

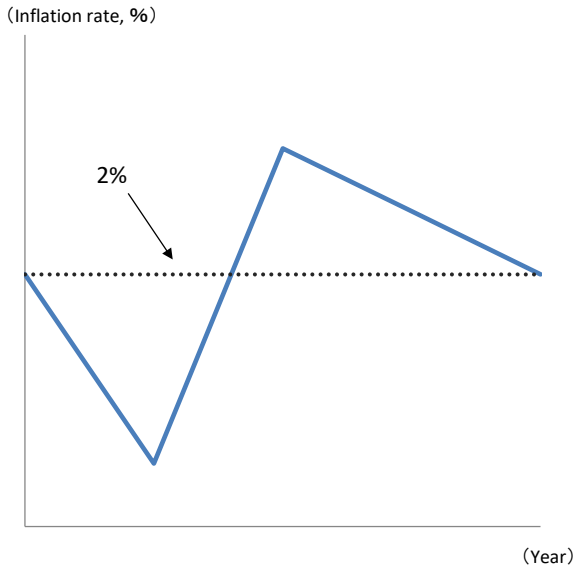
Monetary Policy at an Inflection Point

March 1, 2022

Hiroshi Nakaso
Chairman of the Institute
Daiwa Institute of Research Ltd.

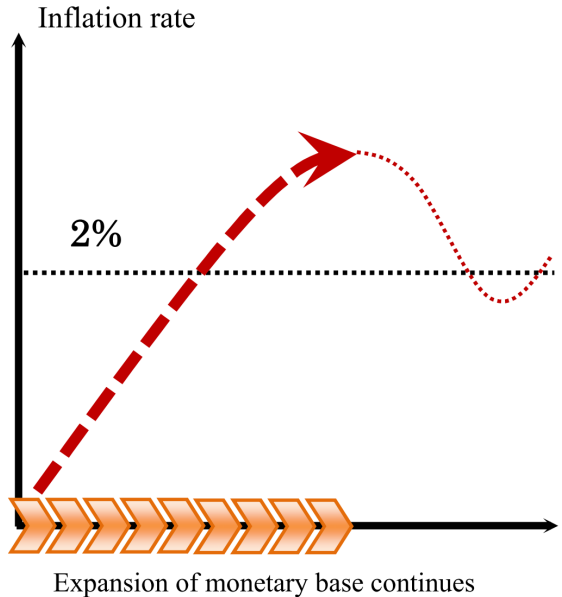
Average Inflation Targeting (Fed) , Inflation-overshooting Commitment (BOJ) and Symmetric Inflation Target (ECB)

Average Inflation Targeting (Fed)



“Following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.”

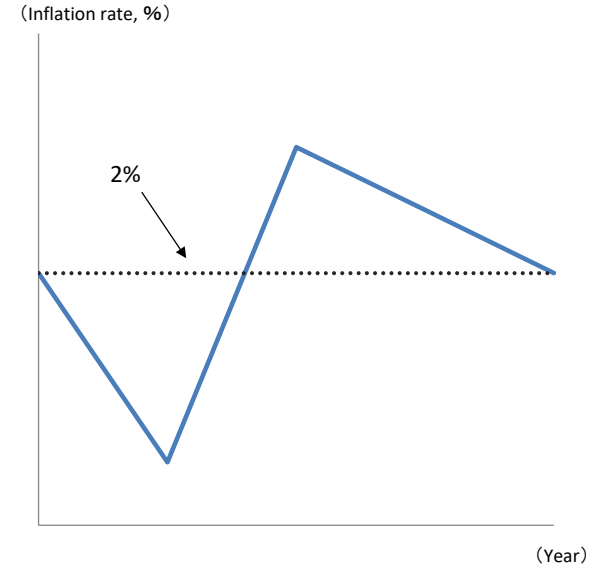
Inflation-overshooting Commitment (BOJ)



“The Bank continues expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner.”

Source: Kuroda, Haruhiko(2017) “The Role of Expectations in Monetary Policy: Evolution of Theories and the Bank of Japan's Experience”, Speech at the University of Oxford; compiled by DIR

Symmetric Inflation Target (ECB)

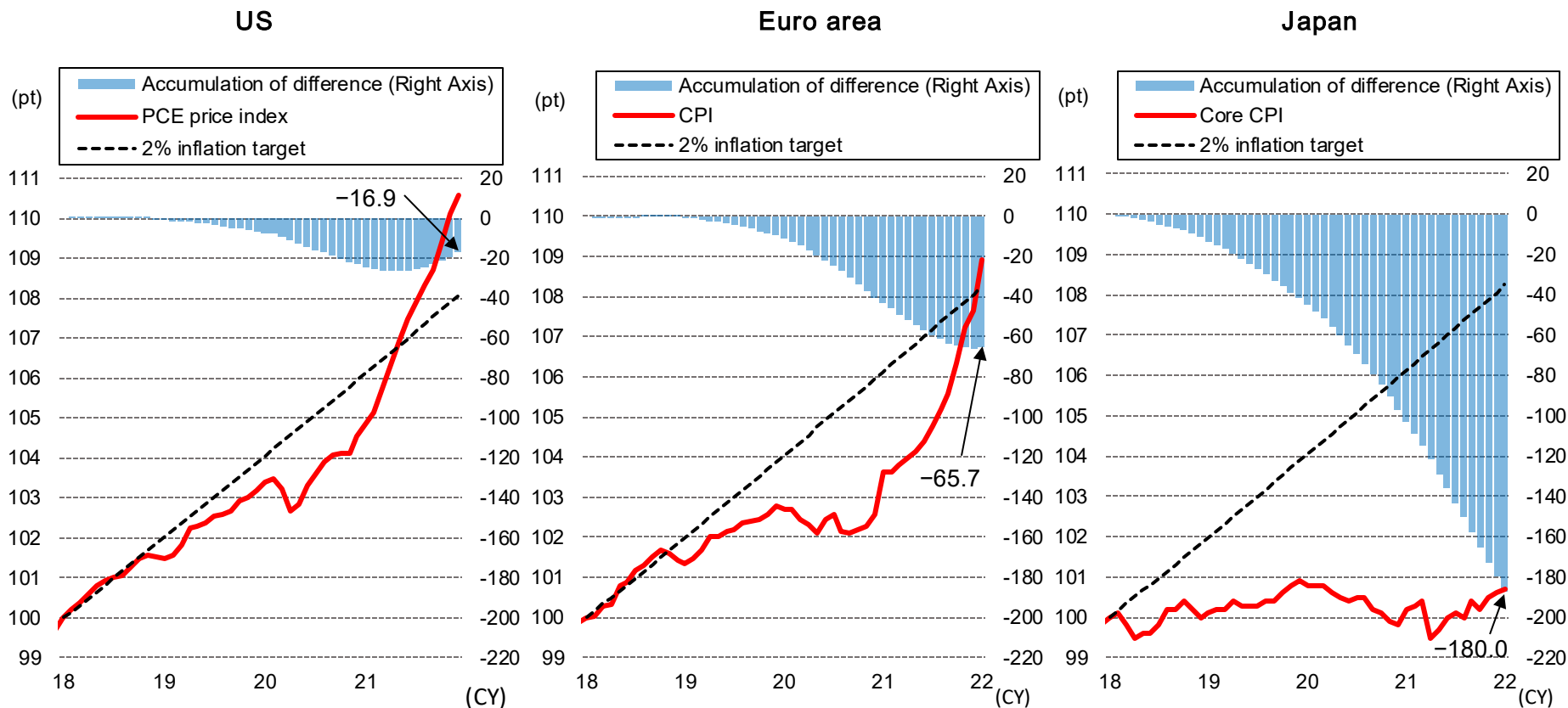


“We are committed to target 2%, and we are defining very clearly what symmetry is to us; equally undesirable deviation on both sides of the target, positive or negative.”
 “There might be some moderate temporary deviation in either direction of that 2% – and that is okay.”

Source: Christine Lagarde, Press Conference on the ECB's new monetary policy strategy (July 8, 2021); compiled by DIR.

Source: Fed (2020) “Review of Monetary Policy Strategy, Tools, and Communications”; compiled by DIR.

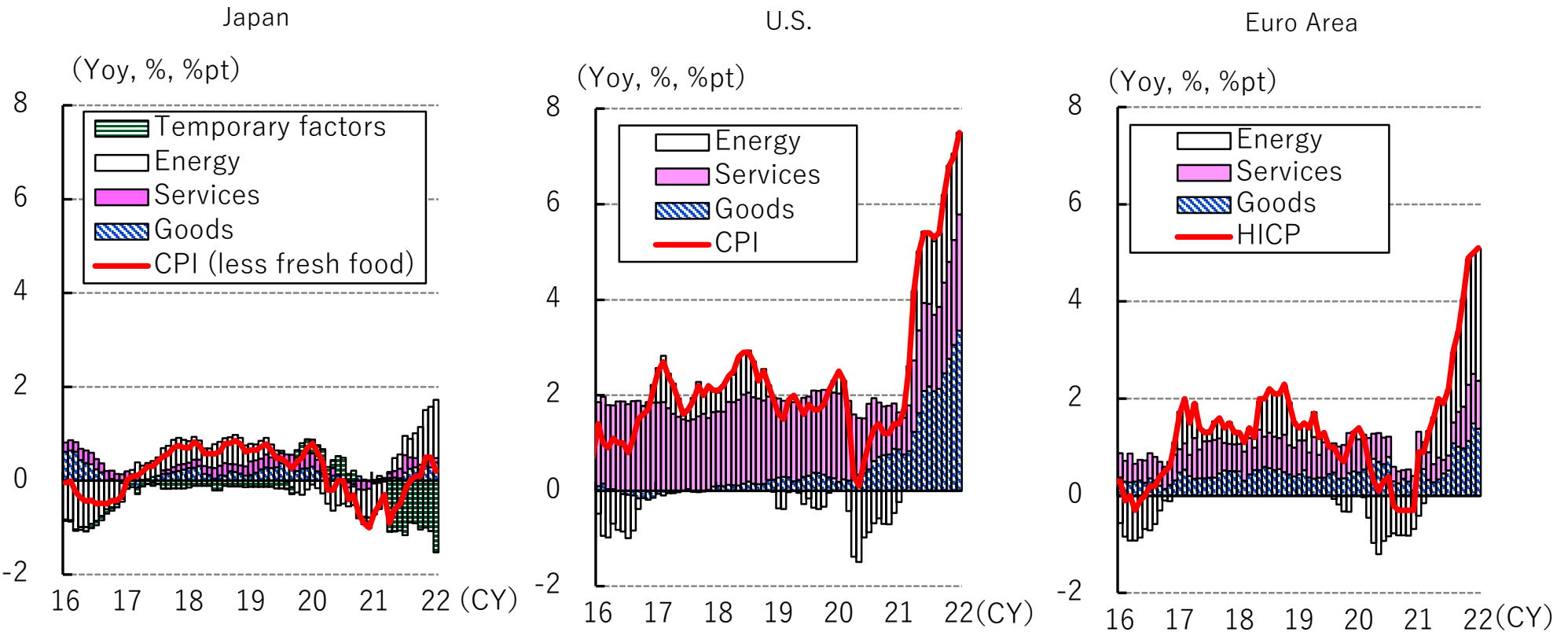
Inflation and 2% target in US, Euro area and Japan



Note: Seasonally adjusted

Source: BEA, Eurostat, and Ministry of Internal Affairs and Communications, Haver Analytics; compiled by DIR.

