II. Potential macro environmental risk factors

2.1 International economic and financial conditions

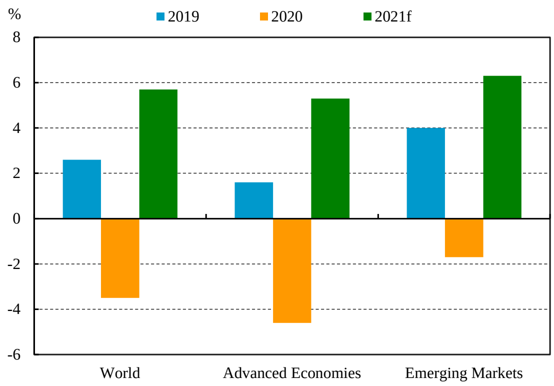
2.1.1 International economic and financial conditions

The COVID-19 pandemic had a severe impact on economic activity in 2020. Against the backdrop of shrinking global trade, subdued economic activity, and supply chain disruptions, global economic growth rates sunk deeply into negative territory. In 2021, with wider vaccine coverage across countries and continuous accommodative monetary policies employed by central banks, global economic growth is expected to gather momentum. However, the most considerable uncertainty surrounding the global economy is still derived from an unpredictable pandemic outlook and the pace of vaccine rollout. When it comes to financial markets, extremely accommodative monetary policies gave stock market investment a boost, resulting in a stark divide between financial markets and economic conditions. Once a quicker Fed normalization triggers a sharp rise in interest rates, it may put financial stability at risk.

The pandemic considerably jeopardized global growth momentum in 2020, and vaccine coverage will play a role in the speed of recovery in 2021

In the beginning of 2020, the COVID-19 pandemic broke out in Mainland China and rapidly spread across the world, derailing global economic growth momentum. On the supply side, the COVID-19-induced confinement measures caused stagnant business operations and declined productive capacity and resulted in supply chain disruptions. On the demand side, associated lockdowns and lower expenditure stemming from vulnerable confidence of households and firms during the pandemic have greatly

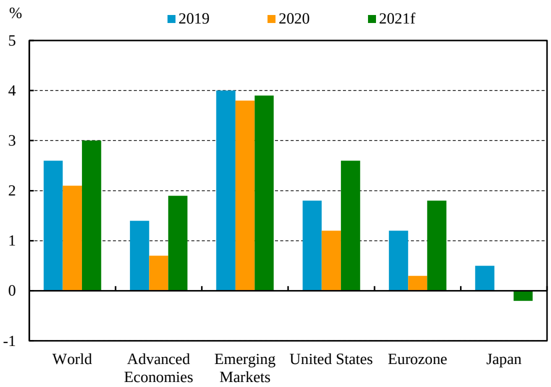
Chart 2.1 Global economic growth rates



Note: Figures for 2021 are IHS Markit estimates.
Source: IHS Markit (2021/5/15).

reduced global demand. Affected by these negative factors, global growth moved into negative territory, contracting by 3.5% [11] during 2020 (Chart 2.1). It was the worst recession since the Great Depression, and far worse than the Global Financial Crisis (GFC) in 2008.[12]

Chart 2.2 Global headline inflation indices



Note: Figures for 2021 are IHS Markit estimates.
Source: IHS Markit (2021/5/15).

Looking ahead to 2021, thanks to expanded vaccinations, loosened COVID-19 restrictions, extraordinary fiscal policy support, and a relatively low base period, global growth is projected to surge notably to 5.7%, while economic growth rates in advanced economies and emerging economies are expected to accelerate to 5.3% and 6.3%, respectively (Chart 2.1). Nevertheless, the IMF warned that logistical problems with delivering vaccines, together with uncertainties around coverage and efficacy of vaccines, could again cause deep wounds to the economy.[13] The IMF estimated that in the downside scenario, which explores the possibility that vaccine coverage is lower than expected and that variants are more resistant to vaccines, global GDP growth in 2021 could slow by roughly 1.5 percentage points (pps) more than in the baseline scenario.

