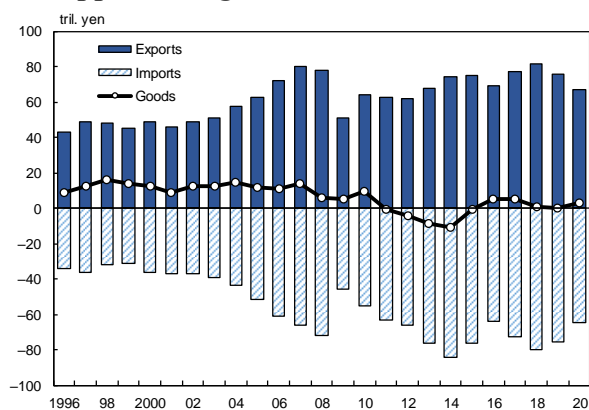


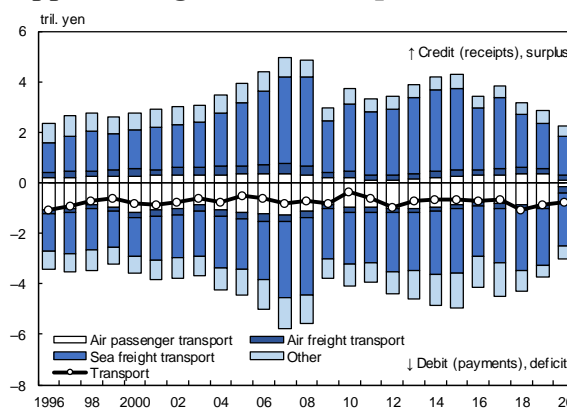
Appendix 1. Impact of the Spread of COVID-19 on Goods and Transport

While Japan in 2020 registered an increase in the surplus on goods, on a gross basis, both exports and imports fell substantially. The decline in exports was the largest since 2009 in the wake of the Global Financial Crisis, and the second largest since 1997, from when comparable data are available. The decline in imports also was the largest after the drops in 2009 and 2016.¹ As the spread of COVID-19 restricted the movement of people and goods, there was a decline in both receipts and payments for passenger and freight transport. This appendix examines the impact of the spread of COVID-19 by looking at monthly developments in exports and imports, as well as developments in individual items of transport.

Appendix Figure 1.1: Goods



Appendix Figure 1.2: Transport (Annual)



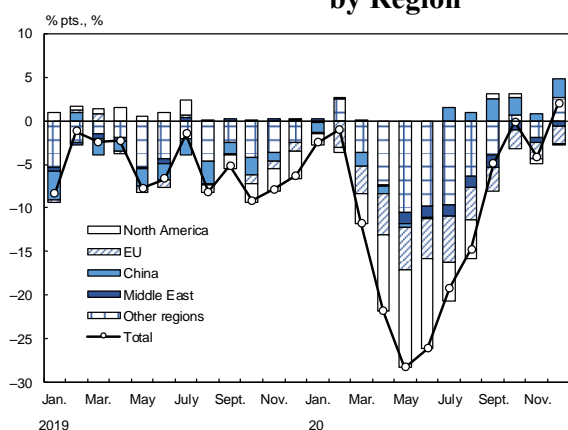
Goods

Monthly developments in exports during 2020 show that the year-on-year rate of decline accelerated from around February to May but then decelerated toward the end of the year amid the economic stimulus measures taken by economies around the world, so that in December the year-on-year rate of change turned positive. Exports of transport equipment to North America and the European Union (EU) played a major role in these developments. However, differences were seen in the pace of recovery in exports to the two regions. Specifically, while exports to North America by the end of 2020 had generally returned to the same level as in 2019, the pace of recovery in exports to the EU was slower than that to North America, and exports by the end of 2020 had not recovered to the previous year's level, as preventive measures against COVID-19 such as lockdowns were still being taken in the second half of the year. Meanwhile, as for exports to China, the decline in the first half of the year was small as COVID-19 subsided early in China, and in the second half of the year, the year-on-year rate of change in exports turned positive, led by exports of motor vehicles and "semiconductor machinery etc."

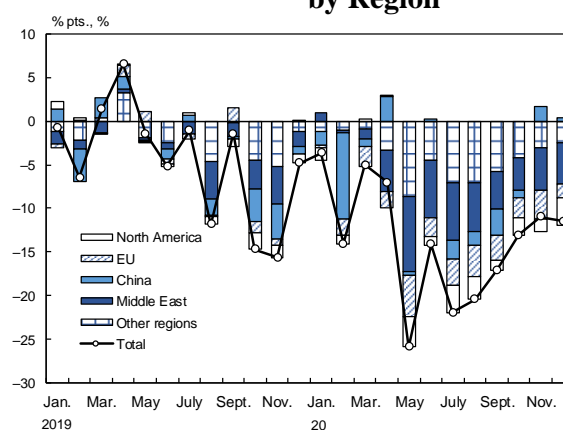
¹ The decline in imports in 2016 was mainly due to the drop in crude oil prices.

Turning to imports, overall imports decreased mainly reflecting the decrease in imports of mineral fuels from the Middle East. Moreover, the pace of recovery in imports was slower than that in exports, as the effects of the drop in crude oil prices and a decline in fuel demand lingered throughout the year, so that the year-on-year change in imports remained negative through the end of 2020.

Appendix Figure 1.3: Year-on-Year Changes in Exports by Region



Appendix Figure 1.4: Year-on-Year Changes in Imports by Region



Source: Ministry of Finance, "Trade Statistics of Japan."

Transport

The decrease in exports and imports of goods as well as the decrease in the number of travelers seen in travel also had an impact on transport.

As for the movement of people, in 2020, the number of travelers both entering and leaving Japan decreased by more than 80 percent compared to the previous year, and air passenger transport receipts decreased by 75 percent while payments declined by 84 percent. The larger decline in payments, coupled with the fact that payments have historically outstripped receipts, meant that the net deficit declined.

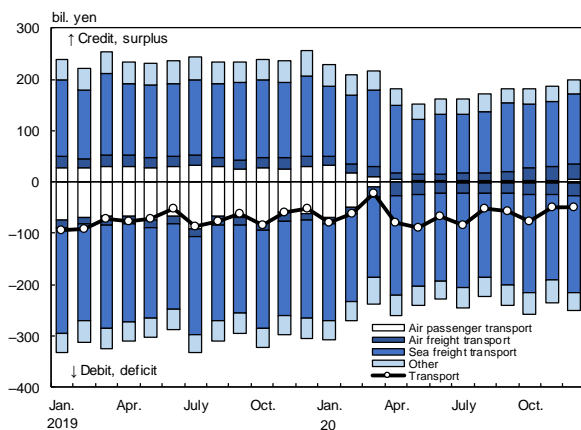
As for the movement of goods, the decrease in exports and imports affected receipts and payments for freight transport. In the BOP statistics, since importers are regarded to bear not only the cost of goods but also the cost of freight charges, freight charges received by Japanese carriers for exports from Japan are recorded as receipts, and freight charges paid to foreign carriers for imports into Japan are recorded as payments.² In addition, freight transport receipts/payments also include receipts/payments of charter fees for freight ships and aircraft.

