

What Have We Learned from the Crises of the Past?

Lessons to meet the challenges ahead

November 6, 2020

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World Economic Outlook (IMF)

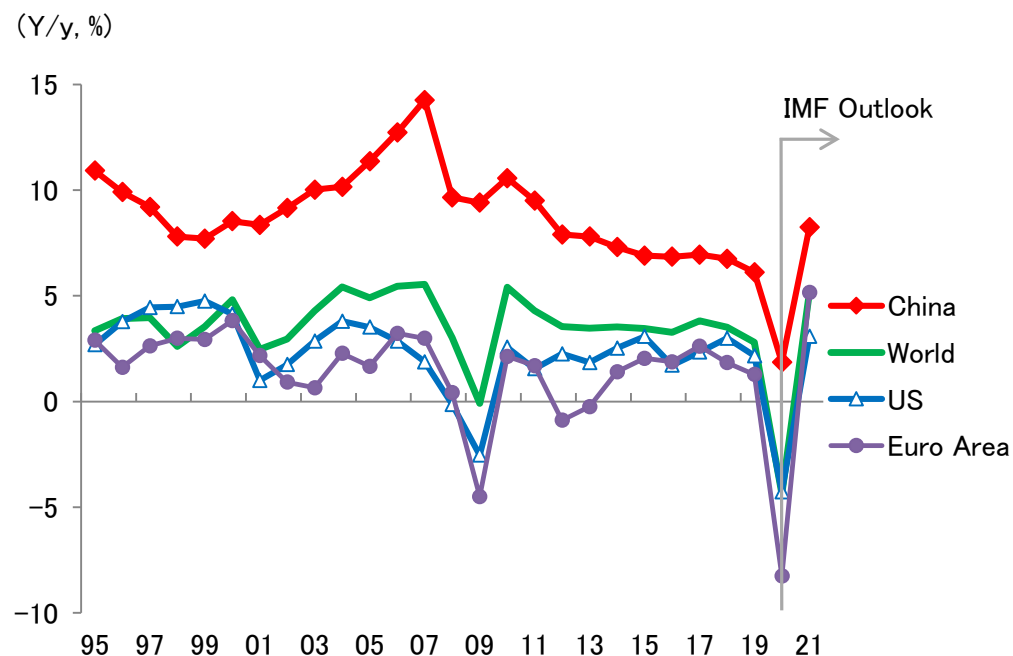
Outlook for Real GDP Growth Rate (y/y)

(% , %pt)

	Performance	Estimation/Prediction		Revision	
		as of Oct. 2020		Jun-Oct 2020	
		2019	2020	2020	2021
World Output	2.8	-4.4	5.2	0.8	-0.2
Advanced Economies	1.7	-5.8	3.9	2.3	-0.9
United States	2.2	-4.3	3.1	3.7	-1.4
Euro Area	1.3	-8.3	5.2	1.9	-0.8
Germany	0.6	-6.0	4.2	1.8	-1.2
United Kingdom	1.5	-9.8	5.9	0.4	-0.4
Japan	0.7	-5.3	2.3	0.5	-0.1
Emerging Market and Developing Economies	3.7	-3.3	6.0	-0.2	0.2
Sub-Saharan Africa	3.2	-3.0	3.1	0.2	-0.3
Emerging Europe	2.1	-4.6	3.9	1.2	-0.3
Russia	1.3	-4.1	2.8	2.5	-1.3
Emerging Asia	5.5	-1.7	8.0	-0.9	0.6
China	6.1	1.9	8.2	0.9	0.0
India	4.2	-10.3	8.8	-5.8	2.8
ASEAN-5	4.9	-3.4	6.2	-1.4	0.0
Middle East and Central Asia	1.4	-4.1	3.0	0.4	-0.5
Latin America and the Caribbean	0.0	-8.1	3.6	1.3	-0.1
Brazil	1.1	-5.8	2.8	3.3	-0.8

Source: IMF "World Economic Outlook"; Compiled by DIR.

Real GDP Growth Rates of Major Countries & Regions

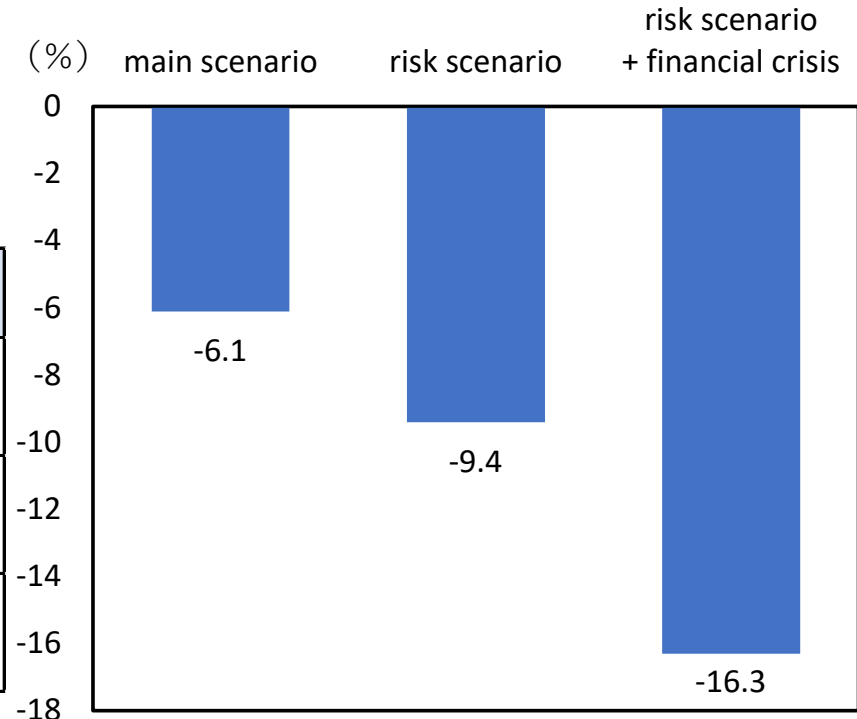


Source: IMF "World Economic Outlook"; Compiled by DIR.

DIR Outlook for Japan's Economy (September 8, 2020)

Stage	the status of infections
I	Zero, sporadic
II	Gradual increase
III	Rapid increase
IV	Explosion

Outlook for Japan's real GDP Growth Rate



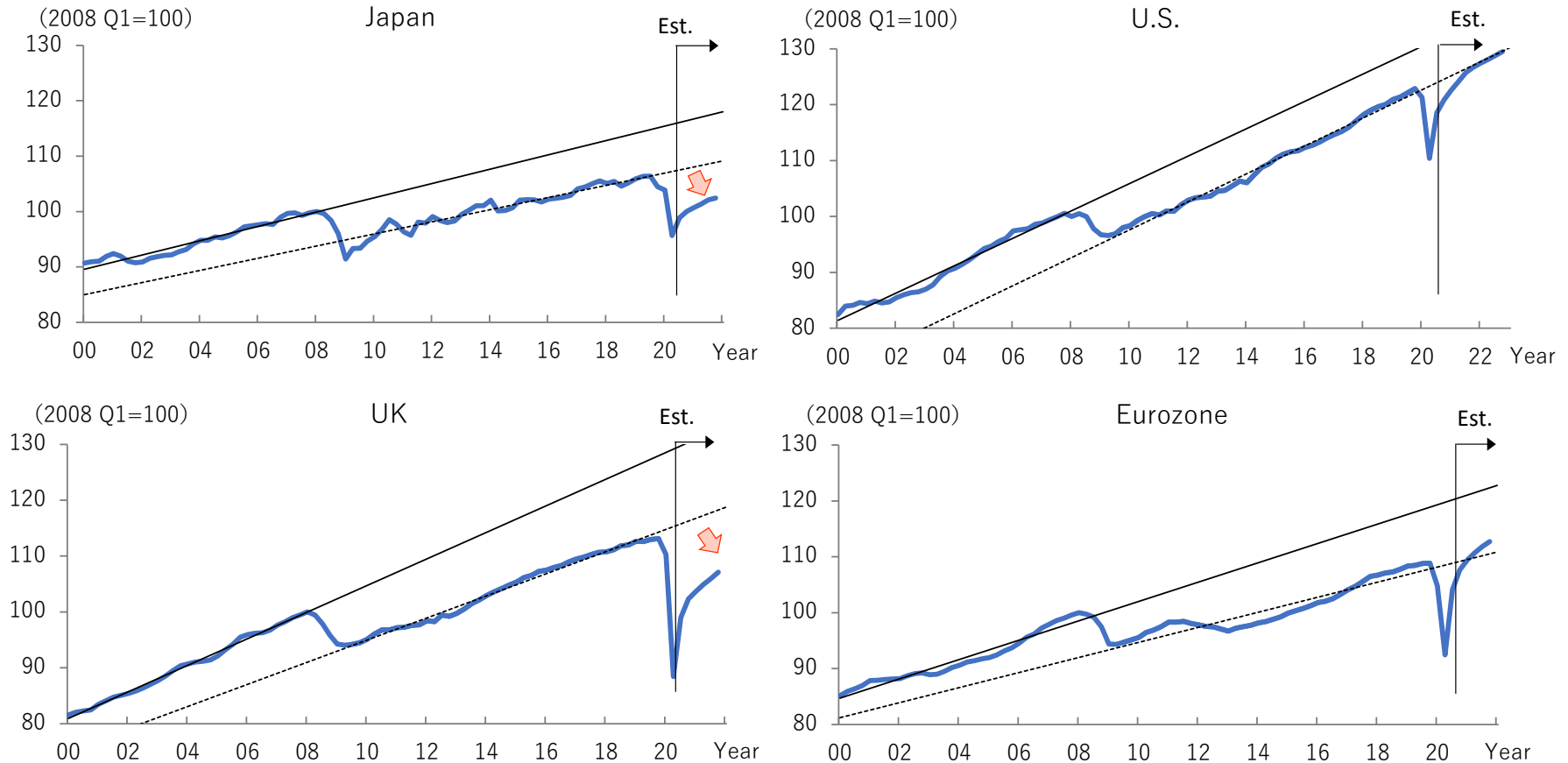
	main scenario	risk scenario	risk scenario + financial crisis
the status of infections	moves from Stage I to Stage III, but no further	Stage IV in Japan, the US and Europe during the Oct-Dec period of 2020	
restrictions	request for suspension of business and refraining from going out in each region	a reissuance of the state of emergency lasting for one month	
outlook for Japan's real GDP growth rate	-6.1%	-9.4%	-16.3%