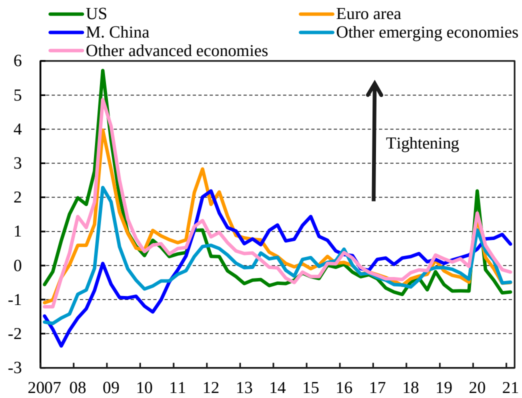
Supported by global economic recovery, global inflation is expected to rise

In the first half of 2020, following lower oil demand amid an escalation of the COVID-19 pandemic and the collapse of the supply cut agreement, international oil prices crashed. Prices of some oil futures contracts even plunged into negative territory in April. Afterwards, Organization of the Petroleum Exporting Countries Plus (OPEC+) approved a historic agreement to cut output by a record amount. This, together with the manufacturing recovery in Europe and the US, policy support deployed across economies, and greater progress with vaccine trials, have finally stabilized the struggling oil market. Nonetheless, the average annual Brent crude oil spot price still dropped by over 35% to US$41.69 per barrel compared to the level of 2019. Moreover, with other energy prices also oscillating along a downward path, the global CPI inflation rate decelerated to 2.1% in 2020. The headline inflation rates in advanced and emerging economies decreased to 0.7% and 3.8%, respectively (Chart 2.2).

[11] IHS Markit estimate on May 15, 2021.
[12] According to data from IHS Markit, the world economy contracted by 1.7% in 2009 after the 2008 GFC.
[13] IMF (2021), *World Economic Outlook*, April.

Since the beginning of 2021, the easing of lockdowns amid vaccine rollout, along with sizable fiscal policy support from the US, have boosted the global economy as well as oil demand. Meanwhile, OPEC+ agreed to extend most oil output cuts into April. This, together with Saudi Arabia extending its voluntary oil output cut and a shutdown of the oil refineries in Texas arising from frigid weather, had an impact on oil supply and buoyed crude prices. On March 5, the Brent crude oil spot price settled at its highest level since the pandemic began, hitting US$69.95 per barrel. With the pandemic shock subsiding, an increase in demand also led other commodity prices to firm up further. As a result, IHS Markit anticipates that commodity prices will continue their upward trend and lift the global headline inflation rate to 3.0% in 2021. The headline inflation rate in advanced economies will increase to 1.9%, whereas the rate in emerging economies will only slightly pick up to 3.9% owing to weaker inflation in Mainland China (Chart 2.2).[14]

Chart 2.3 Global financial conditions indices



Notes: 1. Financial conditions indices are gauged by standard deviations from the means.
2. Other advanced economies comprise 11 economies, such as Australia, Canada, and the UK, etc.
3. Other emerging economies include 6 economies, such as Brazil and India, etc.

Source: IMF (2021), *Global Financial Stability Report*, April.

Highly accommodative financial conditions fueled financial vulnerabilities

Financial conditions have eased

In the beginning of 2020, the escalation of the COVID-19 pandemic induced mounting panic sentiment among investors, resulting in stock market crashes and widening corporate bond spreads. Consequently, financial conditions tightened abruptly (Chart 2.3). In the context of tighter financial conditions, the corporate sectors reduced investment because of rising funding costs and individuals postponed their consumption, thus putting financial stability at risk.

Since the second half of 2020, extraordinary monetary and fiscal policy support launched by national authorities has helped mitigate the impact of the pandemic. On the back of the aforementioned policies and other positive news regarding progress in vaccine development, investors expected that the global economy would be on track for recovery. As a result, excessive capital flowed into stock markets, leading to a sharp rise in stock prices and higher corporate valuations. Reflecting this, financial conditions loosened, notably in the US. The US