² Payments to foreign carriers are estimated by dividing the receipts of Japanese carriers for imports by the share of Japanese carriers.

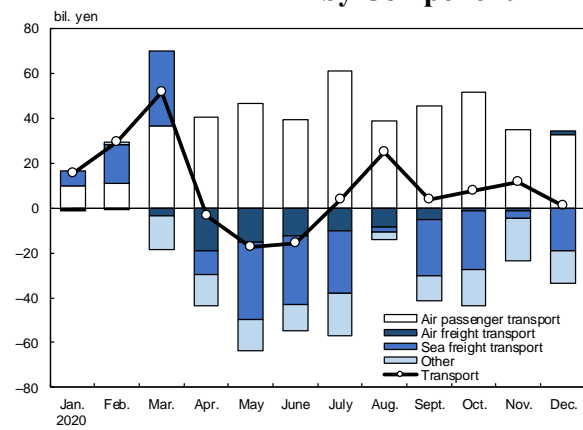
Looking at developments in freight transport during 2020, sea transport, which accounts for the majority of freight transport, saw a decline in receipts around May, when exports fell substantially, followed by a gradual recovery. On the other hand, as imports continued to decline, payments were below the previous year's level throughout the year, albeit with monthly fluctuations.

While payments and receipts for air freight transport are relatively small, amounting to only about 10 percent of those for sea freight transport, receipts increased clearly from around October after a temporary decrease around April, and in December reached the highest level since 2008. Payments were also significantly higher year-on-year from March onward and for 2020 as a whole were up 30 percent over the previous year. One likely reason for this is a shift from sea transport to air transport. Due to the spread of COVID-19, containers were held up, and sea transport supply capacity became tight, causing container freight rates to soar. Under these circumstances, firms switched from shipping goods previously transported by sea to shipping by air, which led to an increase in the volume of air freight and a rise in the unit price of air freight. These developments are reflected in the statistics for transport.

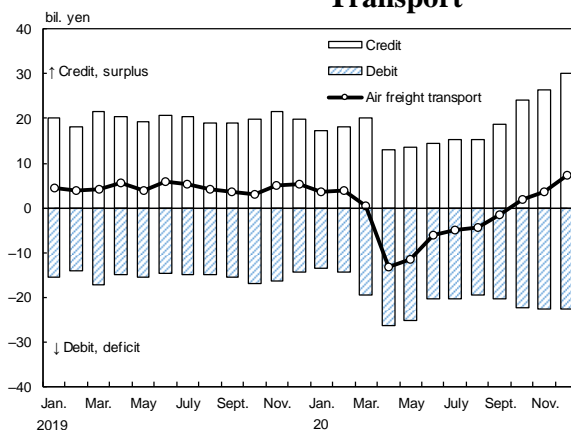
Appendix Figure 1.5: Transport (Monthly)



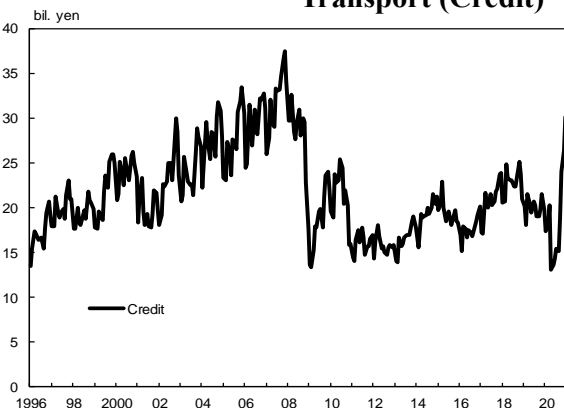
Appendix Figure 1.6: Net Year-on-Year Changes in Transport by Component



Appendix Figure 1.7: Air Freight Transport



Appendix Figure 1.8: Air Freight Transport (Credit)



Appendix 2. Components under Goods

While the Trade Statistics of Japan (the Trade Statistics) are the main data source for "goods" in Japan's BOP statistics, the coverage of transactions and the time of recording differ between the BOP statistics and the Trade Statistics. The Trade Statistics record goods that have crossed Japan's customs frontier, regardless of whether ownership of the goods has changed. On the other hand, the BOP statistics record goods whose ownership has changed between residents and nonresidents, regardless of whether they have crossed Japan's customs frontier. The BOP data on "goods" therefore are compiled and disseminated after necessary adjustments to the Trade Statistics data have been made, such as making certain additions to and deductions from exports and imports depending on whether there have been changes in ownership.¹

In response to the government's "Basic Policy for the Fundamental Reform of Economic Statistics," which calls for a clarification of the differences between exports/imports of goods in the BOP statistics and the Trade Statistics, the BOP statistics released from November 2020 onward include a breakdown of adjustments to figures in the Trade Statistics.² Looking at components under goods in the BOP statistics makes it possible to understand and analyze developments in trade that cannot be ascertained using the Trade Statistics alone. The following is an overview of (1) the newly released additions to and deductions from the Trade Statistics and (2) developments in merchanting.

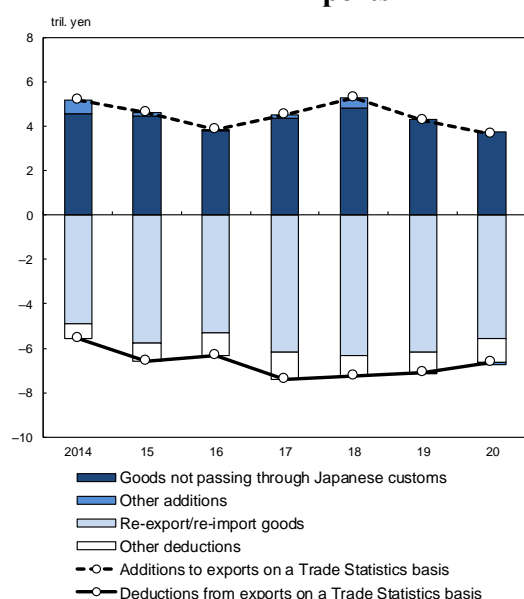
(1) Additions to and deductions from the Trade Statistics

Looking at additions to and deductions from exports and imports shows that deductions exceed additions for both exports and imports.

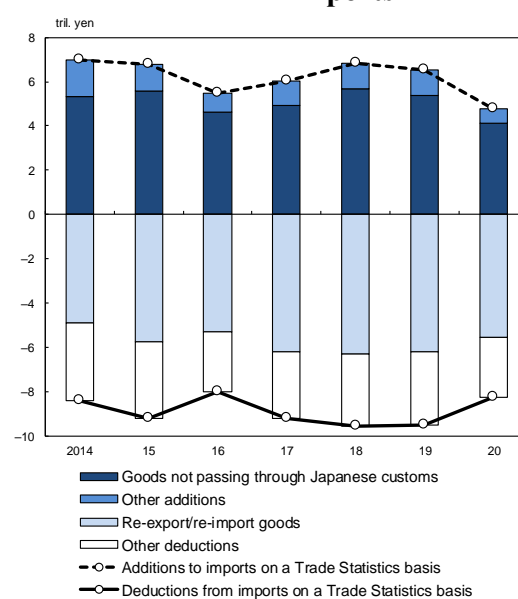
¹ For an overview of the differences between the BOP statistics and the Trade Statistics, see the reference table in Section III. A.

