 countries and regions including the EU
	Jun. 26	Consider adding $3.1 billion worth of items as part of retaliatory tariffs on EU airbus subsidies

Note: Shaded areas are measures related to China.
Source: US President's Office, "Biznews" (JETRO), etc.

The US-China trade tensions have temporarily stabilized, but the US has not relaxed its warnings to China

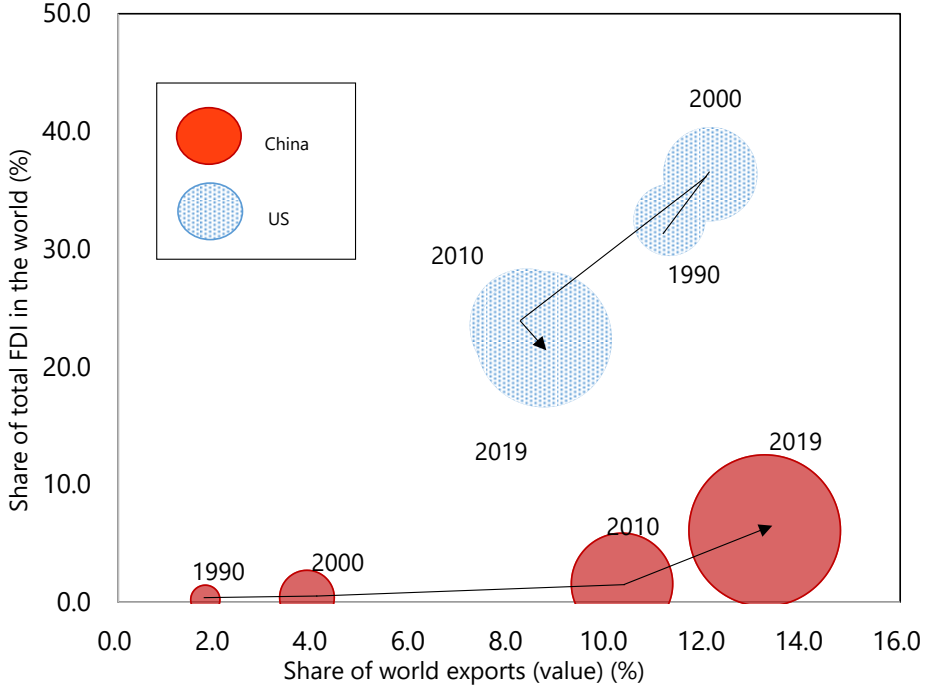
- In January 2020, the US and China signed the Phase One Economic and Trade Agreement. Imposition of retaliatory tariffs stabilized temporarily, but additional tariffs are still imposed on 70% of imports from China. The US may take additional measures depending on China's future responses.
- The US has become increasingly cautious of China, its strategic competitor. It is unlikely that the US will soften its hard-line stance against China, and the relationship between the two countries will likely become even more tense due to intensified competition in advanced technologies and dissatisfaction with their responses to COVID-19.

Outline of Phase One of the US-China Economic and Trade Agreement

Chapter	Contents	Progress (2020)
1. Intellectual property	The two countries will establish rules on protecting trade secrets, extending patent periods, drug-related patents, trademarks, geographical labeling, and crackdowns on counterfeits and pirated copies, as well as strengthen their enforcement.	○ January: Agreement signed --Discussions suspended due to the spread of COVID-19-- ○ US import performance in January-March is below target level, and US dissatisfaction is expressed. China does not formally request, referring to the invocation of Force Majeure Clause (Article 7.6.2). ○ April: Reported that China is considering accelerating the import of agricultural products --Resumption of consultations-- ○ May: Both countries reaffirmed their efforts for implementation ○ June: China made a renewed commitment to fulfill the agreement at an external consultation meeting
2. Technology transfer	Prohibit technology transfer as a condition for market entry and government approval, and foreign investment for the acquisition of foreign technology by the government. Ensure that all law enforcement and administrative procedures are neutral, impartial, transparent and non-discriminatory.	
3. Trade in food and agricultural products	China will reduce non-tariff barriers to agricultural and food imports and increase product imports. Improved methods for managing grain tariff quotas.	
4. Financial services	China adheres to the principles of fair, effective, and undifferentiated market entry in the financial services sector and abolishes the ceiling on foreign investment in securities and insurance by April 1, 2020.	
5. Macroeconomic policies and exchange rate matters and transparency	The two countries will comply with the relevant IMF rules to avoid manipulating exchange rates, assuming that they respect each other's monetary policy autonomy. Both governments will adhere to the principles of market-based exchange rate determination, refrain from currency depreciation policy, and refrain from setting target exchange rates to strengthen export competitiveness.	
6. Expanding trade	US: Reduce some additional tariffs under Article 301 of the Trade Act (list 4A, from 15% to 7.5%). China: More than $200 billion increase in imports from the US over the 2 years through 2021, based on 2017 import performance.	
7. Bilateral evaluation and dispute resolution	The Trade Framework Group of the two countries will be established to ensure the implementation of the agreement. The US Secretary of Treasury and Vice-Prime Minister of China also resume macroeconomic dialogue.	
8. Final provisions	The Agreement shall enter into force within 30 days of its signing. It is possible to withdraw from the agreement by notifying the other country.	

Source: Office of the US Trade Representative, Ministry of Finance of China, "Biznews" (JETRO), and various

Trade and Investment Positions of the US and China



Note: The size of the bubble indicates nominal GDP (purchasing power parity basis).
Source: IMF, WTO and UNCTAD data

Strengthening of trade and investment restrictions for national security

- Recognizing the need to strictly control the outflow of technologies critical to national security, export controls and investment regulations under the 2019 National Defense Authorization Act (NDAA) were strengthened. In February 2020, the Final Rules of the Foreign Investment Risk Review Modernization Act (FIRRMA) came into force. Conversely, there is uncertainty in the planning of corporate strategies partly due to certain measures for which details have not yet been announced.
- US policy regarding a range of export controls, investment regulations, and government procurement restrictions will remain unchanged as long as the NDAA, which forms their foundation, remains in force. Companies need to take immediate measures such as investigating the nature of their business in order to cope with these restrictions.

Outline of export and investment regulations under the National Defense Authorization Act (NDAA) 2019 and specific measures since 2019

	Export Control Reform Act (ECRA)	Foreign Investment Risk Review Modernization Act (FIRRMA)	Government Procurement Management (Article 889, NDAA)
Summary	"Emerging technologies" (AI and 13 other technologies) and "Foundational technologies" were added to the scope of direct and indirect export restrictions from US.	Strengthen the power of the Committee on Foreign Investment in US (CFIUS) to review foreign investment in US.	Prohibit 1) US government procurement of government-designated products and services, and 2) contracts between US government and firms using these products as key elements.
Date of Enforcement	Unknown (public comments closed in January 2019)	February 2020	1): August 2019 2): August 2020
Specific measures	Items on the Department of Commerce's Regulated Item List governed by the Export Administration Regulations (EAR) must be authorized in advance by the Bureau of Industry and Security (BIS). As for "emerging technologies" and "foundational technologies," the authorities of ECRA are expected to be enforced by announcing the proposed rules.	1. Expansion of scope of audit 2. Increased audit duration 3. Establishment of the advance notification system 4. Introduction of examination fees 5. Sharing information with allies, state governments, and other government agencies	Regulations cover video surveillance and communication equipment of five Chinese firms, including HUAWEI,; services provided by or used by these firms; and telecommunications and video surveillance equipment or services provided by firms controlled by or affiliated with the Government of China designated by the Secretary of Defense.
Affected business	・Exports by Japanese firms in US to countries outside US ・Exports from foreign countries to third countries by Japanese firms ・Technical disclosure by Japanese firms to non-US nationals	・Japanese firms investing in US ・Sale of US businesses by Japanese firms	Transactions with the US government by Japanese firms using Chinese parts and technologies

Yr	Date	Summary
2019	May. 15	[Export control] Department of Commerce(DOC) added HUAWEI and its 68 affiliates to Entity List (EL)
	May. 15	[Export control] Signing of a presidential decree prohibiting the trading of information communication technologies and services involving foreign adversaries when the Secretary of Commerce determines that there is a security concern
	Aug. 13	[Government procurement] Based on Article 889, government procurement from five high-tech firms in China, including HUAWEI, is prohibited.
	Aug. 19	[Export control] DOC added 46 HUAWEI-related firms to EL
	Sep. 17	[Investment regulations] The Treasury Department announced a draft FIRRMA rule.
	Oct. 7	[Export control] DOC added 28 organizations, including local governments and firms in China, to the EL.
	Nov. 22	[Government procurement] The Federal Communications Commission (FCC) prohibits the use of grants to purchase HUAWEI and ZTE products and services.
2020	Jan. 9	[Export control] DOC added AI technology for geospatial image analysis to export control
	Feb. 13	[Investment regulations] Treasury Department enforces final rules for FIRRMA
	Mar. 6	[Investment regulations] Order to sell US IT firm StayNTouch to a Chinese company that completed the acquisition in September 2018
	Apr. 26	[Export control] Stricter procedures for export permits for military applications and to mitary end users in China, Russia and Venezuela, and expansion of the definition of "military applications"
	May. 15	[Export control] DOC strengthened export controls to HUAWEI and its 114 affiliates, including non-US products using US technology
	May. 22	[Export control] DOC added 33 organizations including Chinese government organizations and AI-related firms to the EL

Note: Shaded areas are measures related to China.

Source: US President's Office, "Biznews" (JETRO), etc.

Negotiations on the UK-EU future relation reach a crucial moment

- For the trade relationship after the transition period, the UK and the EU share the common intention of completely abolishing tariffs and quantity restrictions by signing an FTA. However, the EU requires the UK to bear treaty obligations to ensure level-playing fields as a condition for opening the EU market, which has been the biggest sticking in the FTA negotiation.
- If the new FTA does not come into effect by the end of the transition period, trade between the UK and the EU will take place under the WTO rules. Although both sides confirmed that they would accelerate the negotiation in order to avoid this situation, the outlook remains quite uncertain.

Timeline of negotiations between the UK and the EU

	Year	Date	Summary
Withdrawal negotiations	2017	Mar. 29	The UK officially announces its decision to leave the EU.
		Jun. 9	Negotiations for the UK's withdrawal from the EU begin.
	2018	Nov. 14	The European Commission reports the negotiation agreement to the European Council.
		Nov. 25	The European Council approves the proposed withdrawal agreement.
	2019	Jan. 15 - Apr. 5	The UK House of Commons rejects the proposed withdrawal agreement three times. The UK government requests twice to postpone the exit deadline (Note).
		Apr.10	The European Council agrees to postpone the deadline for withdrawal up to October 31.
		Oct. 17	The UK and the EU agree on a new withdrawal agreement and a political declaration. The European Council endorses the revised withdrawal agreement and the revised political
		Oct. 29	The European Council extends the exit deadline to January 31, 2020, at the latest, in response to a repeated request by the United Kingdom.
	2020	Jan. 23	The House of Commons approves domestic legislation in response to the revised withdrawal agreement. The procedure for approving the draft agreement on the UK side is
		Jan. 31	The UK formally leaves the EU. Transition period starts from the following month.
Future relationship negotiations		Mar. 2 - Jun. 5	Nagotiations on the future relationship between the UK and the EU have officially begun. A total of four rounds of negotiations are held.
		Jun. 15	The UK and the EU agree to further hold negotiations between July and September at summit meetings. They also confirm the transition period will not be extended.
		Dec. 31	The transition period concludes.

Note: The original exit deadline was March 29, 2019.
Source: European Commission, UK Government, etc.

Comparison of negotiation policies between the UK and the EU

	United Kingdom	EU
Overall negotiation policy (Positioning of trade negotiations)	・ Trade relations are defined through comprehensive free trade agreements (FTAs). ・ In other areas not covered by the FTA, separate agreements will be concluded on a sectoral basis.	・ Define all areas, including commercial relations, under a single partnership agreement. ・ All sectors are negotiated in parallel.
Trade in goods		
Tariffs and quantitative restrictions	・ Eliminate tariffs and quantitative restrictions on all items.	・ Eliminate tariffs and quantitative restrictions on all items. Provided, however, that level-palying fields are ensured.
Technical Barriers to Trade (TBT) Sanitary and Phytosanitary Measures (SPS)	・ Based on TBT/SPS agreements of the WTO, the rules are stipulated in the same way as FTAs that have been signed by the EU in recent years. ・ Establish a framework to approve the equivalence of both mandatory standards and SPS measures.	・ Develop more sophisticated rules based on WTO TBT/SPS agreements.
Services		
Overall	・ Promote mutually balanced liberalization in a number of fields. ・ Insert a Most Favored Nation Treatment clause to ensure that both markets are always the most open. (Note 2))	・ Aim for liberalization beyond the level of the WTO, taking into account the existing FTAs of the EU. ・ In a number of areas, the aim is to eliminate virtually all discriminatory measures. On the other hand, exceptions and restrictions, such as exemptions from public services, will be properly secured.
Financial services	Conduct appropriate consultations for regulatory cooperation. Appropriate consultations and procedures will be followed when the equivalence recognition of financial licensing is withdrawn.	・ The evaluation of equivalence in the UK's financial licensing is determined by the EU's unilateral judgement.

Note: 1) The parts in bold indicate areas where differences in negotiation policies are observed. 2) However, the United Kingdom, in its draft agreement, puts on hold the inclusion of the most favoured nation treatment clause in the services and investment area.
Source: European Commission and the UK Government

The EU pushes forward a rule-oriented trade policy

- The European Commission, with the new Commission President Ursula von der Leyen, calls for strengthening rule-based *multilateral* arrangements through WTO reforms. The Commission also takes a proactive stance toward building rule-based trade relations at the *bilateral* level, by easing the requirement for implementing countermeasures and monitoring the enforcement of FTA rules by counterparties.
- The EU, under the approval of the WTO, is expected to impose additional tariffs on the US due to a dispute involving subsidies for large aircraft that began in 2004 with the US. Both sides are to start negotiations on new trade agreements, but if the EU implements countermeasures, this could have a significant impact on the progress of the negotiation.

EU's basic trade policies

Item	Summary
Strengthening the rule-based multilateral trading system	
WTO reform	EU will lead WTO reforms, including on subsidies, mandatory technology transfer, and dispute resolution systems, with a view to reaching a comprehensive agreement by 2022.
E-commerce negotiations	Accelerate e-commerce negotiations in the WTO to further promote the use of data.
Addressing unfair trade practices and defending strategic assets and technology	
Strengthening countermeasures	Relax the conditions for EU countermeasures against WTO members and FTA partners that do not comply with dispute resolution procedures.
Strengthening investment screening	Balance the liberalization of foreign investment through the operation of the investment screening system. It also encourages all member states to adopt the system and strengthens the operational structure of the investment screening system among member states.
Sustainable development and climate change measures	
Strengthening monitoring for the implementation of FTA rules	In order to promote compliance by partner countries with the rules regarding the environment and worker rights stipulated in the current FTAs, a new Chief Trade Enforcement Officer shall be appointed to monitor the implementation of the rules.
Introduction of a carbon border adjustment mechanism	Draft a carbon border adjustment mechanism consistent with the WTO Agreement by 2021.

Source: European Commission

disputes over subsidy for large civil aircrafts between the US and the EU in the WTO

Date	U.S → EU (DS316)
Oct. 2004	The US requests consultations with the EU.
Jun. 2010	The Panel identifies a breach of the subsidy agreement by the EU.
May 2011	The Appellate Body finds violations of the subsidy agreement by the EU.
Jul. 2018	The US applies to the WTO arbitral tribunal (DSB 22. 6) for approval of countermeasures.
Apr. 2019	The US releases a list of provisional items eligible for additional tariff measures against the EU.
Oct. 2019	The arbitral tribunal approves an additional tariff charge equivalent to $7.5 billion. The US begins imposing additional tariffs of 10% on large commercial aircraft from the EU and 25% on EU products such as wine and cheese.
Dec. 2019	Concerning the measures implemented by the EU following the recommendation of the original decision, the Panel (Article 21.5) identifies it to be inadequate again.
Mar. 2020	The US increases tariffs on large commercial aircraft to 15%. In addition, the list of EU products subject to an additional 25% tariff is partially changed.

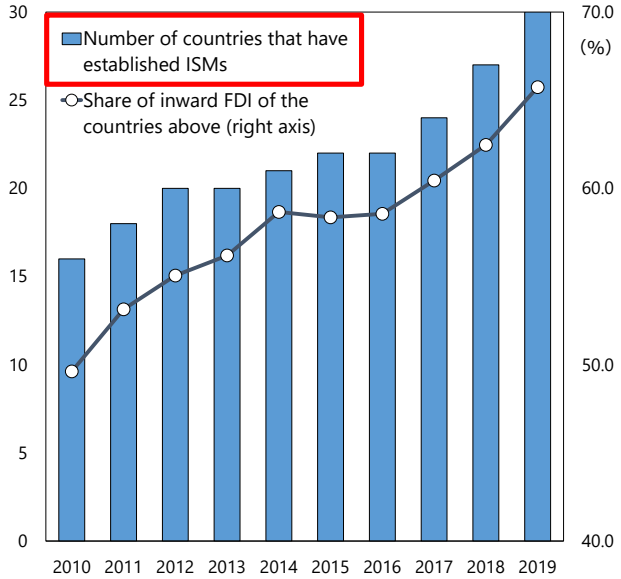
Date	EU → U.S (DS353)
Jun. 2005	The EU requests consultations with the US.
Mar. 2011	The Panel identifies a breach of the subsidy agreement by the US.
Mar. 2012	The Appellate Body finds violation of the subsidy agreement by the US.
Apr. 2019	The EU releases a list of provisional items eligible for additional tariff measures against the US.
Jun. 2019	The EU applies to the WTO arbitral tribunal (DSB 22. 6) for approval of countermeasures.
Second half of 2020	The arbitral tribunal is expected to approve countermeasures by the EU.

Note: Shaded areas indicate where countermeasures have been or are expected to be implemented.
Source: WTO, "Biznews" (JETRO)

Growing presence of FDI screening mechanisms

- Foreign direct investment screening mechanisms ("ISMs") continue to gain popularity as governments perceive greater national security and public order risks. As of the end of 2019, at least 30 countries have introduced ISMs. As these countries account for more than 60% of global inward FDI stock, trends related to ISMs will have a large impact on the world's inward FDI.
- Under ISMs, countries can secure policy discretion and exclude inward foreign investments which could pose national security threats, while maintaining the openness to foreign investors. On the other hand, it is concerned that the reinforcement of ISMs could lower certainty and predictability for foreign investors.

Number of countries that have established ISMs



Note: 1) The number of subject countries is calculated based on reports by UNCTAD and the European Comission. 2) In Belgium, only the Government of Flanders has established the mechanism.
Source: UNCTAD; Euroepan Comission

Overview of ISMs in major countries

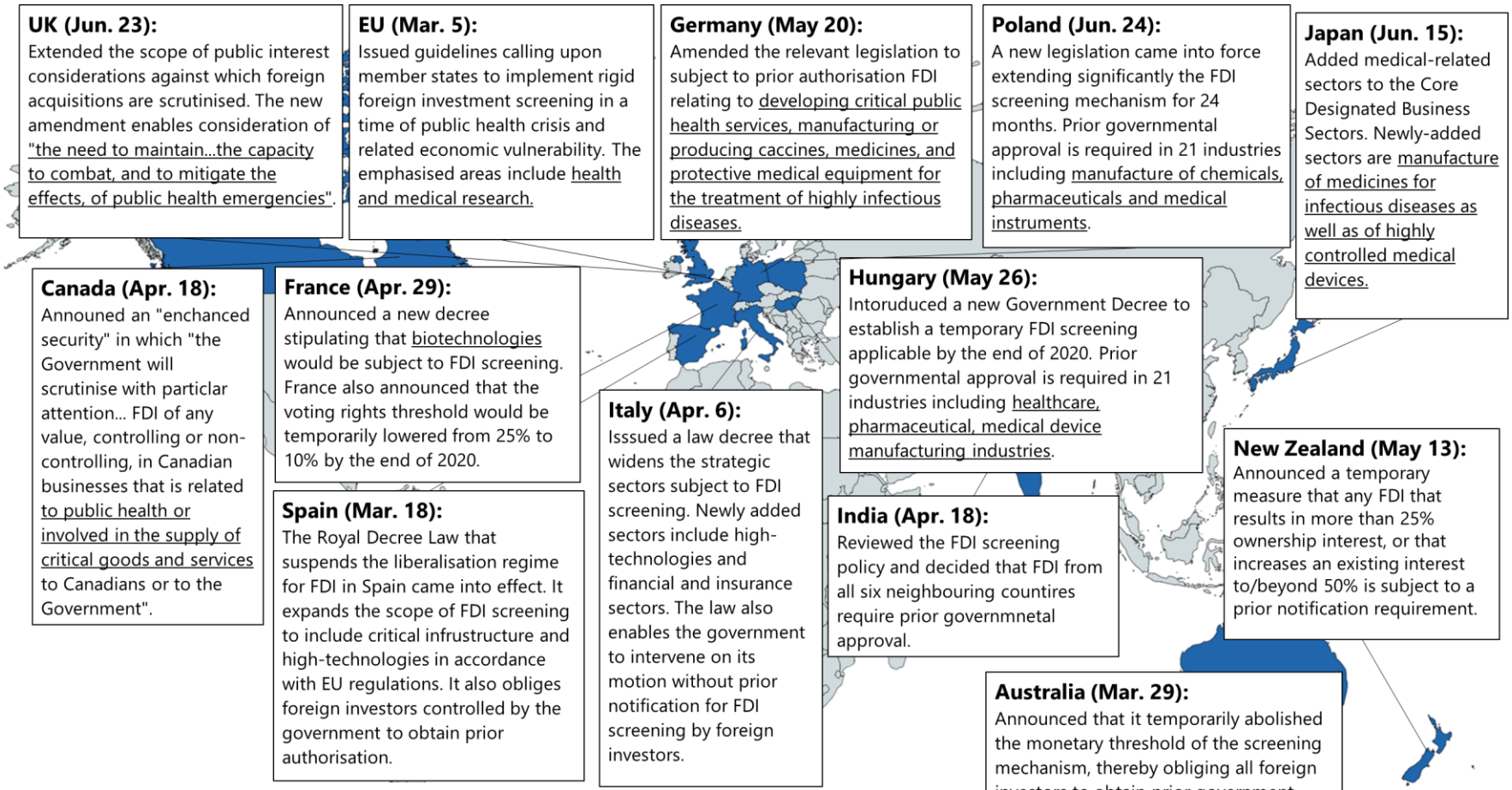
Country	Aplicable laws (illustrative)	Responsible authorities	Targeted investment	
			Sector-specific	Ownership threshold[*2]
Australia	Foreign Acquisitions and Takeover Act 1975	FIRB		5%
China	Anti-Monopoly Law	NDRC		50%
France	Financial and Monetary Code	Ministry for the Economy	○	25%
Germany	Foreign Trade and Payments Act	Federal Ministry for Economic Affairs and Energy	○[*1]	10%
Italy	Law of 11 May 2012	DICA	○	3%
Japan	Foreign Exchange and Foreign Trade Act	Ministry of Finance, other relevant Ministries	○	1%
Russia	Federal Law No. 57-FZ	FAS	○	50%
United States	Foreign Investment Risk Review Modernization Act of 2018	CFIUS		n/a

Note: 1) Germany established both sector-specific and cross-sectoral ISMs. 2) Ownership threshold represents the minimum figure in each jurisdiction when the threshold varies depending on sectors. 3) The description does not reflect temporary changes of the ISMs in response to the COVID-19 outbreak.
Source: "Investment Policy Related to National Security: A Survey of Country Practices" (UNCTAD) and relevant legislation in subject countries

ISMs further reinforced amid the COVID-19 outbreak

- Amid the outbreak of COVID-19, many governments have strengthened implementation of ISMs since March 2019. In so doing, they aim to tighten their supervision over inward FDI in medical-related sectors and safeguard domestic companies whose value have fallen from opportunistic takeovers.