Source: Statistics from Each Country; compiled by DIR.

Note 1) we used a classification into four stages with reference to the definitions of the Novel Coronavirus Infectious Diseases Control Subcommittee established by the government.

2) Our risk scenario assumes that the spread of infection becomes serious in Japan, the US, and Europe during the Oct-Dec period of 2020, and that states of emergency and lockdown orders are implemented nationwide in each country. China is expected to keep the infection under control during this time.

Real GDP Growth Trends Shift Downwards



Real GDP Growth Rates after 2000 Q1 (Annual Average Rate, %)

	Japan	U.S.	UK	Eurozone
Before Global Financial Crisis: ~2008 Q1	1.2	2.4	2.7	2.0
After Global Financial Crisis: ~2019 Q4	0.7	2.0	1.7	1.2
After the Outbreak of COVID-19: ~2020 Q2	0.3	1.4	0.4	0.4

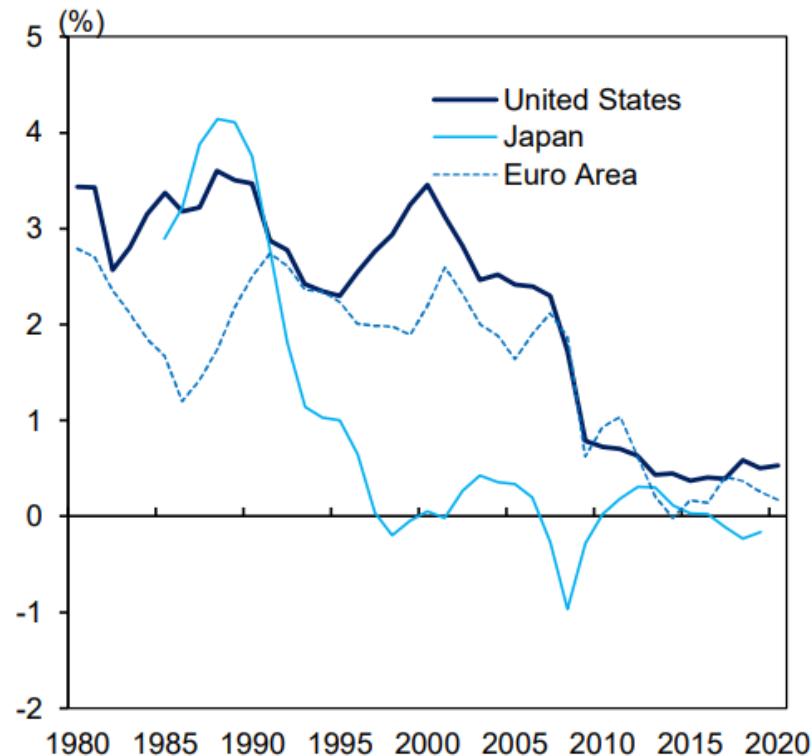
Source: Japan Cabinet Office, Japan Center for Economic Research, U.S. Department of Commerce, U.S. Congressional Budget Office, UK Office for National Statistics, European Commission; compiled by DIR.

Note 1) Solid lines indicate GDP trends from 2000 Q1 to 2008 Q1. Dotted lines indicate GDP trends from 2009 Q3 to 2019 Q4.

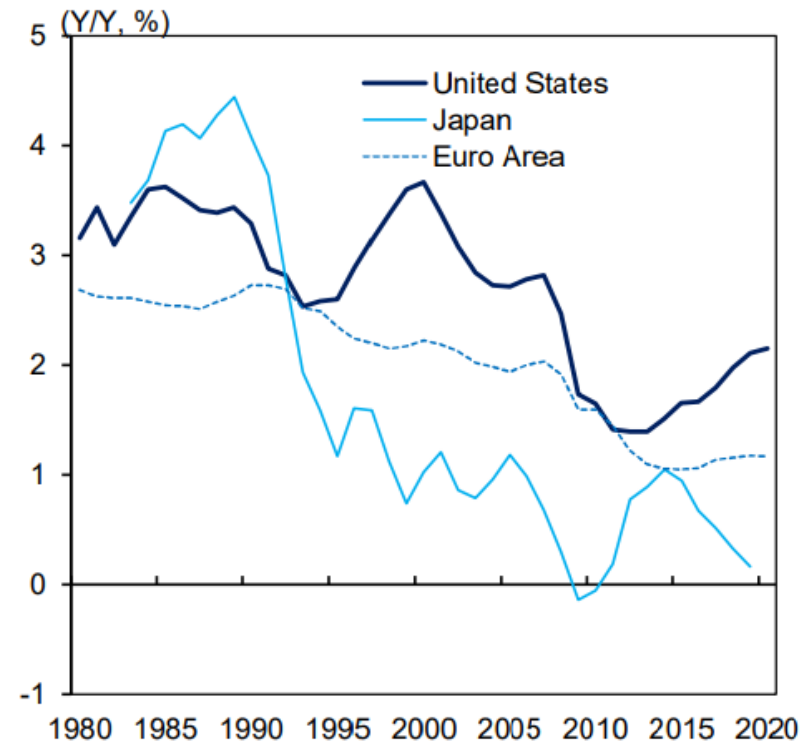
2) The prediction references the ESP Survey of the Japan Center for Economic Research in the case of Japan (7 Oct. 2020), and the U.S. Department of Commerce and U.S. Congressional Budget Office in the case of the U.S. (2 Jul. 2020). The European Commission is referenced for the UK and the Eurozone (7 Jul. 2020).

The Natural Rate of Interest and Potential Growth

The natural rate of interest (r^*)



Potential growth rate (y^*)