² For details, see "Changes in the Compilation and Dissemination of the Balance of Payments Statistics in Response to the 'Basic Policy for the Fundamental Reform of Economic Statistics'" (October 2020).

Appendix Figure 2.1: Adjustments to Exports



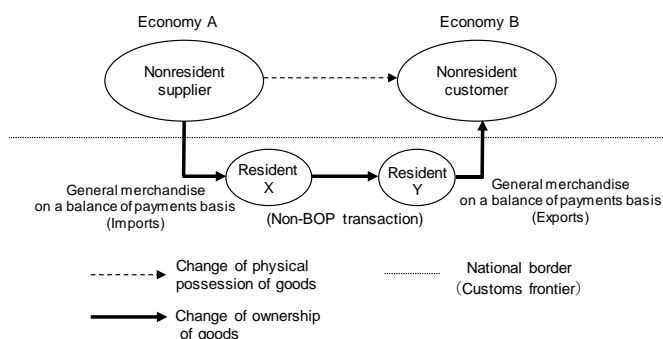
Appendix Figure 2.2: Adjustments to Imports



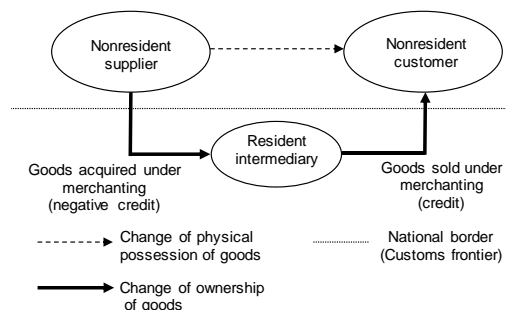
The bulk of deductions is for "re-export/re-import goods." These include goods that cross the customs frontier but are returned without change of ownership. In addition, figures from the Trade Statistics are adjusted by deducting freight charges and insurance premiums from imports. "Goods not passing through Japanese customs," which account for the bulk of additions, include goods for resale through transactions between resident merchants that are traded without passing through Japan. For example, a transaction in which resident X purchases goods from country A, sells them to resident Y, who then resells the goods to country B, so that the actual goods never pass through Japan, is not recorded in the Trade Statistics because the goods do not cross Japan's customs frontier; however, the transaction is included in the BOP statistics because ownership changes between residents and nonresidents.³

³ Such transactions are very similar to the merchanting described below. However, because at the time of purchase, resident X does not know whether resident Y will resell the goods purchased from country A to another country, the sixth edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6) treats such transactions as general merchandise trade rather than merchanting.

Appendix Figure 2.3: Resale through Transactions between Resident Merchants



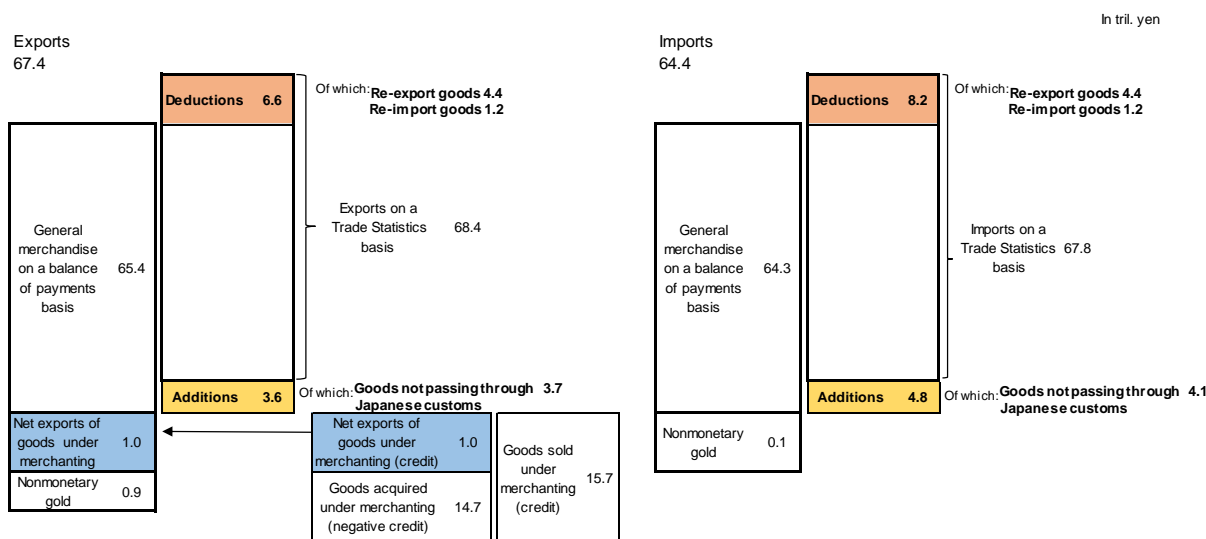
Appendix Figure 2.4: Merchanting



(2) Developments in merchanting

Goods in the BOP statistics include not only "general merchandise on a balance of payments basis" -- for which certain additions to and deductions from the Trade Statistics are made as described above -- but also "net exports of goods under merchanting." "Net exports of goods under merchanting" consist of transactions in which a resident purchases goods from a nonresident and resells the goods to another nonresident, but the goods do not pass through Japan.⁴ Although "net exports of goods under merchanting" do not account for a large share of exports, the gross value of "goods sold under merchanting" in 2020 was equivalent to more than 20 percent of total exports.

Appendix Figure 2.5: Adjustment of Components under Goods (Data for 2020)



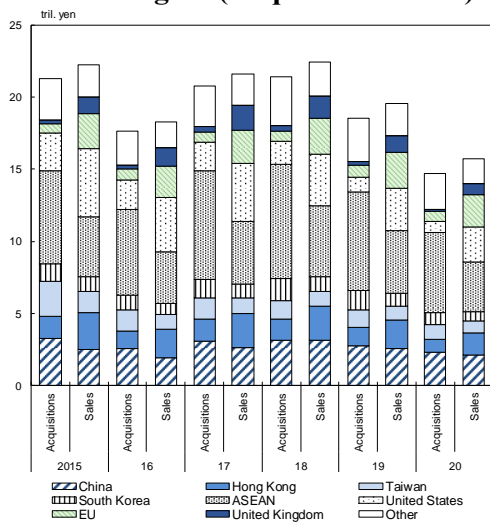
⁴ In line with the BPM6, purchases from nonresidents are recorded as "goods acquired under merchanting (negative credit)," resales are recorded as "goods sold under merchanting," and the difference is recorded as "net exports of goods under merchanting," all on the export side.

Looking at merchandising by partner economy, merchandising overall largely consists of the purchase of goods from economies such as the ASEAN countries, China, Taiwan, and South Korea, as well as the resale of such goods to Europe and the United States at a profit.