Reinforcement of ISMs in context of outbreak of COVID-19 (as of June 2020)



Note: 1) Dates show when announcements were made and/or when application of new measures started. 2) The description of each measure is based on the publically available information as of June 2019.
Source: "Investment Policy Hub"(UNCTAD), "BIZnews" (JETRO)

Although the WTO has achieved a certain level of success over the past 25 years, the need to restore the functions of the Appellate Body is urgent

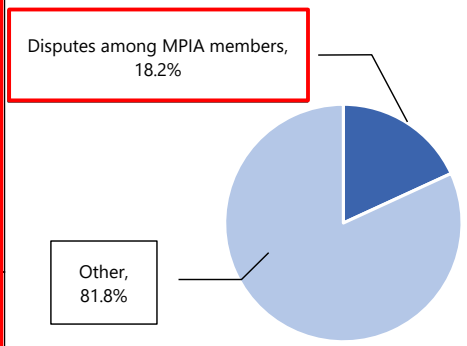
- While the decline in the function of the WTO as the foundation of the multilateral trading system has been pointed out for some time, discussions are being held toward reform by, for example, addressing modern problems such as the development of digital trade and reviewing existing systems. Enforcement of discipline is supported by Dispute Settlement Body, a judicial function. Efforts to improve judicial functions are an urgent issue.
- 19 WTO members, including the EU and China, officially informed the WTO in April 2020 of the establishment of a "multi-party interim appeal arbitration arrangement." Although this is regarded as a temporary measure until the WTO Appellate Body restores its normal functions, it is important that the reforms to the dispute resolution system be implemented quickly and in a lasting manner.

Issues and future direction of WTO functions

Item / Functions	Purpose	Major results, etc. in the past	Main issues	Future direction
Legislation	Multilateral trade rule formation and trade liberalization negotiations	・Protocol Amending the Agreement on Government Procurement (GPA): Effective from 2014 ・Information Technology Agreement (ITA) Expansion negotiations: Concluded in 2015 ・Protocol Amending the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS): Effective from 2017 ・Trade Facilitation Agreement (TFA): Effective from 2017	Difficult to develop new rules by unanimous consensus of all members ※ Fishery subsidies will be negotiated on a multilateral basis by all members	Formulation of rules in new fields by some members (e.g. e-commerce, investment facilitation, etc.)
Monitoring	Deterrence of protectionist measures by investigating and publishing the status of implementation of the current trade rules	・Obligation to notify under each agreement ※ Reports related to COVID-19: 186 (As of June 29, 2020) ・Discussions at Council and Committee by sector ・Trade Policy Review Mechanism (TPRM) ・Joint monitoring report by WTO, UNCTAD and OECD	Existence of members who do not comply with existing rules, such as non-notyfying of subsidies, etc.	Establishment of more effective monitoring function (promotion of concrete measures such as reform of notification and regular committees)
Judiciary	Judicial resolution of trade disputes and ensuring implementation	・Requests for consultations: 595 ・Establishment of panels: 297 ・Panel reports circulated: 211 ・Appellate Body reports circulated: 124 ・Appellate Body reports adopted: 123 (As of the end of June 2020)	Judicial review by the Appellate Body (hereinafter referred to as the AB). The US regards the AB actions as a matter of concern and prevents from appointing the AB members. The AB ceased to function in December 2019 (panel procedures, etc. remain).	Maintenance and optimization of dispute settlement functions involving the US

Source: Various materials such as the WTO website

Dispute case between members of the interim appeal arbitration arrangement among past disputes



Note: 1) 595 cases as of the end of June 2020 were covered.
2) MPIA is "a multi-party interim appeal arbitration arrangement under Article 25 of the DSU". 22 participating members as of the end of June were targeted.
3) If all complaints, non-filing countries and regions are not affiliated to MPIA, they are considered to be "Other".
4) Projects in the EC and EU countries are handled by the EU.

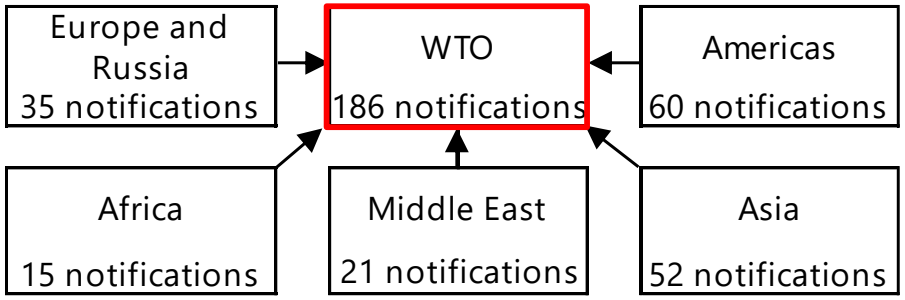
Source: WTO website and "Report on Compliance by Majaor Trading partners with Trade Agreements" (METI)

WTO's monitoring functions being reassessed during COVID-19 pandemic

- Countries and regions are implementing trade-related measures due to the global outbreak of COVID-19. The WTO compiles these actions (186 as of June 29, 2020) and publishes them on its website. Leaders of each country/region reaffirmed their support for the rules-based multilateral trading system and for the central role of the WTO.
- COVID-19 has triggered actions in public health and intellectual property rights such as compulsory licensing (see *Note*). As of June 2020, there were no decisive drugs or vaccines for treatment, but balance between patent rights and corporate profits is being sought.

Note: The government shall grant third parties the right to exploit the patented invention without the consent of the patent holder.

Notifications on COVID-19



Note: 1) Regional classification was basically in accordance with the WTO.
2) The EU is classified as "Europe/Russia".
3) Due to the lack of regional allocation of notifications, the calculation does not match the total.

Source: "WTO Members' Notifications on COVID-19, as of June 29, 2020" (WTO).

Major intellectual property rights-related actions with the spread of COVID-19

Country	Date	Summary
Chile	Mar. 17	The Chamber of Deputies of Chile has approved a resolution on the grant of compulsory licensing referred to in Article 51, No. 2 of the Industrial Property Law in order to facilitate access to and use of medical products and technologies for prevention and treatment of new coronavirus infection (hereinafter referred to as the "COVID-19").
Israel	Mar. 18	Permitted to import from India the generic drug of Kaletra from AbbVie Inc. of the U.S. based on the Patent Law (use of inventions in the interest of the state).
Canada	Mar. 25	The act concerning measures against COVID-19 came into effect. Allow to make, construct, use and sell a patented invention to the extent necessary to respond to public health emergency.
Germany	Mar. 27	The Infectious Disease Protection Act was revised and enforced. Allow the use of pharmaceutical and medical device inventions for public welfare and the safety of the Federal Republic of Germany under Article 13(1) of the Patent Law.
Hungary	May 17	The Government Decree on Compulsory Licensing was enforced under Article 31 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). Allow the Hungarian Intellectual Property Office to grant compulsory licensing related to public health.

Source: Chamber of Deputies of Chile, the Canadian Department of Justice, the Federal Ministry of Justice and Consumer Protection of Germany, and the WTO website

Shifts in effective FTA coverage varies by country and region

- 9 Free Trade Agreements (FTAs) newly came into effect in 2019. And the total number of FTAs in the world reached 321 force as of June 2020 (including customs unions and preferential trade agreements, JETRO survey).
- Looking at the effective FTA coverage ratios of each country and region, those for Japan, China, Korea, and the EU have continued to rise over the past decade. Meanwhile, ratios for ASEAN and the US remained almost flat due to the limited number of new agreements. In ASEAN, member states have accelerated efforts to form FTAs independently, and Singapore's effective FTA coverage ratio exceeded 90 percent.

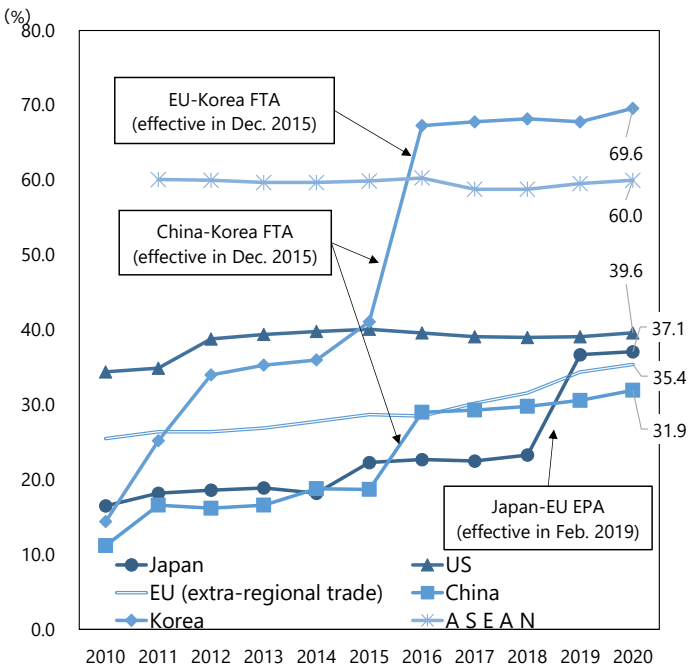
Effective FTA coverage ratio of major countries/regions

(Unit: %)

	FTA coverage			Effective countries and regions (Two-way)					
	Two-way	Export	Import	1st		2d		3rd	
Japan	37.1	34.4	39.6	ASEAN	15.0	EU	12.0	TPP11	11.9
US	39.6	46.6	35.0	NAFTA	29.6	Korea	3.2	CAFTA-DR	1.4
Canada	84.2	89.6	79.2	NAFTA	66.3	EU	10.7	TPP11	7.7
Mexico	79.6	93.4	66.4	NAFTA	65.0	EU	8.3	TPP11	6.3
Chile	84.3	85.8	82.7	China	27.3	United States	16.7	EU	13.9
Brazil	14.7	13.4	16.5	MERCOSUR	8.8	CAN	3.0	Chile	2.1
EU Total trade	76.3	77.2	75.3	EU	63.2	Switzerland	2.6	Turkey	1.4
EU Extra-regional	35.4	37.8	33.1	Switzerland	7.1	Turkey	3.7	Japan	3.4
Turkey	49.6	57.7	42.7	EU	41.3	Korea	1.7	Israel	1.6
China	31.9	25.1	40.2	ASEAN	14.1	Korea	6.2	Taiwan	5.0
Korea	69.6	73.9	65.0	China	23.3	ASEAN	14.5	US	12.9
ASEAN	60.0	56.5	63.6	ASEAN	23.3	China	17.5	Japan	8.2
Singapore	91.1	84.8	94.3	ASEAN	24.1	China	13.7	EU	12.1
Malaysia	62.3	61.4	63.3	ASEAN	26.7	China	17.2	Japan	7.0
Vietnam	62.8	48.6	75.7	China	19.1	Korea	15.2	TPP11	13.4
Thailand	60.5	57.3	63.8	ASEAN	23.1	China	16.5	Japan	12.0
Indonesia	67.1	64.2	69.8	ASEAN	24.0	China	21.6	Japan	9.3
India	17.2	16.0	17.9	ASEAN	11.2	Korea	2.6	Japan	2.2
Australia	75.4	79.1	70.6	China	32.6	TPP11	19.9	ASEAN	12.9
New Zealand	63.3	67.2	59.6	TPP11	24.9	China	24.1	Australia	13.0

Note: 1) FTA coverage ratio is the ratio of trade with countries and regions where FTAs have already been in effect, as of the end of June of each year. The trade amount is based on the trade statistics for 2019. 2) Abbreviations ;Andean Community (CAN), Central America-Dominican Republic Free Trade Agreement (CAFTA-DR), and European Economic Areas (EEAs). 3) Japan's coverage ratio does not include the US. 4) China's coverage ratio does not include Hong Kong and Macao. 5) ASEAN coverage ratio does not include Hong Kong. 6) Figures for Canada and Singapore are based on export statistics excluding re-exports. 7) TPP11 include only ratifiers in the coverage ratio.
Source: Documents and trade statistics of each government, and "DOTS (edition of June 26, 2020)" by the IMF.

Effective FTA coverage ratios in major country/region (June 2010 - June 2020)



Note: 1) Effective FTA coverage ratio is the ratio of trade with countries and regions where FTAs have already been in effect, as of the end of June of each year. 2) The trade amount is based on the statistics of the previous year. 3) Japan's coverage ratio does not include US. 4) ASEAN's coverage ratio was calculated based on the ASEAN Trade In Goods Agreement (ATIGA) and ASEAN+1. However, Hong Kong is not included.
Source: Documents and trade statistics of each government, and "DOTS (edition of June 26, 2020)" by the IMF.

Increasing presence of Japanese products in FTA partner imports

- Within the TPP-11, Canada and New Zealand, which are new FTA partners for Japan, have many products for which import duties of about 5-10% were immediately eliminated, and the import share of Japanese goods expanded for several industrial products.
- One year after the Japan-EU EPA came into force, the ratio of the imports utilizing EPA to the EU's imports of EPA-eligible goods was 41.1%. Exports from Japan increased for several products, and progress was made in improving operations through joint committees and field-specific, specialized committees.

Products which Japan's share expanded in Canada's import after TPP11 took effect (2019)

(Unit: %)

Product	Increase of import value (year-on-year)	Tariff rate		Share of Japanese products in Canada's import	
		MFN	TPP11	2018 →	2019
Spanners, wrenches	82 (times)	7.0	Eliminated immediately	0.3 →	**20.3**
Nickel, hydrogen storage cells	184.2	7.0		86.4 →	**94.1**
Car parts	150.1	8.5		2.1 →	**5.2**
Radiators and parts	121.5	6.0		1.8 →	**4.4**
Wheels and axles for railway	65.1	9.5		3.2 →	**5.1**

Note: 1) Among products of which imports from Japan have increased after the TPP11 came into effect, those which have been imported for more than 10 million USD and are subject to tariff reduction or elimination are listed in the descending order of growth. 2) While the tariff schedule is based on the eight-digit HS code, the trade amount was extracted on a six-digit basis due to statistical restrictions. The tariff rate is in the highest tax rate within the first six digits.

Utilization of the Japan-EU EPA by product (February 2019-January 2020)

(Unit: Million euros)

Products	Import amount (A) of eligible products	Year-on-year (times)	Amount of imports using Japan-EU EPA (B)	B/A×100 (%)
Total of industrial products	33,344	10.9	13,648	**40.9**
Vehicles and parts	11,498	12.0	5,154	**44.8**
General machinery	8,171	10.3	3,208	**39.3**
Electrical machinery	4,091	9.7	1,282	**31.3**
Plastics and articles	1,425	10.8	802	**56.3**
Rubber and articles	788	10.0	414	**52.6**
Organic chemicals	1,574	10.7	324	**20.6**
Agricultural, forestry and fishery products and food	282	11.2	156	**55.1**
Prepared food	98	11.0	56	**57.4**
Fish and crustaceans	28	9.7	23	**81.2**
Meat	19	32.0	18	**92.2**
Beverages, spirits and vinegar	26	10.0	14	**51.7**
Preparation of vegetables and fruit	18	11.2	12	**65.7**
Animal or vegetable fats and oils	19	11.8	11	**57.3**
Total	33,626	10.9	13,804	**41.1**

Note: Eligible products refer to those subject to MFN duties.
Source: Eurostat

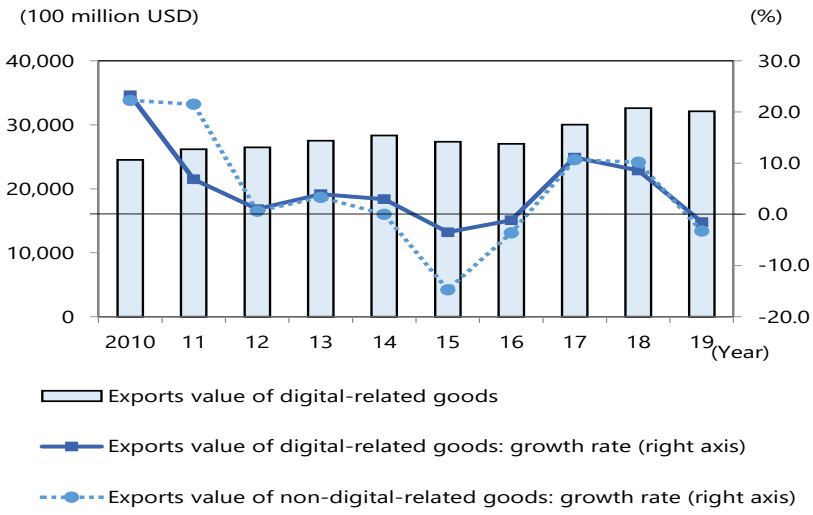
Chapter 4

Digital trade

Trade in digital-related goods in 2019 declined for the first time in 3 years

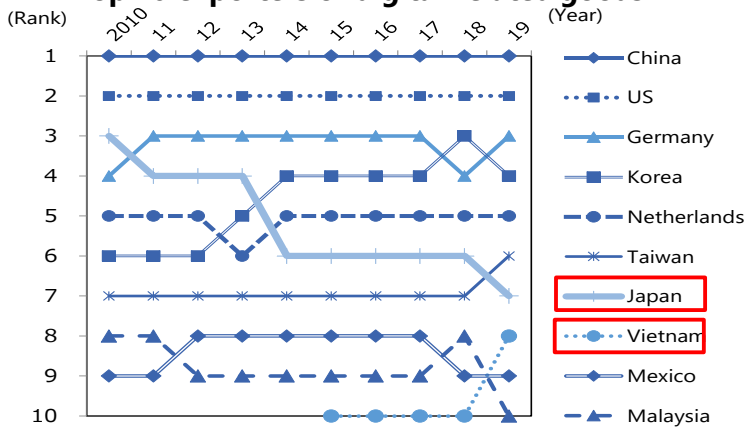
- In 2019, world trade in digital-related goods (JETRO estimate, export basis) decreased by 1.5% from the previous year to $3.2105 trillion. This downturn, the first in three years, was caused by some digital-related goods being subject to additional tariffs between the US and China and slower trade in semiconductor products.
- Looking at changes in the ranking of the top countries and regions in terms of exports over the past decade, China has maintained its top position, and the US has maintained its second place. Vietnam has greatly increased its ranking over the past decade. Japan's ranking has been declining for the past ten years.