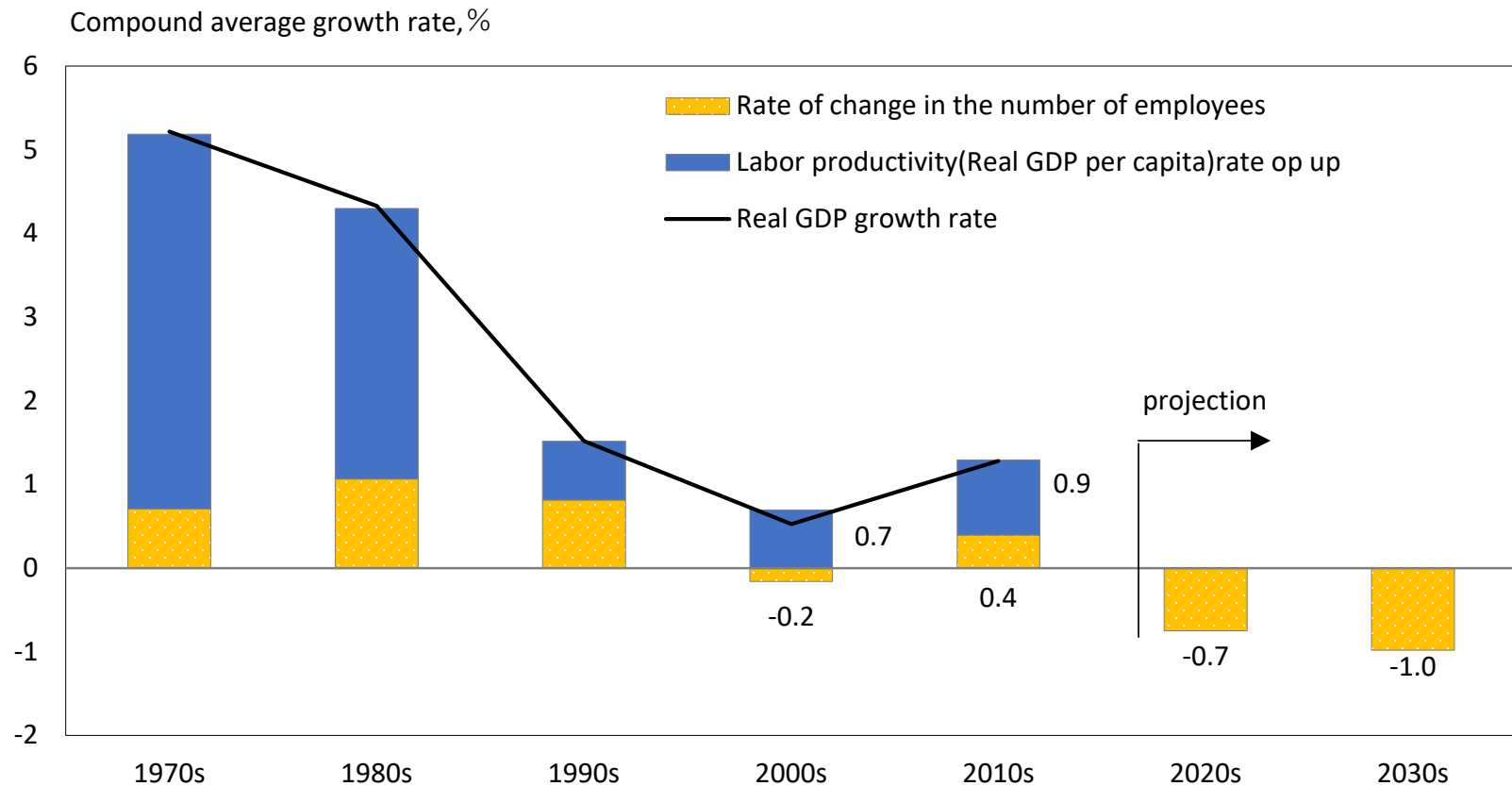


Source: Holston, K., T. Laubach, and J. C. Williams (2017): "Measuring the Natural rate of Interest: International Trends and Determinants," *Journal of International Economics*, Fujiwara et al. (2016): "Supplementary Paper Series for the "Comprehensive Assessment" (2): Developments in the Natural Rate of Interest in Japan," Bank of Japan Review Series 16-E-12, Bank of Japan

Source: Toshitaka Sekine, Hitotsubashi University "Economic Crisis and Recovery with COVID-19" (September 9, 2020)

Japan's real GDP growth rate

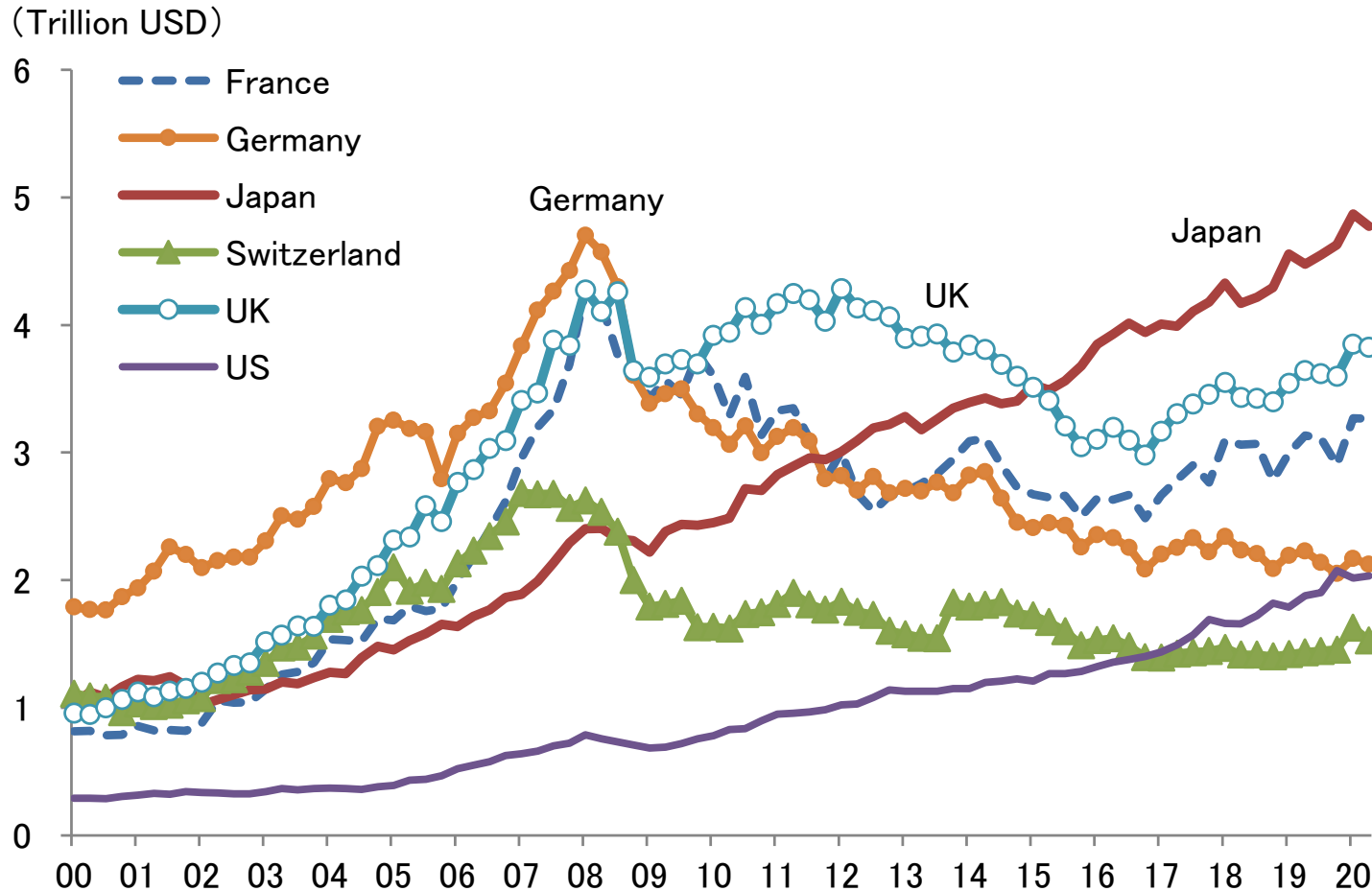
Japan's real GDP growth rate



Source: Prepared by DIR based on Cabinet Office data, Ministry of Internal Affairs and Communication, National Institute of Population and Social Security Research