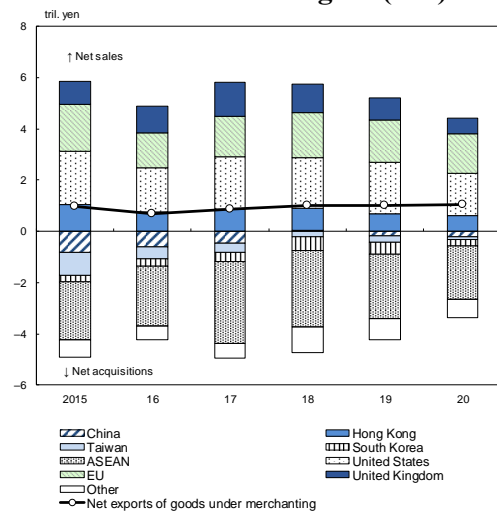
Developments in merchandising in recent years show that the ratio of goods sold under merchandising to exports has been on a gradual downward trend. In merchandising, the difference between the value of goods sold and the costs of acquiring them is regarded as the merchandising margin, and looking at the ratio of this margin to the value of goods acquired (the margin ratio) shows that it has been on an upward trend in recent years.

One possible explanation for this trend is that merchandising may be shrinking due to (1) strategic withdrawal from transactions with low margins and (2) the fact that, as merchants change their business practices, some of the transactions that used to fall under merchandising are no longer subject to inclusion in the BOP statistics, such as transactions among nonresidents.

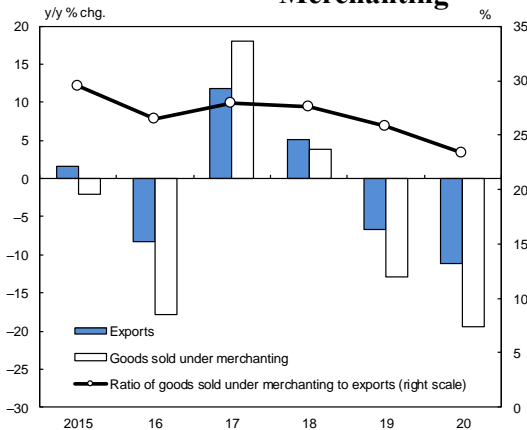
Appendix Figure 2.6: Merchandising by Region (Acquisitions/Sales)



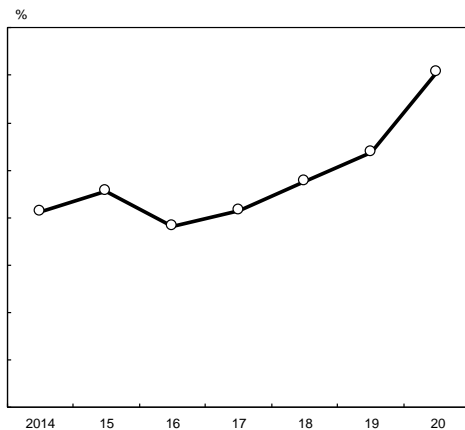
Appendix Figure 2.7: Merchandising by Region (Net)