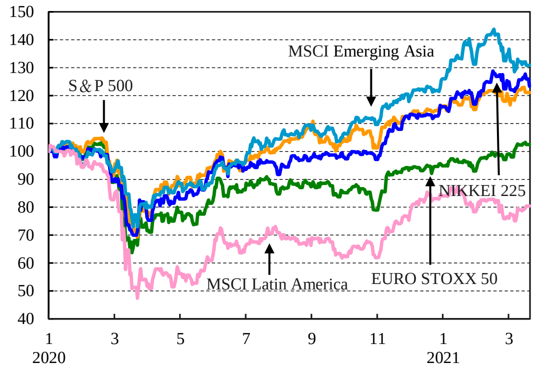
[14] In 2020, pork prices in Mainland China oscillated at a high level amid an outbreak of swine fever. IHS Markit anticipates that pork prices will drop in 2021, while the CPI inflation rate will decline from 2.5% recorded in 2020 to 1.8% over the same period.

financial conditions index reached its loosest level ever following an evident jump in its stock markets (Chart 2.3).

The disconnect between financial markets and the real economy resulted in a K-shaped recovery

In March 2020, the spread of COVID-19 and plummeting oil prices led to panic sentiment among investors and sharp falls in global stock markets. From April onwards, monetary policy accommodation and fiscal stimulus measures were successively adopted by governments. Moreover, growing optimism on COVID-19 vaccines also boosted investors' confidence. As a result, vast capital inflows to stock markets fueled a sharp rally globally, especially in the US, Japan, and Asian emerging markets.[15] On the other hand, euro equity markets had very limited growth owing to Brexit and the resurgence of the pandemic at the end of 2020 (Chart 2.4).

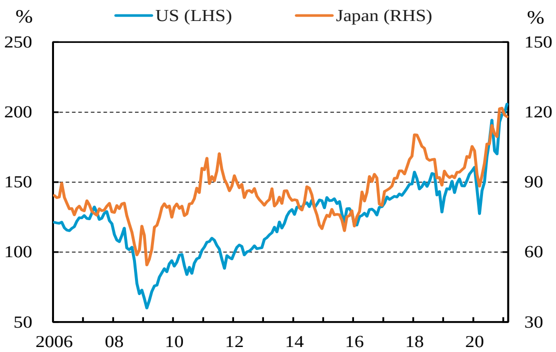
Chart 2.4 Performance of key international equity indices



Notes: 1. January 1, 2020 = 100.
2. The Euro STOXX 50 refers to a stock index consisting of the largest 50 stocks in the 12 major economies of the euro area.

Source: Bloomberg.

Chart 2.5 Stock market capitalization-to-GDP ratios



Source: Bloomberg.

Recently, asset valuations in financial markets (e.g., stock markets) have fully recovered, but labor markets and economic activity have only partially bounced back, generating a K-shaped recovery. For instance, the stock market capitalization-to-GDP ratios for the US and Japan grew drastically to 198% and 122%, respectively, at the end of 2020 (Chart 2.5). Under this circumstance, worse-than-expected evolution of the pandemic and slower-than-anticipated economic revival in the future, or an earlier-than-expected tightening of monetary policies, may sharply heighten risk aversion and induce a sudden asset-price correction in financial markets. The abrupt correction could rattle the real economy and add to market pessimism, increasing the likelihood of adverse macro-financial feedback loops.

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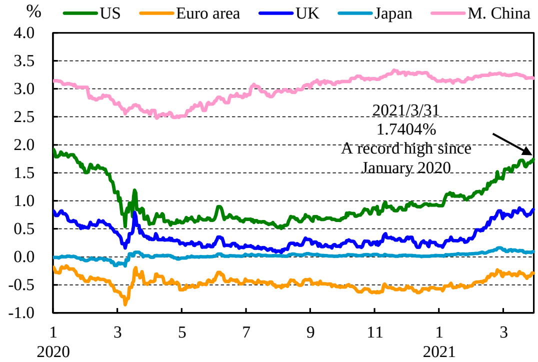
[15] On March 17, 2021, the S&P 500, Nikkei 225, and MSCI Emerging Asia increased by 74.9%, 76.2%, and 79.2%, respectively, compared to their lowest level of 2020. Among them, stock market indices in South Korea, Taiwan, and India have set all-time record highs.