Global trade in digital-related goods (export basis)



Note: 1) JETRO estimates (see Appended Notes 1 and 2 for estimation methods and product classifications) 2) The exports value of non-digital-related goods is the total world export value minus the exports value of digital-related goods.
Source: Trade statistics of respective country/region

Top 10 exporters of digital-related goods



Note:1) Ranking for Vietnam and Mexico in 2019 is calculated based on estimates. 2) Hong Kong, where there are many re-exports, is not included. Singapore is not shown in this figure because its value excluding re-exports has been assessed. 3) From 2010 to 2014, Vietnam ranked 33 in 2010, 27 in 2011, 18 in 2012, and 14 in 2013 and 2014.
Source: Trade statistics of respective country/region

Top 10 digital-related goods trading countries (2019)

(Unit: 100 million USD, %)

Rank	Export					Import				
	2019				2010	2019				2010
	Country/ region	Value	Share	Growth rate	Share	Country/ region	Value	Share	Growth rate	Share
	World	32,105	100.0	-1.5	100.0	World	34,019	100.0	-3.4	100.0
1	China	8,007	24.9	-1.2	21.7	China	5,956	17.5	-4.5	14.2
2	US	2,540	7.9	-3.1	9.2	US	4,639	13.6	-4.6	14.1
3	Germany	1,779	5.5	-4.3	6.3	Germany	1,637	4.8	-5.8	5.9
4	Korea	1,658	5.2	-15.4	4.7	Netherlands	1,451	4.3	0.7	4.0
5	Netherlands	1,564	4.9	-3.7	5.0	Japan	1,251	3.7	-2.5	4.2
6	Taiwan	1,527	4.8	6.9	4.0	Singapore	1,209	3.6	-3.0	4.1
7	Japan	1,393	4.3	-5.4	6.7	Korea	1,113	3.3	-3.4	3.0
8	Vietnam	1,200	3.7	37.6	0.3	Taiwan	1,100	3.2	13.4	2.8
9	Mexico	1,032	3.2	10.2	3.1	Mexico	843	2.5	-13.8	2.9
10	Malaysia	953	3.0	-4.4	3.2	UK	794	2.3	-6.1	3.1

Note:1) Figures for the world, Vietnam, and Mexico are estimates. 2) Hong Kong, where there are many re-exports, is not included. Singapore's exports are calculated after excluding re-exports.
Source: Trade statistics of respective country/region

Trade share of communication equipment and electronic components including semiconductors increased over the past decade

- Looking at trade in digital-related goods by products, computers and peripheral equipment etc. as well as video equipment, which were subject to the US-China additional tariffs, have recently contributed to the slowdown. China, which has the largest share, has seen decreased exports of both products. The slowdown in Chinese exports of communication equipment was also noticeable as it accounted for 40% of the global export share.
- Conversely, looking at long-term trends, the share of communication equipment, semiconductors and electronic components, and measuring and testing equipment in world trade has particularly increased over the past ten years. Among the top exporting countries, China's share of all these products increased.

World trade in digital-related goods (export basis, 2019)

(Unit: 100 million USD, %)

	2019				2010	2010-2019
	Value	Share	Growth rate	Contribution	Share	CAGR
Computer and peripheral equipment, etc.	5,718	17.8	-5.8	-1.1	22.9	0.2
Computer and peripheral equipment	3,646	11.4	-3.7	-0.4	12.7	1.8
Computer parts	1,283	4.0	-10.5	-0.5	6.0	-1.6
Office equipment	115	0.4	8.9	0.0	0.4	0.8
Communication equipment	5,891	18.3	-3.1	-0.6	14.3	5.9
Cellular phones	2,602	8.1	-8.0	-0.7	5.6	7.3
Semiconductors and electronic components	8,353	26.0	1.2	0.3	22.3	4.8
Electron tubes and semiconductors	1,158	3.6	1.0	0.0	5.4	-1.6
Integrated circuits	7,195	22.4	1.2	0.3	16.9	6.4
Other electronic components	4,781	14.9	-1.3	-0.2	16.8	1.7
Video equipment	1,191	3.7	-7.4	-0.3	5.9	-2.1
Audio equipment	166	0.5	-1.1	0.0	0.8	-2.4
Measuring and testing equipment	2,749	8.6	1.1	0.1	7.6	4.5
Medical electronic equipment	1,282	4.0	8.1	0.3	3.7	4.0
Semiconductor manufacturing equipment	802	2.5	-6.7	-0.2	2.1	5.0
Industrial robots	55	0.2	-9.8	0.0	0.1	6.9
3D printers, etc.	66	0.2	-3.1	0.0	0.2	4.5
Drones	928	2.9	5.7	0.2	2.9	3.2
Radio remote control equi	40	0.1	3.2	0.0	0.1	8.4
Aero-photography unman	353	1.1	-2.8	0.0	1.7	-1.7
Small unmanned aerial veh	535	1.7	12.4	0.2	1.1	8.0
Digital-related goods: parts	17,101	53.3	-0.8	-0.4	53.9	2.9
Digital-related goods: final goods	14,997	46.7	-2.2	-1.0	46.0	3.2
Digital-related goods total	32,105	100.0	-1.5	-1.5	100.0	3.0

Note : 1) JETRO estimates (see Appended Note 2 for the estimation method). 2) See Appended Note 1 for product classification. 3) The drone is defined by JETRO because the HS code is not accurately specified. It may include products other than drones. 4) Shaded items show an increase in their share compared to 2010.

Source : Trade statistics of respective country/region

Products and Top 5 exporting countries/regions with increased share of world digital-related goods Trade (2019)

(Unit: 100 million USD, %)

Product	Rank	2019				2010	2010-2019
		Country/region	Value	Share	Growth rate	Share	CAGR
Communication equipment	1	China	2,264	38.4	-6.8	30.9	8.5
	2	Vietnam	574	9.8	6.6	0.6	44.7
	3	Netherlands	367	6.2	-10.6	6.5	5.4
	4	US	338	5.7	-3.8	7.1	3.4
	5	Korea	183	3.1	24.0	7.4	-3.8
Semiconductors and electronic components	1	China	1,369	16.4	20.3	11.4	9.2
	2	Taiwan	970	11.6	3.9	10.2	6.3
	3	Korea	843	10.1	-27.2	7.9	7.7
	4	Malaysia	535	6.4	-1.9	5.6	6.5
	5	US	471	5.6	3.4	8.7	-0.1
Measuring and testing equipment	1	Germany	433	15.7	-2.7	16.1	4.2
	2	US	389	14.2	-1.5	17.4	2.1
	3	China	334	12.2	8.8	8.1	9.3
	4	Japan	236	8.6	-3.1	10.8	1.8
	5	UK	120	4.4	5.4	5.1	2.6

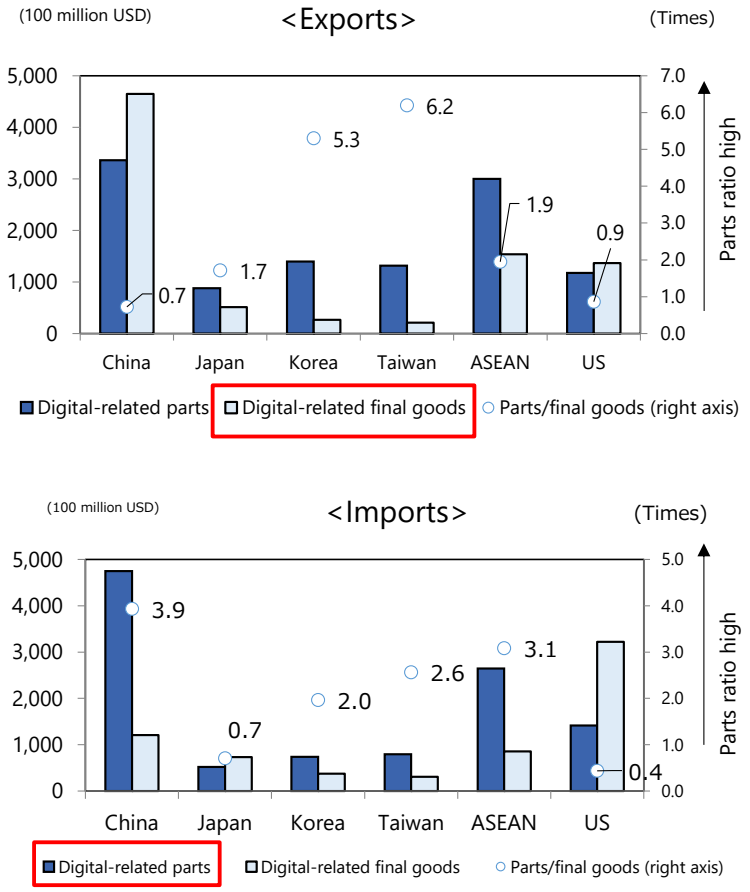
Note : 1) The trade value for Vietnam in 2019 is JETRO estimates. 2) The share is the share of each product in the world export value. 2) Listed only the top 5 countries/regions by value of exports in 2019. 3) Hong Kong, where there are many re-exports, is not included. Singapore is valued at the amount excluding re-exports. 4) Average growth rates (CAGR) are figures for 2010-2019. 5) The shaded area indicates an increase in the share of world exports in 2019 compared to 2010.

Source : Trade statistics of respective country/region

China becomes a production base for digital-related goods in Asia

- In the digital-related goods trade, China has become the world's largest production base importing the most parts and producing the most final goods.
- Looking at the trade matrix of digital-related parts, China procures most of them from East Asia including Korea, Taiwan, Japan, and ASEAN. The share of intra-East Asian trade in the world trade in digital-related parts increased to 57.3% in 2019, and a production network centered in China has been formed.

Exports and imports of digital-related parts and final goods in each country and region (2019)



Note: The trade value of ASEAN (the total of 10 member countries) is estimates.
Source: Trade statistics of respective country/region

World trade matrix of digital-related parts (2019, share of world trade)

(Unit: %)

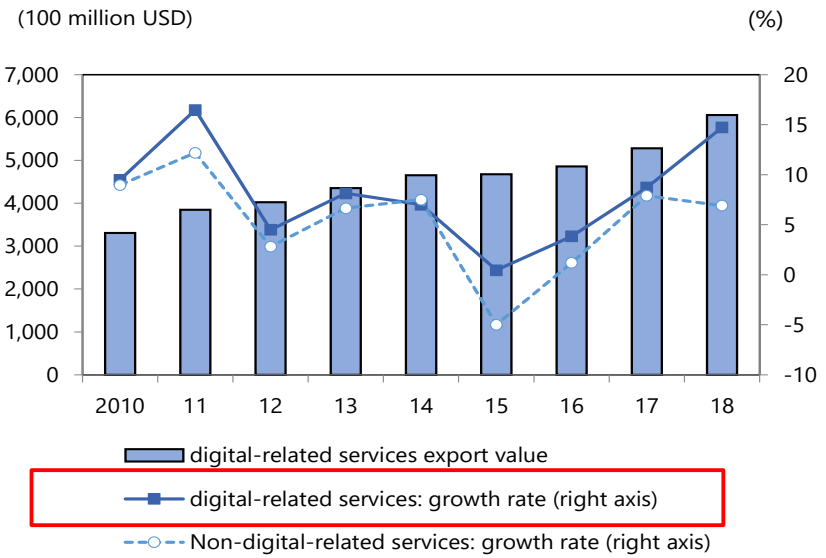
Import / Export	World	Asia	East Asia	Japan	China	Hong Kong	Korea	Taiwan	ASEAN	NAFTA	US	Europe	EU	Germany	Other regions
World	100.0	**66.4**	**64.2**	2.8	**24.6**	**14.3**	**4.1**	**4.6**	**13.8**	11.8	7.9	17.6	16.3	4.0	4.2
Asia	**74.0**	**59.4**	**57.4**	2.4	**22.3**	**13.6**	**3.5**	**3.5**	**12.2**	6.6	5.5	5.9	5.4	1.5	2.2
East Asia	**73.7**	**59.3**	**57.3**	2.4	**22.2**	**13.5**	**3.5**	**3.5**	**12.2**	6.5	5.4	5.8	5.4	1.5	2.1
Japan	5.1	3.8	3.8		1.2	0.7	0.3	0.5	1.0	0.7	0.6	0.5	0.5	0.2	0.1
China	**19.6**	**14.1**	**13.2**	0.7		**6.3**	**1.6**	**1.3**	**3.4**	2.0	1.5	2.3	2.1	0.4	1.2
Hong Kong	**15.5**	**14.0**	**13.5**	0.2	**11.7**		0.2	**0.4**	**0.9**	**0.7**	0.5	0.6	0.6	0.2	0.2
Korea	**8.2**	**7.0**	**6.8**	0.1	**3.0**	**1.4**		0.3	**1.9**	**0.7**	**0.6**	0.3	0.3	0.1	0.2
Taiwan	**7.7**	**6.6**	**6.6**	0.5	**2.5**	**1.7**	0.5		**1.4**	**0.6**	**0.5**	0.4	0.4	0.1	0.1
ASEAN	**17.5**	**13.7**	**13.4**	0.8	**3.7**	**3.5**	0.8	**1.0**	3.5	**1.9**	**1.7**	1.6	1.5	0.5	0.4
NAFTA	8.7	3.3	3.2	0.2	**1.0**	**0.5**	**0.4**	0.3	0.9	3.7	1.1	1.1	1.0	0.3	0.6
US	6.9	2.8	2.8	0.2	0.8	0.3	0.3	0.3	0.8	2.5		0.9	0.9	0.2	0.6
Europe	15.7	2.8	**2.6**	0.1	**1.2**	0.2	0.2	**0.2**	0.6	1.3	1.1	10.4	9.6	2.2	1.2
EU	15.1	2.7	**2.5**	0.1	**1.2**	0.2	0.2	**0.2**	0.6	1.2	1.1	10.0	9.2	2.1	1.1
Germany	4.5	1.0	**1.0**	0.1	**0.5**	0.1	0.1	**0.1**	0.2	0.4	0.3	2.8	2.6		0.3
Other region	1.5	0.9	0.9	0.0	0.1	0.0	0.1	0.5	0.1	0.2	0.2	0.3	0.2	0.0	0.2

Note:1) Chart was created on an export basis. 2) East Asia is the sum of Japan, China, Korea, Taiwan, Hong Kong, Macau, and ASEAN, and ASEAN is 10 countries. Figures for Hong Kong and Singapore include re-exports. The EU includes intra-regional trade. 3) Other regions include Oceania, Central and South America, the Middle East, and Africa. 4) Shaded areas are countries and regions with a global share of 10% or more (excluding other regions). 5) The figures in bold indicate countries and regions where global share increased compared to 2010 (excluding other regions). 6) Figures for the world, Asia, East Asia, ASEAN, NAFTA, Europe, EU, and other regions are estimates.
Source: Trade statistics of respective country/region

Trade in digital-related services in 2018 reached a record high

- In 2018, the trade in digital-related services (telecommunications, computer and information services, exports basis) recorded a 14.7% increase from the previous year to $606.1 billion and a growth rate surpassing non-digital services (increased by 6.9%). The value of trade in digital-related services has continued to increase since 2010, and the value of trade in 2018 reached its highest level since 2005 when the first data became available.
- In 2018, Ireland was the top exporter of digital-related services followed by India and China. In Ireland, major global digital companies who have set up offices in the country based on its advantageous financial system seem to have contributed to the increase in exports. India maintained its position as the second-largest exporter after Ireland with exports driven by software development, etc.

Trends in the world's digital-related services trade (export basis)



Note: Digital services include communications, computer and information services. Exports of non-digital-related services are the total value of exports of services minus exports of digital-related services.
Source: WTO data

World's top 10 digital-related services trade share and regions (2018)

(Unit: 100 million USD, %)

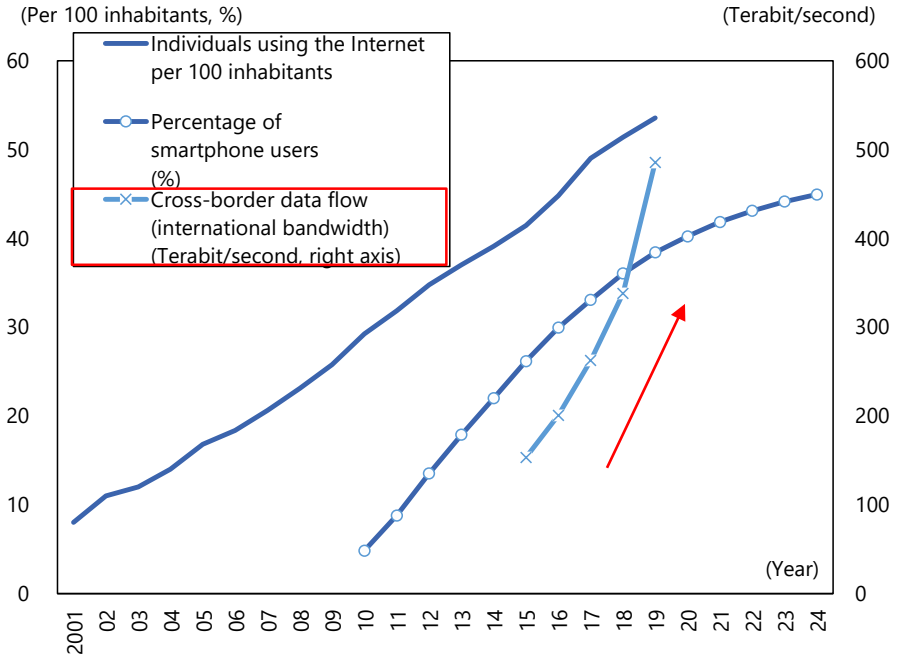
	Rank	Trade in digital-related services					
		Country /region	2018 Value	2018 Share	2018 Growth rate	2010 Share	2010-2018 CAGR
Export		World	6,061	100.0	14.73	100.0	7.9
	1	Ireland	1,011	16.7	28.31	11.3	13.2
	2	India	582	9.6	7.11	12.3	4.6
	3	China	471	7.8	69.47	3.2	20.7
	4	US	440	7.3	4.12	7.6	7.3
	5	Germany	408	6.7	9.52	6.3	8.8
	6	UK	281	4.6	8.16	5.7	5.1
	7	Netherlands	272	4.5	8.46	n.a.	n.a.
	8	France	207	3.4	12.99	4.3	4.9
	9	Sweden	150	2.5	5.39	2.6	7.0
	10	Israel	144	2.4	17.61	1.3	15.9
	26	(Reference) Japan	46	0.8	-9.64	0.5	12.5
Import	1	US	404		0.91		4.2
	2	Germany	366		8.90		7.9
	3	China	238		23.96		24.6
	4	France	203		9.52		5.5
	5	Netherlands	181		12.14		n.a.
	6	UK	164		10.69		2.5
	7	Switzerland	159		-5.87		5.7
	8	Japan	155		9.30		16.4
	9	Singapore	150		3.50		21.1
	10	Belgium	106		11.27		8.1

Note :1) Since the world total for imports has not been announced, the composition ratio is not calculated. 2) For Netherlands, as data for 2010 are not available, composition ratio and CAGR for 2010 are not calculated. 3) Ranking is evaluated only for countries and regions for which data can be obtained. 4) Shaded figures indicate that the growth rate of exports and imports in 2018 exceeded the average growth rate (CAGR) from 2010 to 2019 (excluding the Netherlands).
Source : WTO data

Cross-border data flow more than tripled in 4 years

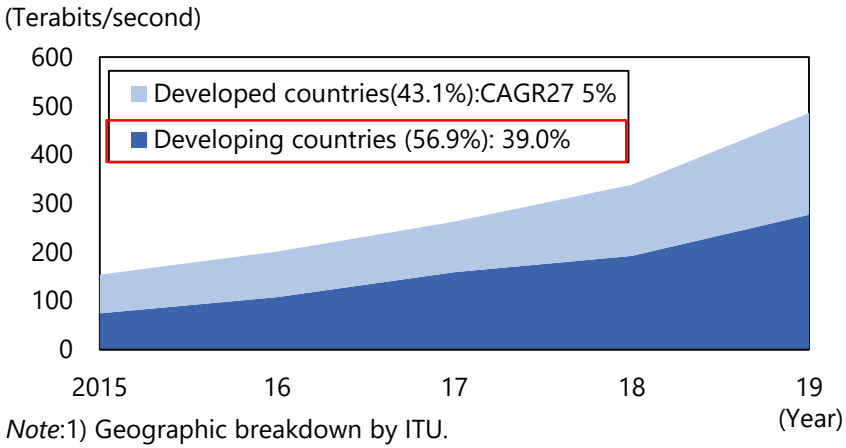
- According to the International Telecommunications Union (ITU), individuals using internet worldwide increased from 8 per 100 inhabitants in 2001 to 53.6 in 2019 (ITU estimate). In recent years, the number of smartphone users has been increasing, and a variety of devices are also connected to the Internet (IoT: Internet of Things) resulting in an increase in the amount of data generated.
- The amount of data that moves across borders is also increasing. International bandwidth, which approximates the volume of cross-border data distribution, rapidly increased from 153 terabits per second (Tb/s, 1 terabit = 1 trillion bits) in 2015 to 486 Tb/s (estimated) in 2019. Cross-border data flow in developing countries exceeded that in developed countries in 2016.