Appendix Figure 2.8: Exports and Merchandising



Appendix Figure 2.9: Margin Ratio

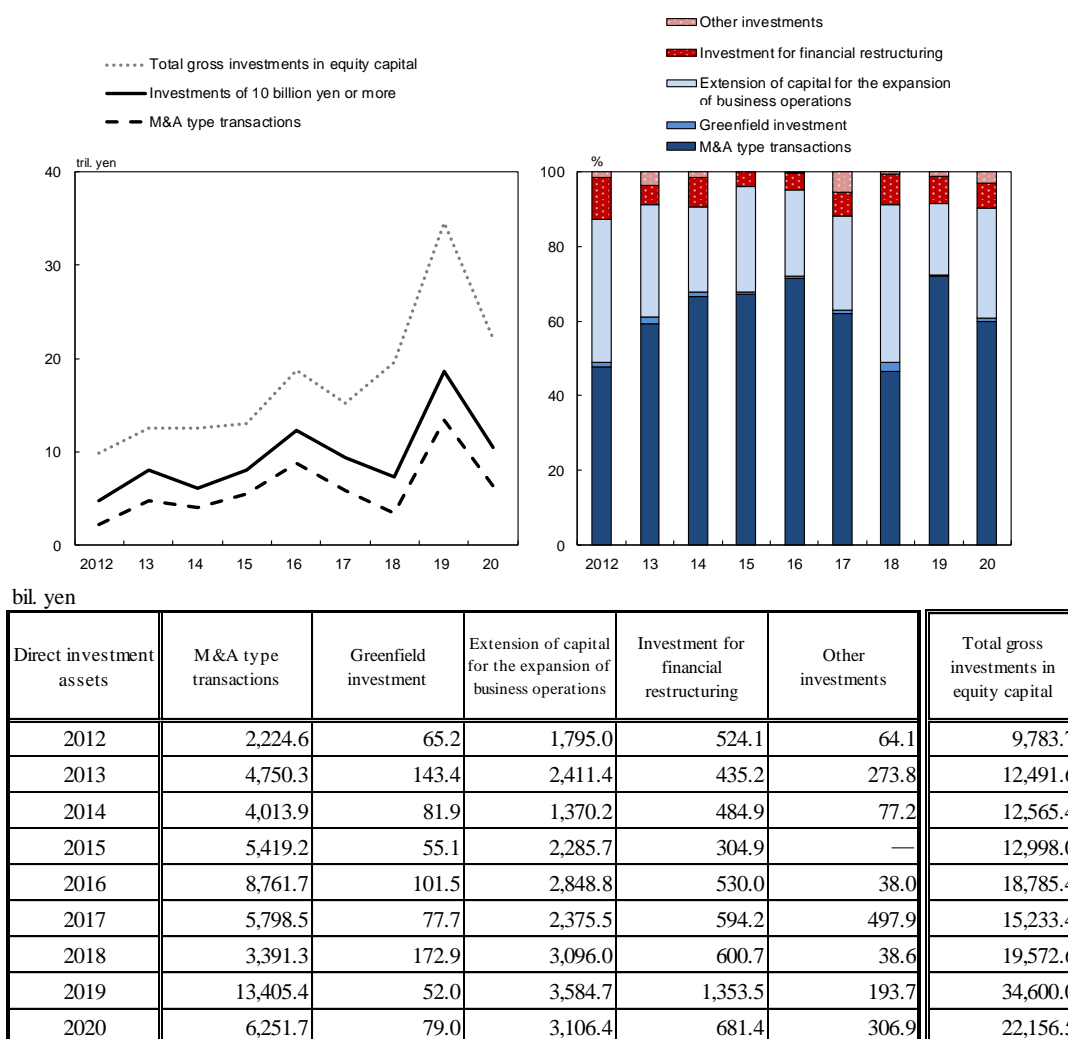


Appendix 3. Developments in Direct Investment by Type of Investment^{1,2,3}

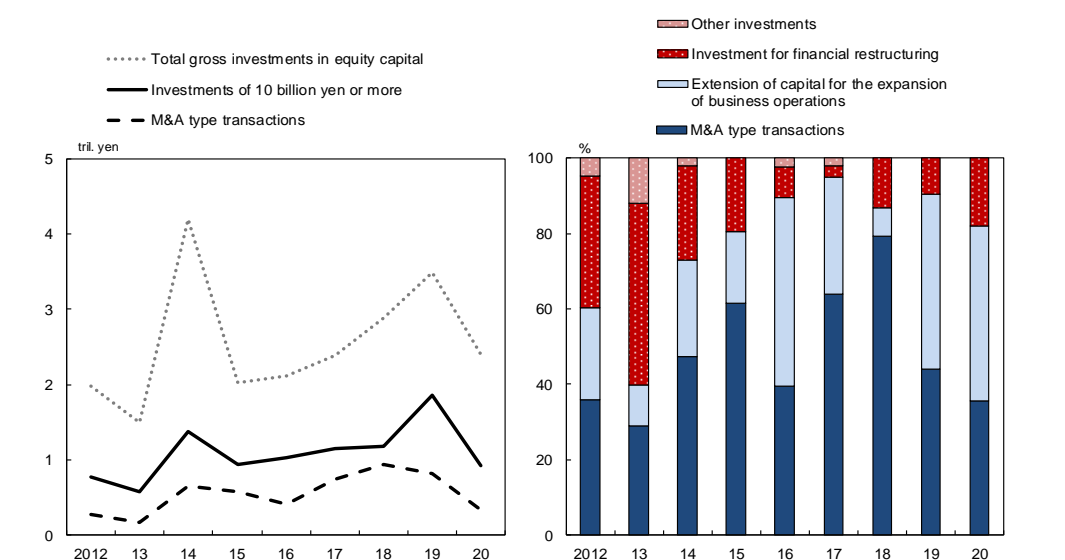
Developments in direct investment classified by type of investment show the following. Starting with direct investment assets, in 2020, M&A type transactions consisting of the acquisition of foreign firms continued to account for a significant share. The second-largest share was accounted for by the extension of capital for the expansion of overseas business operations. Greenfield investment -- in which new enterprises are established by investors -- continued to be low.

On the other hand, investments under direct investment liabilities continued to be low compared to those under direct investment assets. A breakdown by type of investment shows that while the extension of capital for the expansion of business operations continued to account for a significant share, the share of investment for financial restructuring increased in 2020.

Appendix Figure 3.1: Direct Investment Assets by Type of Investment on a Gross Value Basis (Investments of 10 Billion Yen or More)



Appendix Figure 3.2: Direct Investment Liabilities by Type of Investment on a Gross Value Basis (Investments of 10 Billion Yen or More)



Direct investment liabilities	M&A type transactions	Greenfield investment	Extension of capital for the expansion of business operations	Investment for financial restructuring	Other investments	Total gross investments in equity capital
2012	277.3	—	187.7	270.5	35.5	1,973.7
2013	165.8	—	63.8	276.6	68.2	1,496.4
2014	656.9	—	351.1	345.3	29.5	4,202.8
2015	577.1	—	177.2	183.4	—	2,028.8
2016	403.8	—	513.1	83.3	22.3	2,122.7
2017	736.4	—	358.5	35.2	21.7	2,393.1
2018	936.2	—	91.4	154.4	—	2,892.8
2019	821.3	—	864.9	178.4	—	3,482.9
2020	327.0	—	430.1	164.6	—	2,397.1

Note: Total gross investments in equity capital include investments below 10 billion yen.

¹ In accordance with the BPM6 and the OECD Benchmark Definition of Foreign Direct Investment, Fourth Edition (BD4), 2008, direct investment transactions (gross investments in equity capital) are classified into the following five types of investment based on the purpose of investment in the ultimate investee enterprises: (1) M&A type transactions: investment for the acquisition of existing shares; (2) greenfield investment: investment for the establishment of new enterprises; (3) extension of capital for the expansion of business operations: investment for the expansion of business operations; (4) investment for financial restructuring: investment for debt repayment or loss reduction; and (5) other investments: other investments including investment in corporate type investment trusts.

² Reference figures. The classification is applied only to direct investment transactions (gross investments in equity capital) of 10 billion yen or more.

³ Figures before 2014 based on the fifth edition of the Balance of Payments Manual (BPM5) have been retroactively revised as far back as possible and have been reclassified to the extent possible for comparability following current international standards.

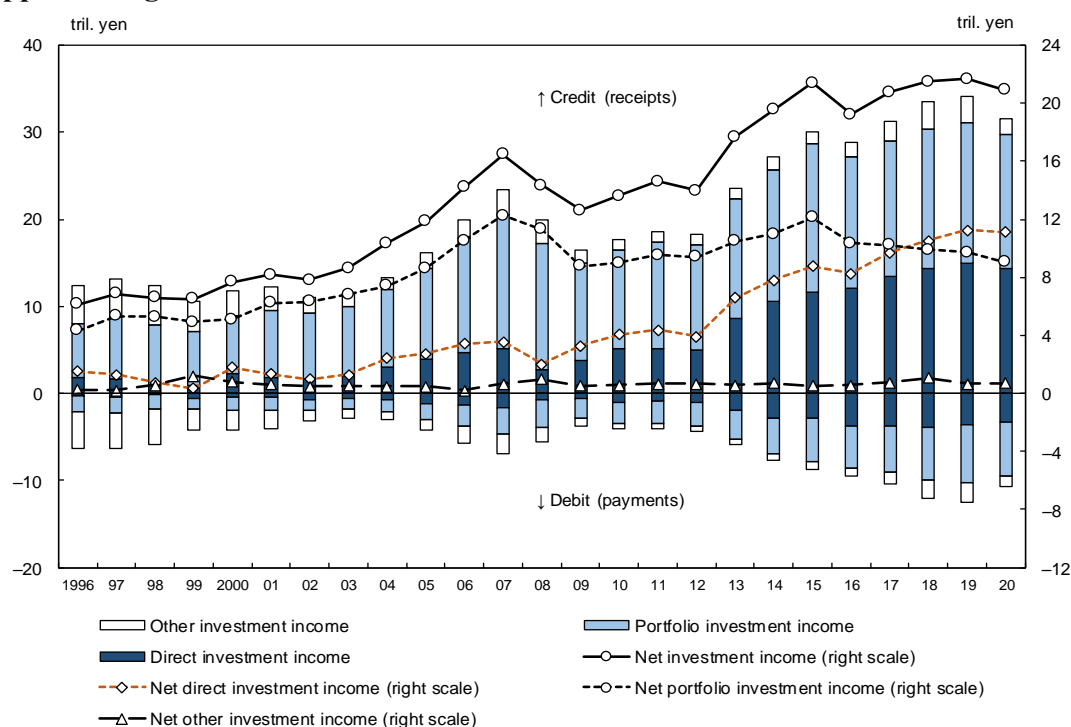
Appendix 4. Developments in Direct Investment Income and Its Recording Method

Since the latter half of the 2000s, the surplus on primary income, especially the surplus on investment income, has been a major contributor to Japan's current account surplus. However, while the surplus on investment income recorded a peak in 2015 and subsequently remained more or less unchanged, in 2020, it decreased for the first time in four years.

Developments in investment income by component¹

Looking at investment income by component, although the surplus on direct investment income had followed an increasing trend, it decreased slightly in 2020. In contrast, the surplus on portfolio investment income continued to decrease from 2016, as payments followed an increasing trend. As a result, direct investment income overtook portfolio investment income in 2018, and the gap has been widening since. While the surplus on other investment income remained more or less unchanged, both receipts and payments decreased substantially in 2020 due to a decline in interest rates.