Reflecting stronger inflation expectations, government bond yields in major economies surged

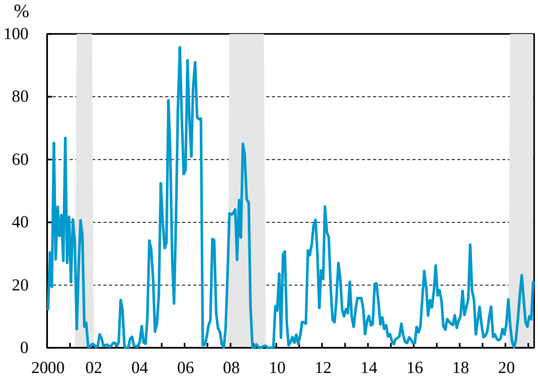
In 2020, in light of the deteriorating COVID-19 pandemic, government bond yields in the US, the UK, and the euro area fell to the lowest level recorded since 2016. From 2021 onwards, global vaccine rollout and brighter economic prospects have fed into inflation expectations, spurring a spike in bond yields, particularly those in the US (Chart 2.6). Compared to its lowest level in 2020, the 10-year Treasury yield rose by 120 basis points and stretched to a recent high of 1.74% at the end of March 2021.

Chart 2.6 10-year government bond yields in major economies



Source: Bloomberg.

Chart 2.7 Fed's price pressures measure



Notes: 1. The PPM measures the probability that the expected PCEPI inflation rate over the next 12 months will exceed 2.5%.
2. Shaded areas represent recessions defined by the National Bureau of Economic Research (NBER).

Source: St. Louis Fed.

The surging inflation expectations were mainly driven by multiple factors, such as easy financial conditions, massive fiscal policy responses, pandemic alleviation, rising commodity prices, and economic recovery. Nonetheless, the negative output gap in the US persisted. This, together with structural disinflationary factors, including globalization, technology development, and an aging population, have continuously restrained long-term inflation expectations in the US. According to the St. Louis Fed's price pressures measure (PPM) in March 2021,[16] there was only a 20% probability that the expected personal consumption expenditures price index (PCEPI) inflation rate would average more than 2.5% over the next 12 months (Chart 2.7), indicating that the rise in inflation expectations is likely to be temporary.

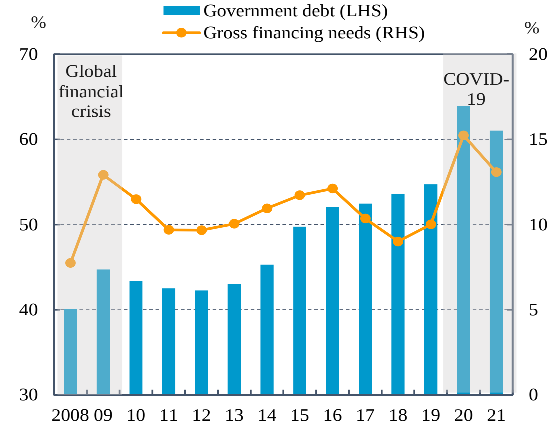
Although the surge in US government bond yields was likely to prove non-permanent, a significant increase in yields after mid-February 2021 triggered a correction in stocks. Global stock markets dropped after carving out fresh records. Against this backdrop, once real interest

[16] The PPM index is constructed from a model augmented with nine factors (e.g., consumer price indexes). Please see Jackson, Laura E., Kevin L. Kliesen, and Michael T. Owyang (2015), "Introducing the St. Louis Fed Price Pressure Measure," *St. Louis Fed Economic Synopses*, November.

rates rise rapidly and persistently, it could bring about a repricing in financial markets and tightening financial conditions. In turn, it may hamper market confidence and endanger financial stability.

Global debt soared to a new record high, and non-financial private sector debt warrants close attention

Chart 2.8 Government debt and gross financing needs of emerging economies (percent of GDP)



Note: This chart includes 51 emerging economies, excluding Mainland China.
Source: IMF (2021), *Global Financial Stability Report*, April.