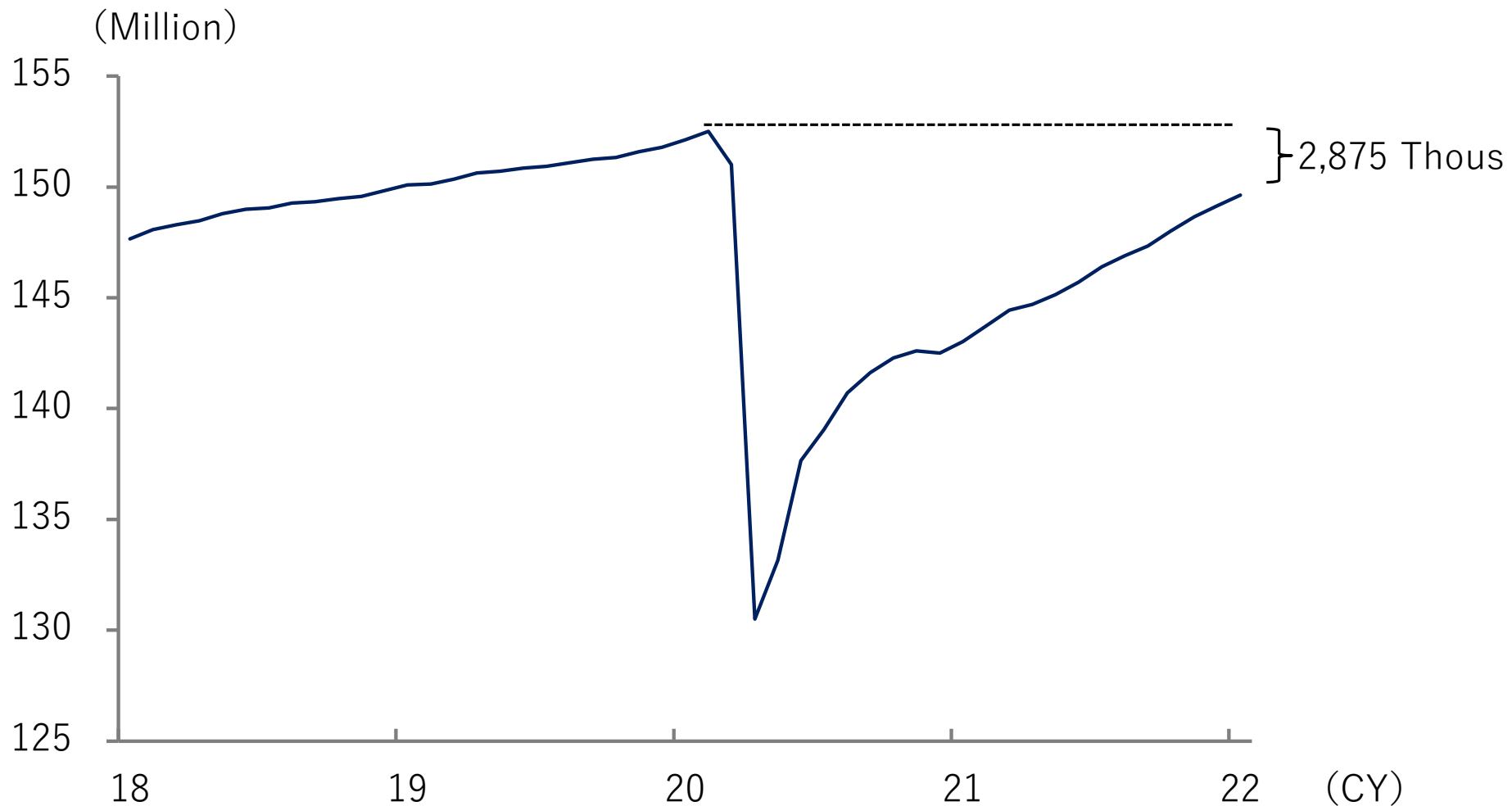
Consumer price in Japan, U.S and Euro Area



Note: Temporary factors in Japan consist of the effects of the consumption tax hike, policies concerning the provision of free education, "Go To Travel" campaign and mobile phone charges.

Source: Ministry of Internal Affairs and Communications, BLS, Eurostat, Haver Analytics; compiled by DIR.

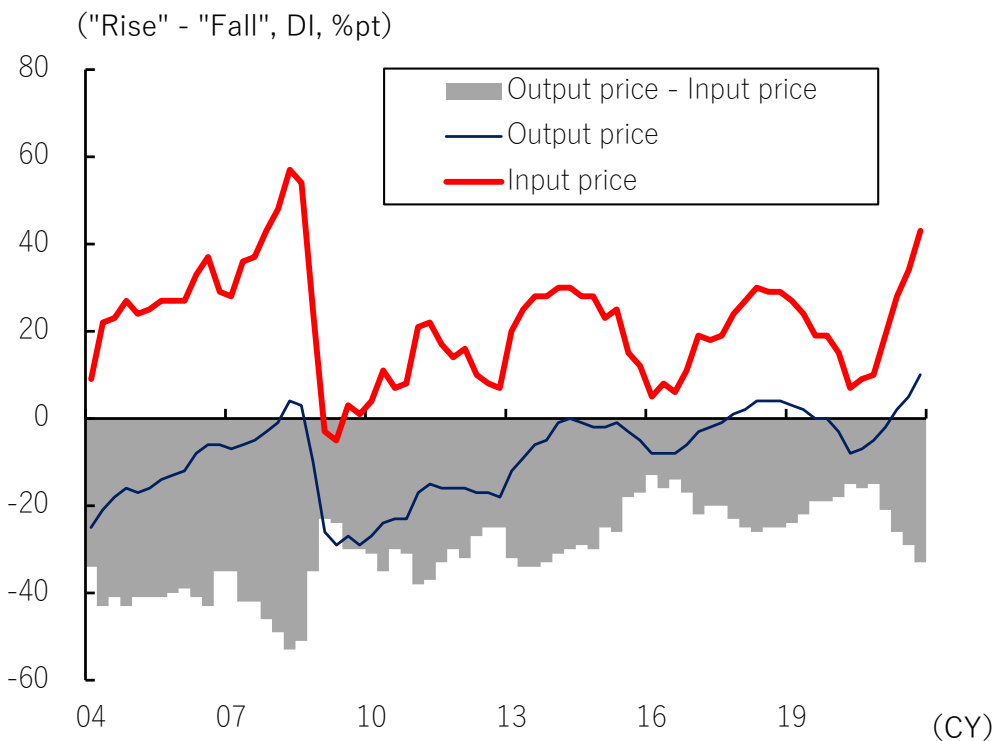
Nonfarm Employees in U.S.



Source: BLS, Haver Analytics; compiled by DIR.

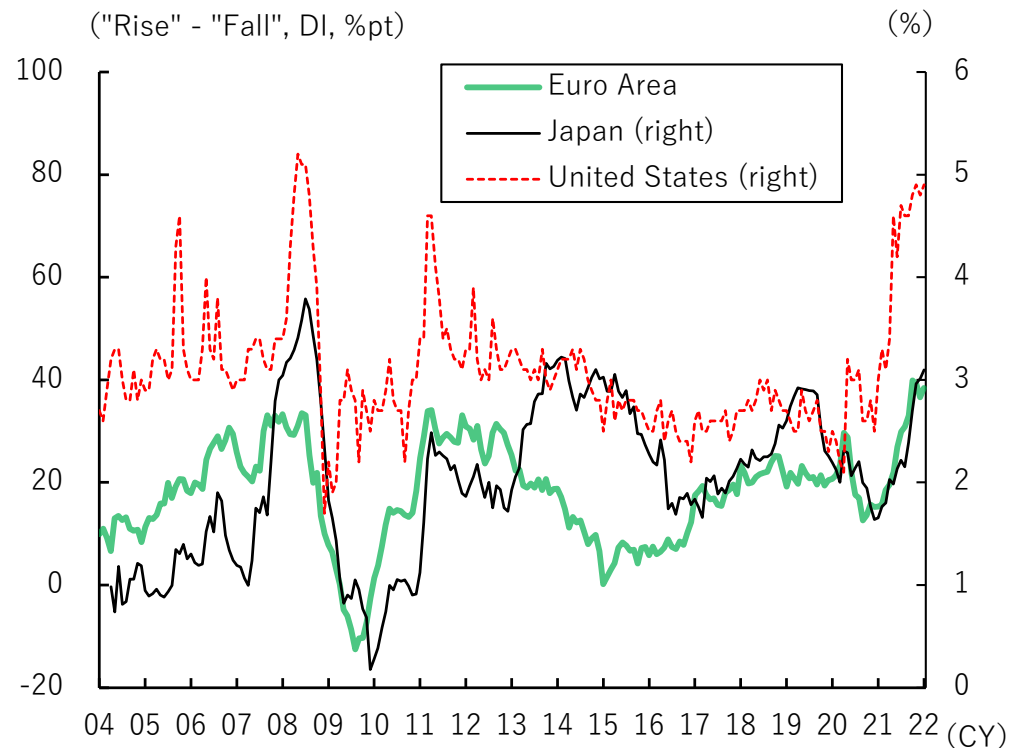
Inflation expectations

Output and Input prices (TANKAN)



Source : BOJ; compiled by DIR.