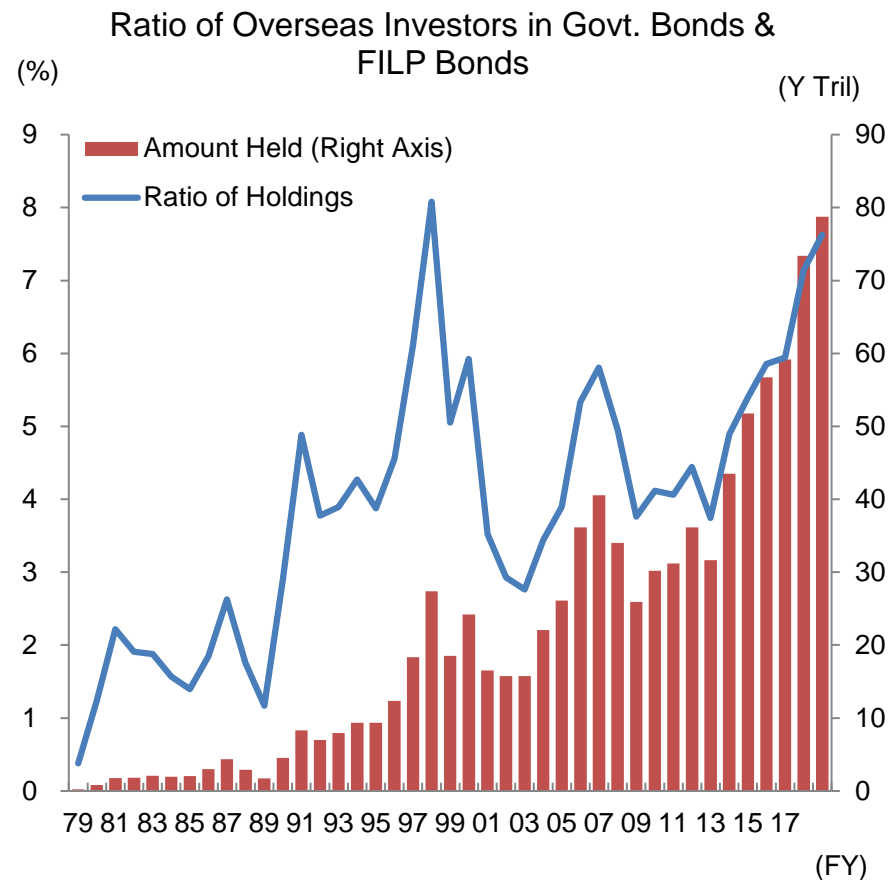
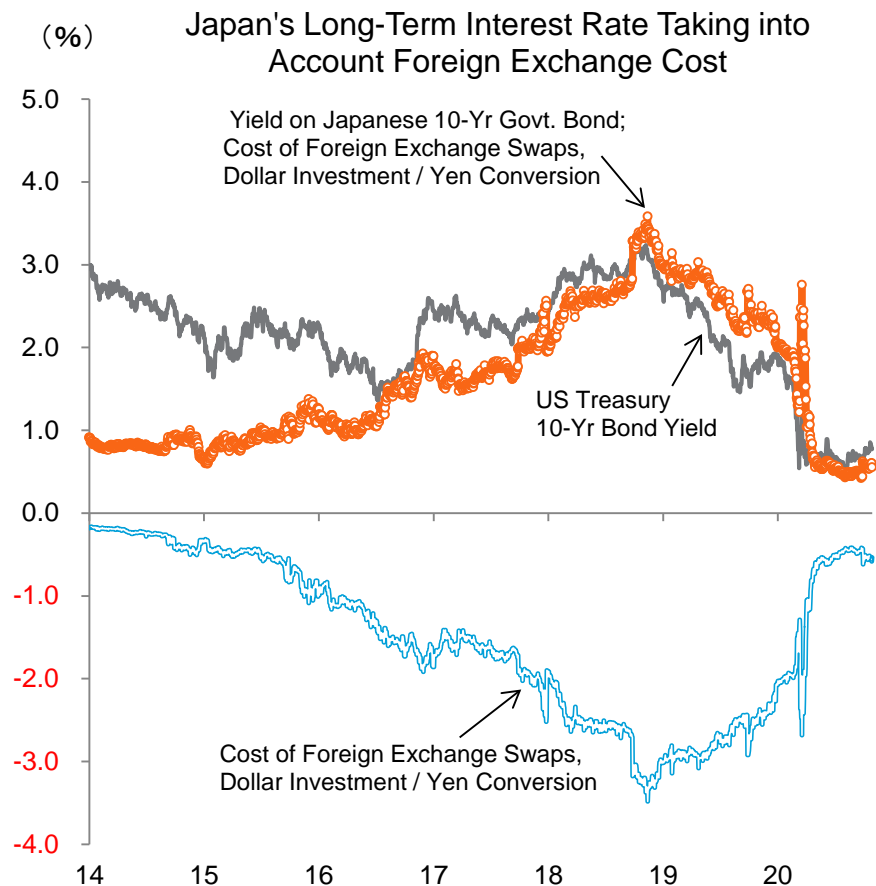
Note: The rate of change in the number of workers after 2020 is the average annual rate of change in the number of employees which was calculated based on the estimated future population (based on both birth and death at mid-level) and the outlook of employment rate (based on a scenario whereby employment rate for each age group and gender stays at 2019 level)

International Credit Balance by Bank's Nationality



Source: BIS; compiled by DIR
 Note 1) Latest data as at end of June 2020.
 2) On immediate risk basis.

Japan's Long-Term Interest Rate Taking into Account Foreign Exchange Cost



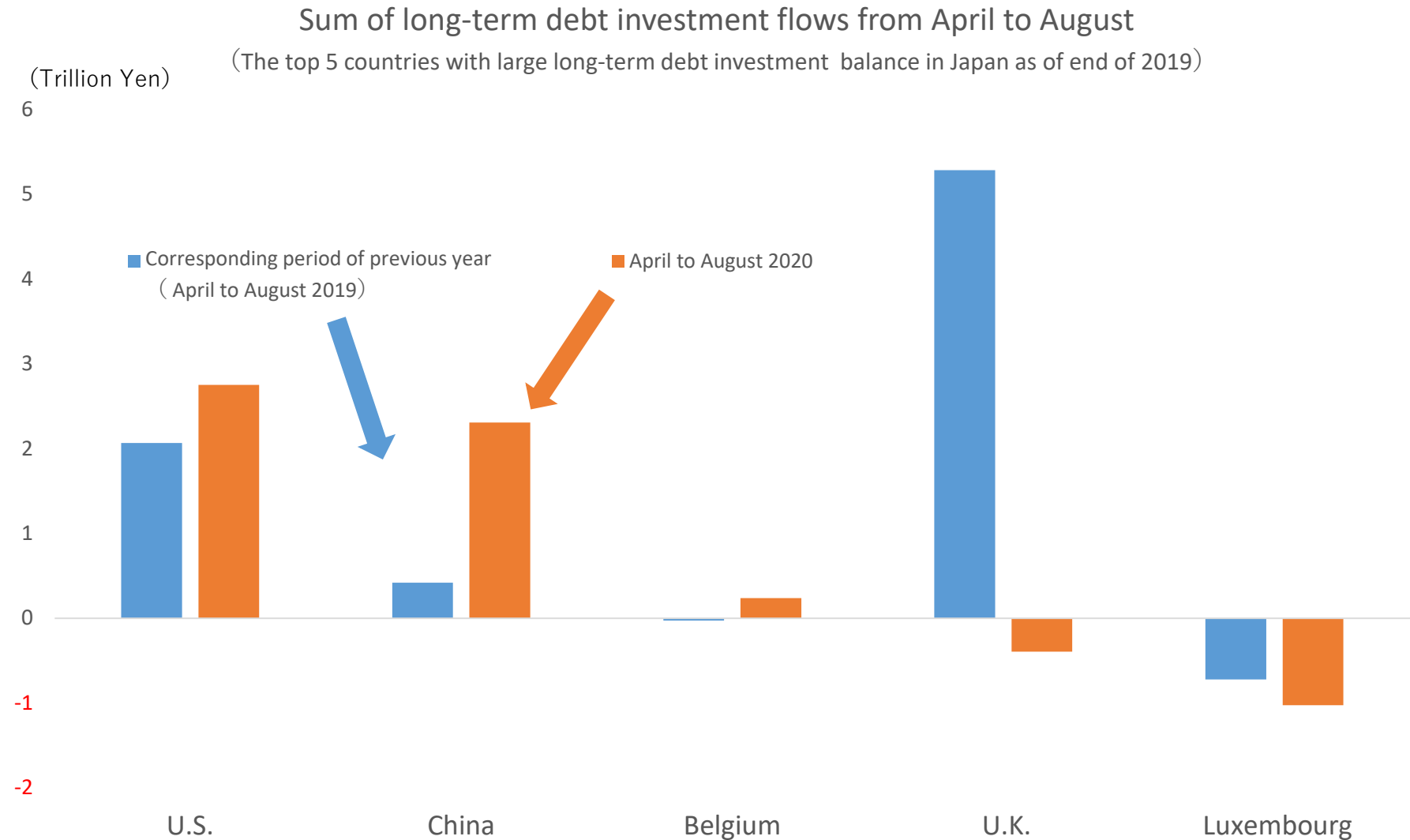
Source: Bloomberg; compiled by DIR

Note 1) 3 months.

2) The most latest data as of 28 October 2020.