After the 2008 GFC, the influence of expansionary monetary policy on lowering borrowing costs provided stronger incentives for the non-financial sector to increase leverage. More recently, households and firms have taken on more debt to cover lost income following the COVID-19 outbreak. Both resulted in elevating private sector debt. With regard to government debt, massively scaled-up fiscal support at the national level to address the pandemic[17] also led public debt to mount rapidly. According to the statistics of the Institute of International Finance (IIF), global debt across all sectors hit US$281 trillion at the end of 2020, topping 355% of GDP, which was 35 pps higher than that of 2019.[18]

In the short term, policymakers will be faced with difficult trade-offs between providing monetary policy assistance for the economy and a withdrawal of policy support aimed at preventing debt overhang in the private sector. In the future, as soon as the economy is on track to recovery from the onslaught of the pandemic, macroprudential policies should be employed adequately to contain financial stability risks caused by high leverage.

Monetary policy normalization in advanced economies may cause portfolio outflows from emerging economies

The economic recovery is expected to be divergent because of uneven vaccine distribution and availability across regions. Since growth in emerging markets is forecast to be slower than in advanced economies, governments will face considerable financing needs. IMF staff analysis[19] suggests that gross financing needs in emerging markets (excluding Mainland China) are anticipated to remain elevated at 13% of GDP in 2021, and government debt is

[17] Global fiscal support has already reached nearly US$16 trillion. Please see IMF (2021), *Fiscal Monitor*, April.
[18] IIF (2021), *Global Debt Monitor: COVID Drives Debt Surge – Stabilization Ahead?* February.
[19] IMF (2021), *Global Financial Stability Report*, April.

expected to reach 61% of GDP. Both of these are beyond levels reported during the 2008 GFC (Chart 2.8).

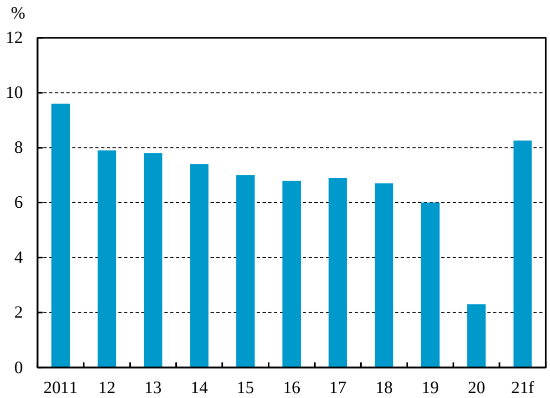
In emerging markets, given that most of them have high debt and large financing needs, a move toward policy normalization or rising long-term interest rates in advanced economies could result in tighter financial conditions and significant capital outflows. Countries with poor economic fundamentals and limited access to vaccines may face massive capital outflows.

2.1.2 Mainland China's economic and financial conditions

As the COVID-19 pandemic subsided, economic growth gradually picked up

In the beginning of 2020, the momentum of economic growth in Mainland China was battered severely by the outbreak of the COVID-19 pandemic. As a result, the growth rate declined to -6.8% in 2020 Q1. Afterwards, with the pandemic having abated, most regions successively eased their lockdowns and resumed production, leading to a stable recovery in Mainland China.[20] The GDP growth rate stood at 2.3% in 2020, a significant decrease of 3.7 pps compared to a year earlier (Chart 2.9). Looking ahead to 2021, owing to accelerating economic recovery and a lower base period of the previous year, IHS Markit forecasts that the economic growth rate will sharply surge to 8.3% (Chart 2.9).

Chart 2.9 Economic growth rate of Mainland China



Note: Figure for 2021 is an IHS Markit estimate.
Sources: National Bureau of Statistics of China and IHS Markit (2021/5/15).

Consumer prices continued to fall, while producer prices bounced back and housing prices showed moderate growth

Owing to slower growth in food prices, the CPI inflation rate of Mainland China was 2.5% throughout 2020, a decrease of 0.4 pps compared to a year earlier. IHS Markit projects the annual CPI inflation rate throughout 2021 will continue to fall to 1.8%. In addition, affected by the COVID-19

[20] According to the statistics of the National Bureau of Statistics of China, in 2020 Q2 and Q3, the annual growth rate in Mainland China rose to 3.2% and 4.9%, respectively. The economy advanced further to 6.5% in 2020 Q4 and gradually returned to its pre-pandemic level.