Internet and smartphone users around the world and trends in cross-border data flow



Note: Figures for internet users and cross-border data flow in 2019 are estimates.
Percentages of smartphone users are estimates by eMarketer.
Source: ITU (International Telecommunications Union) and eMarketer

Cross-border data flow (International Bandwidth) by Region

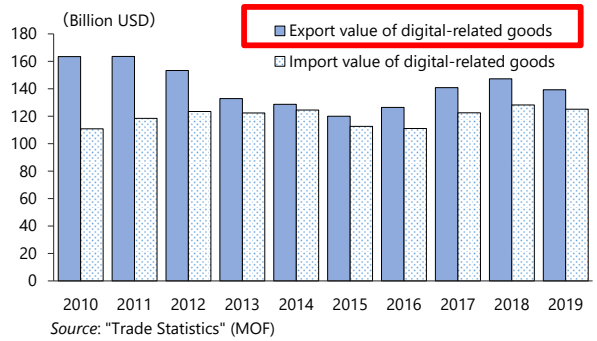


Note:1) Geographic breakdown by ITU.
2) Figures in parentheses are composition ratios in 2019.
3) CAGR is the annual average growth rate between 2015 and 2019.
4) Figures for 2019 are estimates.
Source: ITU (International Telecommunications Union) data

Semiconductor manufacturing equipment and industrial robots underpin Japanese exports of digital-related goods

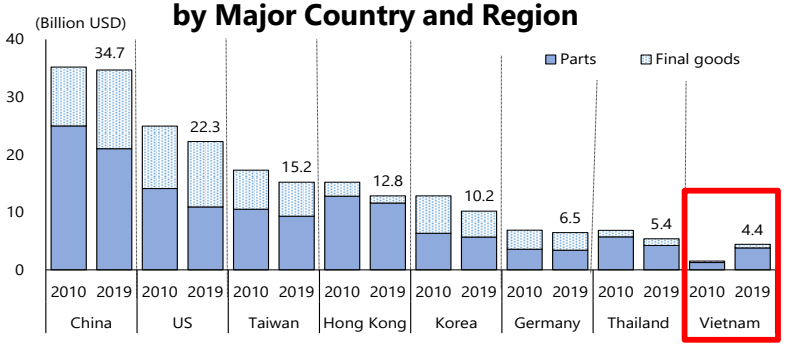
- Japan's exports of digital-related goods in 2019 fell by 5.4% from the previous year to $139.3 billion and imports decreased by 2.5% to $125.1 billion. Since 2010, China has been the largest export partner countries. While value of exports to many countries did not reach 2010 levels, exports to Vietnam have approximately tripled from 2010.
- Looking at the share of world trade by product category, Japan's exports of semiconductor manufacturing equipment and industrial robots account for about 30%, and Japan has become the world's largest exporter of these products. While the average growth rate for many products in the 2010s was negative, semiconductor manufacturing equipment and industrial robots recorded positive growth, supporting Japan's exports of digital-related goods.

Japanese trade of digital-related goods



Source: "Trade Statistics" (MOF)

Japanese Exports of Digital-related Goods by Major Country and Region



Note: The top export and import partner countries and regions of Japan in digital-related goods in 2019.
Source: "Trade Statistics" (Ministry of Finance).

Japanese exports of digital-related goods by product category (2019)

(Million USD, %)

	Export				CAGR	Share of world trade
	Value	Share	Growth Rate	Contribution	2010-2019	
Computer and peripheral equipment, etc.	11,981	8.6	-6.2	-0.5	-5.2	2.1
Computer and peripheral equipment	1,695	1.2	-7.1	-0.1	-4.8	0.5
Computer parts	1,511	1.1	-14.1	-0.2	-6.1	1.2
Office equipment	145	0.1	-13.2	0.0	-13.5	1.3
Communication equipment	3,920	2.8	-22.2	-0.8	-5.8	0.7
Cellular phones	214	0.2	1.7	0.0	29.4	0.1
Semiconductors and electronic components	36,667	26.3	-2.0	-0.5	-2.8	4.4
Electronic tubes and semiconductors	8,855	6.4	-5.8	-0.4	-4.0	7.6
Integrated circuits	27,812	20.0	-0.7	-0.1	-2.4	3.9
Other electronic components	26,118	18.8	-4.9	-0.9	-2.3	5.5
Video equipment	3,588	2.6	-5.5	-0.1	5.5	3.0
Audio equipment	154	0.1	-23.7	0.0	-7.4	0.9
Measuring and testing equipment	23,573	16.9	-3.1	-0.5	1.8	8.6
Medical electronic equipment	5,317	3.8	0.7	0.0	1.5	4.1
Semiconductor manufacturing equipment	22,621	16.2	-8.6	-1.4	1.9	28.2
Industrial robots	1,590	1.1	-20.4	-0.3	4.3	28.7
3D printers, etc.	401	0.3	9.7	0.0	3.5	6.1
Drone	3,104	2.2	-14.1	-0.3	-11.7	3.3
Digital-related goods: parts	87,869	63.1	-4.7	-2.9	-2.3	5.1
Digital-related goods: final goods	51,309	36.8	-6.7	-2.5	-0.7	3.4
Digital-related goods total	139,257	100.0	-5.4	-5.4	-1.8	4.3

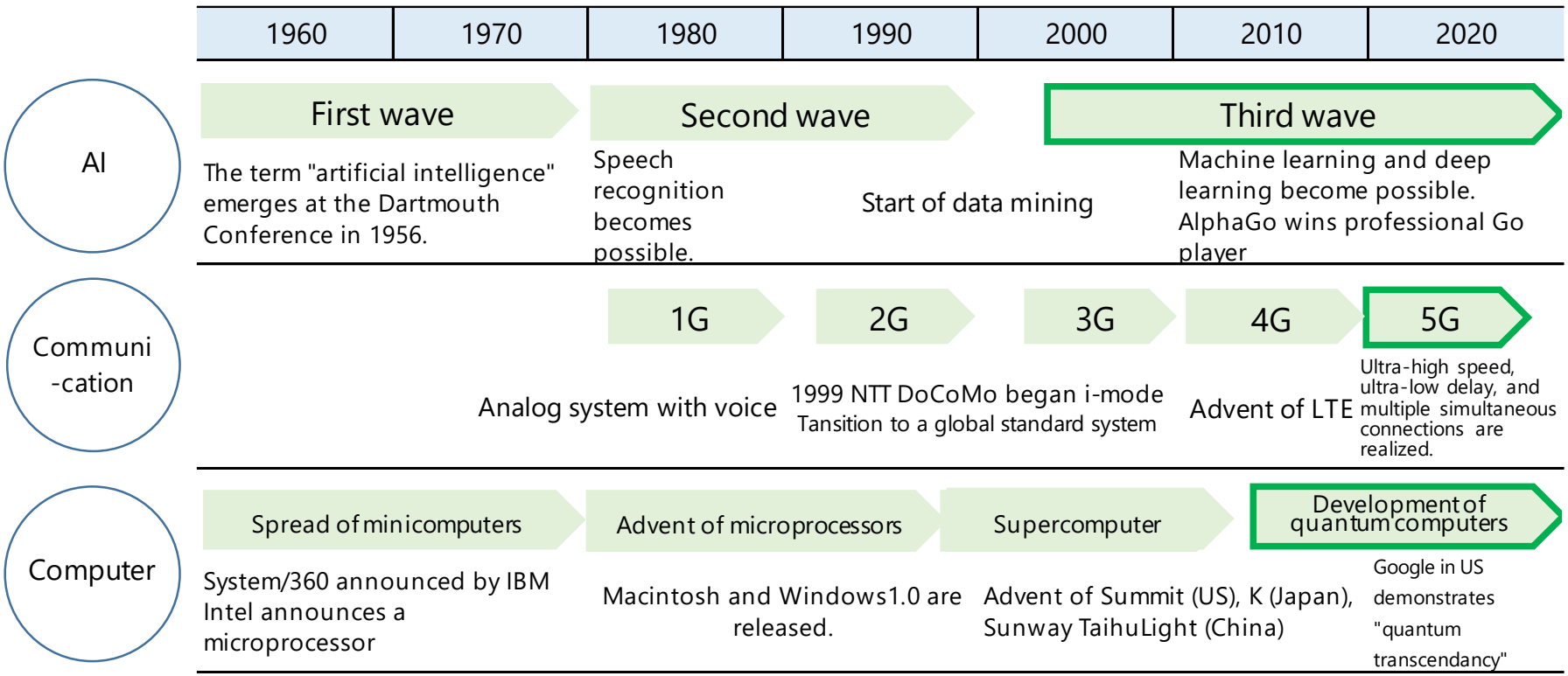
Note:1) See Appendix Annotation 1 for product classification. 2) The drone is defined by JETRO because the HS code is not accurately specified. It may include products other than drones. 3) The share of world trade is the share of each product in world trade (JETRO estimates).

Source: "Trade Statistics" (Ministry of Finance)

Technological developments behind digitization

- The rapid development of technology is the reason behind the advancement of digitization in recent years. First, research on artificial intelligence (AI) has evolved dramatically. AI research, which has been conducted for half a century, has experienced a third wave since 2000 enabling machine learning and deep learning.
- Moreover, the fifth generation (5G) standard for mobile communications networks was introduced in 2019, and it was the so-called first year of 5G. 5G realizes ultra-high speed, ultra-low delay, and multiple simultaneous connections for mobile communications enabling remarkably fast data processing. Furthermore, computers have made great leaps forward. Further research, including the publication of Google's report that has realized quantum supremacy advancing beyond supercomputers, is expected moving forward.

Major advances in digital technology



Source: Various materials

Entry of online platforms into "Reality"

- One of the recent trends in digital business is the advancement of online platforms from the virtual space to "real" space. These companies have strengthened their influence by forming information from search data, e-commerce (EC) purchase history, social media, etc. into data. These platforms are entering a variety of industries in the real world.
- In many cases, platforms enter other industries more quickly through alliances and acquisitions of other companies.

Examples of major online platforms expanding into the "real" world

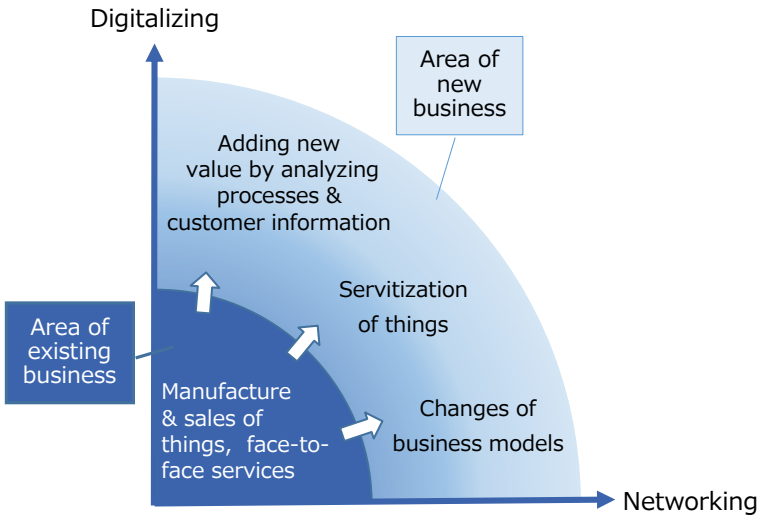
	Virtual	Real
Alphabet (Google)	・Search engine ・Video streaming service (Youtube)	・Selling "Chrome Book" PCs ・Started a self-driving taxi service jointly with Waymo ・Developed a health management application ・Constructed a renewable energy power generation system ・Developed VR for manufacturers
Amazon	・EC ・Video streaming service (Amazon Prime)	・Developed a brick-and-mortar store "Amazon Go" ・Selling AI speakers "Amazon Echo" and "Alexa" ・Entered into a broadband communication service with artificial satellites ・Providing a service to help develop autonomous driving cars
Baidu	・Search engine	・Implementing the "Apollo Project," opening an autonomous vehicle platform to the public ・Mass producing and testing driverless minibuses together with bus manufacutures
Alibaba	・EC (Tmall Global) ・Mobile payment (Alipay)	・Combining the Internet and the real worlds through the supermarket "Hema Fresh Store" ・Proposing optimal coordination at the "Fashion AI Concept Store" ・Mitigating the city traffic congestion utilizing AI and big data analysis
Rakuten	・EC	・Providing services including Rakuten Medical, insurance and financial business
Yahoo	・Search engine ・Mobile payment (PayPay)	・Proposing the concept of "Data Forest" to provide data to companies and local governments ・Operating its mobile phone business "Y mobile"

Source: websites of each company

Expansion of existing business fields through digitalization

- The second trend in digital business is the expansion of existing business fields through digitization. In the traditional manufacturing and interpersonal services industries, new value is added, and the business model is changed by the digitization and networking of customer information and processes.
- In each industry, companies are expanding into new business fields through the digitization of everything with IoT and sensors and the development of services such as sharing and subscriptions.

Expansion of business areas through digitalization



Source: Created by JETRO

Examples of companies expanding business fields through digitization

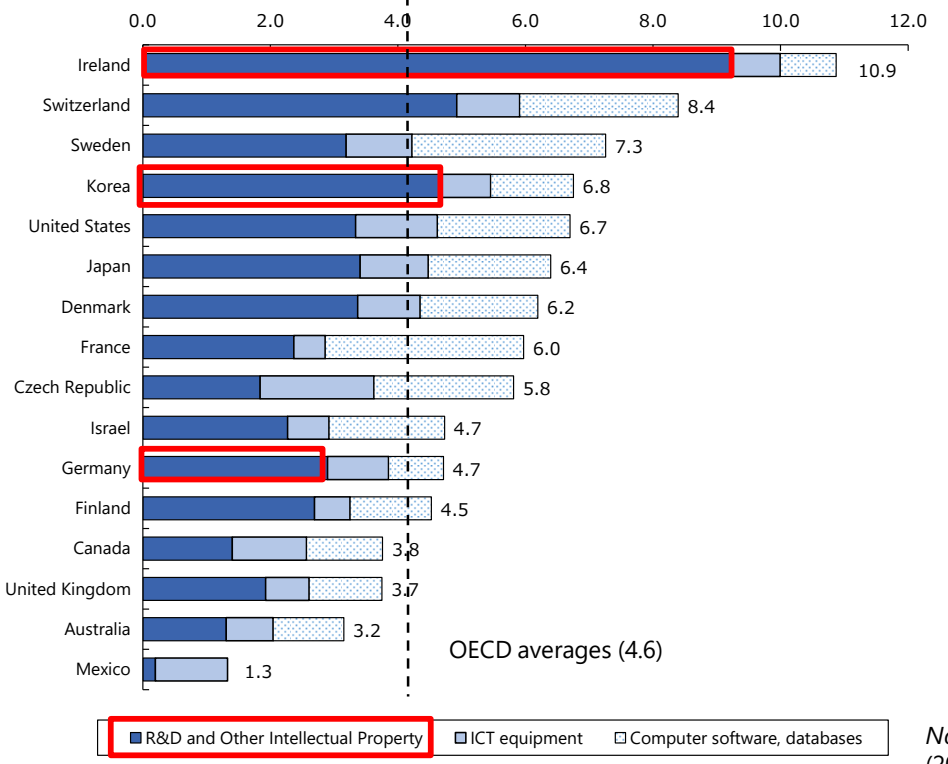
Existing business		Digitization		Expanding business
Otsuka Pharmaceutical	Drug discovery and marketing	Development of digital drugs in collaboration with Proteus Digital Health, Inc. of the U.S.	**Degitalizing**	Sensors are embedded in tablets to record drug taking and provide information to caregivers
Shiseido	Development and sale of skincare products	Using IoT to create database on skin quality		Production of beauty essence and milky lotion optimal for each individual
TORAY	Development of and sale of textiles	Development of smart textiles that can detect heart rate and cardiographic waves in collaboration with NTT		Started a trial of heat stroke control system and detection of sleepiness for drivers
Michelin	Manufacture and sale of tires	Monitoring of air pressure and temperature of tires using IoT		When abnormal values are identified, drivers are warned, reducing risk of delay
NFL (National Football League)	Sports	Creation and disclosure of data on athlete movements		By developing applications using open data, the number of visitors has increased
Komatsu	Manufacture and sale of construction machinery Sale	Data collection and cloud processing of construction site conditions using GPS and drone surveying		Provision of a comprehensive construction consulting service
Bridgestone	Manufacture and sale of tires	Tires are equipped with a sensor to detect road surface conditions		Determine road conditions (dry, wet, snow, etc.) and support safe driving
Daimler Chrysler	Manufacture and sale of automobiles	Ability to lock and unlock the door with digital remote operations		Realized a repair parts delivery service to cars for craftsmen
Toyota	Manufacture and sale of automobiles	With car subscriptions, shift from ownership to sharing		Conversion to a mobility company in response to diversifying vehicle usage patterns
DHL	Transportation	Development of digital keys in cooperation with Audi and Amazon	**Networking**	Launch of an in-car delivery service, turning cars into delivery boxes

Source: Websites of each company

R&D accounts for more than half of digital investment in major developed countries

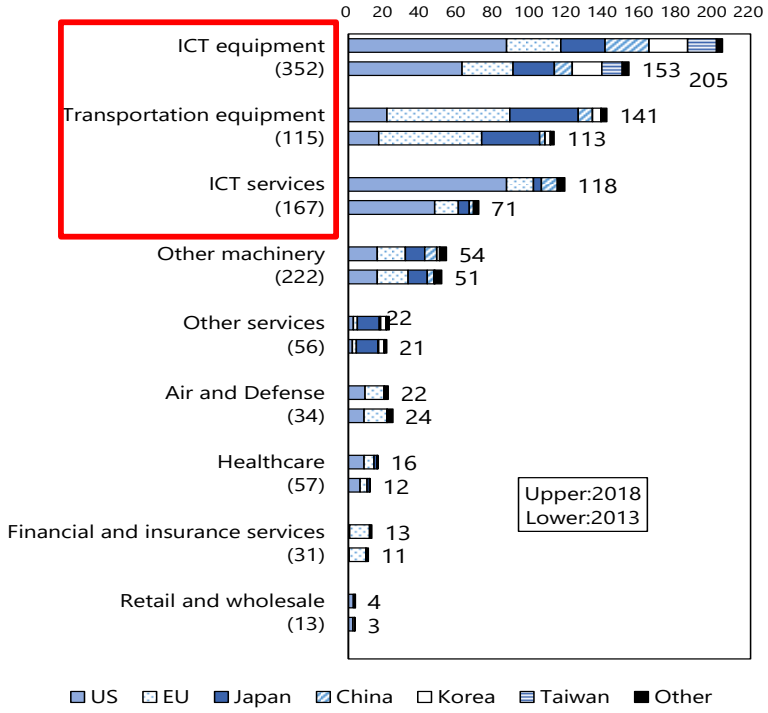
- Looking at the ratio of digital investment to GDP, Japan (6.4%) is ranked high alongside Korea (6.8%) and the United States (6.7%). In Ireland, Korea, Germany, and other major developed countries, R&D accounts for more than half of total digital investment confirming the importance of R&D in promoting digitization.
- Total R&D investment (2018) increased by 30% from five years ago in major industries where digitization is progressing (9 industry fields below). By industry (2018), ICT equipment and services as well as transport equipment accounted for 78% of the total.

Digital investment in major countries (R&D, ICT equipment, software, etc.) as percentage of GDP (2017)



Note: 1) Investment for each item is calculated from gross fixed capital formation. 2) Mexico lacks data on software and databases. 3) Figures for ICT equipment in Korea, Germany, and Spain are OECD estimates. 4) Only some countries are listed.
Source: OECD data

R&D Investment by Country and Region in Industries with Strong Digital Presence (Billion USD)



Note: 1) Of the top 2500 companies in the world in terms of R&D investment (2018), companies that were comparable with 2013 are selected. Then, based on OECD data, 1047 companies in the top half of the 41 industries with the highest digital strengths are counted. Corporate countries and regions are based on headquarters. 2) Figures under the industry name are the number of companies.
Source: "EU R&D Scoreboard"(EU)

Increased R&D investment in digitalized ICT equipment and services as well as transport equipment

- Looking at the increase in R&D investment in key industries that are becoming increasingly digital, from 2013 to 2018, the United States, China, and Korea for ICT equipment in addition to the United States and China for ICT services, and the EU and Japan for transport equipment respectively, have experienced significant increases. China's growth rate is remarkable.
- Among the companies investing most in R&D (2018), it is notable that many are American and German companies. The Toyota Motor Corporation and Honda Motor Co., Ltd. from Japan are also included in these rankings.