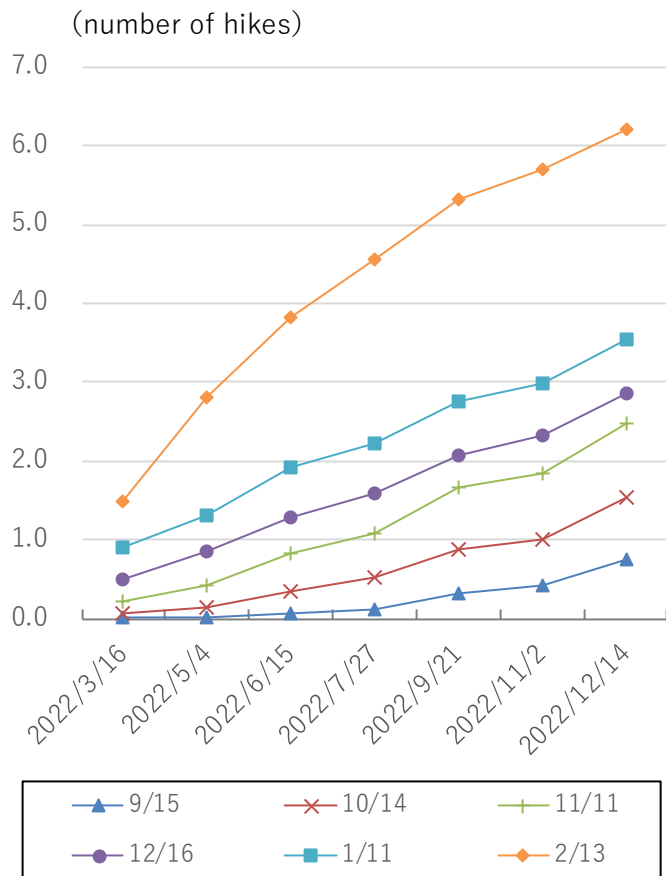
Inflation expectations of consumer



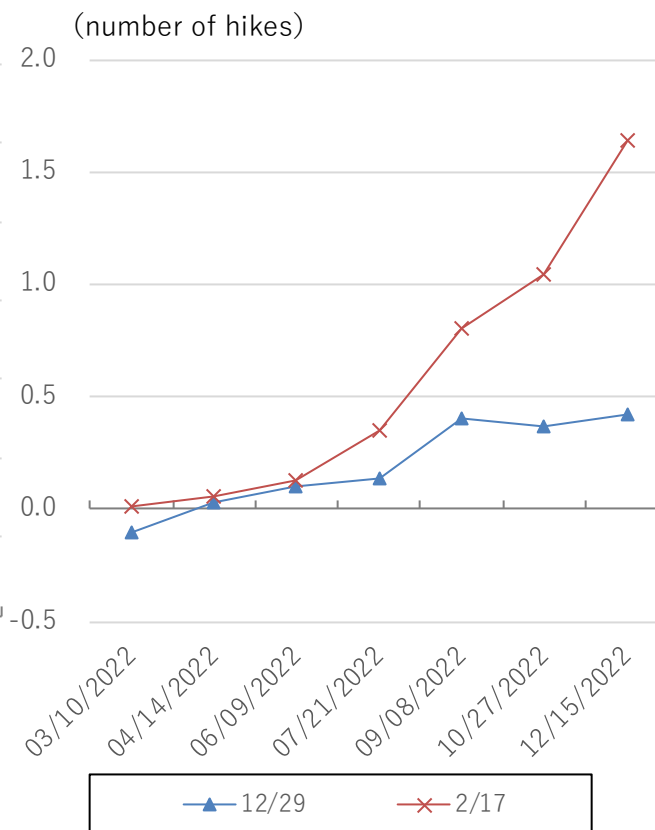
Note: Inflation expectation in Japan is weighted average of "price expectations a year ahead" by Consumer Confidence Survey.
 Source : CAO, Reuters/University of Michigan, European Commission; compiled by DIR.

Implied number of rate hikes in the US, Euro Area, and Japan

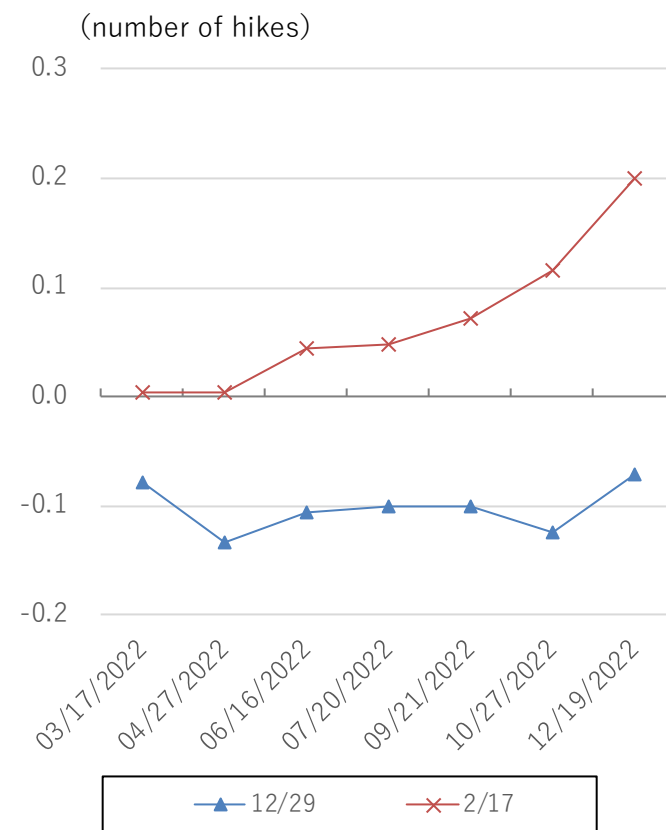
U.S.