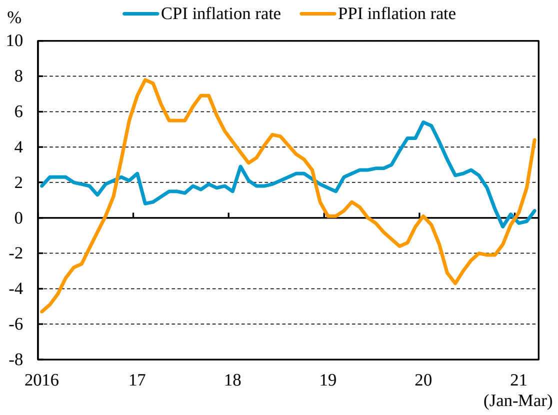
pandemic, the producer price index (PPI) inflation rate dropped to -1.8% throughout 2020. Nonetheless, since the beginning of 2021, the PPI inflation rate has returned to positive territory and climbed to a recent high of 4.4% in March (Chart 2.10).

With regard to the housing market, in light of the spread of COVID-19 and associated lockdowns in the beginning of 2020, the transaction volume in the first half of the year shrunk significantly, coupled with a moderate increase in housing prices. However, in the second half of the year, a more accommodative monetary policy adopted by the People's Bank of China (PBC) led to speculative trading, fueling a gradual rise in housing prices (Chart 2.11). Considering that there were more signs of financialization and bubbles in the housing market, Mainland China's government successively required banks to comply with enhanced supervision measures for housing loans from December 2020 onwards so as to reduce bubble risks.

The PBC moved toward a neutral stance after implementing highly accommodative monetary policies

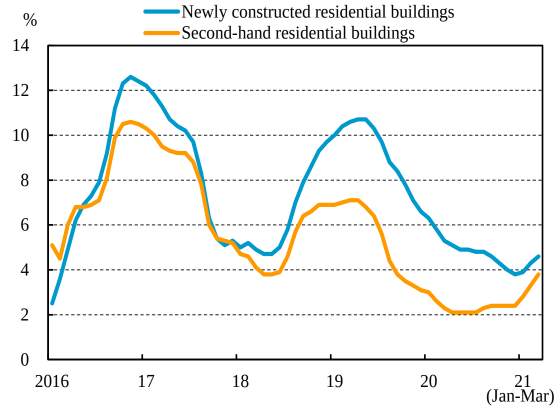
In early 2020, the escalation of the COVID-19 pandemic triggered financial market turmoil. The Shanghai interbank offered rate hiked rapidly. In response, the PBC substantially injected liquidity into markets by means of policy tools such as cuts in reserve requirement ratios. Moreover, the PBC led the market interest rates to drop by cutting rates of the

Chart 2.10 CPI and PPI inflation rates of Mainland China



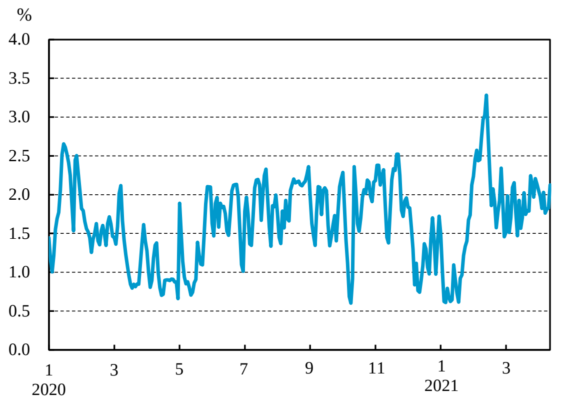
Source: National Bureau of Statistics of China.

Chart 2.11 Average annual growth rates of residential building sales prices in 70 medium-large cities of Mainland China



Source: Refinitiv Datastream.