Appendix Figure 4.1: Investment Income



¹ Investment income is classified into income on direct investment, portfolio investment, and other investment depending on the functional category of the principal. Income from reserve assets, however, only falls into either portfolio investment income or other investment income, depending on the type of instrument (for example, interest on U.S. government bonds is included under "interest" in portfolio investment income).

Understanding developments in direct investment income

Unlike investment income on equity and investment fund shares under portfolio investment income, income on equity and investment fund shares under direct investment income records not only dividends and withdrawals from income of quasi-corporations (hereafter "dividends etc.") distributed to investors but also earnings retained by subsidiaries as reinvested earnings.

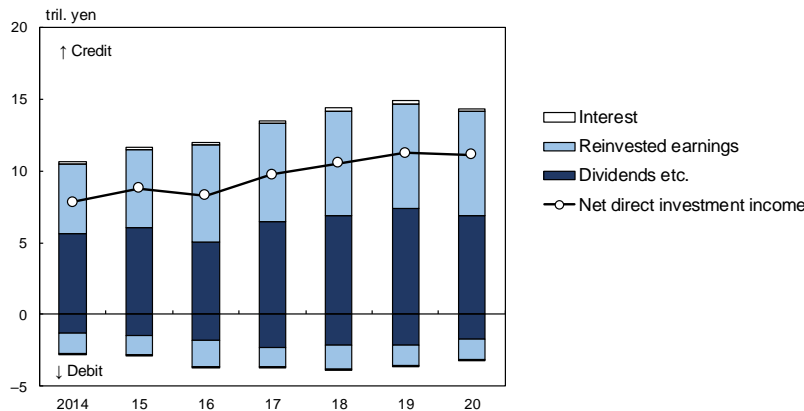
With direct investment, there are many cases in which dividend payments are irregular depending on the financial strategy of the parent company and profits for several years are distributed all at once. In the BOP statistics, profits earned by a subsidiary in a particular period (excluding holding gains and losses) are recorded under income on equity and investment fund shares, since they are considered as profits that belong to the parent company regardless of whether they are distributed or not.^{2,3}

Looking at recent developments in direct investment income, receipts continued to increase until 2019 on the back of an increase in the position of direct investment assets. Even in 2016, when receipts of "dividends etc." decreased amid the appreciation of the yen, receipts of reinvested earnings increased sufficiently to make up for this decrease. Turning to payments, from 2016 to 2019, they remained more or less unchanged, and the rate of return, calculated as investment income divided by the direct investment position at the previous year-end, declined. The reason is that although the position of direct investment liabilities increased, changes in payments of "dividends etc." were offset by those in reinvested earnings payments. While in 2020 both receipts and payments declined due to a decrease in "dividends etc.," it should be noted that figures for reinvested earnings are currently provisional (figures for April 2019 are carried forward for May 2019 onward), as described in the following section.

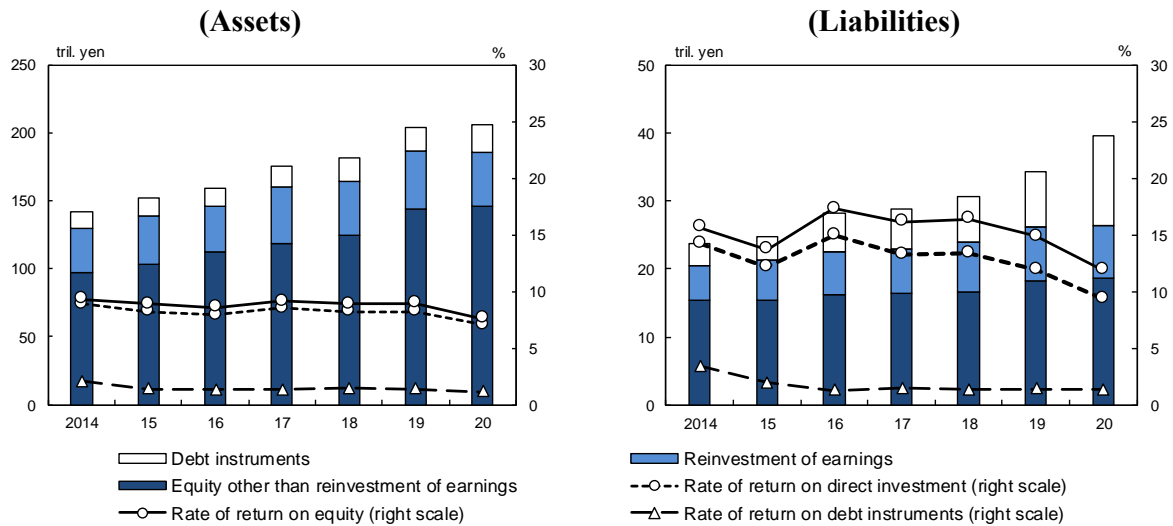
² For BOP recording purposes, it is assumed that earnings are distributed to the parent company and immediately reinvested by the parent, and the same amount is recorded for both direct investment income (reinvested earnings) and direct investment under the financial account (reinvestment of earnings).

³ There are cases in which dividend payments from a subsidiary to its parent company exceed the profits earned in a particular period. Such transactions are essentially withdrawals of the investment by the parent company from the subsidiary. In Japan's BOP statistics, such payments in principle are first recorded as payments of "dividends etc.," and the same amounts are then reflected as negative values in reinvested earnings and reinvestment of earnings.

Appendix Figure 4.2: Direct Investment Income



Appendix Figure 4.3: Direct Investment Position and Rate of Return⁴



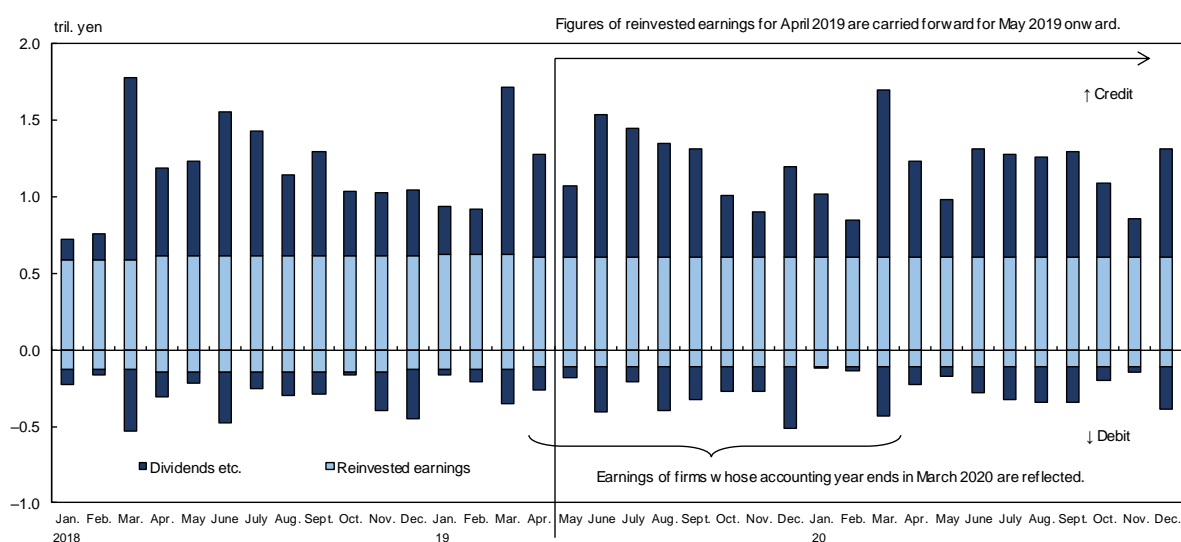
⁴ The rate of return is calculated by dividing the annual investment income receipts/payments by the asset/liability position at the previous year-end. However, the rate of return on equity is calculated by dividing income on equity and investment fund shares (the sum of "dividends etc." and "reinvested earnings") by the shareholders' equity position (the sum of "equity other than reinvestment of earnings" and "reinvestment of earnings").