Euro Area

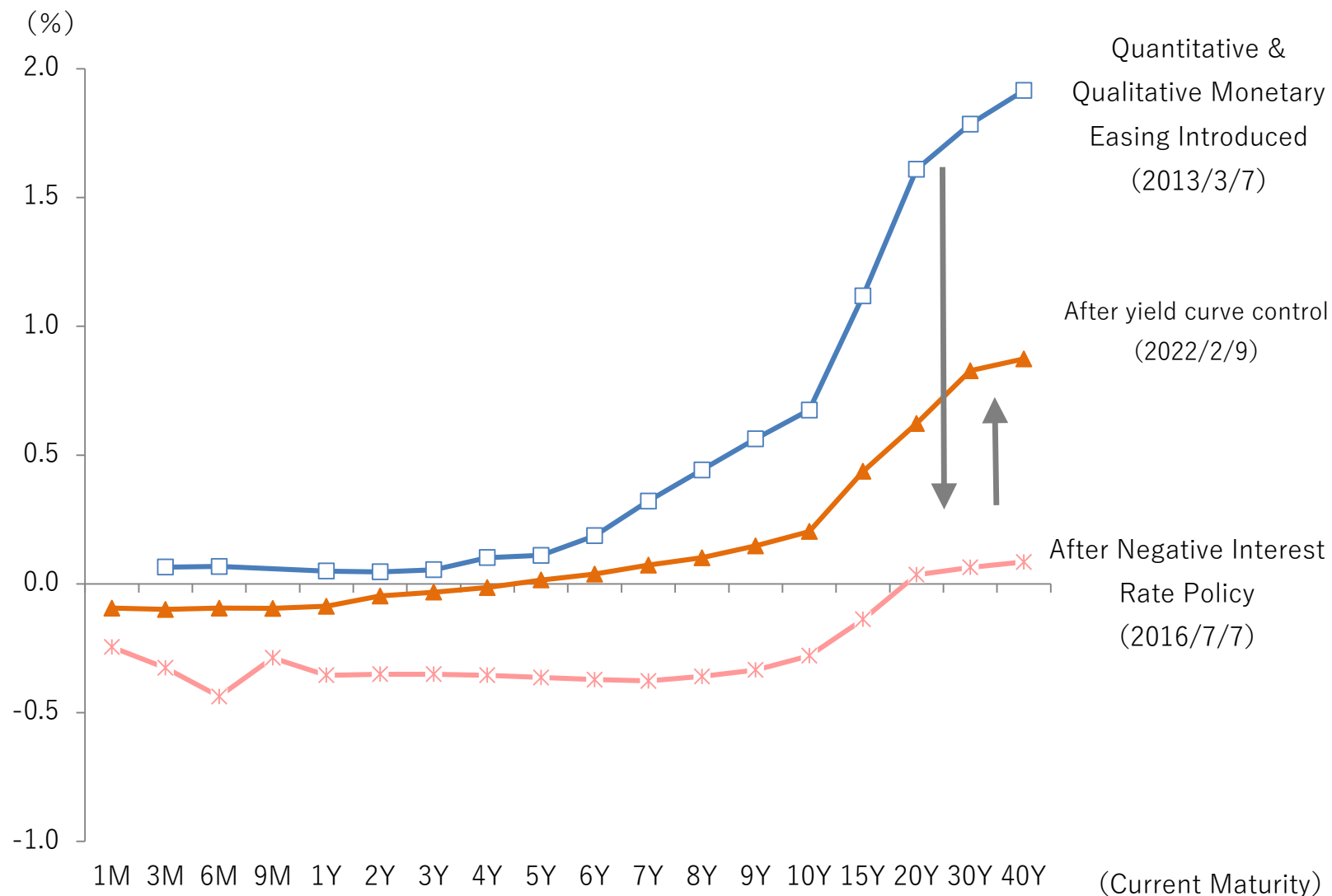


Japan



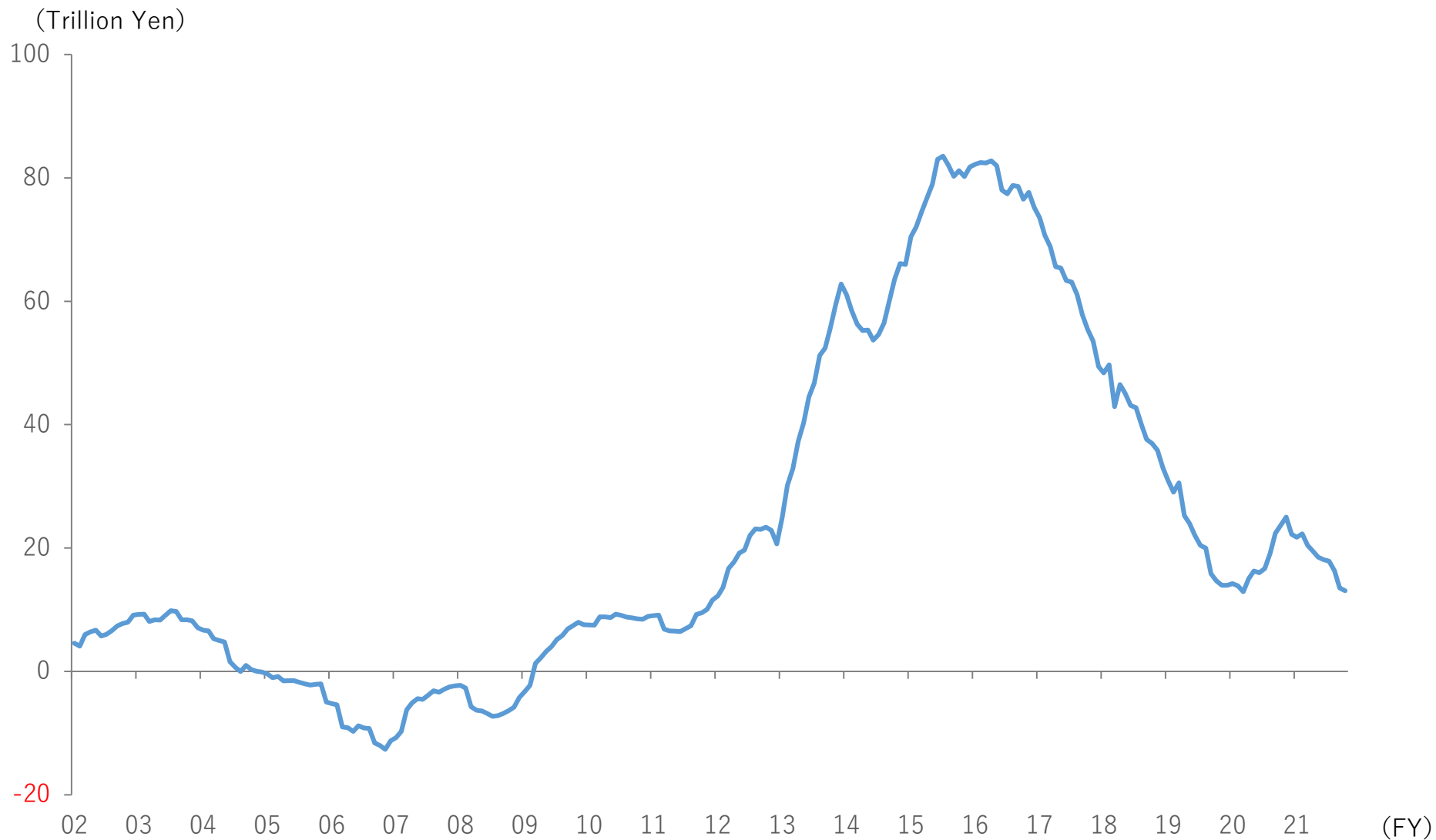
Note: A 0.25 percent increase per hike is expected. The numbers are calculated from Federal Fund futures and OISs
 Source: Bloomberg ; compiled by DIR

Change in Shape of Yield Curve



Source: Haver Analytics; compiled by DIR.

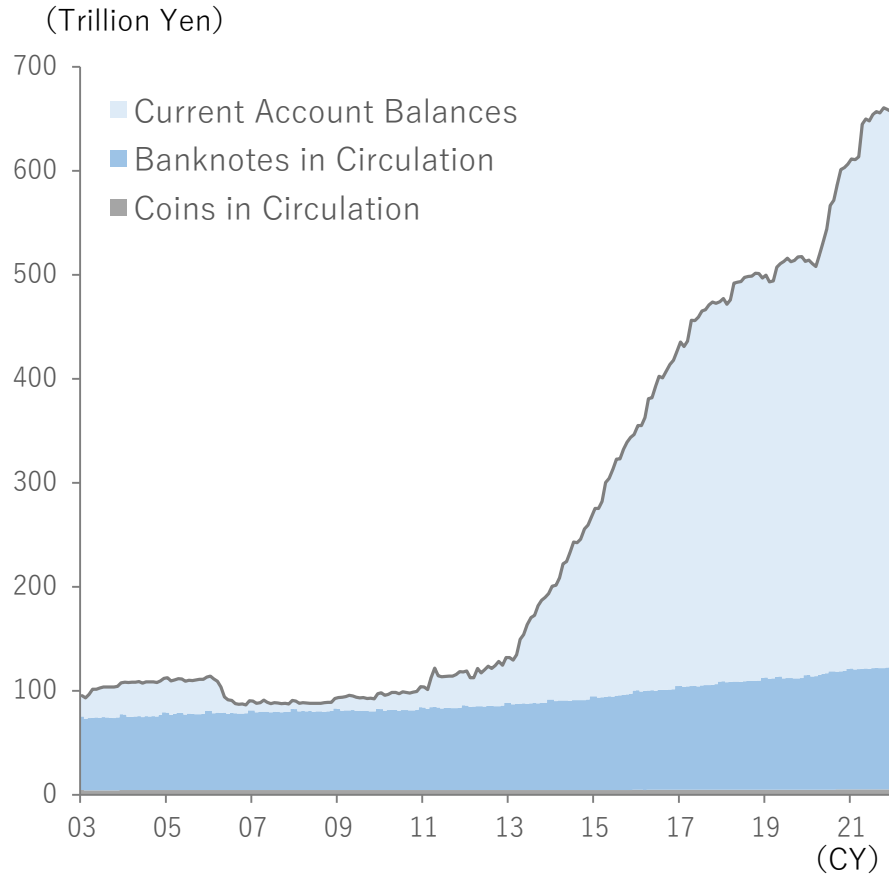
Japanese Government Bonds Purchased by the Bank of Japan



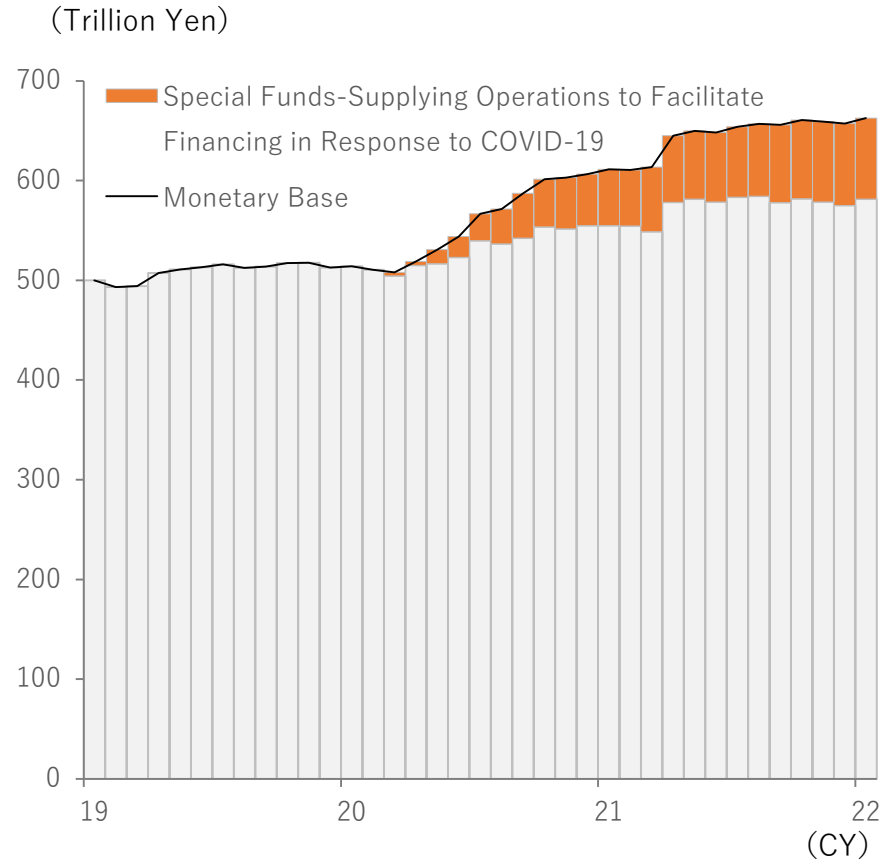
Source: Bank of Japan; compiled by DIR.