Source: Bank of Japan; compiled by DIR

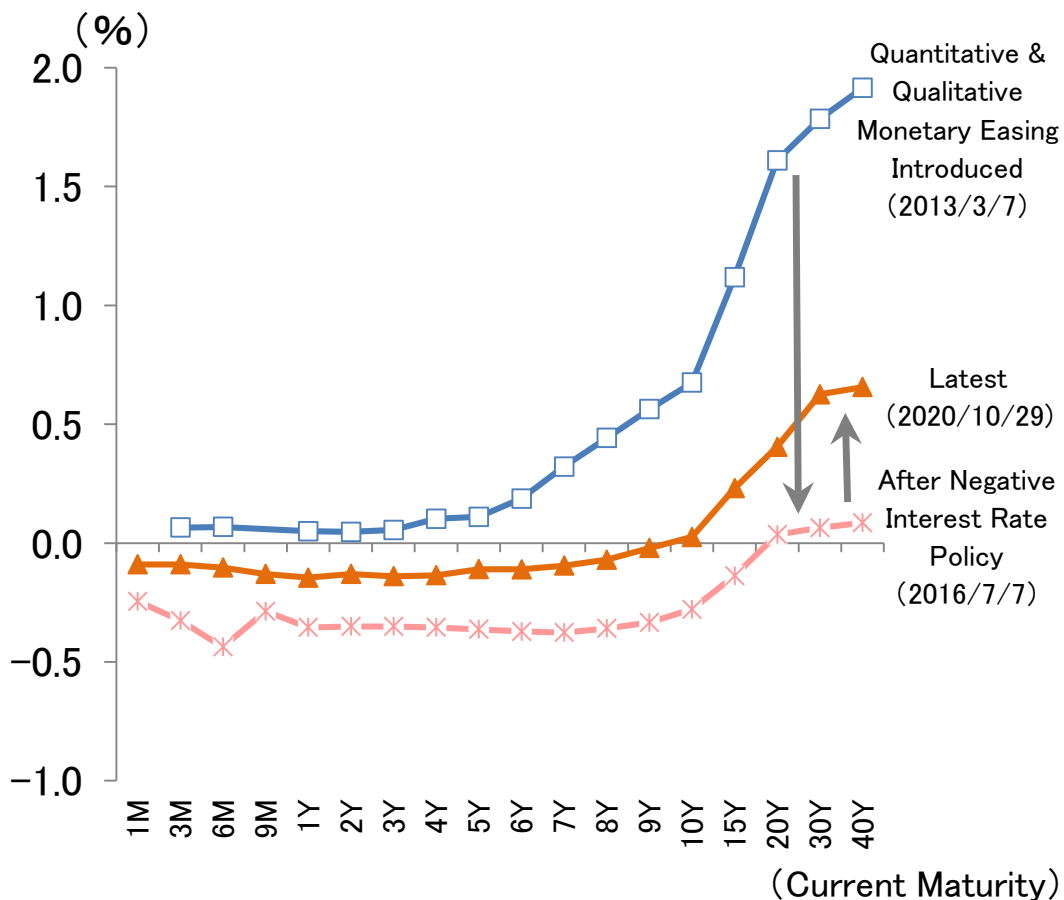
Long-term Debt Investment Flows into Japan



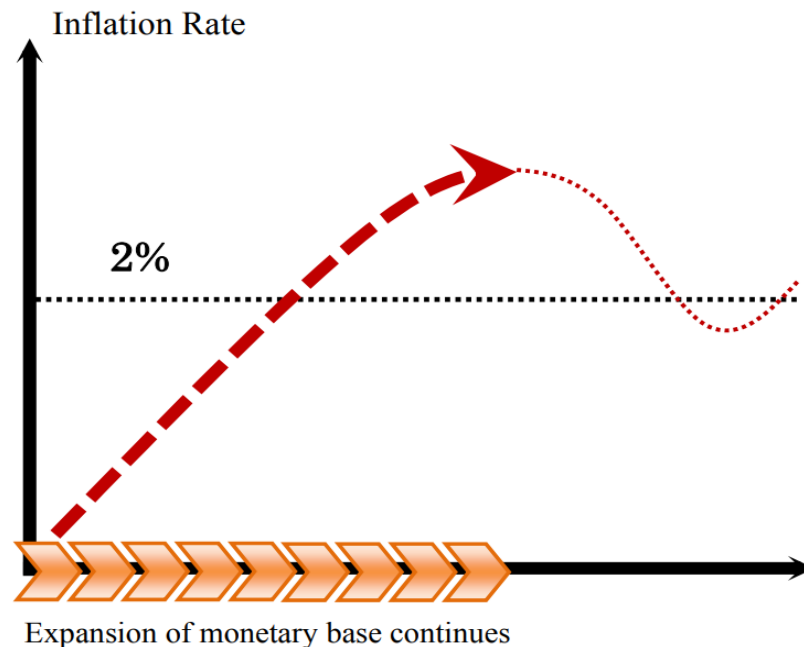
Source: Ministry of Finance; compiled by DIR.

Quantitative and Qualitative Monetary Easing with Yield Curve Control

Yield Curve



Inflation-Overshooting Commitment



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: Haver Analytics; compiled by DIR.

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.

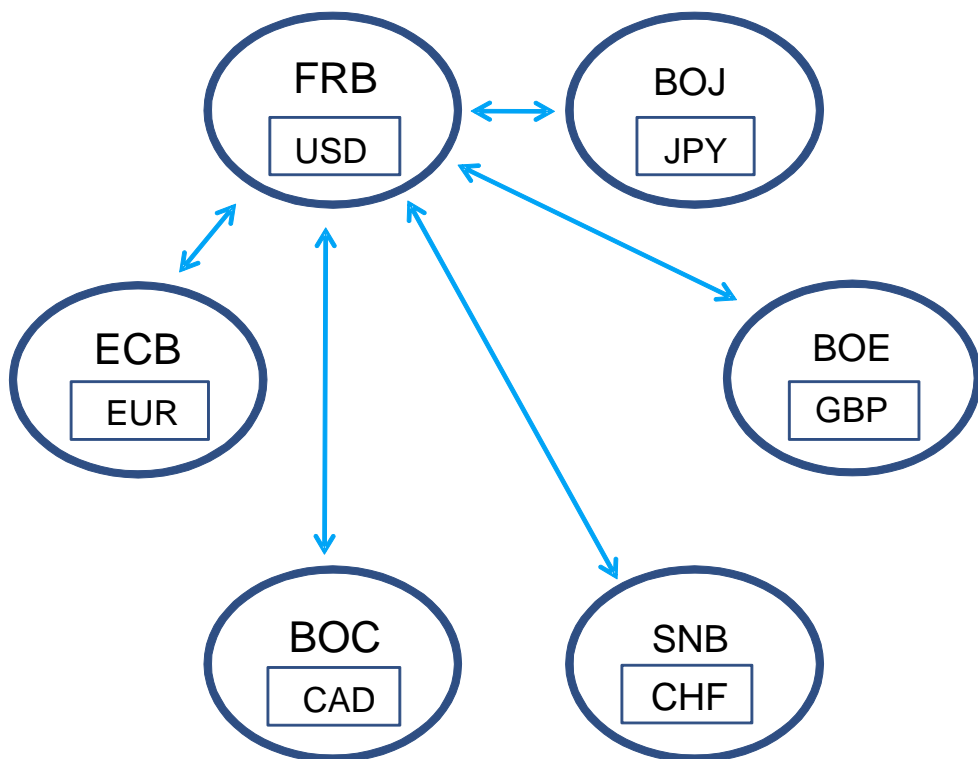
New Lender of Last Resort

New LLR	Example
MMLR (Market Maker of Last Resort)	(ECB) PEPP (Fed) CPFF, PMCCF, SMCCF (BOJ) Outright Purchases of CP and Corporate Bonds
GLLR (Global Lender of Last Resort)	Central Bank Liquidity Swaps
ELLR (Expanded Lender of Last Resort)	(ECB) TLTROIII, PELTRO (Fed) Main Street Lending Program (MSLP) (BOJ) Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) (BOE) Term Funding Scheme with additional incentives for SMEs (TFSME)