Increase of R&D investment (amount and rate) in industries with strong digital presence (Increase from 2013 to 2018, by country and region) (Upper: Increase amount (million USD), Lower: Increase rate (%))

Industry type	World	US	EU	Japan	China	Korea	Taiwan
ICT equipment	51,151	24,398	1,724	1,574	14,180	5,047	4,733
	33.4	39.3	6.2	7.0	***144.8***	31.1	42.9
Transport equipment	28,769	4,481	10,947	5,663	4,878	1,644	81
	25.6	27.0	19.5	17.9	***167.0***	54.8	50.5
ICT services	47037	39329	1749	-1633	6455	-3	83
	66.0	83.5	13.5	-27.5	***273.7***	-0.4	15.9
Other machinery	2,586	68	-1665	125	2940	1199	7
	5.1	0.4	-9.8	1.2	81.4	***276.2***	25.1
Other services	1,442	544	52	65	367	4	83
	6.9	25.9	2.4	0.5	***143.6***	0.1	60.8
Air and Defense	-2,459	617	-2182	0	24	0	0
	-10.1	7.2	-17.4	—	78.0	—	—
Healthcare	4,271	2,098	1,580	445	85	0	0
	36.1	32.8	41.1	33.7	***118.7***	—	—
Financial and insurance services	1,993	278	1,759	49	0	0	0
	18.5	70.2	19.3	***176.0***	—	—	—
Retail and wholesale	302	214	-47	0	35	0	0
	8.7	8.8	-5.1	—	93.4	—	—
Total	135,092	72,027	13,917	6,288	28,965	7,890	4,987
	29.4	44.6	9.7	7.5	***151.8***	33.5	41.9

Note: 1) Highlighted yellow cells (upper row) show increases of more than $5 billion (excluding world and industry totals). Bolds and italics (lower row) show an increase rate of more than 100%. 2) From the top 2500 companies in the world in terms of R&D investment (2018), companies that were comparable with 2013 were selected. Then, based on OECD data, 1047 companies in the top half of the 41 industries with the highest digital strengths are counted. Corporate countries and regions are based on headquarters.
Source: "EU R&D Scoreboard"(EU)

R&D investment by the top 20 companies in industries with strong digital presence (2018 and 2013) (Unit: Million USD, %)

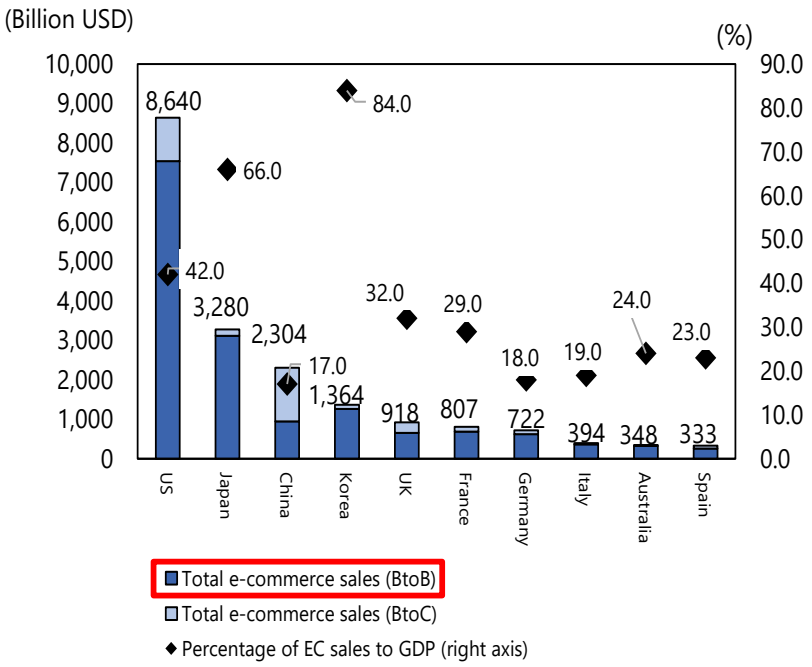
	Company	Country	Industry type	In 2018 Investment amount	In 2013 Investment amount	2013 →, 2018 Increase amount	2013 →, 2018 Increase rate
1	Alphabet	US	ICT services	21,011	7,915	13,096	165.5
2	Samsung Electronics	US	ICT equipment	17,056	14,014	3,042	21.7
3	Microsoft	US	ICT services	16,950	11,388	5,561	48.8
4	Volkswagen	Germany	Transportation equipment	15,686	16,205	-519.3	-3.2
5	Huawei ・ Investment ・ Holding	China	ICT equipment	14,651	4,953	9,697	195.8
6	Apple	US	ICT equipment	14,298	4,478	9,820	219.3
7	Intel	US	ICT equipment	13,602	10,618	2,984	28.1
8	Daimler	Germany	Transportation equipment	10,397	7,423	2,974	40.1
9	Facebook	US	ICT services	10,318	1,416	8,902	628.7
10	Toyota	Japan	Transportation equipment	9,504	8,653	852	9.8
11	Ford	US	Transportation equipment	8,236	6,404	1,832	28.6
12	BMW	Germany	Transportation equipment	7,924	6,613	1,311	19.8
13	General Motors	US	Transportation equipment	7,834	7,205	629	8.7
14	Honda	Japan	Transportation equipment	7,567	6,026	1,541	25.6
15	Robert Bosch	Germany	Transportation equipment	7,117	6,421	696	10.8
16	Siemens	Germany	ICT equipment	6,795	6,287	508	8.1
17	Cisco Systems	US	ICT equipment	6,360	6,298	62	1.0
18	Oracle	US	ICT services	6,052	5,154	898	17.4
19	Qualcomm	US	ICT equipment	5,613	4,970	643	12.9
20	Dell Technologies	US	ICT equipment	4,965	3,250	1,714	52.8

Note: Figures for Dell Technologies in 2013 are EMC investment before acquisition. Alibaba Group Holding (ICT Services) was excluded from this chart and Chart IV-24, IV-25 because the amount of investment in 2013 is uncertain (the company's 2018 investment was $5.49 billion).
Source: "EU R&D Scoreboard"(EU)

US-China cross-border e-commerce (BtoC) sales account for half of the global market

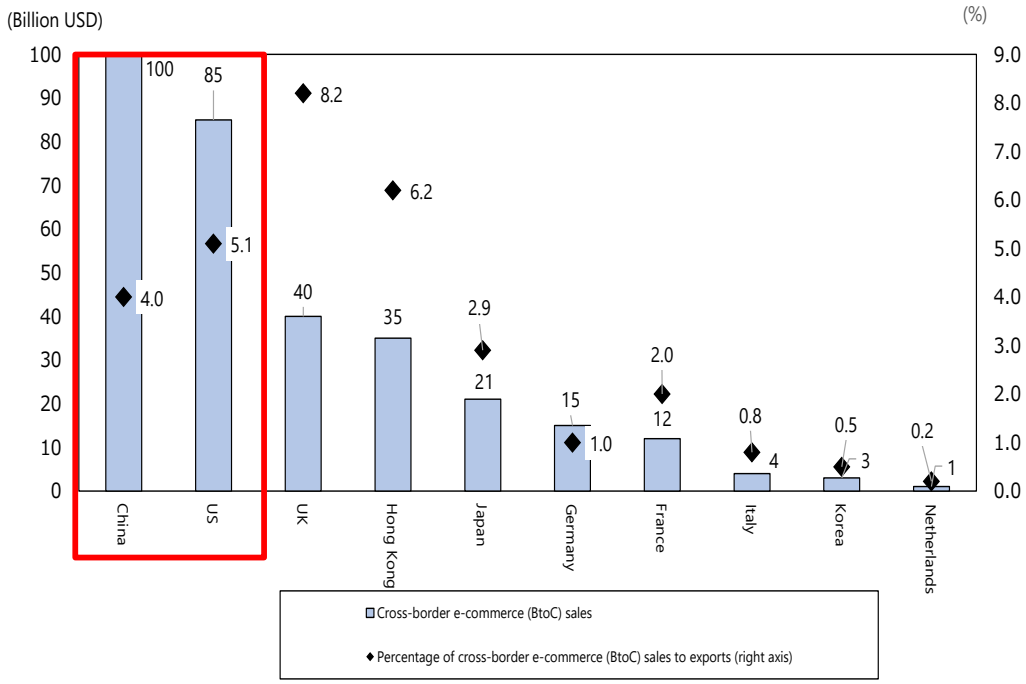
- Total EC sales worldwide (2018) was $26 trillion. BtoB EC sales accounted for more than 80%.
- Worldwide cross-border EC sales (BtoC, 2018) was $404 billion. By country and region, China (excluding Hong Kong, $100 billion) and the United States ($85 billion) account for about half of the global total. In terms of the ratio of cross-border EC (BtoC) sales to total exports, Japan (2.9%) is lower than the United Kingdom (8.2%), the United States (5.1%) and China (4.0%).

EC sales in the top 10 countries in the world (2018)



Note: Figures for the United States, Korea (BtoB only), Germany (BtoB only), and Italy are UNCTAD estimates.
Source: UNCTAD data

Cross-border EC (BtoC) sales in the top 10 countries and regions (2018)

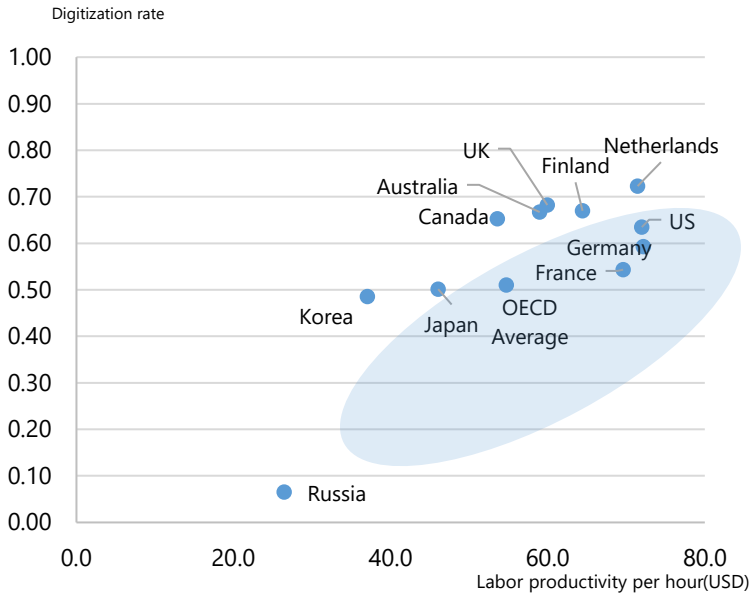


Source: UNCTAD data

Progress of corporate activities brought by digitization

- 1) Increased productivity: Japan's hourly labor productivity is $46.1, below the OECD average. With the introduction of digital technologies to corporate activities, process visualization and manpower reduction can be realized, and improvements to productivity are expected.
- 2) Solving social issues: Startups, which have experienced remarkable growth in recent years, are good at presenting solutions to various social issues with quick and flexible responses. Even in fields that used to be difficult to commercialize, by visualizing issues using data and making it easier for investors to understand them, startups have become even more capable of addressing social issues.

Relationship between the Progress of Digitization and Labor Productivity



Note: Digitization rate is the median ICT usage intensity for all workers (0-1).
Source: OECD Skills Outlook 2019, Compendium of Productivity Indicators 2019

Japanese startups addressing social issues through digitization

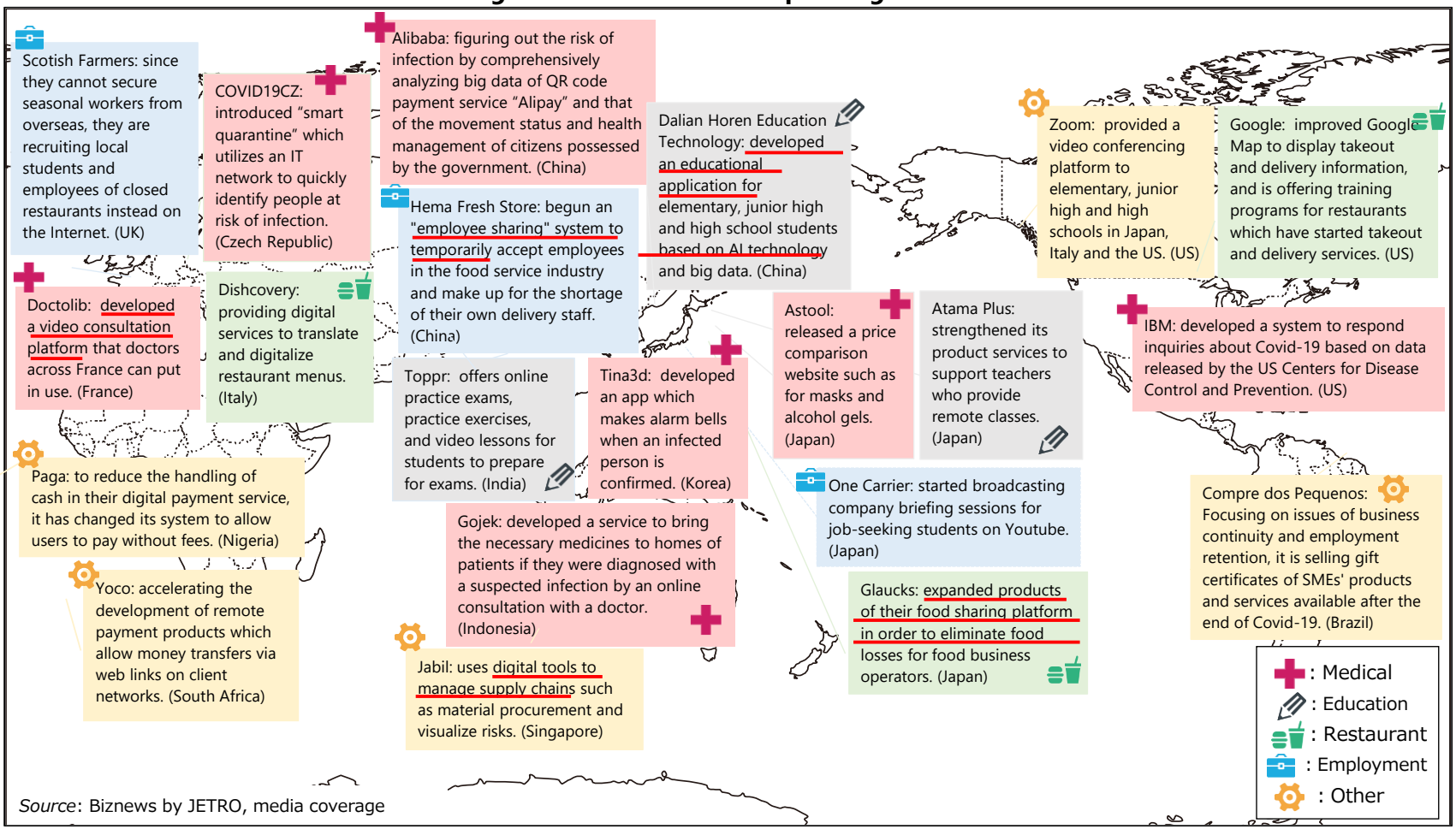
Fields	Company Name	Description of Businesses	Major Digital Technologies	External partners
Medical and welfare	Iris Corp.	Develop Medical Devices to Support Influenza Diagnostics based on AI	IoT, AI	Shionogi Pharmaceutical
	Triple Double Japan	Developing an excretion forecasting device to support the independence of the elderly and nursing care	IoT, Digital equipment	ITOCHU Techno-Solutions, Korian (France)
	Cyberdyne	Develop Robot Suit HAL in which cybernics technology that connects humans and robots has been used	AI, Robot	SOCSO Rehabilitation Centre (Malaysia), Ministry of Health (Saudi Arabia)
Agriculture, forestry and fisheries	Inaho	Develop Automated Vegetable Harvesting Robots with AI Technology	AI, Robot	Kashima City, Saga Prefecture, Saga City
	Routrek Networks	Contribute to labor saving and quality improvement by automating water and fertilizer in greenhouse cultivation based on the information obtained via sensors	IoT, AI	Meiji University Kurokawa Farm, My Farm
	Farmship	Develop an one-stop supply-demand matching system for foodstuffs such as production, logistics, and sales	AI, Digital equipment	House Foods, Toshiba Plant System
Environment and disaster prevention	WOTA	Use the AI Water Circulation System to offer WOTA BOX outdoor shower to the victims of natural disasters	AI, Digital equipment	Kanagawa Prefecture, JAXA
	Challenergy	Develop wind power generators capable of generating stable electricity even under severe wind environments such as typhoons	IoT	Nippon Unisys, Ishigaki City and Napocor (Philippines)
Education	Life Is Tech	Provide entertainment-oriented IT programming education for middle and high school students, and reduce educational disparities between regions	Cloud, Digital equipment	Ibaraki Prefecture, High School, Walt Disney Company (US)

Note: IoT: AI: Robot: Cloud: Digital equipment:
Source: Websites of each company

New digital-related business responding to COVID-19

- COVID-19 provided an opportunity to rapidly digitalize the living infrastructure and corporate activities around the world. Including medical services such as online medical care, digitalization has progressed in fields such as education and food service industry.
- In Japan, various new services have begun in response to COVID-19, such as online classes and development of systems to reduce food loss caused by cancellation of events and self-restraint of restaurants.

New digital-related business responding to COVID-19



Source: Biznews by JETRO, media coverage

Challenges to rapid digitization

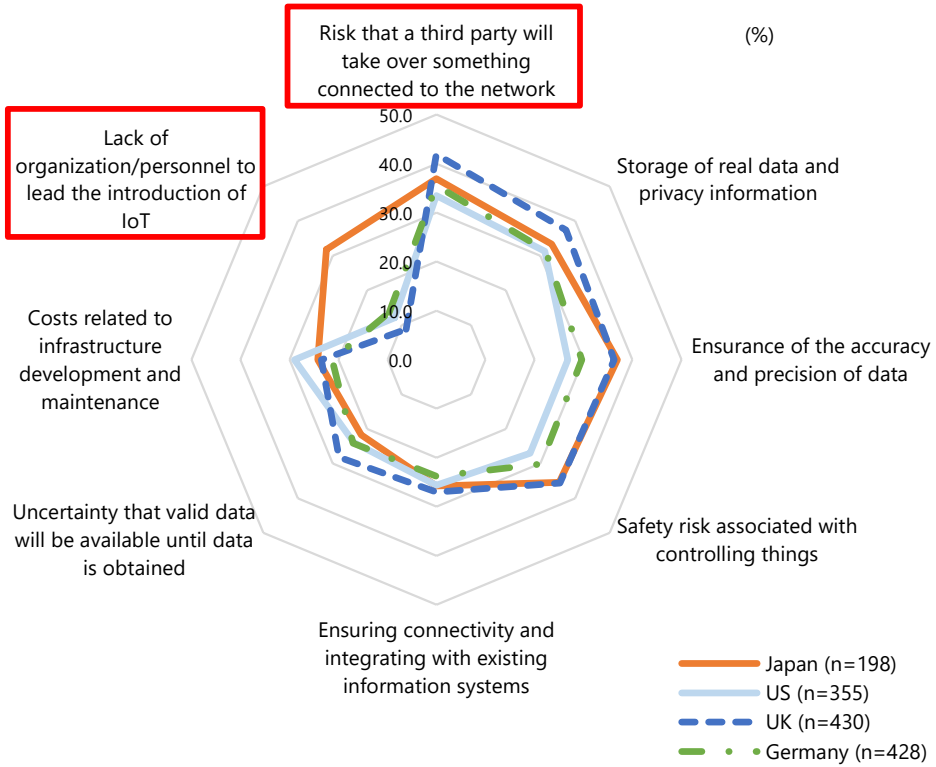
- With the rapid progress of digitization, the problems and challenges in technology, management, policy and society have been pointed out. With the increase in data distribution from the Internet of Things (IoT) and virtual currency trading, security concerns are increasing.
- In a survey by the Ministry of Internal Affairs and Communications, companies in Japan, the United States, the United Kingdom, and Germany were asked about the challenges involved in introducing IoT. “Risk that a third party will take over something connected to the network,” was cited as the biggest challenge in all countries. In Japan, compared to the other three countries, many companies regard "Lack of personnel" as a problem.

Problems and challenges to rapid digitization

	Challenges
Technology	・ Sharing among industries does not progress due to reluctance to disclose data ・ Lack of human resources and know-how ・ Lack of data volume ・ Remain of aging systems
Management	・ Difficulty in harmonizing with existing legacy ・ Escalating security protection costs ・ Undeveloped internal systems that will be the driving force of digitalization
Policy and Society	・ Lack of international rules and standards ・ Lack of incentives such as subsidies ・ Surfacing of intergenerational disparities ・ Lack of social acceptability

Source: Various materials

Issues in introducing IoT (Japan, US, U.K., Germany)



Note: Multiple answers. "Other" and "No particular issues" are excluded.
Source: "Investigative research on innovation and new economy formation through ICT" (Ministry of Internal Affairs and Communications)

Creating international rules governing the digital space becomes urgent

- With the development of digital businesses, countries are developing laws and regulations for consumer protection, national security, and the protection and development of their own industriesE-transaction laws have been enacted in 80% of the world's countries and regions, data protection and privacy laws in 70%, and consumer protection laws in 60%.
- Particularly, as digitalization is forced to rapidly progress due to the spread of COVID-19, concerns over the lack of international rules governing cybersecurity and data cross-border transfer is growing. Worldwide standards are being formulated by international organizations and forums, such as e-commerce rules by the WTO, free flow of data by the G20, and digital taxation by the OECD.

Policy objectives behind digital restriction and frameworks for international rule-making

Objectives	Consumer protection, national security	Protection and development of local industry	Others
Examples of measures adopted for each objective	・Protection of privacy ・Protection of copyright and public morals ・Right to be forgotten ・Cyber security	・Local content requirements ・IPR restrictions ・Digital taxation ・Requirements for disclosure of technical information ・Restrictions on foreign investment	・Censorship ・Filtering ・Prohibition of anti-competitive behavior
	・Data localization：Prohibition of cross border data transaction, Server location requirements		
Framework for international rule-making	WTO：E-commerce facilitation G20：Ensuring free flow of data OECD：Digital taxation APEC：Harmonizing privacy proteciton FTA：E-commerce, free flow of data, privacy protection, etc.		