Method of recording and revising reinvested earnings

In Japan, figures for reinvested earnings are prepared using reports based on firms' financial statements.⁵ Until financial statements data become available for the statistics, figures reflecting the amounts reported by firms whose accounting year ends in March -- which constitute the large majority in Japan -- are carried forward (at present, these are figures for April 2019, which are the first to reflect the reports of firms whose accounting year ended in March 2020). Then, in November each year, reported amounts are aggregated and the figures are replaced with the data for the relevant period in which the earnings accrue.⁶

The financial statements of firms whose accounting year ended in March 2021, which show the impact of COVID-19, will be reflected in the figures for April 2020 onward in the revision in November 2021.

Appendix Figure 4.4: Reflection of Accrued Earnings in the Recording of Reinvested Earnings



⁵ One twelfth of the annual total of retained earnings are recorded as reinvested earnings for each month, as retained earnings for a certain accounting year are deemed to be earned equally over that year.

⁶ For details, see "FAQs on the Balance of Payments Related Statistics" on the Bank's website. In the past, data from 17 months earlier were recorded as preliminary figures until the actual figures from firms' financial statements became available. The actual figures were then used to replace the preliminary figures when the annual revisions were released. In November 2020, the way in which reinvested earnings are recorded and revised was changed in line with the government's "Basic Policy for the Fundamental Reform of Economic Statistics," which called for a reconsideration of the recording of reinvested earnings for harmonization with the System of National Accounts. For details, see "Changes in the Compilation and Dissemination of the Balance of Payments Statistics in Response to the 'Basic Policy for the Fundamental Reform of Economic Statistics'" (October 2020).

Appendix 5. Update of the IMF's Balance of Payments and International Investment Position Manual

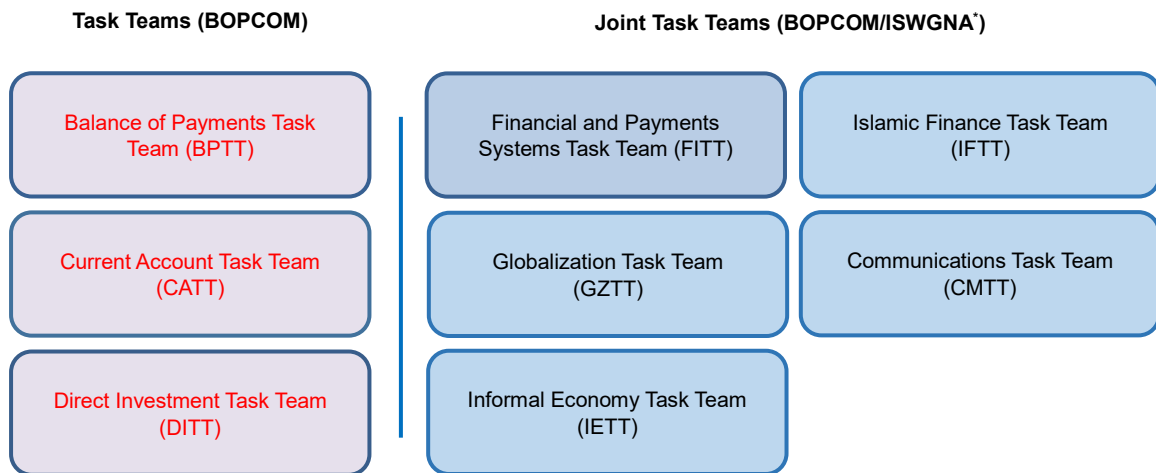
The International Monetary Fund (IMF) requires its member countries to provide balance of payments (BOP) related information under the Articles of Agreement of the IMF. It publishes the Balance of Payments and International Investment Position Manual (BPM), which serves as the international standard for the compilation of the BOP statistics and provides guidelines for reporting the BOP data to the IMF. Japan's BOP statistics are compiled based on the latest version, which is the BPM6 published in 2008.

Many economies around the world also compile their BOP statistics based on the BPM6, enabling international aggregation and comparison of the data. However, considerable time has passed since its publication, making it necessary to address issues that the BPM6 framework does not fully capture, such as (1) the closer trade and financial ties between economies, mainly through multinational enterprises, and (2) the growing need for data to analyze financial interconnections and vulnerabilities in the aftermath of the Global Financial Crisis.

In 2020, the United Nations Statistical Commission launched discussions on the update of the System of National Accounts (SNA) targeting a release of the revised standard in 2025. At the same time, the IMF Committee on Balance of Payments Statistics (BOPCOM) -- consisting of national compilers of BOP statistics and officials of international organizations -- endorsed the launch of the process for updating the BPM6 with a view to ensuring consistency between the statistical standards for macroeconomic statistics.

Technical expert groups, such as the Balance of Payments Task Team, the Current Account Task Team, the Direct Investment Task Team, and the Financial and Payments Systems Task Team, have been set up by BOPCOM, and these groups are currently discussing issues to be considered for the BPM update. Based on the proposals by these groups, BOPCOM will decide on the direction of the update and the manual will be revised for release in 2025.

Appendix Figure 5: Task Teams for the BPM6 Update



* The Intersecretariat Working Group on National Accounts.

Source: IMF.

Appendix 6. Issues regarding Developments in the International Investment Position by Factor and Challenges Ahead for Japan's Statistics

Discussions toward the Update of the IMF's Balance of Payments and International Investment Position Manual (BPM)

In recent years, the external assets and liabilities of many countries have increased to record levels. Along with this, the gap between changes in the international investment position (IIP) and the financial account of the balance of payments (BOP) -- which shows flows arising from transactions -- has been widening for many countries, and reconciliation between them has become of particular interest from an analytical and policy perspective. In response to this, in the discussions for the next version of the BPM (BPM7), it has been proposed to place an integrated IIP statement comprising the "beginning of period IIP," "changes in the IIP by factor," and the "end of period IIP" at the center of the BPM7 and elevate "changes in the IIP by factor" to a third element on par with the BOP and IIP.