Source: BOE, BOJ, Fed, ECB; compiled by DIR

Progress of Currency Swap Lines

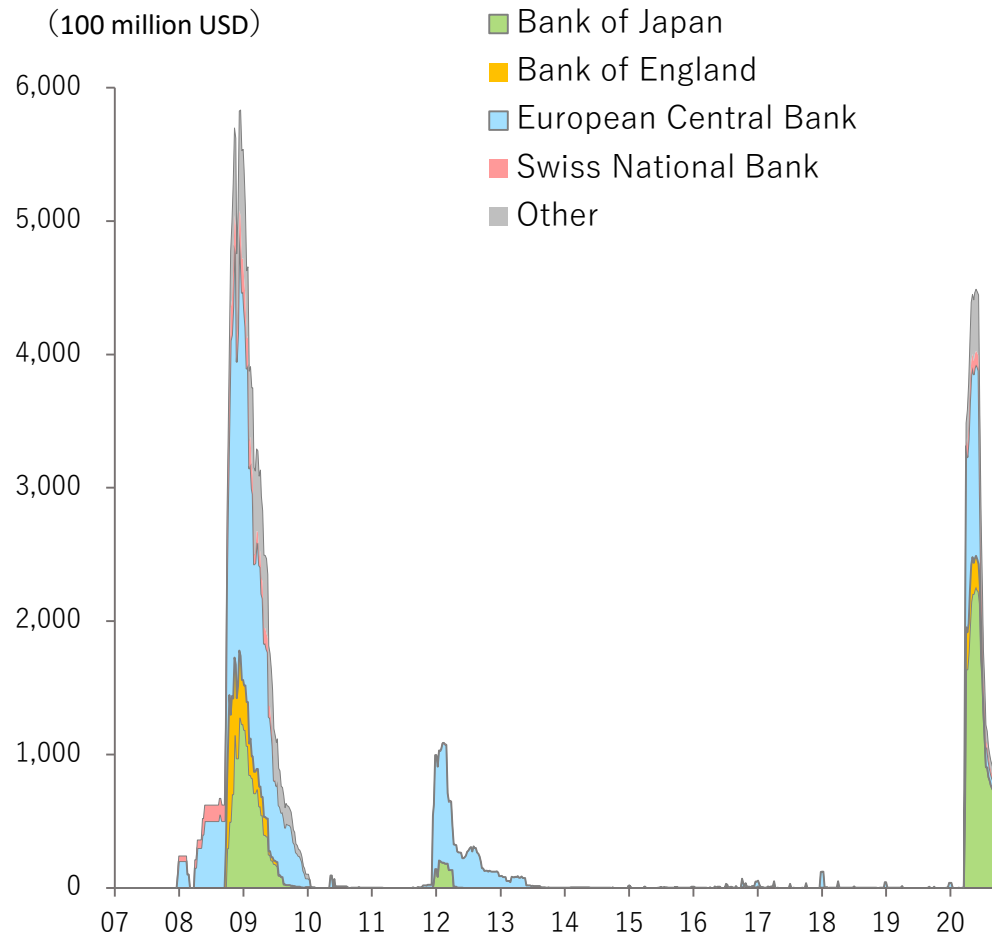
Aftermath of GFC



Source: DIR

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

Transition of USD-Supply Outstanding in Major Countries



Source: NY Fed; compiled by DIR

Measures Providing Support to the Private Sector

	BOJ	Fed	ECB	
	Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)	Main Street Lending Program	Targeted longer-term refinancing operation (TLTROIII)	Pandemic emergency longer-term refinancing operations (PELTROs)
Purpose	To ensure smooth financing in private sector and maintaining stability in financial market	To support lending to small and medium-sized for profit businesses and nonprofit organizations	To stimulate bank lending to the real economy	To provide liquidity support to the euro area financial system
Eligible Counterparties	Eligible counterparties of the Funds-Supplying Operations against Pooled Collateral at all offices and the Development Bank of Japan Inc. (Including Central Organizations of Financial Cooperatives)	U.S. federally insured depository institution	Eligible Counterparties of Open Market Operations	Eligible Counterparties of Open Market Operations
Duration	Within 1 year	5 years	3 years	8 ~16 months
Loan Rates	0 % per annum Twice as much as the amount outstanding of financial institutions' borrowing through the Special Operations will be added to their Macro Add-on Balances. Applying a Positive Interest Rate to Current Account Balances at BOJ.	The SPV pays an Eligible Lender 25 bps of the principal amount of the Eligible Loan per annum.	MRO rate –50bps (▲0.5%) or Deposit facility rate – 50bps (▲1.0%)	MRO rate –25bps (▲0.25%)
Maximum amount of loans for each counterparty	(1)The total collateral value of private debt pledged as the standing pool of eligible collateral + (2)The amounts outstanding of loans to small and medium-sized firms in response to COVID-19	95% of the Eligible Loan	50% of counterparties' stock of eligible loans as at 28 February 2019	Within the value of eligible collateral (Being applied the temporary collateral easing measures)
Deadline	31-Mar-21	31-Dec-20	24-Mar-21	3-Dec-20

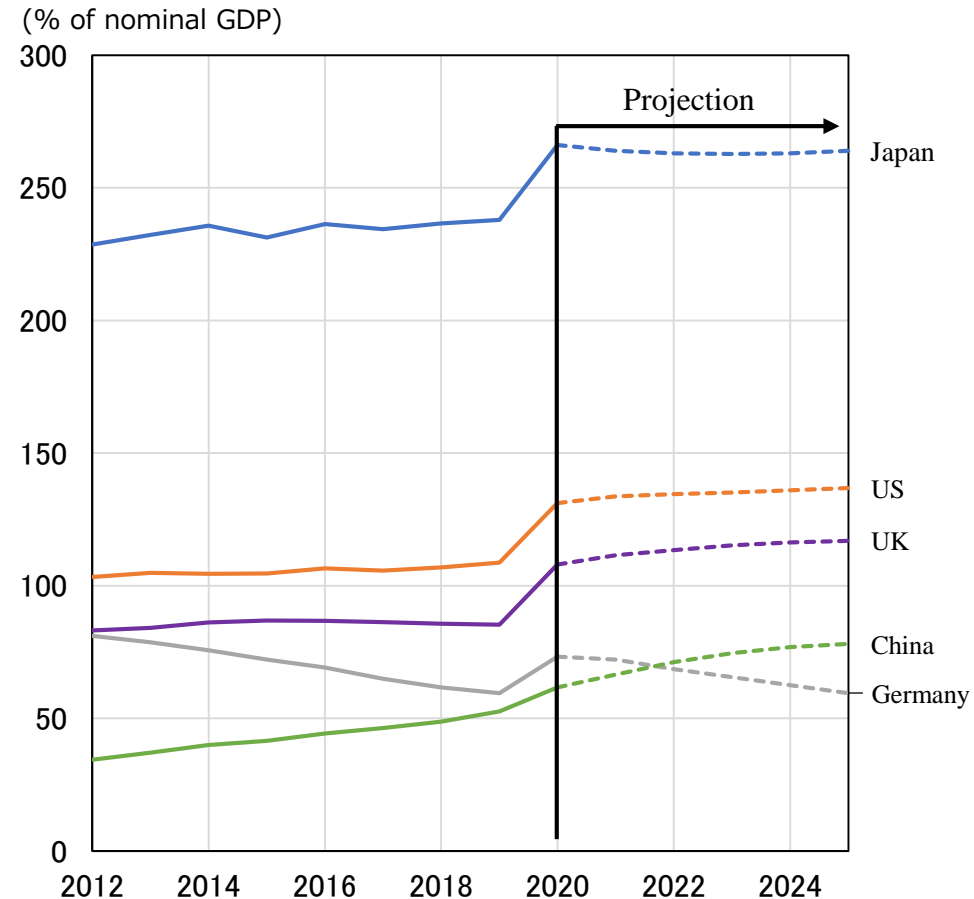
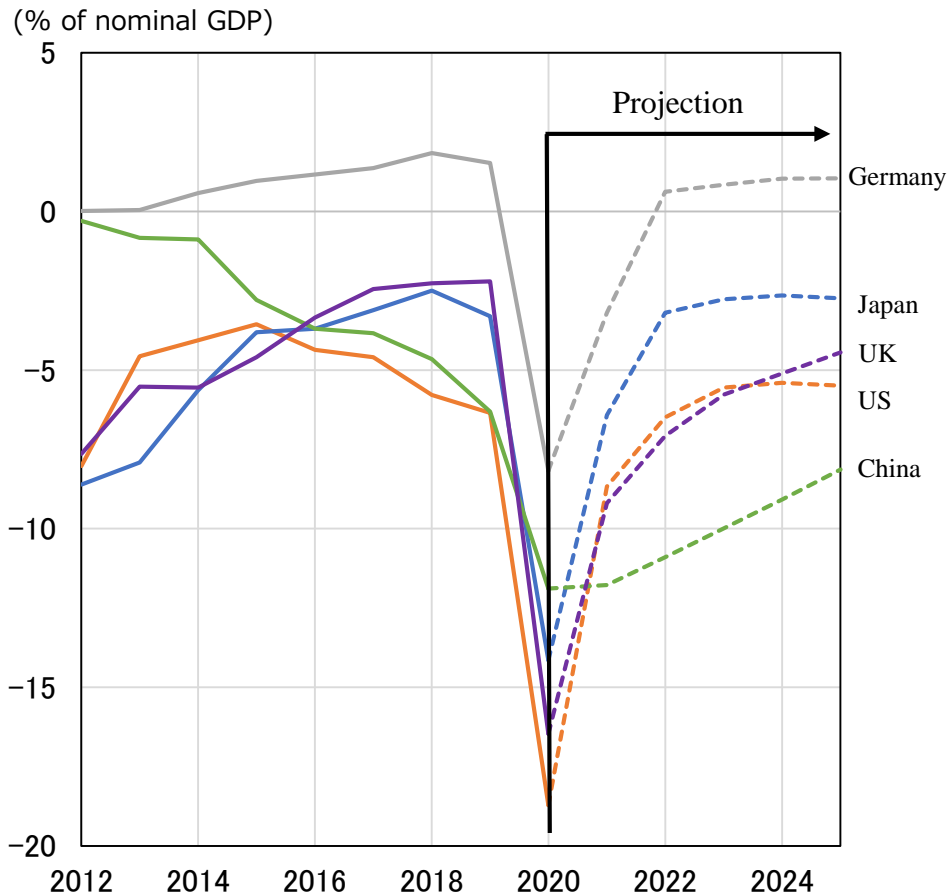
Source: ECB, Fed, BOJ; compiled by DIR.