Note: Description after "："are the representative initiative of each international forum.
Source: Centre for International Governance Innovation（CIGI）, and various materials

Development status of digital legislation by region

(Unit: %)

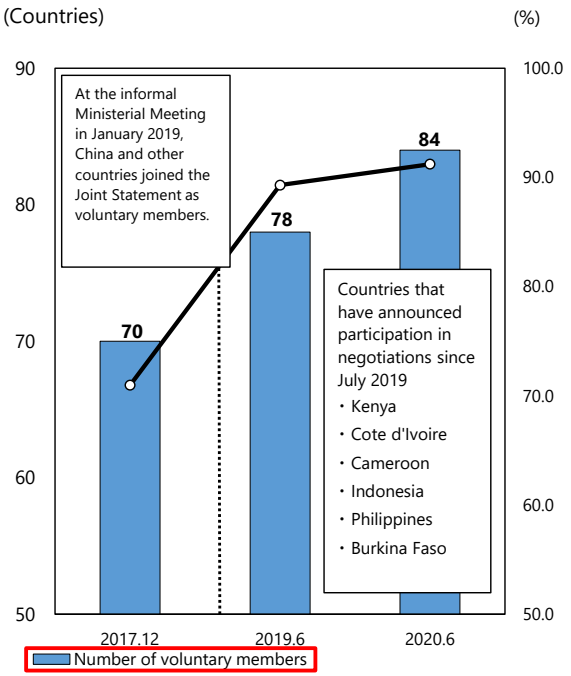
Law	Status	World (194)	Americas (35)	Asia Pacific (60)	Europe (45)	Africa (54)
E-transaction laws	Legislation	81.4	91.4	81.7	97.8	61.1
	Draft legislation	5.7	8.6	3.3	0.0	11.1
	No legislation	4.1	0.0	3.3	0.0	11.1
Data protection and privacy legislation	Legislation	66.0	68.6	56.7	95.6	50.0
	Draft legislation	10.3	11.4	10.0	2.2	16.7
	No legislation	18.6	20.0	26.7	0.0	24.1
Consumer protection laws	Legislation	56.2	71.4	43.3	73.3	46.3
	Draft legislation	5.7	5.7	6.7	2.2	7.4
	No legislation	8.8	8.6	10.0	0.0	14.8
Cybercrime laws	Legislation	79.4	82.9	76.7	88.9	72.2
	Draft legislation	5.2	2.9	11.7	0.0	3.7
	No legislation	13.4	11.4	11.7	6.7	22.2

Note: 1) Figures in parentheses are the number of countries. The Middle East is included in the Asia-Pacific region by definition in source materials. 2) The total does not amount to 100 due to a certain number of countries and regions for which data have not been collected.
Source: UNCTAD

E-commerce plurilateral negotiations expand while huge gaps remain between countries

- As of the end of June 2020, the number of WTO members participating in e-commerce negotiations launched by the WTO increased from 70 at its inception to 84. The combined GDP of the members accounts for more than 90% of the global GDP, and the rule-making framework expands worldwide.
- Meanwhile, the negotiating attitudes of the United States, the EU, and China, all of which have influence over making rules, differ greatly. While the United States intends to achieve a high degree of liberalization, the EU, while supporting liberalization, emphasizes building the credibility of the digital market through the protection of personal information. China has emphasized that the facilitation of trade in goods and development support for developing countries and has shown a negative attitude toward liberalization.

Number of members participating in WTO e-commerce negotiations



Source: WTO, "WEO, October 2019" (IMF)

Policies on e-commerce rules of major countries and regions

		US	EU	China
Basic Policy		Liberalization oriented	Reliability-oriented	Facilitation Development support-oriented
Level of liberalization		High ← → Low		
Liberalization	Non-discriminatory treatment	○		
	Use of open data owned by the government	○		
	Prohibition of mandatory standard requirements such as security	○		
	Freedom of cross-border data circulation	○	○	
	Non-tariff charges on electronic transmission	○	○	△ (Note 2)
	Disallowing data localization requests	○	○	
	Prohibition of Disclosure Requests for Source Code	○	○	
	Free Internet access	○	○	
	Expand market access	○	○	
Reliability	Protection of online consumers		○	○
	Protection of personal information		○	△ (Note 3)
	Preventing Spam Mail		○	○
	Cyber Security Cooperation	○		○
Facilitation	e-signature certification		○	○
	Paperless trade			○
	Electronic payments			○
	Electronic contract		○	○
Development support	Response to the digital divide			○
	Promotion of joint research			○
	Development support for developing countries			○

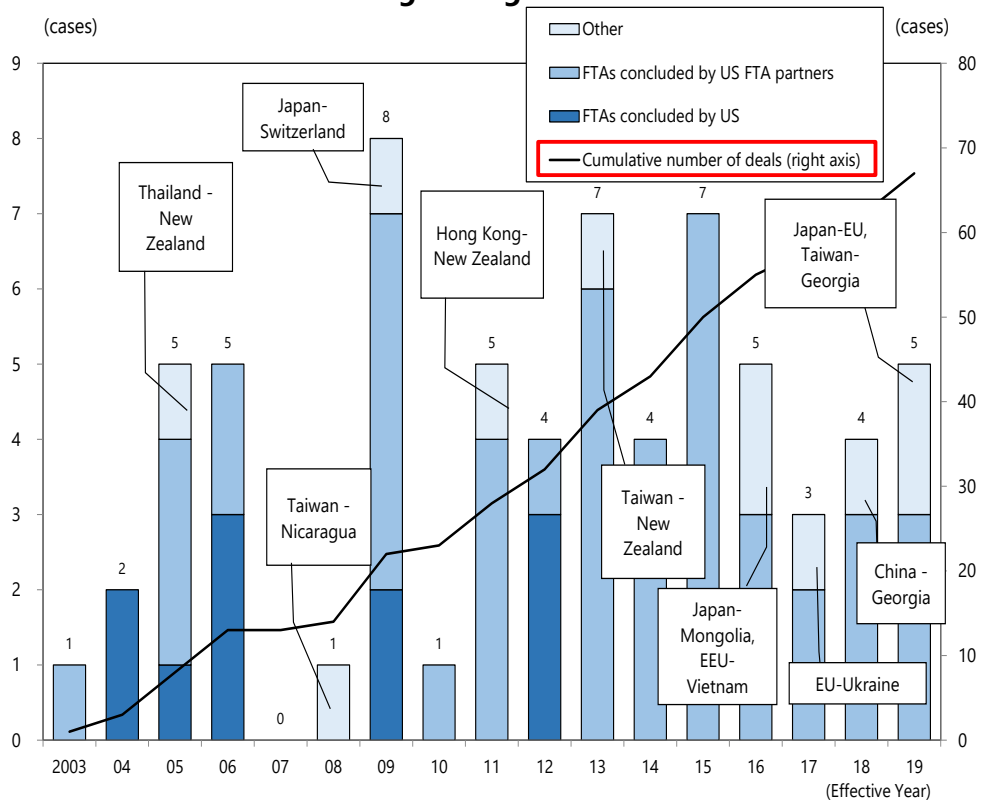
Note: 1) The issues and contents are extracts and are not exhaustive. 2) China only supports the extension of the moratorium agreement on the non-imposition of tariffs on electronic transmissions and does not mention the perpetuation of rules. 3) China considers the protection of personal information to the extent that each country consideres appropriate and necessary, and does not insist on effective rule formation.

Source: WTO documents (INF/ECOM/4, 5, 7, 19, 22)

Area and scope of FTA digital rules deepening

- The objectives of establishing digital rules in FTAs include 1) promotion of EC, 2) international adoption of related rules, and 3) promotion of inward direct investment. As of the end of 2019, there were approximately 70 trade agreements, including FTAs, which govern the digital sector.
- Countries in the Pacific Rim, such as the US, have actively incorporated digital rules into FTAs. In the latter half of the 2010's, there was a growing trend to define the digital sector in countries that did not have an agreement with the US. Both the content and the quantity of the regulations have been expanded. Especially in TPP11 and USMCA, the provisions have been significantly modernized in response to technological developments.

FTAs defining the digital sector



Note: 1) Digital provisions specified in the same chapter with other areas, or specified as annexes are also included.
2) The balloon shows the FTAs ("Other" part of the graph) where the US and its partner country are not concluded parties.
Source: "List of FTAs in the World and Japan" (JETRO) and respective agreements.

Changes in digital regulations in FTAs: Number of clauses by content

<2001-2003> Conventional provisions	<2003-2009> Post Singapore-Australia FTA (with the first EC chapter)	<From 2009> Relatively new articles
・Paperless trade (37) ・No customs duties (57) ・Reduction of trade barriers (3) ・Ensuring transparency (21) ・Cooperation (54) ・Private sector Involvement (3) ・Promotion of EC(32) ・Policy Harmonization (4)	・Definitions (49) ・Maintenance of EC-related domestic laws (17) ・Electronic Authentication (27) ・Consumer protection (36) ・Protection of Personal Information (21)	・Scope (12) ・Non-Discrimination (27) ・Relationship to other chapters (39) ・Access and use of the Internet (4) ・Technology Neutrality (1) ・Cross-Border Data Transfers (7) ・Internet interconnection charge sharing (2) ・Use and location of computing facilities (4) ・Cybersecurity (3) ・Unsolicited commercial message (8) ・Source code (4) ・Liability of intermediary service providers (2) ・WTO Rule consistency (26) ・Limitations on dispute settlement (1) ・Interactive computer services (1) ・Open government data (1)

Note: Figures in parentheses are the number of provisions that provide the same content, not the number of agreements.
Source: "Digital Trade and Dispute Settelement in RTAs: An Evolving Standard?"(Journal of World Trade)

Multilateral agreements specializing in the digital sector

- The United States, which has promoted the liberalization of digital trade, has defined its own rules in many FTAs. The EC chapter of the USMCA is among them and has the highest regulation levels. A regulation level exceeding TPP has been realized through multiple items governing cross-border data transfer, cybersecurity, and more.
- Some agreements specialize in the digital sector, such as the US-Japan Digital Trade Agreement and the Digital Economic Partnership Agreement between Singapore, Chile, and New Zealand (DEPA, reached a substantial conclusion of negotiation in January 2020). DEPA includes rules that go beyond USMCA including rules on AI operations, and there is a noticeable lead in forming rules through individual agreements.

US trade agreements and other digital provisions

Types	Item	Korea	Colombia	Panama	TPP11 (Reference)	US-Japan Digital	USMCA
		Mar. 2012	May. 2012	Oct. 2012	Withdrawal	Jan. 2020	Jul. 2020
General	Definitions	○	○	○	○	○	○
	Scope of Application and General Provisions (Confirmation of Importance)	○	○	○	○	○	○
Liberalization	Non-Discriminatory Treatment of Digital Products	○	○	○	○	○	○
	Non-tariff charges on electronic transmission	○	○	○	○	○	○
	Cross-border transfer of information by electronic means	○			○	●	●
	Prohibition of Requests for the Installation of Computer-Related Equipment				○	○	○
	Prohibition of Requests for Installing Computer-Related Equipment in Financial Services					●	●
	Prohibition of source code disclosure requirements				○	○	○
	Prohibition of Algorithmic Disclose Requests					●	●
	Principles of Internet access and Internet use	○			○		○
Reliability	Protection of online consumers	○	○		○	○	○
	Protection of personal information				○	○	●
	Measures against commercial messages that are not required				○	○	○
	Cooperation on matters related to cybersecurity				○	●	●
	Responsibilities of computer-based interactive service providers and users					●	●
Facilitation	Domestic electronic trading framework				○	○	○
	Electronic authentication and electronic signature	○	○		○	○	○
	Computerization of trade-related documents	○	○		○		○
	Expansion of access and use of government published data					●	●
	Authorization for sharing negotiation of Internet interconnection fees				○		
Other	Cooperation			○	○	○	○
	Dispute Resolution				○		
	Transparency (disclosure of laws, etc.)		○	○			

Note: 1) Years and months refer to the effective year and months. 2) If there are relevant provisions, it was set to ○. ● specifies rules with a level exceeding TPP11. 3) For more information on FTA regulations that are older than the US-Korea FTA, see also World Trade and Investment Report, 2018 edition, page 113.

Source:-US FTAs, US-Japan Digital Trade Agreement, and US Business Software Alliance materials

Outline of the Digital Economic Partnership Agreement (DEPA)

Item		USMCA+	Major items	Major Comments from companies
A. Facilitating end-to-end digital trade	Digital identities	○	Reducing hurdles for registrations and opening corporate accounts	○ "For trade to flourish in an increasingly borderless world, the establishment of a common set of digital standards and guidelines is vital. DEPA is a meaningful first step to facilitate **enhanced interoperability, secured data flows, and seamless e-invoicing** between trade platforms." (Standard Chartered Bank [UK]). ○"As the regional **adoption of e-invoicing** heightens, we can project further reduction in operating costs." (Dairy Farm [Hong Kong]) ○ "By addressing emerging and important issues that impact the digital economy **such as Artificial Intelligence and data innovation**, DEPA is a milestone in international trade agreements." (Google [US]).
	Paperless trade		Reduce the cost and time required for documentation and customs procedures	
	E-invoicing	○	Promote the adoption of the same international standards	
	Fintech and E-payments	○	Promoting the opening of APIs linking financial institutions and external systems	
B. Build trust in digital systems, promote and facilitate opportunities for participation in the digital economy	Personal information protection		Developing Mechanisms to Enhance the Compatibility of Related Laws and Regulations	
	Cross-border data flows		Facilitating smooth cross-border data transfer under certain conditions	
	Open government data		Expand access and use of government data to create new opportunities for business, including small and medium-sized enterprises	
	Data innovation and regulatory sandbox (Exclusion)	○	Promote innovation by exempting some regulations for a limited time	
C. Improving Reliability of Digital Systems and Expanding Opportunities to Participate in the Digital Economy	Artificial intelligence	○	Request companies to use AI in a transparent and fair manner	
	Online consumer protection		Maintain relevant laws and regulations to protect consumers from damages in online commerce	
	SMEs cooperation		Promotion of information sharing among SMEs through digital dialogue, etc.	
	Digital inclusivity	○	Confirmed the importance of everyone's participation in, contribution to, and benefit from the digital economy	

Note: 1) Items not specified in USMCA (so-called USMCA Plus) are denoted by O. 2) Bold text for comments by companies refers to certain DEPA module.

Source: Joint press releases from Singapore, Chile and New Zealand.

Acceleration of digital rule formation in each country and region

- While international discussions on digital rules have not reached a conclusion, each country and region is promoting the introduction of digital laws and regulations due to 1) the increasing momentum for protecting personal information and 2) concerns about security, etc.
- Regulations on cross-border data transfers, which affect international businesses greatly, tend to be tightened. In order to avoid excessive data transfer restrictions while protecting a minimum of personal information, approaches to allowing data transfer based on certain criteria are spreading.

Overview of the development of related rules in response to digitization by country and region

Country/region	Summary	Recent Development Status of Related Rules
US	Transition to protection of personal information	・Each state will enact privacy laws due to concerns over the management system of personal information by large tech companies. **The California Consumer Privacy Act (CCPA)** clarifies consumer rights and corporate obligations with respect to personal information and is a model for other states. ・Increased oversight of anti-competitive behavior by platformers.
Central and South America	Acceleration of legislation for digital taxation	・In Brazil, **a bill on digital taxation** was submitted to Congress in May 2020. Taxation rates are determined based on domestic sales. ・In other major Central and South American countries, while complying with OECD rules, legislation is being developed to make digital service providers to pay value-added taxes (VAT).
Europe	Start of work program related to rule formation under the new system	・Under the "Europe in Response to the Digital Era" policy, **the working program on the formulation of digital rules** was announced at the beginning of 2020. Toward the Modernization and Enhancement of the Single Market. ・Progress is being made in reviewing competition policies in the data economy, such as **the digital services bill**. Whether to adopt or reject the **proposed e-privacy rule** for tracking browsing history is also a focus of attention. ・Unification of digital taxation rules is important from the standpoint of achieving a single market.
China	Responding to Cyber Security Law is a Challenging Issue	・The **Cyber Security Law** (effective in 2017) and related detailed regulations and standards stipulate the handling of "personal information" and "important data" on the network. ・Some companies struggle to deal with many uncertainties regarding their security assessment obligations when providing information abroad. ・A position to respect Internet sovereignty and regulatory rights in international negotiations.
ASEAN	Deepening data-related regulations	・Progress of strengthening regulations related to data, such as the enactment and revision of **the Personal Information Protection Law** and **the Cyber Security Law**, in major countries. With COVID-19, interest in the formation of rules is increasing in terms of both protection and utilization of personal information. ・Countries that introduce **digital taxation** from 2020 are the mainstream.
India	Aiming to utilize personal data properly	・Establishment of the National Identification Number System and the **Comprehensive Digital Public Infrastructure** based on this system. Adopt an approach that encourages the use of information while ensuring the trust of individuals. ・The **Personal Information Protection Bill** under Diet deliberation will avoid excessive data localization.
African Countries	Developing Rules under the Digital Transition Strategy	・The African Union (AU) adopted **the Africa Digital Transition Strategy** 2020-2030. ・Promote the development of legal systems to handle personal information appropriately. South Africa and Kenya are introducing GDPR compliant **data-protection legislation**. ・There is also a trend toward **taxation of social media**.

Note: Bold letters indicate specific laws, regulations, and systems.
Source: Various materials

Types of rules for cross-border data transfers

Type of regulation	Summary	Examples of countries and regions
1) No regulation	Due to lack of data protection legislation, there is no discipline for cross-border data movement.	Least developed countries, etc.
2) Unregulated in principle	Cross-border data transfer is not prohibited and requirements are not established. However, if data is misused at the destination, the transferee is responsible for this.	US, Canada, Mexico, Philippines, etc.
3) Only partial transfer allowed	Data transfer is permitted only in cases where certain requirements are met (e.g. when the personal information protection is properly implemented at the destination of the data).	EU, Thailand, Singapore, Brazil, South Africa, etc.
4) Generally prohibited	Determine the appropriateness of cross-border data transfer individually according to the importance of the project and data.	China, Indonesia, Vietnam, Kenya, etc.

Regulatory strengths

Note: Countries and regions are exemplified based on the main nature of the rules. Depending on the elements that make up the rule, it may not be possible to strictly classify into 4 types.
Source: OECD and documents of each government

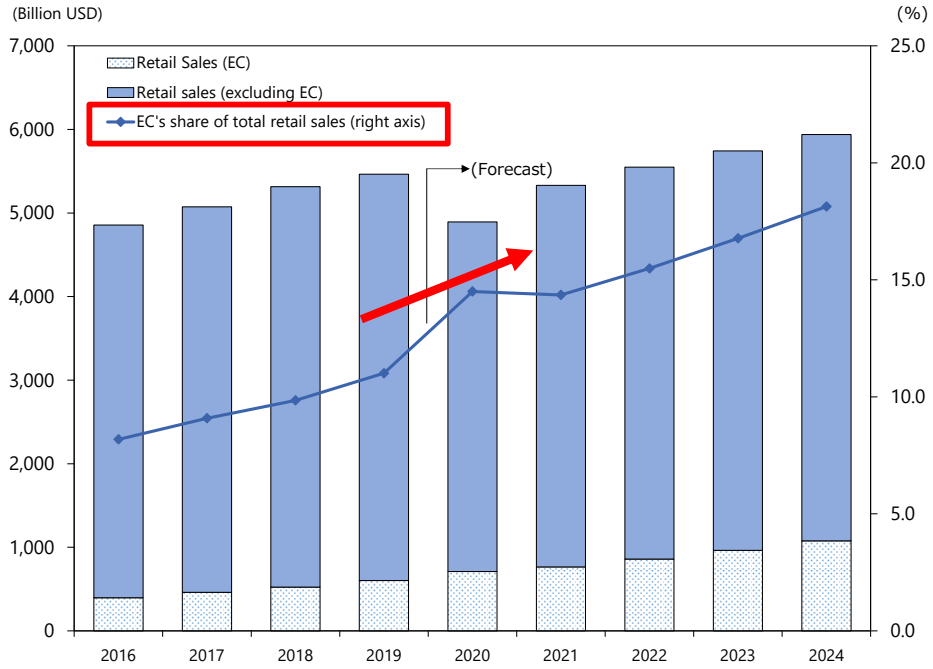
Digital Business and Rule Formation Trends by Country and Region

- United States
- Central and South America
- Europe
- China
- ASEAN
- India
- Africa

US: Online platforms continuing to expand business domains

- Competition for consumers among online platforms intensifies as they expand their business domains. In the steadily expanding US e-commerce (EC) market, Amazon stands out, accounting for approximately a 40% share in EC retail sales. In May 2020, Facebook launched a new EC service utilizing social media.
- Each tech giant is looking for more points of contact with consumers and seeking new investment opportunities in the healthcare and digital health sectors. Google and Apple aim to acquire consumer data through wearable devices.

EC's share to total US retail sales



Note: Retail sales (EC) are the value of goods and services ordered over the Internet (excluding travel-related and food services). The payment method is not limited.
Source: eMarketer (May 2020)

Recent business trends for US largest technology companies in the healthcare sector

Company	Time	Business trends
Google	Nov. 2019	Acquired Fitbit, a US wearable device startup that deals with smart watches, etc., specializing in health management, for about $2.1 billion.
Apple	Sep. 2018	Acquired US Food and Drug Administration (FDA) certification and incorporated ECGs into the smartwatch "AppleWatch".
	Aug. 2019	Allied with Allscripts, an Electronic Health Records (EHR) control company in the US, the EHR controlled by the company can be checked in iPhone health management app.
Facebook	Oct. 2019	In collaboration with medical organizations, Facebook launched a service that enables schedule management of medical checkups and the acquisition of medical institution information on a Facebook application.
Amazon	Sep. 2018	Acquired PillPack, a US online pharmacy, for about $750 million. Since November 2019, the service has been expanded with the brand name changed to "Amazon Pharmacy".
	Apr. 2019	The AI Assistant "Alexa" was approved for compliance with the "Health Insurance Portability and Accountability Act" (HIPAA), which stipulates the handling of personal health information, enabling the company to provide an environment for developing personal healthcare services using Alexa's voice recognition technology.
	Sep. 2019	Started online healthcare service "Amazon Care" on a trial basis for some employees. In October 2019, the company acquired Health Navigator, a US startup that develops telemedicine technology, and incorporated it into its service's system.