Monetary Base in Japan

Monetary Base Average amounts outstanding

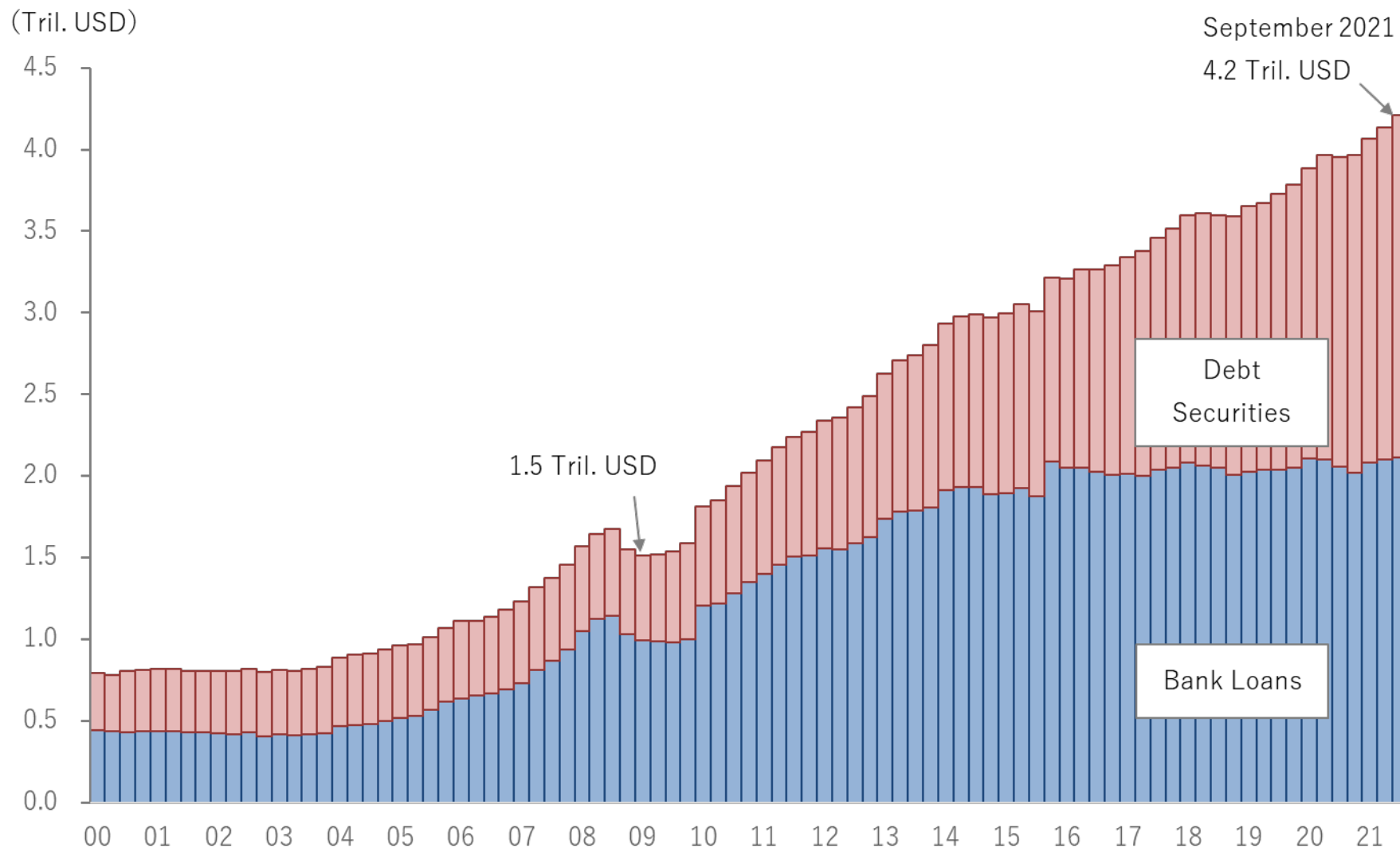


Monetary Base and outstanding of COVID-19 operations



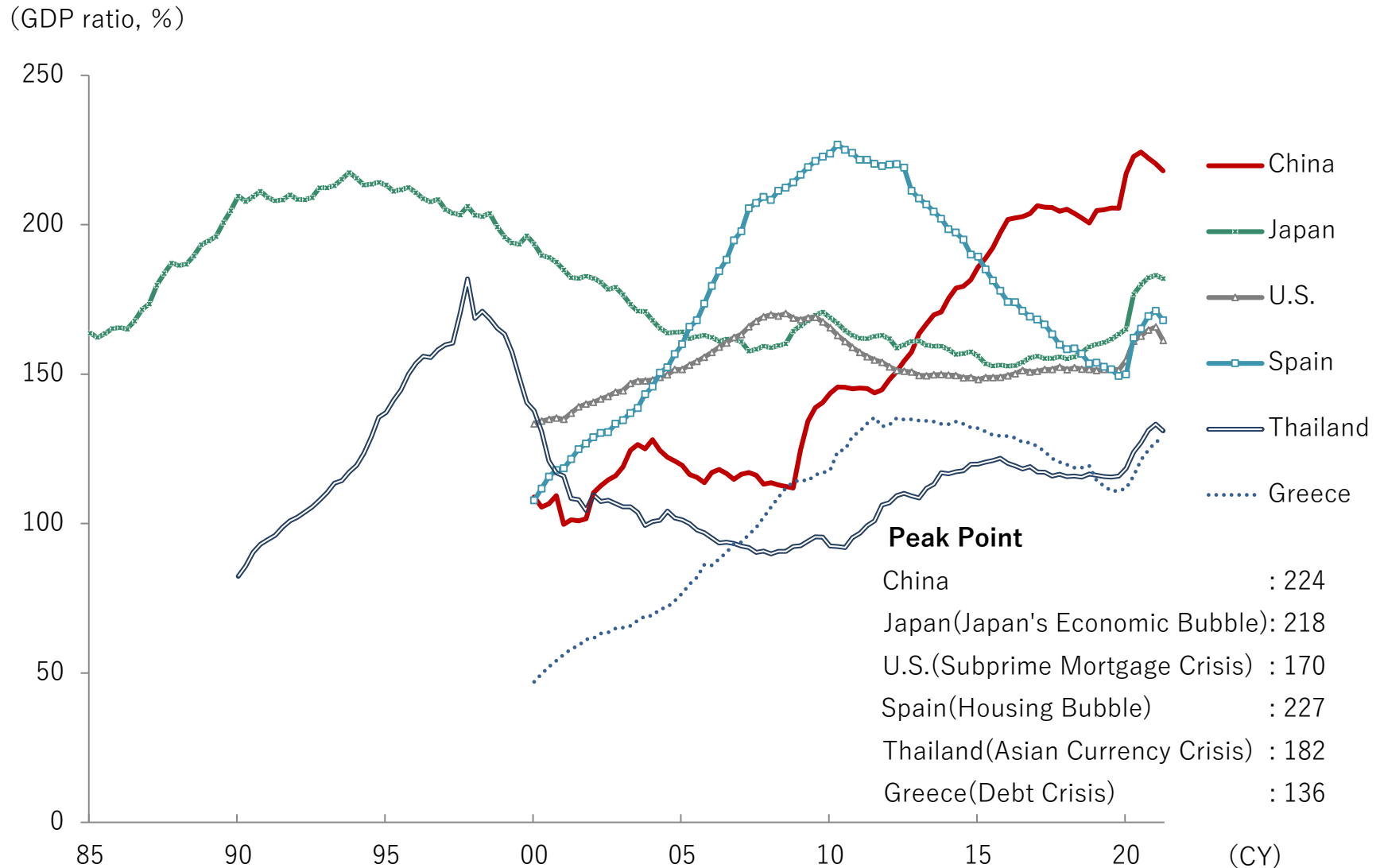
Source: Bank of Japan; compiled by DIR.

High Levels of USD Denominated Debt in EMEs



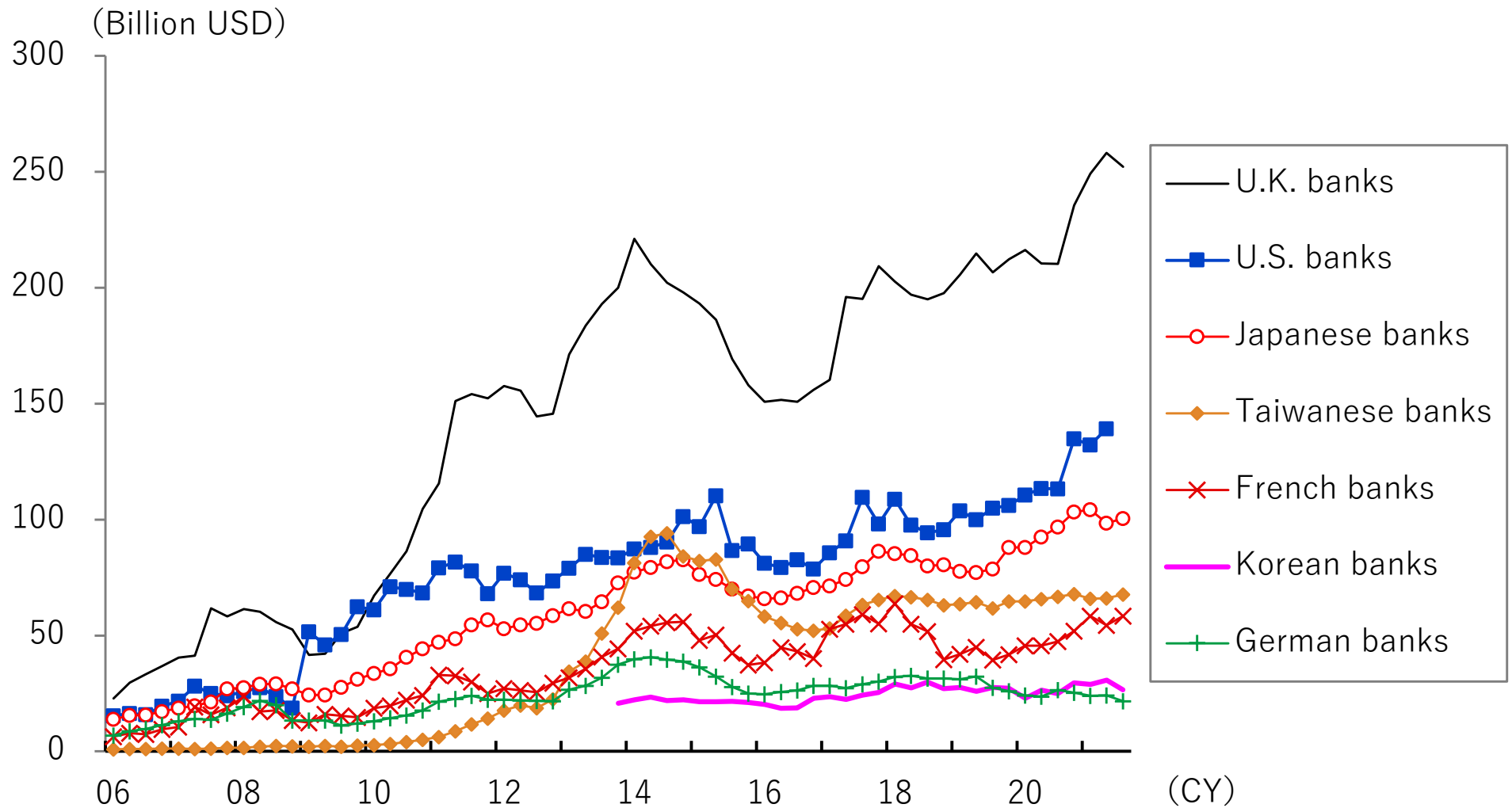
Note: Latest data as of end September 2021.
Source: BIS; compiled by DIR.

Credit-to-GDP Ratio of China and Countries which have Experienced Financial Crises



Note: Most recent data as of end of June 2021.
Source : IMF,BIS; compiled by DIR.