Note: In TLTRO III, For counterparties whose eligible net lending reaches the lending performance threshold, the interest rate applied from 24 June 2020 to 23 June 2021 on all TLTRO III operations will be 50 basis points below the average interest rate on the deposit facility prevailing over the same period.

General Government Fiscal Balance and Debt

General Government Fiscal Balance

General Government Debt Outstanding

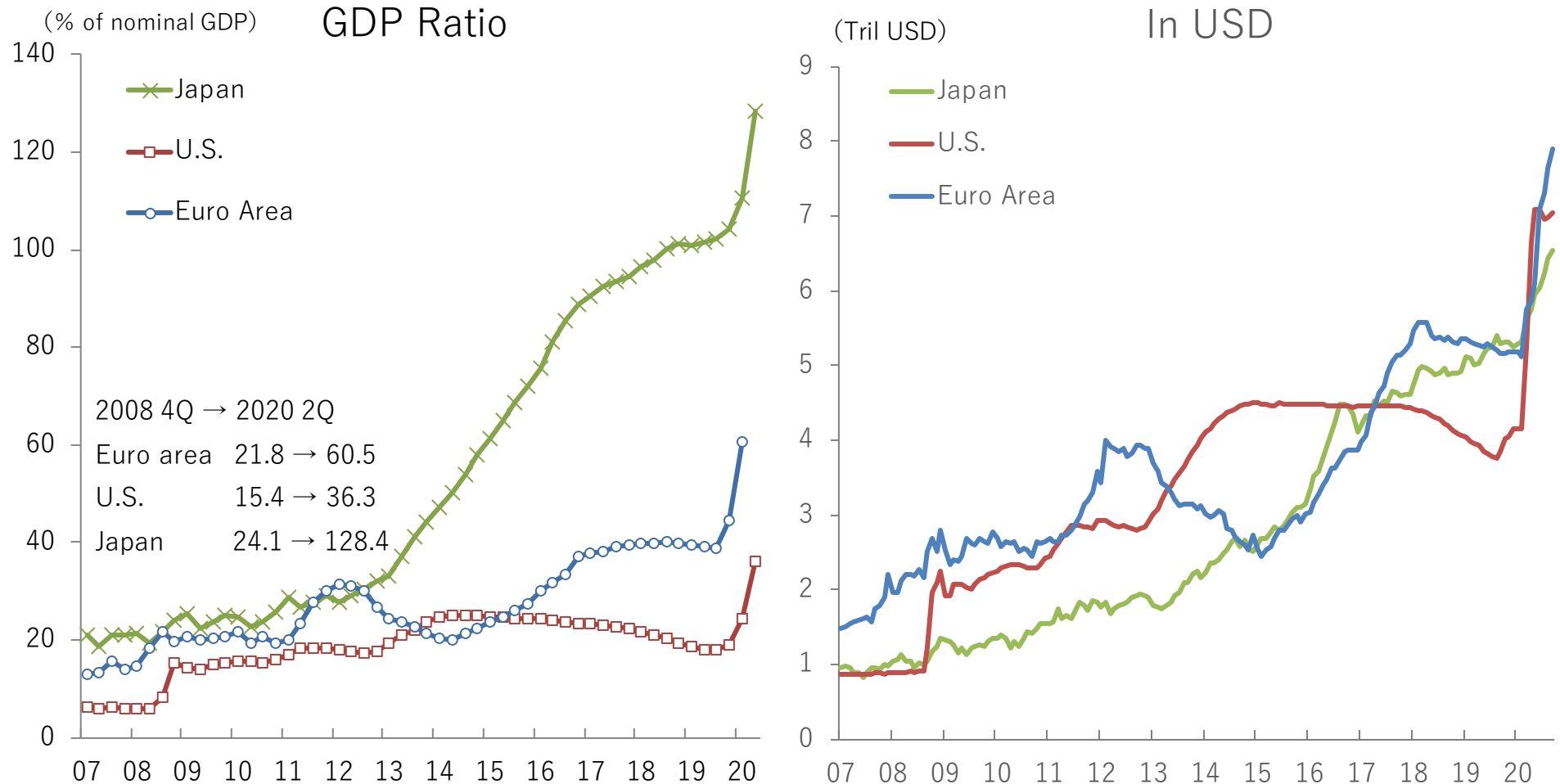


Source: IMF, "Fiscal Monitor: Policies for the Recovery" (October 2020); compiled by DIR

Note 1) For cross-country comparability, expenditure and fiscal balances of the United States are adjusted to exclude the imputed interest on unfunded pension liabilities and the imputed compensation of employees, which are counted as expenditures under the 2008 SNA adopted by the United States but not in countries that have not yet adopted the 2008 SNA.

Note 2) General government sector comprises all government units of central, state, provincial, regional, and local government, and social security funds imposed and controlled by those units.

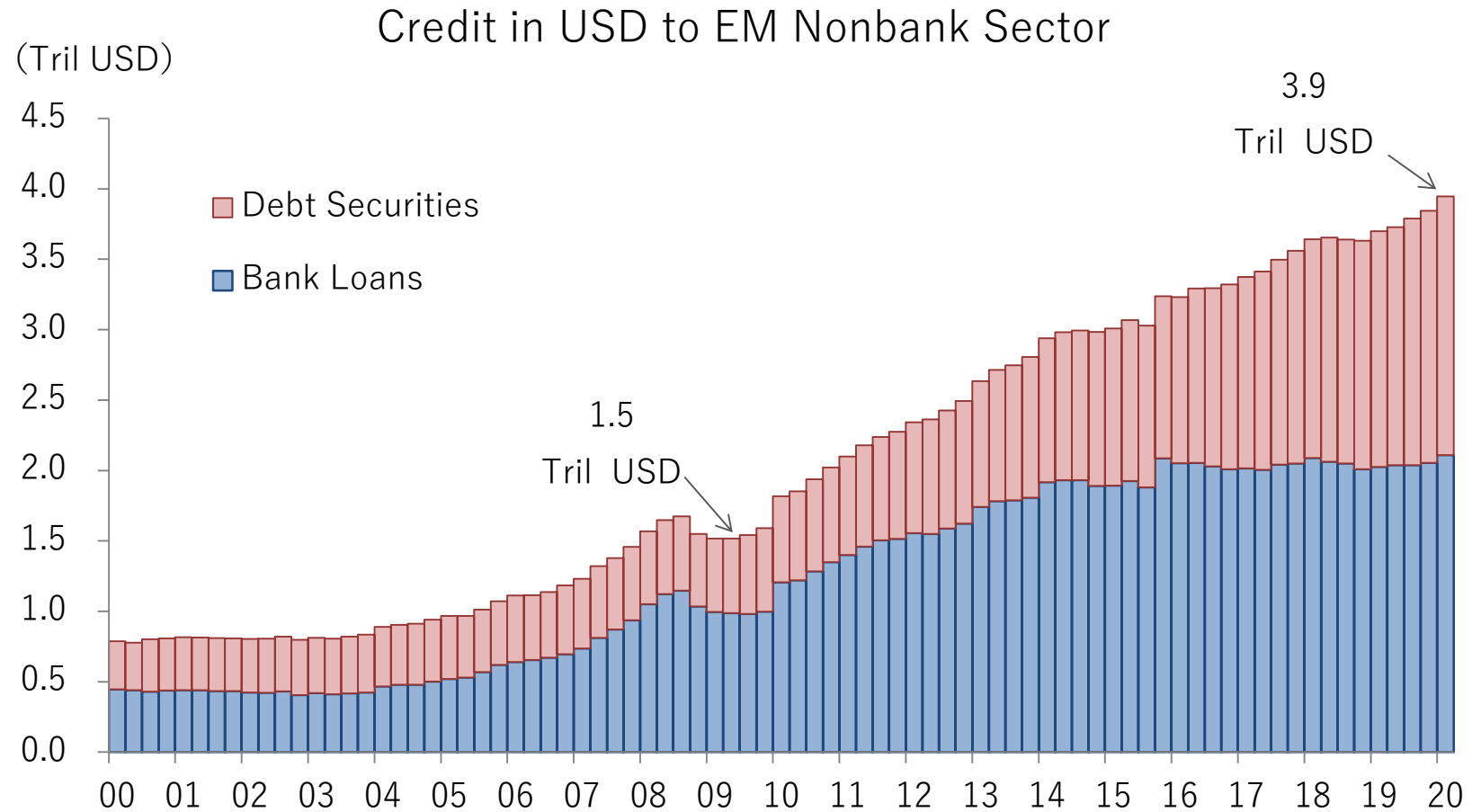
Assets of Central Banks



Source: ECB, Fed, BOJ; compiled by DIR.

Note: Assets of BOJ and ECB are converted from JPY and EUR to USD at the monthly average.