Source : Press releases, financial statements and various media reports of each company

US: Reaching a turning point for personal information protection

- In recent years, there have been growing concerns regarding enormous stores of personal information by large tech companies and their mismanagement in protecting the information, and each state has taken the lead in enacting privacy laws. The California Consumer Privacy Act (CCPA), the first comprehensive privacy law enacted in the United States, became a model for other states as a law clarifying consumer rights and business obligations related to personal information.
- The Federal Government, Congress, and the states have begun a series of investigations regarding the anticompetitive practices of online platforms. Sources of surveillance of large technology companies range from anticompetitive acquisitions of startups to data monopolies.

Summary of major privacy legislation submitted by state legislatures since 2018

State	Status of the bill	Principal Rules Included										
		Consumer rights						Operator obligations				
		Access to information	Rectification of information	Deleting information	Restrictions in information processing	Data portability	Opt-out from selling to a third party	Notification to Consumers	Information leak notification	Prohibition of consumer discrimination	Restrictions on collection of information for specific purpose	Restrictions on information processing for specific purpose
California	Established	○		○		○	○	○		○		
Maine	Established		○				○	○		○		
Nevada	Established						○	○	○			
Arizona	Under Congress deliberation	○	○	○	○	○	○	○		○		
Illinois	Under Congress deliberation	○	○	○	○	○	○	○		○		
Maryland	Under Congress deliberation	○		○		○	○	○		○		
Minnesota	Under Congress deliberation	○	○	○		○	○	○		○	○	○
Nebraska	Under Congress deliberation	○		○			○	○		○		
New Hampshire	Under Congress deliberation	○		○		○	○					
New Jersey	Under Congress deliberation	○		○		○	○	○		○		
New York	Under Congress deliberation	○	○	○	○	○	○	○	○			○
South Carolina	Under Congress deliberation	○		○			○	○	○	○	○	○

Note: 1) Excluding states that have already been voted down or eliminated in Congress. When multiple bills were submitted in the same state, the bill with more rights and obligations was prioritized. 2) The bill's status is as of April 16, 2020. 3) The right to data portability refers to the right not only to disclose the consumer's personal information owned by the business, but also to request it to be sent by mail or electronically. 4) Maine and New Jersey require consumer consent (opt-in) to sell data to third parties.
Source: International Association of Privacy Professionals (IAPP)

Major investigations of anticompetitive practices by online platforms

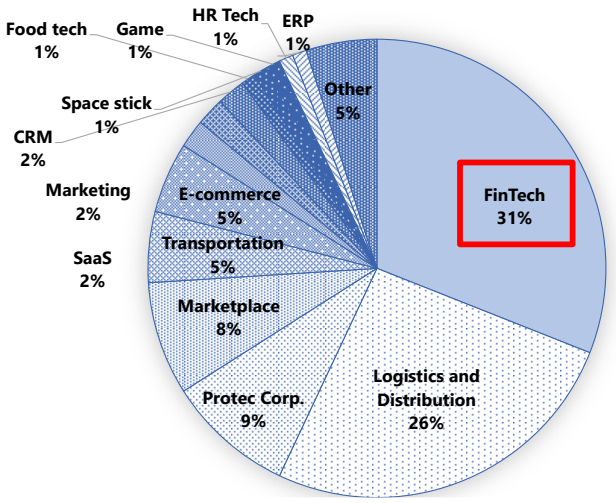
Announcement or Start date	Main body of the investigation	Investigation target	Main investigation items
Jun. 2019	Congress House Judiciary Committee	Online platforms	・Competitive problems in the digital market ・Anti-competitive practices by market-dominant companies ・Adequacy of existing antitrust laws, competition policies and current enforcement status
Jul. 2019	Department of Justice	Online platforms	Whether they increase their market power too much, thereby restraining competition and innovation, or compromising the interests of consumers
Sep. 2019	Attorney general of 47 states, district and territories	Facebook	Anti-competitive practices resulting from dominant status such as improper handling of consumer data, reduction of quality of consumer choices, and lifting of advertising fees
Sep. 2019	Attorney general for 50 states, district and territories	Google	・General control over the online advertising market and the distribution and diffusion of online information that lead to anti-competitive practices ・Business practices that hinder consumer choices, stifle innovation, and infringe consumer privacy
Feb. 2020	Federal Trade Commission (FTC)	Alphabet (Google), Amazon, Apple, Facebook, Microsoft	Anti-competitive acquisition of early founders or potential competitors. The FTC ordered the companies investigated to provide information about company acquisitions completed between 2010 and 2019 that were not filed with the FTC or the Federal Justice Department.

Note: Limited to investigations announced or initiated after 2019.
Source: Announcements from each Federal agency/State Attorney General's Office, "Biznews" (JETRO), and various media reports.

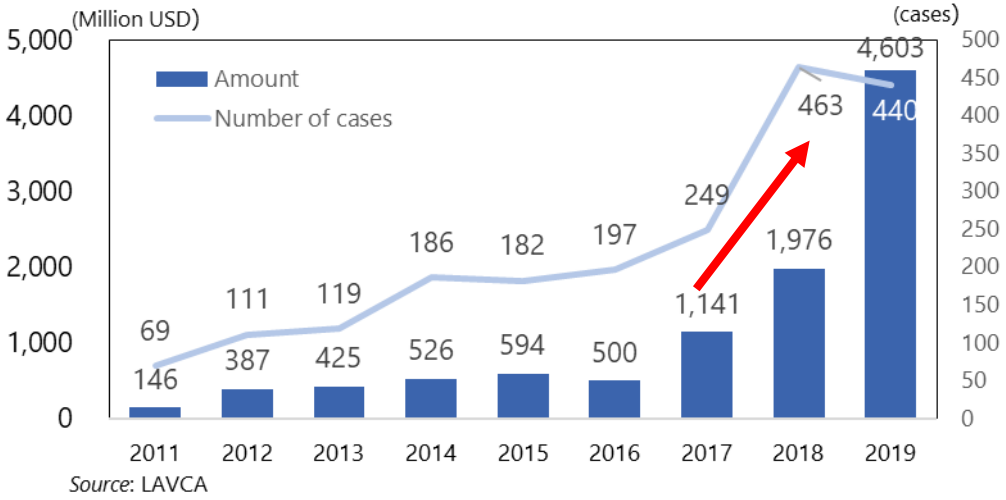
Central and South America: Rising fintech start-ups and progressing legislation

- According to the Latin American Private Equity and Venture Capital Association (LAVCA), the amount of venture capital investment in Central and South America was the highest ever in 2019. Investment in Brazil is the largest, accounting for 54.1% of the total. By field, investment in FinTech is the largest in terms of both value and number of cases.
- In Brazil, legislation is being developed with the rise of FinTech companies providing new services. The Angel Investors Act and the Uber Act, which came into force as a result of the advancement of Uber from the US market, are examples. Legislation is progressing with the entry of companies, and the FinTech field is expected to continue to grow in the future.

VC investment by sector in Central and South American countries (by value)

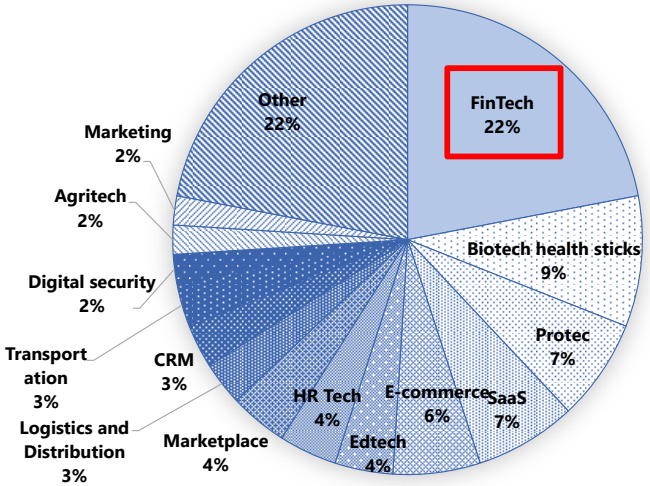


VC investment in Central and South American countries



Source: LAVCA

VC investment by sector in Central and South American countries (by number of cases)



Note: Protec: Integration of urban residents' lives and FinTech. CRM: Customer management system.
Source: LAVCA

Central and South America: Development of legislation for digital taxation

- In 2019, Brazil was the largest EC market in the retail sector in Central and South America and the Caribbean. In Brazil, a bill to levy taxes on digital service providers doing business globally was submitted to the Chamber of Deputies on May 4, 2020. The tax rate depends on sales in Brazil.
- Other major economies comply with the new rules being established centered around the OECD. Reflecting the contents of the base erosion and profit shifting (BEPS) action plan announced by the OECD and the G20, legislation that will make digital service providers pay value-added taxes (VAT) is proceeding.

Profile of digital corporate taxation in Brazil

Sales in Brazil subject to tax	Tax rate
150 million real (about 2.7 billion yen) or less	1%
More than 150 million real, less than 300 million real (about 5.4 billion yen)	3%
Over 300 million real (about 5.4 billion yen)	5%

Source: Bill 2358/2020 and media reports

Actions to make value-added tax payable for digital service providers

Country	Major Developments and Taxable Items	Tax rate
Mexico	・A new tax reform law came into force on June 1, 2020. Mandatory VAT payment by non-resident businesses. ・Taxable objects are digital services that include contents	16%
Chile	・The Ministry of Finance Ordinance No. 825 (VAT Act) was revised in February 2020. Mandatory VAT payment by non-resident businesses. ・Taxable objects include video through download and streaming, online platforms, etc.	19%
Colombia	・The National Tax Agency adopted Resolution No. 51 in July 2018. Mandatory VAT payment by non-resident businesses. ・Taxable objects include all services including contents	19%
Peru	・A bill to impose a general sales tax (IGV) was submitted at the end of 2019. Requiring payment of IGV taxes by financial intermediaries, such as credit card companies, rather than service providers ・Video distribution services, services provided through digital applications, etc.	18%

Source: Government releases and media reports

Europe: Expanding digital and environmental action

- The European Commission has listed the "European Green Deal" and "Shaping Europe's Digital Future" as top priorities and is prioritizing these efforts even in post-COVID-19 recovery measures.
- Digital and environmental actions are spreading to businesses as well. The use of digital technologies is expected to bring advantages including 1) improved knowledge, communication, and information sharing, 2) more circular business models, products, processes, and 3) greater engagement of citizens and consumers. In cross-border M&A, there are cases of investing not only in EU companies but also in digital companies outside the EU.

Overview of the "European Green Deal" and "shaping Europe's digital future"

European Green Deal
・Targeting the world's first "climate-neutral continent" with net zero greenhouse gas emissions. ・As progress in climate change measures, a "Just Transition" will be realized to support territories dependent on carbon-intensive activities. ・Develop an "Sustainable Europe Investment Plan" to achieve an ambitious target of reducing greenhouse gas emissions by 55% by 2030.
Shaping Europe's Digital Future
・Define standards for this new generation of technologies that will become the global norm. ・Developed joint standards for 5G networks. ・Promote a coordinated European approach on the human and ethical implications of Artificial Intelligence. ・Provide opportunities for citizens to receive education and acquire skills that are adapted to the digital age.

Source : European Commission and Delegation of the European Union to Japan.

Cross-border M&A of European digital environment-related companies

Acquired company		Acquiring company		Time	Target Areas	Summary
Company Name	Country	Company Name	Country			
Cylon	Ireland	ABB	Switzerland	Mar. 2020	Smart Building	ABB, which promotes industrial DX, announced that it has agreed to acquire Cylon that improves efficiency and optimizes energy through building automation, heating, ventilation and air conditioning control solutions.
1st Vision Corp.	US	Ambienta	Italy	Feb. 2020	Machine Vision [Note]	Ambienta, a sustainability-focused investor, has completed the acquisition of 1st Vision, a machine vision distributor that is a key component of Industry 4.0 and is expected to benefit the environment from efficiency.
TRUX	Canada	AMCS	Ireland	Jan. 2020	Software	AMCS, which provides waste and recycling-management software and vehicle technology, announced the acquisition of TRUX in Canada, which provides waste management software.
thinkstep	Germany	Sphera	United States	Sep. 2019	Cloud, Software	Sphera, which provides risk management software and information services that specialize in environment, health and safety, completed the acquisition of thinkstep, which provides software solutions for products and corporate sustainability.
Leanheat	Finland	Danfoss	Denmark	May 2019	AI	Danfoss, which provides fuel efficiency technology, announced that it will acquire shares of Leanheat in Finland, which has been affiliated since 2016 and hold a 100% share of the company. Leanheat provides a service that uses AI and sensors to manage building heating.
Recy Systems	Germany	AMCS	Ireland	Jan. 2019	Software	AMCS announces acquisition of Recy Systems, a provider of recycling and waste management-related software.

Note : Conducts image processing and controls industrial machinery, etc.
Source : Refinitiv and Company press releases

Europe: Trends in digital strategy and key Issues under the new structure

- The New European Commission has set its digital policy, Europe Fit for the Digital Age, as one of its priorities. In January 2020, a work program related to the formation of digital rules was announced. In the next five years, modernization and strengthening of the single market will be targeted for change towards climate neutrality (zero real greenhouse gas emissions) and digital leadership.
- Key issues related to the digital sector are as follows. 1) Review of competition policy: ensuring a fair competitive environment in the digital market including a review of the Digital Services Act; 2) adoption or non-adoption of the e-Privacy Rule: treatment of tracking standards for user viewing history on the Internet; and 3) standardization of digital taxation rules: important from the perspective of realizing the digital single market.

EU Priority Agenda "Europe Fit for the Digital Age" Work Program

Policy Objectives	Initiatives	Target period
Europe fit for the digital age	European Strategy in Response to the Digital Era	Announced on Feb. 19, 2020
European approach to AI	AI White Paper	Announced on Feb. 19, 2020
	European Data Strategy	Announced on Feb. 19, 2020
	Follow-up of AI White Paper, including Safety, Reliability, Basic Rights and Data	Q4 2020 (Legislative Measures Including Impact Assessment)
Digital Services	Digital Services Act	Q4 2020 (Legislative Measures Including Impact Assessment)
Strengthening Cyber Security	Review of directives (NIS directives) relating to networks and information systems	Q4 2020 (Legislative Measures Including Impact Assessment)
Digital for Consumers	Standardization of chargers for mobile phones and similar devices	Q3 2020 (Legislative Measures Including Impact Assessment)
	Review of Roaming Rules	Q4 2020 (Legislative Measures Including Impact Assessment)
New Industrial Strategy for Europe	Industrial strategy	Announced on Mar. 10, 2020
	Single Market Barriers Report	Announced on Mar. 10, 2020
	Single Market Action Plan	Announced on Mar. 10, 2020
	SME strategy	Announced on Mar. 10, 2020
	White Paper on Foreign Subsidy	Q2 2020 (Non-Legislative Measures)
Digital Finance	FinTech Action Plan, which includes a strategy for the EU's integrated decision-making market	Q3 2020 (Non-Legislative Measures)
	Proposal for cryptographic assets	Q3 2020 (Legislative Measures Including Impact Assessment)
	Cross-Sectoral Financial Services Act on Operations and Cyber Resilience	Q3 2020 (Legislative Measures Including Impact Assessment)

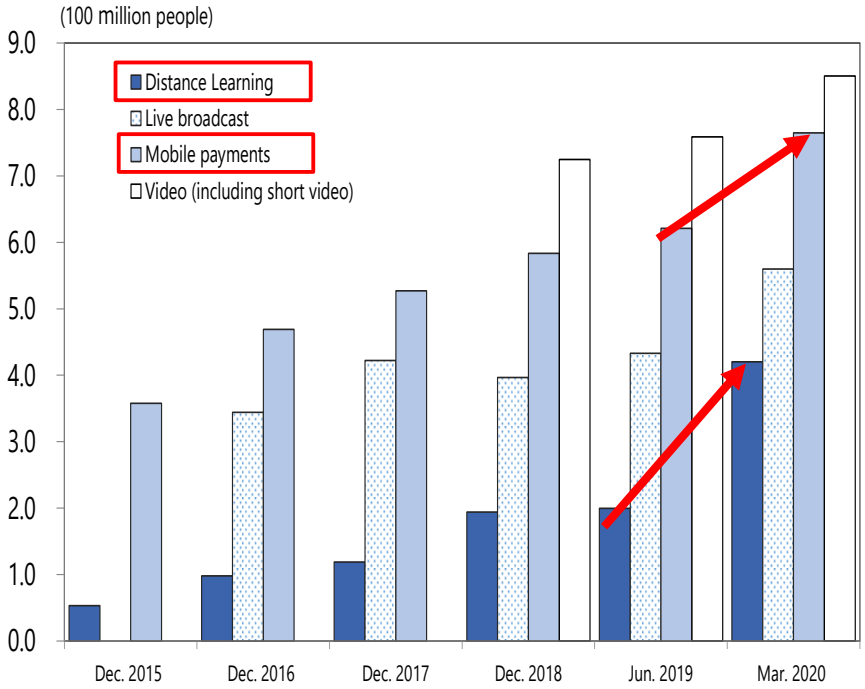
Note: The shaded items are those proposed as of May 20, 2020.
Source: Materials of the European Commission

China: Rapid growth of digital businesses and further acceleration with COVID-19

- In China, various types of internet services are becoming established ahead of other countries, including mobile payments, which have been popular since around 2015.
- In response to COVID-19, cooperation between IT companies and government agencies was strengthened. Governance and medical care utilizing the latest digital technology proved effective. In addition, distance learning and mobile payments users also surged during the lockdown. It is expected that the construction of various "new infrastructures"*, which is promoted at a rapid pace through public-private partnerships, will accelerate the growth of China's digital businesses.

*The term refers to the digital infrastructure that supports 5G, data centers, artificial intelligence and other technologies, and next-generation transportation infrastructure such as charging stations.

Trends in the number of various internet service users in China



Note: 1) Due to the impact of COVID-19, no statistics were released in December 2019 and published in March 2020. 2) The number of users for live broadcast has been announced since December 2016, and for video (including short videos) since December 2018.

Source: The 45th Statistical Report on Internet Development (China Internet Network Information Center)

Examples of COVID-19 responses using digital technology

Start date	Company Name	Target technology
Jan. 2020	Alibaba, Baidu	AI Chat Bot (Automated Response System), which provides telephone health counseling services
Jan. 2020	Alibaba, Baidu	AI algorithms and data analysis tools used for virus gene analysis and vaccine development
Feb. 2020	Baidu, SenseTime Group and Megvii Technology	AI temperature measurement system
Feb. 2020	Alibaba, Tencent	Health Code: A Digital Indicator for Health Status
Mar. 2020	Alibaba, Tencent	Program of apps that issue electronic gift coupons

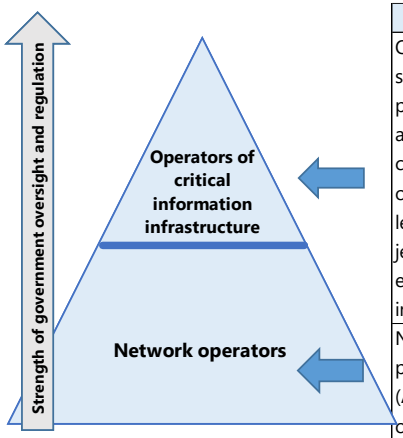
Note: There are also cases in which the starting date varies slightly depending on the company.

Source: Websites of each company and local news reports

China: Japanese companies are required to respond to the enforced Cybersecurity Law

- When it comes to the handling of personal information and important data on networks that are indispensable for the development of the digital economy, the Cybersecurity Law (effective June 2017) and related detailed rules and standards were stipulated from the viewpoint of national security and the protection of personal information.
- It has been pointed out that the safety assessment obligations for providing personal information and important data abroad are unclear whether they are limited to operators of critical information infrastructure, and it is difficult to deal with them. Conversely, there are cases in which action is being taken to respond to personal information protection and grade notification required by the law.

Entities subject to the Cybersecurity Law



Target	Legal obligations
Operators of critical industries and sectors such as water supply, finance, public services and electronic administrative services, as well as other critical information infrastructures that, once functional destroy, loss or data leakage are encountered, could seriously jeopardize national safety, the national economy and the livelihoods and public interests	Requires safety assessments when storing "Personal Information" and "Important Data" in the country and and providing them abroad.
Network owners, administrators, and providers of network services (At present, most companies and organizations are likely to be network operators.)	It is unclear whether the above is necessary or not at present.

Source: Cybersecurity Law, etc.