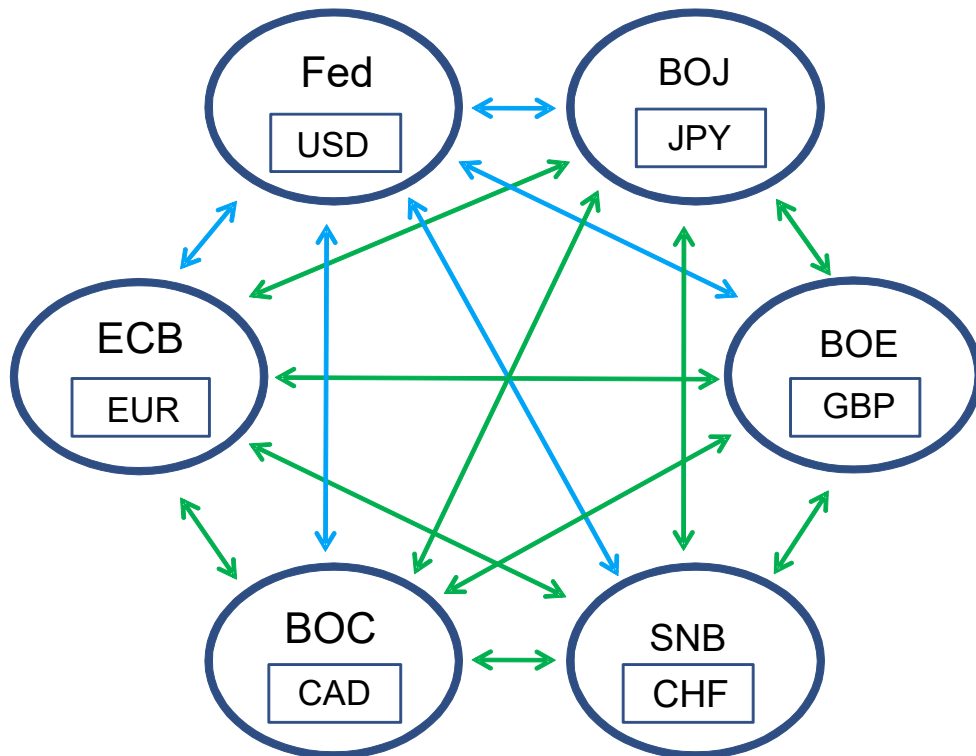
Cross-border lending to China by international banks



Note: Latest data as of end September 2021.
Source: BIS; compiled by DIR.

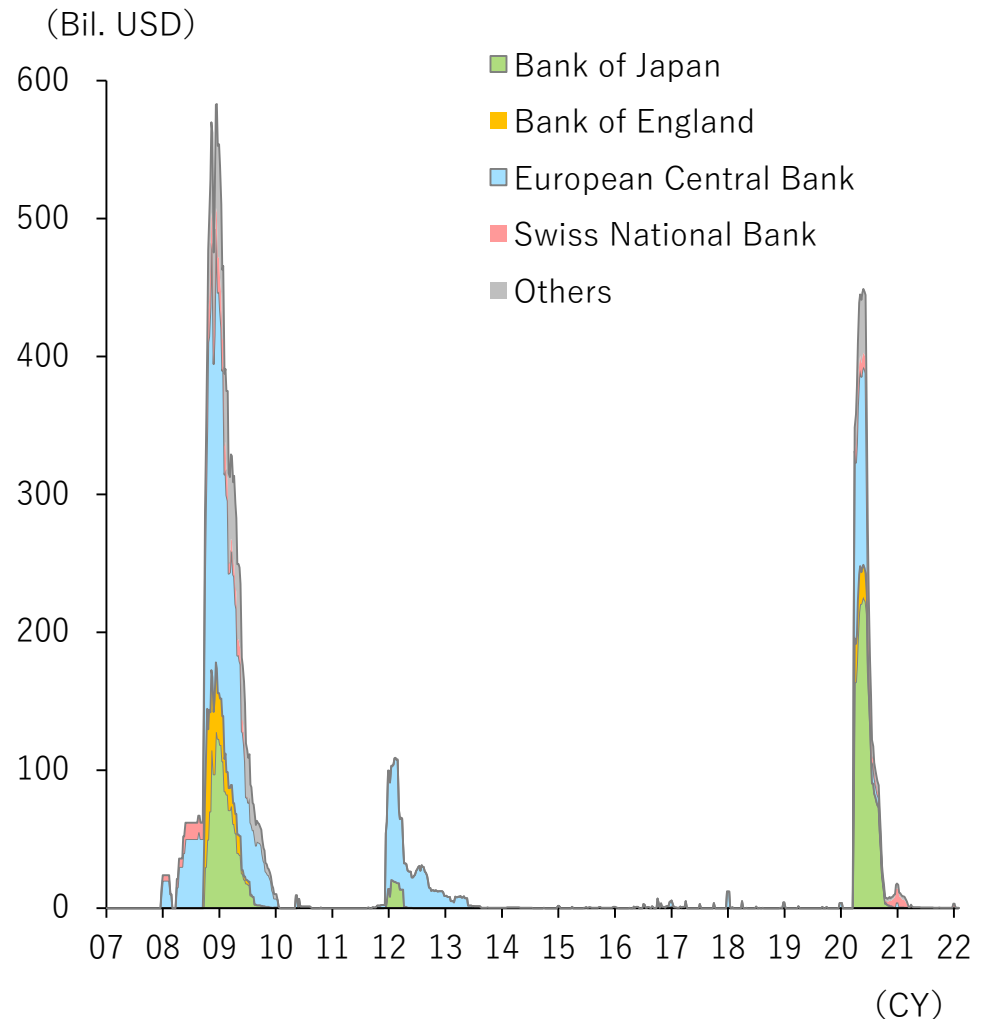
Progress of Currency Swap Lines

Since Dec 2011



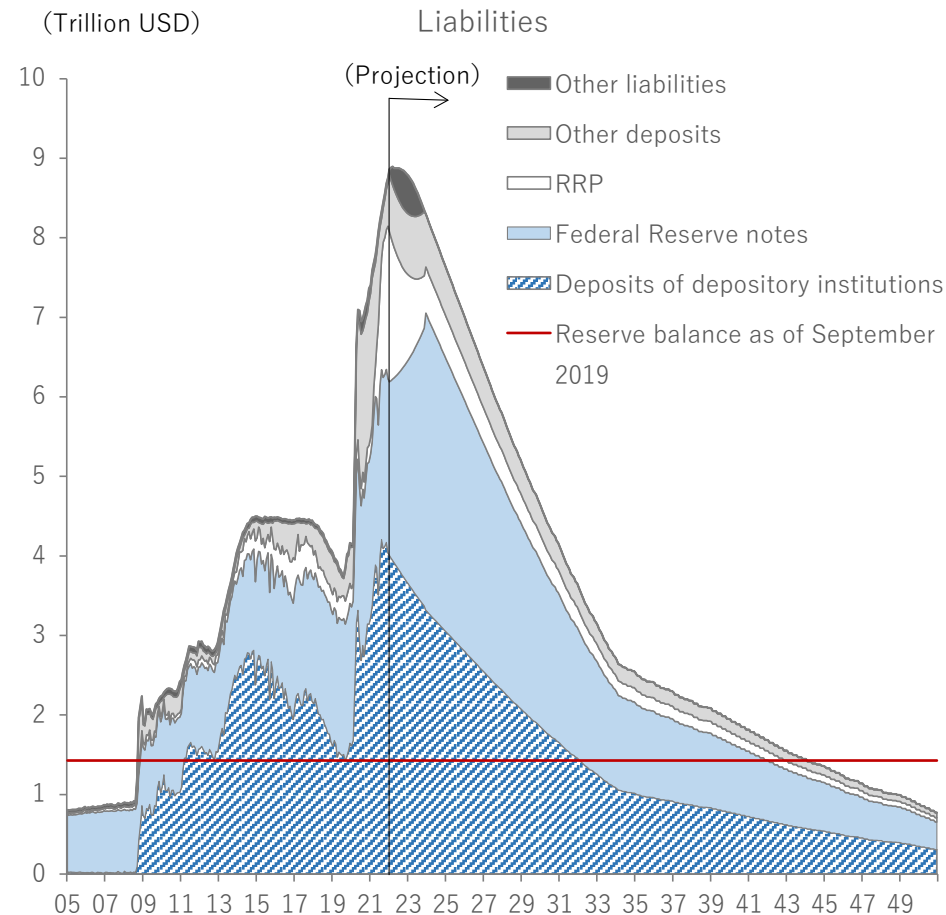
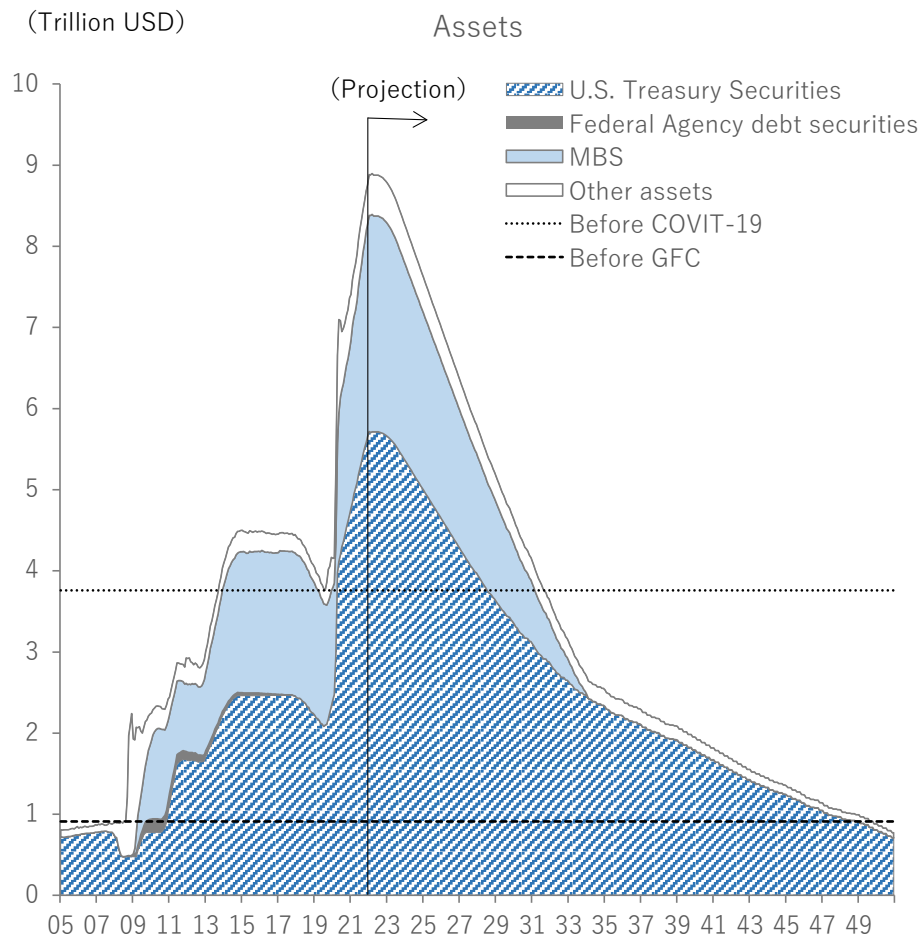
Note: Fed: Federal Reserve, BOJ: Bank of Japan, ECB: European Central Bank, BOE: Bank of England, BOC: Bank of Canada, SNB: Swiss National Bank.
Source: DIR.