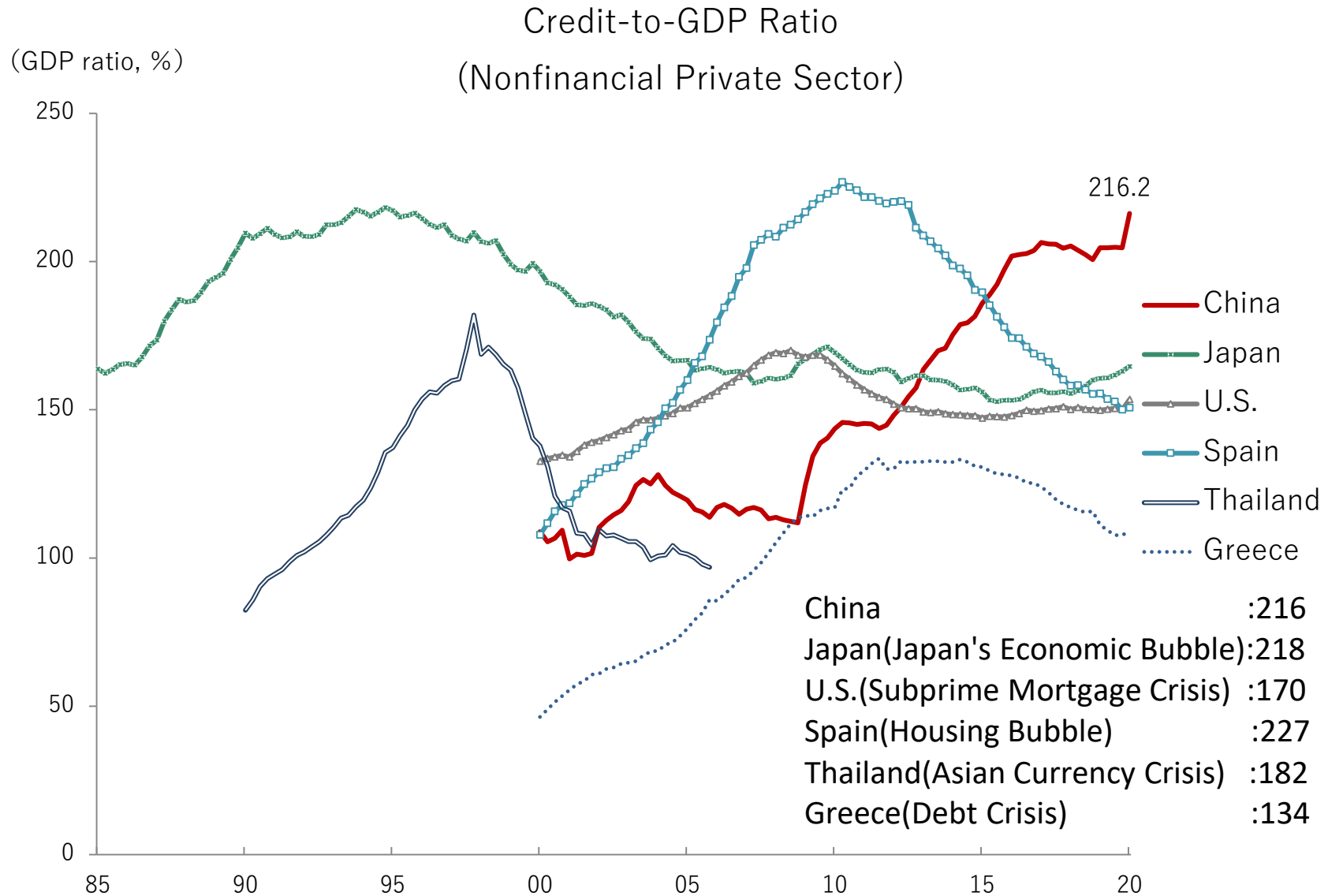
High levels of USD Denominated Debt in EMEs



Source: BIS; compiled by DIR.

Note: Latest data as of end March 2020.

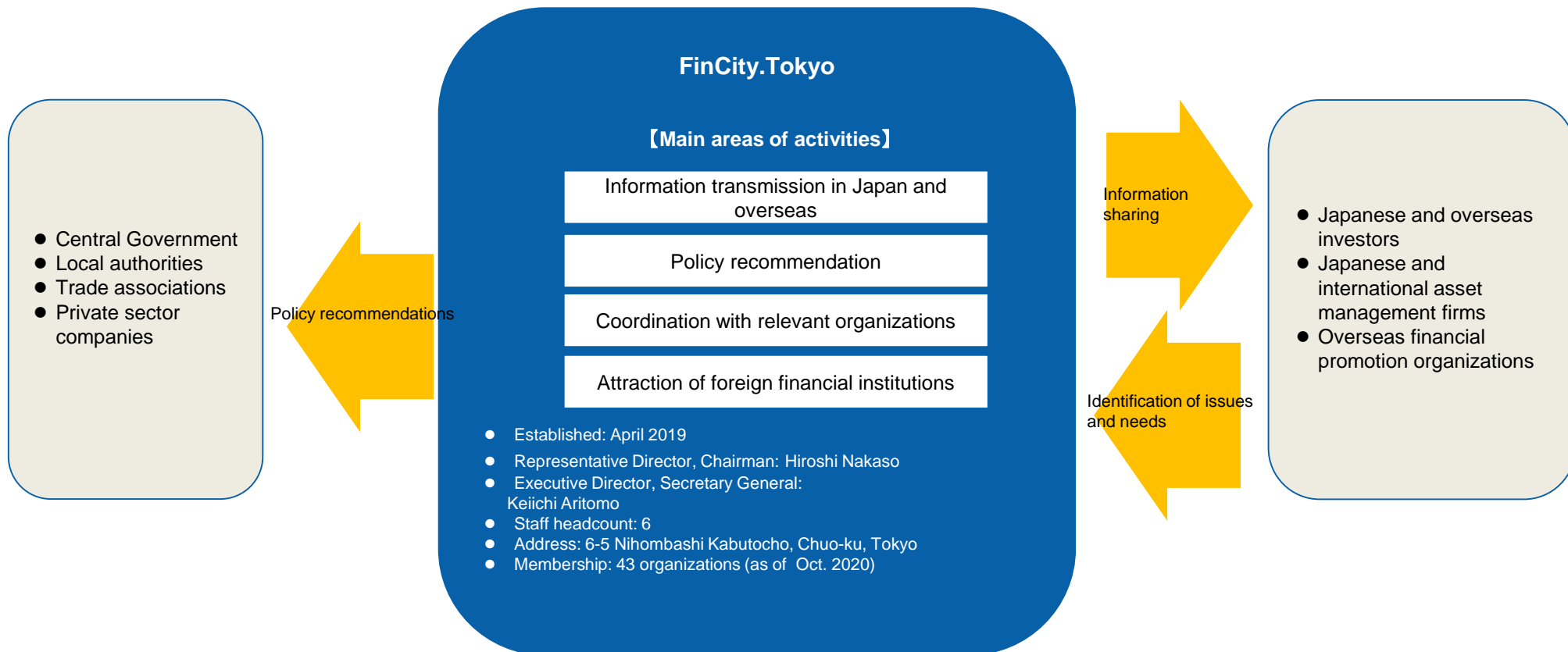
Credit-to-GDP Ratio of China and Countries which have Experienced Financial Crises



Source : IMF,BIS; compiled by DIR.

Note: Most recent data as of end of March 2020.

FinCity.Tokyo was established in April 2019 as a membership organization comprising of public sector (Tokyo Metropolitan Government) and private sector members to progress the “Global Financial City Tokyo” initiative



Source: FinCity.Tokyo

Landscape surrounding Tokyo as global financial city

Both external and domestic factors are enhancing Tokyo's importance and role as a global financial center.

External Forces

- Introduction of National Security Law in Hong Kong
- Dependence on US Dollar as key currency
- COVID19 pandemic

Japan's comparative advantage

Domestic Forces

- Stable political and social environment
- Relatively low numbers in infection and COVID19 related deaths
- Gastronomy, nature and culture. Infrastructure

FT FINANCIAL TIMES

Tokyo weighs free office offer to Hong Kong bankers

Financial Times front page of June 22 2020 edition



Challenges for strengthening function as a global financial city

1. Further reduction in time required to obtain licenses under the Financial Instruments and Exchange Act of Japan (FIEA)
2. Reducing tax burden by expanding scope of deduction for executive compensation
3. Expansion of scope of the public credit guarantee scheme to include asset management firms (better access to credit)
4. Relaxation of residence status requirements (VISA)
5. Easier process for opening bank accounts
6. Provision of trial opportunities for starting a business (support programs for office space etc)
7. Support outsourcing of compliance officer function
8. Business continuity support in the event of a natural disaster or upheaval in the home jurisdiction
9. Emerging managers program
10. Unifying reporting requirements by multiple public agencies and trade associations

Source: FinCity.Tokyo

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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.

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