Chart 2.12 Overnight Shanghai Interbank Offered Rate



Source: China Foreign Exchange Trading System & National Interbank Funding Center.

medium-term lending facilities (MLFs) and reverse repo operations. In the second half of the year, with effective control of the pandemic, the PBC moved toward a neutral stance and held an adequate level of liquidity for the financial system. As a result, the interbank overnight call loan rate picked up slightly and fluctuated in a range-bound band (chart 2.12).

Chart 2.13 Shanghai Stock Exchange Composite index

Source: Bloomberg.

SSE Composite Index and RMB FX rate both jumped substantially

Chart 2.14 RMB/USD exchange rate

Source: CBC.

Owing to the spread of COVID-19 in the beginning of 2020, the SSE Composite Index plummeted amid a plunge in global stock prices during March. However, from 2020 Q2 onwards, thanks to effective control of COVID-19 and a massive inflow of foreign capital, the SSE Composite Index rebounded significantly and fluctuated upwards. At the end of December, the index surged by 13.87% year on year. Nevertheless, the Index slid in early 2021, along with tumbling global stock markets owing to rising concerns about inflation in the US (Chart 2.13).

Regarding the FX market, in the beginning of 2020, soaring panic sentiment in international financial markets triggered a rise in the US Dollar Index, leading to a notable depreciation of the RMB exchange rate against the US dollar. Afterwards, with gradual economic recovery in Mainland China and a widening of interest rate spreads between the US and Mainland China, the RMB exchange rate against the US dollar turned to appreciate and rose by 6.52% throughout the year. However, the rate weakened against the US dollar from March 2021 on account of elevated US Treasury yields (Chart 2.14).

Aggregate financing to the real economy grew constantly

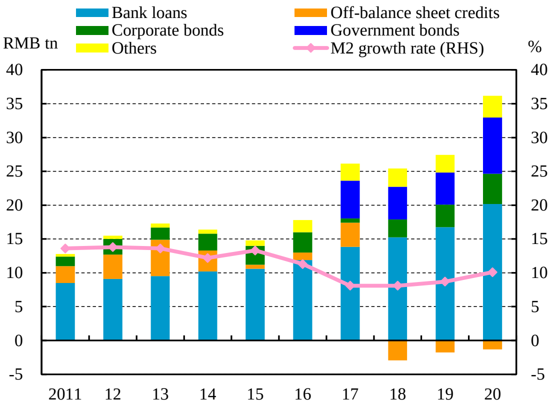
In 2020, against a backdrop of easy monetary policy by the PBC, the annual growth rate of broad money supply M2 rose by 1.4 pps to 10.1% from 8.7% a year before. The increment in aggregate financing to the real economy also markedly climbed to RMB34.9 trillion. Among them, only off-balance sheet credit continued to shrink by RMB1.3 trillion (Chart 2.15). At the end of 2020, the outstanding amount of financing to the real economy stood at RMB284.8 trillion, an annual increase of 13.3% compared to a year earlier.

At the end of 2020, the NPLs of commercial banks in Mainland China stood at RMB2.70 trillion, a striking increase of 11.93% year on year. On the other hand, the NPL ratio slightly dropped to 1.84% (Chart 2.16). If special-mention loans with a total amount of RMB3.78 trillion were included, the outstanding amount of classified assets would rise to RMB6.48 trillion, equivalent to 4.41% of total loans, reflecting unsound credit quality.

Mainland China's potential risks mounted with rising debt

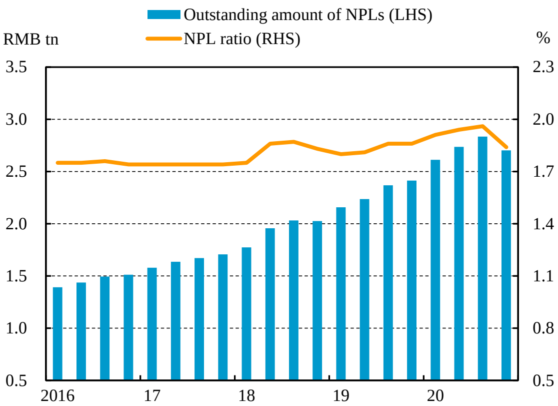
According to the statistics of the BIS, the outstanding debt for nonfinancial sectors in Mainland China continually reached a record high of RMB292.9 trillion at the end of 2020, equivalent to 289.5% of annual GDP, indicating a considerable increase of 26.6 pps year on year (Chart 2.17). Among them,