Transition of USD-Supply Outstanding in Major Countries



Source: NY Fed; compiled by DIR.

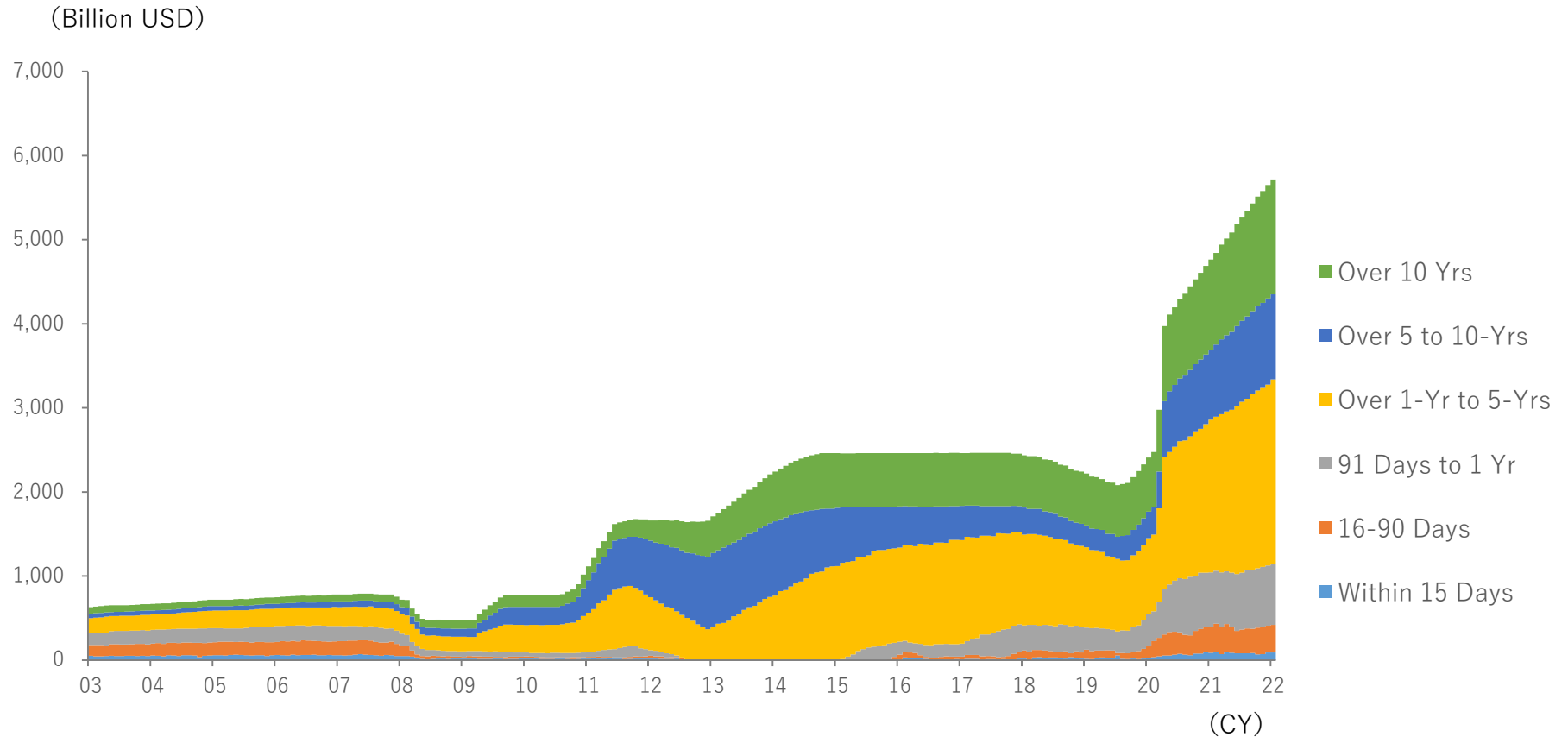
Fed's Balance Sheet (QT simulation)



- Reducing the size of the Federal Reserve's balance sheet will commence at August.
- Upper Limit of Reduction Amount in Re-Investment in Govt. Bonds :
Monthly limit on reduction amount originally set at \$6 billion, increased by \$6 billion every three months, until it reaches \$30 billion.
- Upper Limit of Reduction Amount in Re-Investment in MBS :
Monthly limit on reduction amount originally set at \$4 billion, increased by \$4 billion every three months, until it reaches \$20 billion.

Source: Federal Reserve Bank of New York; compiled by DIR.

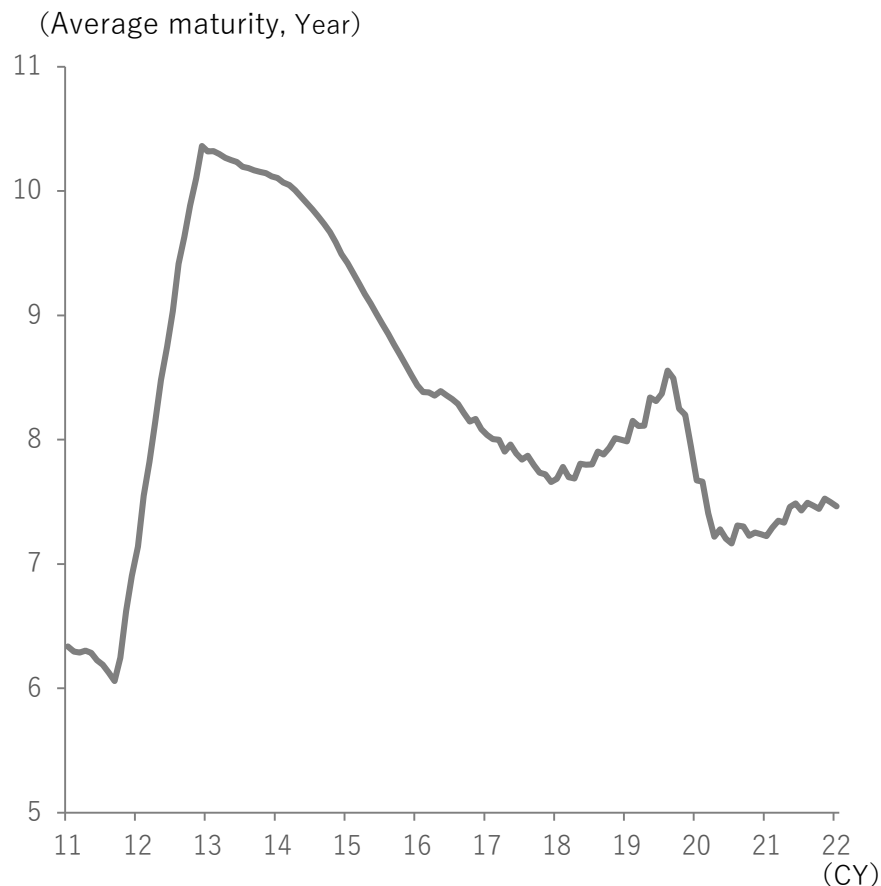
Outstanding of Fed's U.S. Treasury Security Holdings by Maturity



Source: Federal Reserve Bank of New York; compiled by DIR.

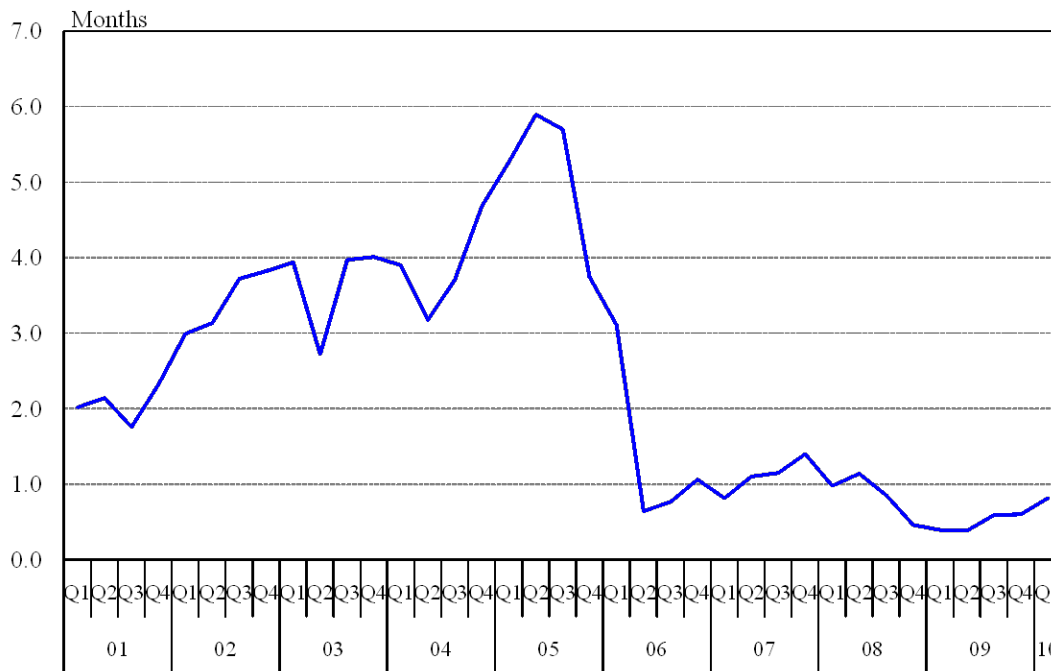
Average maturity of Treasury securities held by Fed

Average maturities of Treasury securities held by Fed



Source: Federal Reserve Bank of New York; compiled by DIR.

Average length of funds-supplying operations in the BOJ's exit from QEP in 2006



Notes: Figures are the weighted average of the length of funds-supplying operations against pooled collateral, outright purchases of bills, purchases of CP with repurchase agreements, and special funds-supplying operations to facilitate corporate financing.

Source: Bank of Japan.