Specifically, the proposal is to break down changes in positions not resulting from transactions into (1) "revaluations," which consist of "exchange rate changes" and "other price changes," and (2) changes in volume other than through transactions referred to as "other changes in volume" and to include these items as additional standard components in the BPM7. The proposal would also encourage the dissemination of "write-offs and cancellations" and "reclassifications," which form part of "other changes in volume," as supplementary items.¹

Appendix Figure 6.1: Proposed Integrated IIP Statement and Data Availability in Japan

	Beginning of period IIP	Changes in the IIP by factor (accumulation accounts)							End of period IIP
		Transactions from BOP's financial account	Revaluations		Other changes in volume				
			Exchange rate changes	Other price changes	Of which: Write-offs and cancellations	Of which: Reclassifications			
Proposal for BPM7*	◎	◎	◎	◎	◎	◎	○	○	◎
Dissemination in Japan	●	● Transactions	—	● Exchange rate changes	● Other changes	—	—	—	●

*The proposal recommends dissemination at the same level of detail as the IIP.

Legend: ◎ Standard components

○ Supplementary items (dissemination encouraged)

● Items currently available in Japan's statistics

Current Practice of and Challenges Ahead for the Compilation of IIP Statistics in Japan

In Japan, estimates on year-on-year changes in the IIP by factor are disseminated for calendar year-end positions. Specifically, estimates under "exchange rate changes" are obtained by

¹ See "B.4 Reconciliation between Flows and Stocks" available on the Approved Guidance Notes page of the IMF website.

multiplying positions denominated in foreign currencies at year-end and changes in exchange rates (calculated by currency). Estimates under "other changes" are obtained by subtracting changes classified under "transactions" and "exchange rate changes" from the changes in positions and include (1) changes due to fluctuations in stock, bond, and other market prices excluding exchange rates, (2) reclassifications,² and (3) changes due to differences in the way the BOP and IIP are compiled.³

However, these estimates have certain limitations. While changes due to exchange rate changes are calculated based on the assumption that reports submitted under the Foreign Exchange and Foreign Trade Act -- from which the IIP are compiled -- use the underlying currency, the actual reports do not always use the underlying currency. For example, while the source data for portfolio investment and outward direct investment are in principle reported in the underlying currency, those for inward direct investment and financial derivatives are reported in yen.

To compile data for Japan for the proposed integrated IIP, it would first be necessary to break down changes due to "other changes" into those due to "other price changes" and "other changes in volume." Regarding the estimation of changes due to price changes, while one idea would be to use market information, compilers at national statistical offices are currently sharing insights and working together to discuss possible approaches. Other issues to be examined in Japan include (1) the collection of position data for items for which source data are not available in the current reporting system and that are compiled by cumulating transaction flows and (2) a switchover from reporting in yen terms to reporting in the underlying currency.

(Reference) Developments in Japan's IIP by Factor

Looking at changes in Japan's IIP excluding financial derivatives (other than reserves) by factor since 1997 shows that transactions have generally made a positive contribution to the increases in both assets and liabilities.⁴ On the other hand, factors other than transactions

² For example, when additional investment establishes a direct investment relationship, prior positions under portfolio investment are reclassified as direct investment.

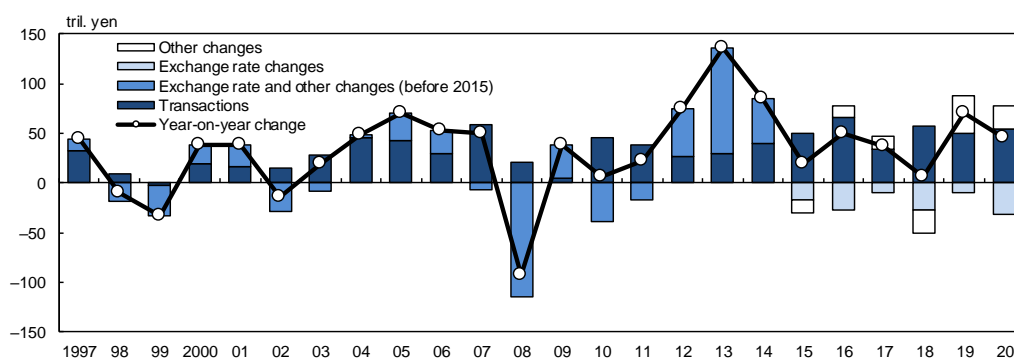
³ For example, "other changes" include differences between actual and provisional figures for the reinvestment of earnings under direct investment, particularly until reinvested earnings actually earned are reflected in the financial account (see Appendix 4). Moreover, "other changes" also include changes related to tax payments (i.e., reinvestment of earnings is calculated before tax in the financial account while it is calculated after tax in the IIP).

⁴ Except for items such as the payment of the option premium, financial derivatives at their inceptions generally do not involve transactions that are recorded in the financial account, and investment positions change during the contract period as prices in the underlying assets change. Since the settlement of positions is recorded in the financial account as a reduction in assets and liabilities,

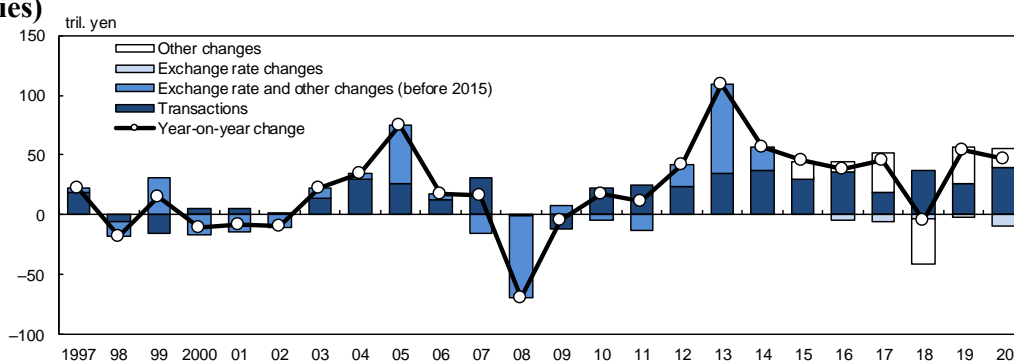
have made positive contributions in some years and negative contributions in others and therefore are the main reason for fluctuations in changes in the IIP. From 2015 onward, changes due to factors other than transactions can be divided into changes due to exchange rate changes and those due to other changes. This shows that, as a result of the appreciation of the yen, exchange rate changes have worked in the direction of reducing both the asset and the liability position, but particularly the asset position, reflecting the fact that a large share of assets is foreign currency-denominated (at year-end 2020, 73 percent of assets and 22 percent of liabilities were foreign currency-denominated). Changes due to other changes largely reflect developments in stock prices.⁵

Appendix Figure 6.2: Year-on-Year Changes in Japan's IIP by Factor⁶ excluding Financial Derivatives (Other than Reserves)

(Assets)



(Liabilities)



increases in the financial derivatives positions are in principle due to "other changes" and decreases due to transactions. (Meanwhile, changes due to exchange rate changes are generally zero since the main source data are reported in yen terms.) Therefore, since the impact of price changes differs from that for other functional categories, this report presents changes in Japan's IIP by factor excluding financial derivatives.

⁵ See V. B. in the main text for developments in "other changes" by component.

⁶ Data before 2014 are compiled using "historical data based on the BPM6," in which figures for "exchange rate changes" and "other changes" are not available. Figures for "exchange rate and other changes" for 2014 include changes due to changes in compilation methods with the switchover to the BPM6-based statistics. Year-on-year changes in the IIP by factor from 2015 to 2019 do not add up as the figures for "exchange rate changes" and "other changes" do not reflect annual revisions.