Examples of responses by Japanese companies operating in China to the Cybersecurity Law

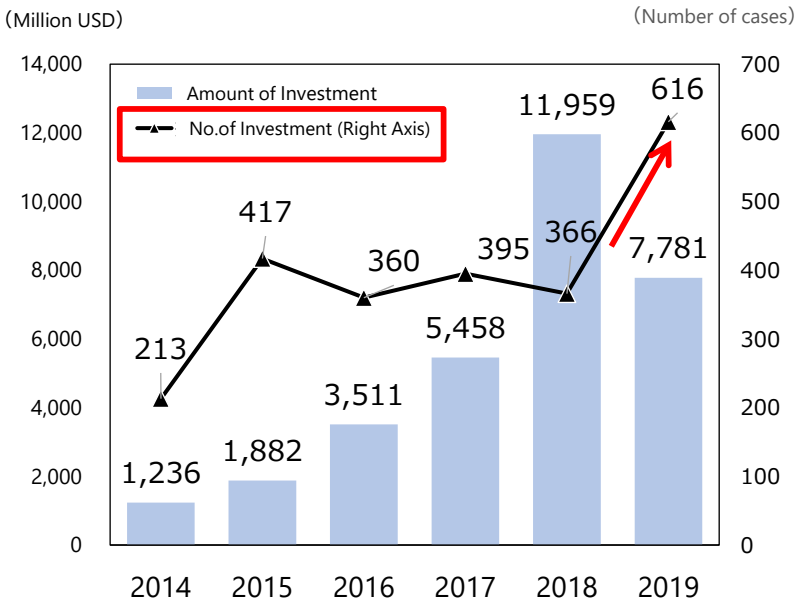
Time	Company	Response
Jan. 2019	Retail Company A	The privacy policy on the website was updated based on the provisions of the Cybersecurity Law and Code of Personal Information Security (Note).
Jul. 2019	Precision Equipment Company B	Collaborated with external experts to report cyber security grades to relevant supervisory departments.
Nov. 2019	Electrical equipment company C	Amendment was made to the "Agreement on Collection and Use of Personal Information" for employees.
Dec. 2019	Trading company D	Strengthened compliance with the Cybersecurity Law and created internal regulations.
Dec. 2019	Pharmaceutical Company E	A questionnaire was conducted regarding the handling of personal information of employees and users, and the standards for the management of personal information were created after understanding the status of the storage and management of personal information within the company.
Jan. 2020	Electrical equipment company F	Referring to the provisions of the Cybersecurity Law and the Code of Personal Information Security, the "Written Consent to the Collection and Use of Personal Information" was posted on the website regarding the collection and use of personal information.

Note: Refers to the "Private Information Safety Standards for Information Safety Technology."
Source: Interviews with Japanese companies operating in China and law firms in China

ASEAN: Digital investment slows down, while the scope of investment expands

- ASEAN has been successfully attracting digital investments, while the amount of investment in 2019 fell below the previous year's level. There seems to be the slump in the global economy and the reaction to the excessive growth expectations for startups so far is the cause. Conversely, the number of investments is increasing, and investors are expanding the scope of investment targets with holding back on the amount invested.
- Each country in ASEAN faces various economic and social issues. For example, permanent economic losses caused by traffic congestion is one of them. In addition to local companies that aim to solve these problems through innovation using digital technology, Japanese startups have also found business opportunities in this field in recent years.

Trends in tech-affiliated startup investment for ASEAN



Source: "Southeast Asia Tech Investment in 2019" (Cento Ventures)

Examples of Japanese startups using digital technology to solve ASEAN's economic and social Issues

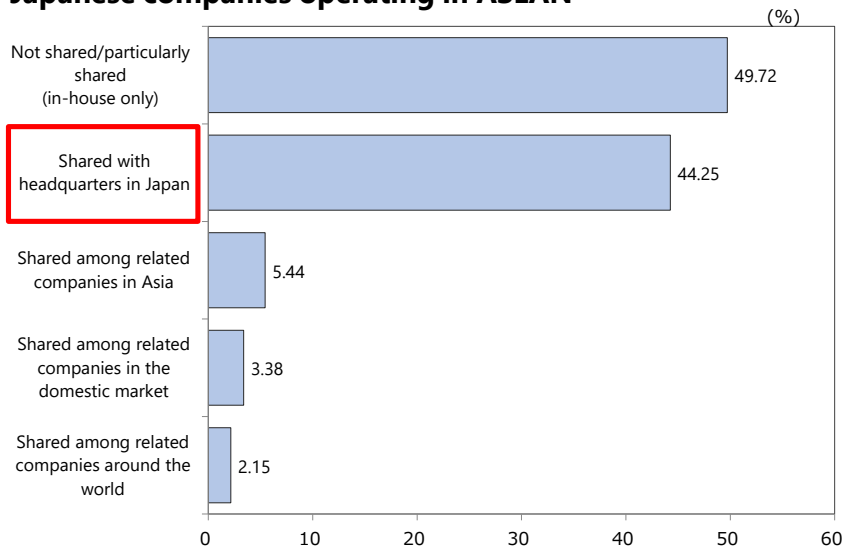
Company Name	Country of participation/ involvement	Social issues	Digital Technologies to solve issues
Global Mobility Service (GMS)	Philippines, Cambodia, Indonesia	Difficulty to escape from poverty; the low-income group cannot buy or own a vehicle because they cannot get a loan from a financial institution.	Providing a Fintech service that allows customers to purchase a vehicle by making a loan for low-income people by utilizing an in-vehicle IoT device.
UMITRON	Thailand、Singapore	Delay in productivity improvement, severe working environment and environmental problems in the fishery industry.	Improved efficiency and reduced environmental impact by realizing efficient feeding using IoT and satellite technology.
SuRaLa Net	Indonesia, Philippines	An unstructured educational system centered on arithmetic widens educational inequality and hinders income growth.	Introduced "Surala Ninja!", an e-learning system through interactive animation.
Soramitsu	Cambodia	Financial services are less beneficial due to low bank account opening rates.	Jointly developed with the Central Bank of Cambodia, Japan's first token-type digital currency "Bakong" utilizing blockchain technology.

Source : Websites of each company and interviews with these companies

ASEAN: Tightened data-related regulations and expansion of introduction of digital taxation

- In ASEAN countries, there are signs of tightening regulations on data, such as the enactment and revision of the Personal Data Protection Act and the Cyber Security Act. The spread of COVID-19 has raised more interest in both the protection and use of personal information of infected people.
- Japanese companies in ASEAN often exchange client data etc. with their headquarters in Japan. The governments of each country are expected to establish appropriate data management systems to protect personal information and eliminate excessive regulation.

Status of intra-group sharing of personal information by Japanese companies operating in ASEAN



Note: Valid responses were received from 3017 companies. Personal information refers to customer information, employee salary information, etc.
Source: "2019 Survey on Business Conditions of Japanese Companies in Asia and Oceania" (JETRO)

Major digital laws and regulations in ASEAN

Country/region	Time	Legal and regulatory names
ASEAN	Signed in Nov.2018	ASEAN Agreement on Electronic Commerce (Released in March 2019)
Singapore	Enforced in Jan. 2013	Personal Data Protection Act 2012
	Enforced in Mar. 2018	Cybersecurity Act 2018
	Launched in Jan. 2020	Taxation of goods and services tax (GST) on imported services (foreign digital services)
	Enforced in Jan. 2020	Protection from Harassment (Amendment) Act 2019
Thailand	Enforced in May. 2017	Revised The Computer Crime Act (2017)
	Enforced in May. 2019	The Cybersecurity Act (2019)
	Enforced in May. 2019	The Personal Data Protection Act (2019) (Enforcement of the Main Articles is postponed till 2021)
Indonesia	Enforced in Oct. 2012	Government Regulations on Electronic Systems and Transactions (2012, No. 82)
	Enforced in Dec. 2016	The Minister of Communication and Informatics No. 20 of 2016 on Personal Data Protection in Electronic Systems (Data Protection Regulation)
	Enforced in Oct. 2019	Government Regulations on the Operation of Electronic Systems and Transactions (No. 71, 2019)
	Enforced in Mar. 2020	Government Regulation in Lieu of Law (Peraturan Pemerintah Pengganti Undang-Undang) No.1/2020 (Perppu-1)
	From Jan. 2020 onward	Personal Data Protection Bill is under deliberation in the People's Consultative Assembly
Malaysia	Enforced in Nov. 2013	Personal Data Protection Act 2010
	Launched in Jan. 2020	Service Tax on Digital Services
Vietnam	Enforced in Jul. 2016	Law on network information security (86/2015/QH13)
	Enforced in Apr. 2018	Decree on the control, provision and use of Internet services and online information (27/2018/ND-CP, amendment of decree 72/2013/ND-CP)
	Enforced in Jan. 2019	Law on Cyber Security (24/2018/QH14)
Philippines	Enforced in Sep. 2012	The Data Privacy Act of 2012
	Enforced in Sep. 2016	Implementing Rules and Regulations of the Data Privacy Act of 2012
	From May. 2020 onward	Digital taxation bill is under deliberation in the Congress of the Philippines

Source: Various materials

India: Japanese companies interested in the expanding startup ecosystem

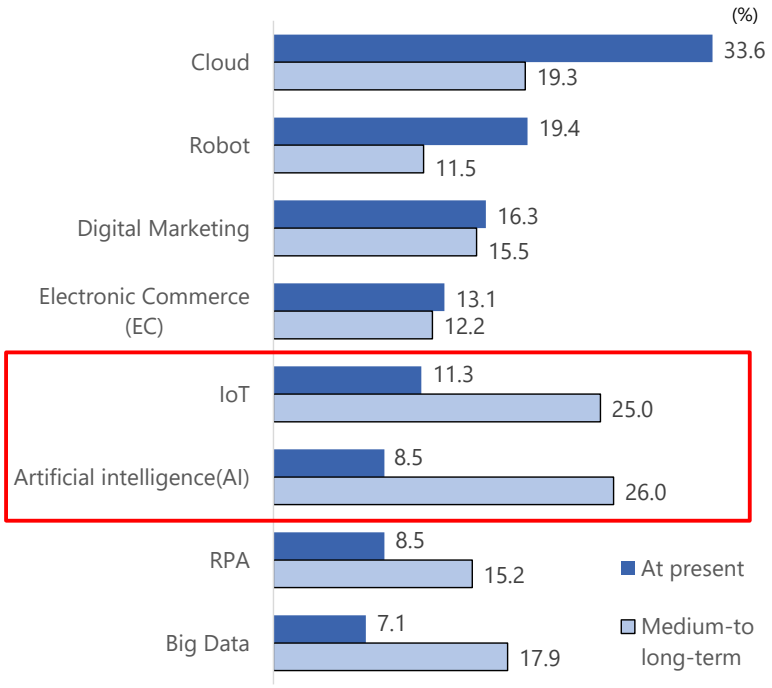
- In 2019, more than 1,200 startups were founded in India producing 25 unicorns. More than 75 Japanese companies have started investing more than $17 billion into over 170 Indian startups during the past six years.
- Japanese companies operating in India are also accelerating their efforts to promote digitization in collaboration with startups in India. There is strong interest in the future utilization of AI and IoT, in particular.

Unicorns produced in India in 2019

Industry type	Company Name	Corporate outline
EC/Retail	Bigbasket	Operates home delivery service websites focused on fresh foods and other foods in 22 major cities in India.
	Lenskart.com	Operates eyeglasses retailing. The company's e-commerce websites have the virtual feature for wearing ability to wear eyeglasses, and they also have actual stores and an omni-channel sales format.
Logistics	DELHIVERY	Develop logistics services throughout India. It has more than 8,000 customers, including major e-commerce companies.
	RIVIGO	A logistics company serving the entire domestic market. Leveraging its IT capabilities, it has functions such as speedy delivery, by converting traffic congestion information into data, delivery tracking, and remote operation of temperature management.
Software	Druva	Deploy cloud-based data protection platform.
	Icertis	Deploy cloud-based company management platform utilizing AI.
Content	DREAM11	Deploy gaming platforms (Dream11) that create virtual sports teams such as for crickets and football to compete against.
EV	OLA ELECTRIC	As a subsidiary of OLA, a major domestic automobile dispatch service company, the company is promoting the spread of electric vehicles and scooters.

Source : Ziinov and published materials

Utilization of digital technology by Japanese companies operating in India

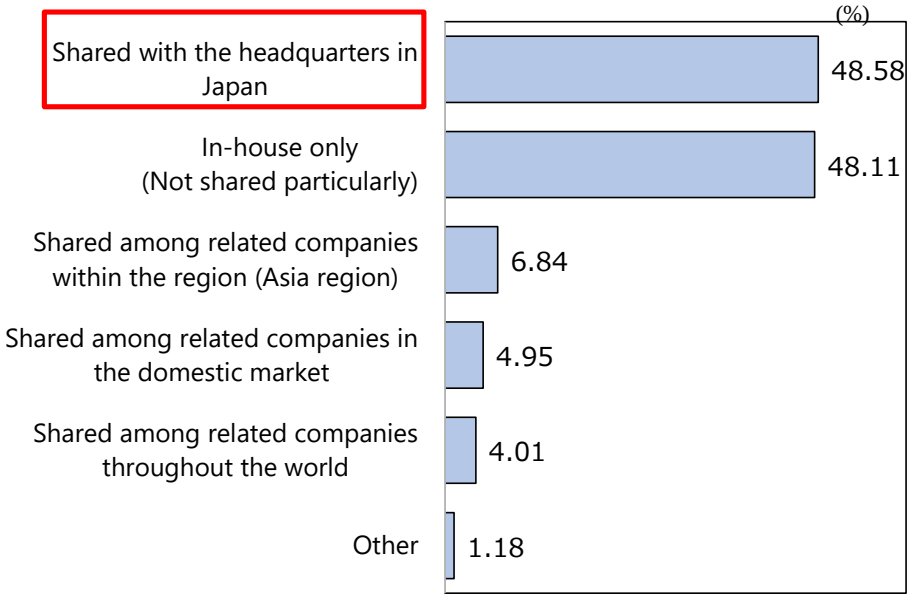


Note:The 8 most frequently used technology items are listed.
Source: "2019 Survey on Business Conditions of Japanese Companies in Asia and Oceania" (JETRO)

India: Expectations for the creation of advanced privacy standard platforms

- India, which is promoting digitization, has developed Aadhaar, a national identification number system, and India Stack, an integrated digital public infrastructure with personal identification, identity verification, and remittance functions based on the Aadhaar system. Democratic approaches to the use of data can be seen, encouraging the use of information while maintaining public trust.
- As of June 2020, the Personal Data Protection Bill is under deliberation in Parliament . The domestic storage (data localization) of personal information is being discussed for regulatory relaxation though there is a concern that this will hinder the economic growth brought about by free business. India aims to build an advanced privacy distribution and management platform that builds trust with individuals by utilizing India Stack.

Status of personal information sharing by Japanese companies operating in India



Note: Valid responses were received from 424 companies. Personal information refers to customer information, employee salary information, etc.
Source: "2019 Survey on Business Conditions of Japanese Companies in Asia and Oceania" (JETRO)

India Stack's technology layers enabling four functions

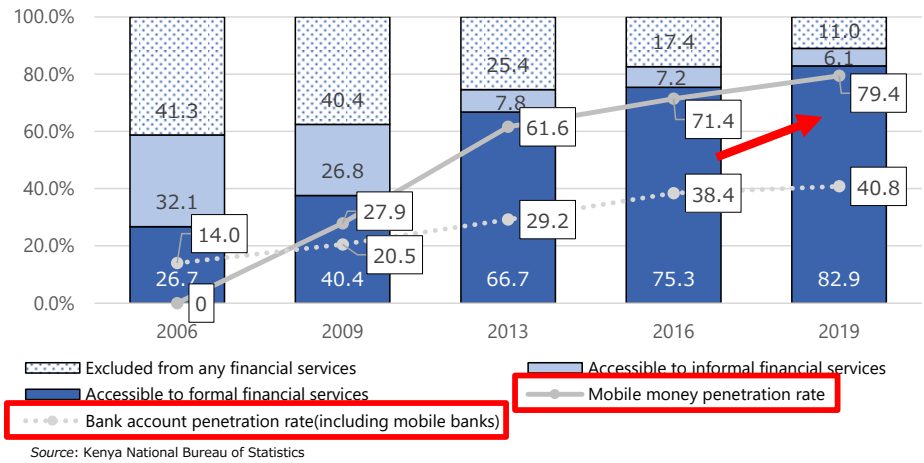
Name	Functions
Consent Layer	Free and safe data distribution for democratic use of data
Cashless layer	A single interface for financial institutions using cashless
Paperless layer	Eliminating collection and management of large volumes of documents
Presenceless layer	Digital biometric certification enables identity verification regardless of location

Source : India Stack website

Africa: Digital technology contributes to building social infrastructure

- The leapfrog phenomenon is observed in which digital technologies are introduced in areas where the social infrastructure is not developed, and services spread beyond gradual development. In the financial sector, the use of FinTech is increasing as mobile payments using mobile phones are spreading, especially among low-income people who have not been able to access bank accounts.
- Investment in startups by Japanese companies is also increasing. Cooperation between Japanese companies and startups tends to be concentrated in Kenya, where digitization has progressed from the early stages.

Changes in access to financial services in Kenya



Source: Kenya National Bureau of Statistics

Examples of business utilizing digital technology

Fields	Company Name	Summary
Finance	Tala	Microfinance
	Branch	Microfinance
	Apollo Agriculture	Financing for small farmers
	AZA Group	Payment services
Electric power	M-KOPA SOLAR	Solar Home Systems, etc.
	BBOXX	Solar Home Systems, etc.
	Azuri	Solar Home Systems, etc.
	PowerGen	Mini-grid, etc.
	D.light	Solar Home Systems, etc.
	Powerhive	Electric power development, etc.
Health care	Chefaa	Pharmaceutical e-commerce
	MyDAWA	Pharmaceutical e-commerce
	CarePay	Healthcare Platform
	mPharma	Online and mobile services
Distribution	KOBO360	Truck hiring
	Lori Systems	Truck hiring
	Sendy	Delivery service by motorcycles, truck hiring

Source: Company websites

Examples of collaborations between startups and Japanese companies using digital technology

Name of Japanese company	Company Name	Bases	Fields	Date of announcement of partnership
Toyota Tsusho Corporation	Sendy Limited	Kenya, etc.	Logistics	Nov-2017
				Feb- 2020
	Zipline International Inc.	United States, Rwanda, Ghana, etc.	Drone	May-2019
	Powerhive Inc.	Kenya	Electric power	Jul-2019
Mitsui & Co.	M-KOPA Solar	Kenya, etc.	Electric power	May-2018
Sumitomo Corporation	M-KOPA Solar	Kenya, etc.	Electric power	Dec-2018
	Power Gen (WindGen Power USA, Inc.)	Kenya	Electric power	Apr-2020
Mitsubishi Corporation	NEoT Offgrid Africa	Cote d'Ivoire, etc.	Electric power	Sep-2018
	BBOXX Limited	UK, Rwanda, Kenya, etc.	Electric power	Aug-2019
Marubeni Corporation	WASSHA Co., Ltd.	Tanzania, Japan	Electric Power, etc.	Sep-2018
	Azuri Technologies Ltd	UK, Kenya, etc.	Electric Power, etc.	Jun-2019
SOMPO Holdings	BitPESA(BTC Africa A.C.)	Kenya, etc.	Finance	Nov-2018
Yamaha Motor	Max.ng	Nigeria	Logistics	Jul-2019
	WASSHA Co., Ltd.	Tanzania, Japan	Electric Power, etc.	Dec-2019

Source: Company websites

Africa: Advancement in digital economy and progress in legislation

- In February 2020, the African Union (AU) Summit adopted the Digital Transformation Strategy for Africa (DTS) 2020-2030, and it was agreed that digital technology and innovation would be used to bring about integration of regional societies and economies, economic growth, and job creation.
- With the development of the ICT industry and the progress of digitization, the development of a legal system for properly handling personal information is required. In recent years, new legislative systems have been developed, such as Egypt and Kenya's introduction of data protection legislation in compliance with the EU's GDPR. Conversely, in some countries, such as Uganda and Tanzania, there are also movements of taxation on social media.

Recent trends in promoting digitization and rule formation in Africa

		2018	2019	2020
Trends in digital economy	Whole region	・The African Union (AU) holds E-Commerce Conference. ・United Nations Economic Commission for Africa (UNECA) encourages African countries to disseminate digital IDs.	・At the Transform Africa Summit organized by Smart Africa (regional organization), the heads of major countries declare that they will strengthen cooperation with the aim of creating a unified digital market.	・The AU adopted the Digital Transformation Strategy for Africa (DTS) 2020-2030.
	Private initiative	・Rwanda participates in eWTP (Note).	・Ethiopia participates in eWTP	-
Relevant rules in each country		・Uganda begins taxation on social media. ・Tanzania introduced the so-called Blogger Tax. ・Zambia decides to impose taxes on calls via the Internet.	・Egypt approves the Data Protection Law (Egyptian GDPR). ・Kenya started operation of the National Integrated Identity Management System (NIIMS) and enforced the Data Protection Act.	・South Africa: Protection of Personal Information Act (POPIA), approved in 2013, is scheduled to go into effect in FY2020/2021.

Note: eWTP refers to the concept "Electronic World Trade Platform" advocated by China's Alibaba Group in 2016.
Source: Various published materials

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Note: 1) The original Report is available only in Japanese. 2) Figures may not sum up to the total because some are less than one unit.