Fed's Balance Sheet as of End of 2021

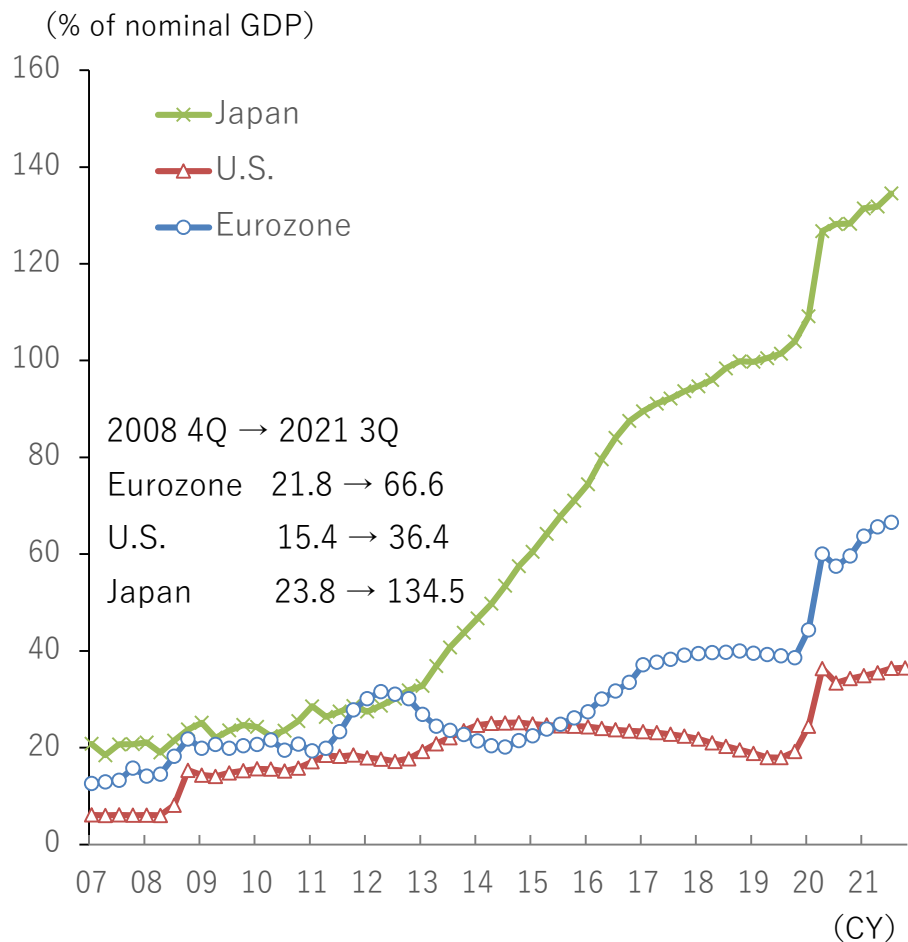
(Billion USD)

| Assets | | Liabilities | |
|--------------------------------|-------|-------------------------------------|-------|
| U.S. Treasury Securities | 5,652 | Deposits | 4,580 |
| Tbill | 326 | Deposits of depository institutions | 4,040 |
| Federal Agency debt securities | 2 | Federal Reserve notes | 2,187 |
| MBS | 2,615 | Reverse Repurch Agreement | 1,921 |
| Other assets | 487 | Other liabilities | 70 |
| Total assets | 8,757 | Total liabilities | 8,757 |

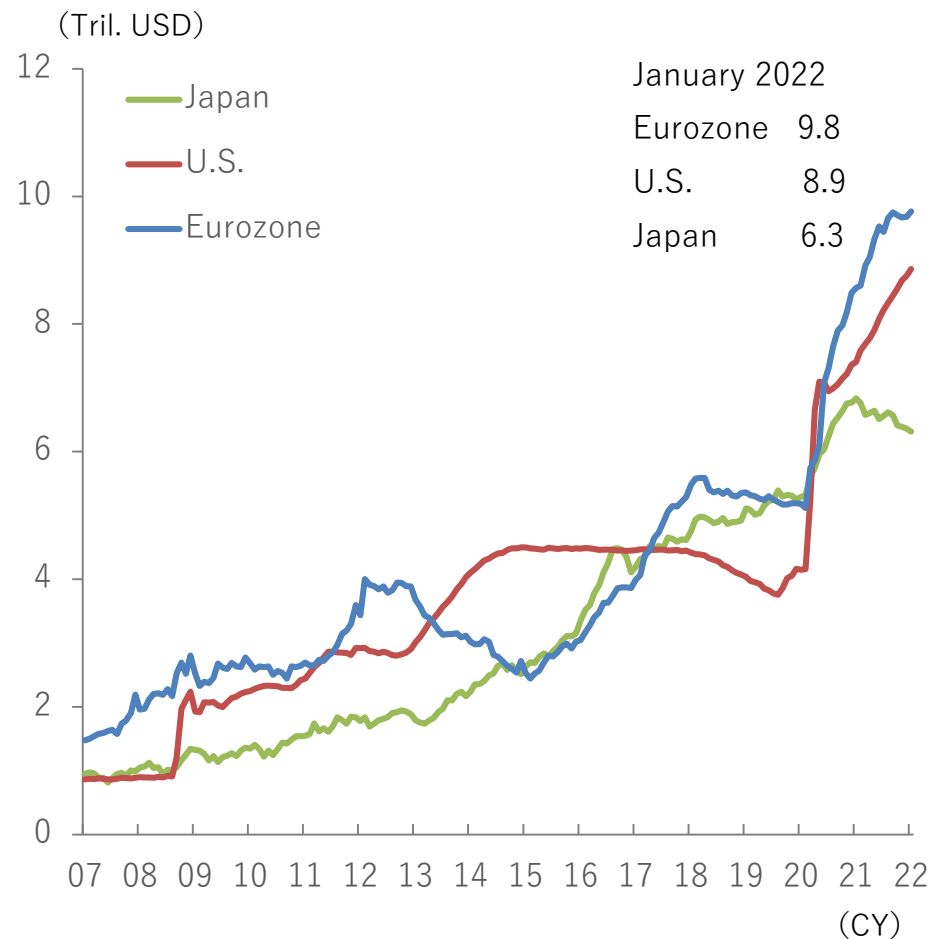
Source: Federal Reserve System; compiled by DIR.

Assets of Central Banks

Central Bank Assets as a % of nominal GDP

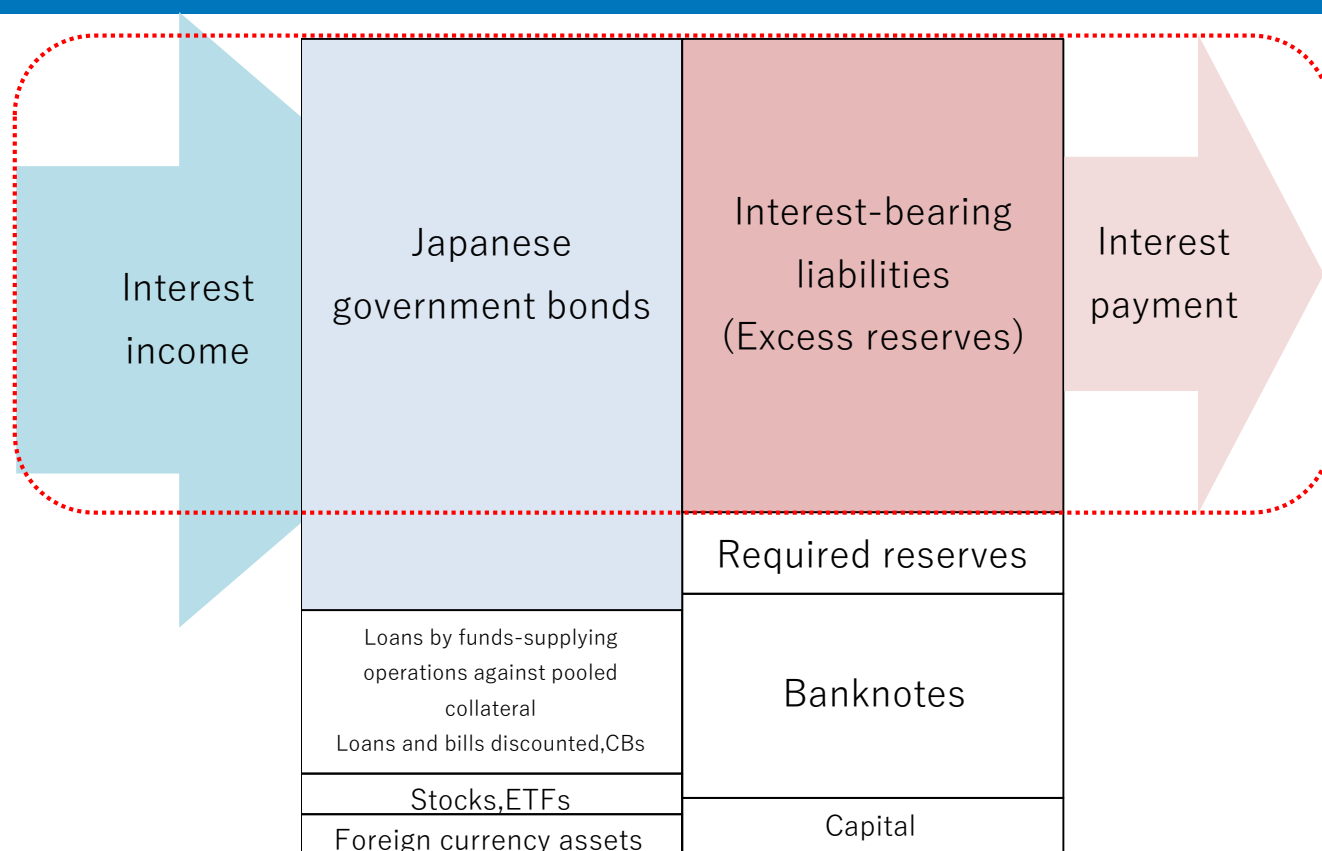


In USD



Note: Assets of BOJ and ECB are converted from JPY and EUR to USD at the monthly average.
Source: ECB, Fed, BOJ; compiled by DIR.

Expansion of Reserves to Cover Losses on Bond Transactions



Transfers to provisions for possible losses on bond transactions

(Trillion Yen)

| Fiscal Year | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|
| Required reserve balances & Additional reserves | 0.1 | 0.2 | – | – | – |
| Transfer to provision for possible losses on bond transactions | – | – | 0.5 | 0.5 | 0.4 |
| Capital | 6.5 | 7.2 | 7.4 | 7.8 | 8.2 |
| provision for possible losses on bond transactions (Stock) | 2.2 | 2.2 | 2.7 | 3.2 | 3.6 |

Source: Bank of Japan; compiled by DIR.

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- In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction. In some cases, our company also may charge a maximum of ¥ 2 million (including tax) per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements**.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
- There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
- Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

** The ratio of margin requirements etc. to the amount of the transaction cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

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