Chart 2.15 Increment of financing to the real economy and annual growth rate of M2 in Mainland China



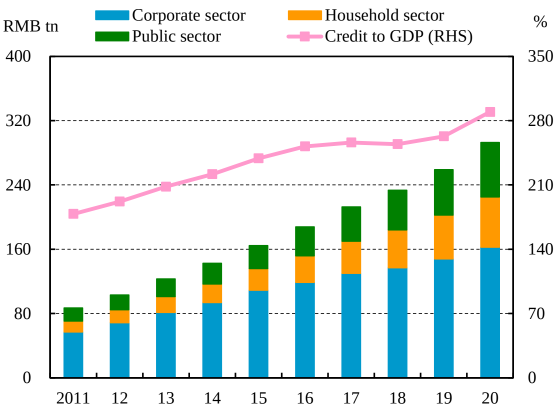
Source: PBC.

Chart 2.16 NPLs of Mainland China's commercial banks



Source: China Banking and Insurance Regulatory Commission.

Chart 2.17 Outstanding amount of debts for nonfinancial sectors and credit-to-GDP ratio in Mainland China



Source: BIS.

corporate sector debt continued its upward trend. For large enterprises (mainly state-owned enterprises), their outstanding debt financing from banks was more than RMB3 trillion, with the NPL ratio hitting over 16%. It put downward pressure on financial institutions' asset quality. Furthermore, the outstanding debt of the household sector, which was highly concentrated in mortgages, increased by 14.24% from a year before and stood at RMB34.5 trillion at the end of 2020. To make matters worse, some buyers purchased real estate with loans for personal consumption or for working capital, raising concerns about excessive financing.

According to the statistics from the Ministry of Finance of China, the outstanding amount of local government debt totaled RBM25.66 trillion at the end of 2020, a significant increase of 20.41% year on year. In addition, with more local government debt financing through other vehicles, the debt servicing pressure may mount further in the future.

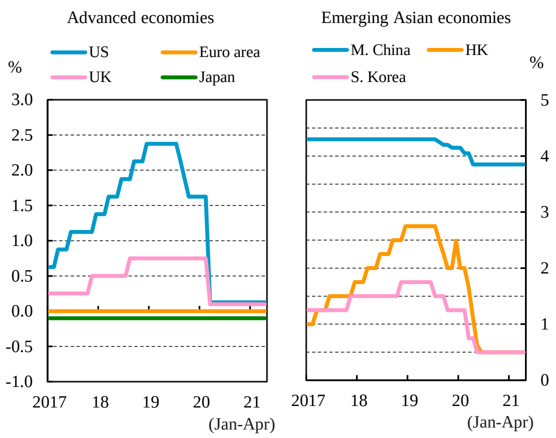
2.1.3 Fiscal and monetary policies in major economies since the second half of 2020

Following the COVID-19 outbreak in the beginning of 2020, central banks in major economies have adopted more accommodative and aggressive policies, or so-called unconventional policies, so as to cushion the pandemic's impact. Since the global economy has not fully regained momentum, most central banks have maintained accommodative monetary policies by providing low interest rates. Besides this, governments continued their massive fiscal policy responses to mitigate downside risks to the real economy.

Major economies maintained accommodative monetary policies

Major central banks mostly kept interest rates low. Among them, after making rate cuts by a total of 150 bps throughout March 2020, the Fed held the target range for the federal funds rate at 0.00-0.25%. The Fed also announced the extension of its US dollar liquidity swap lines and left asset purchases unchanged. From 2020 onwards, the European Central Bank (ECB) kept interest rates steady owing to the unfolding of the pandemic and the persistence of below-target inflation outcomes. Furthermore, the ECB decided to extend the period of refinancing operations and to increase the size of its bond buying program. The Bank of Japan not only continued to apply a negative interest rate, but also extended the duration of the program regarding special funds-supplying operations to facilitate corporate financing. The Bank of England ramped up its government and corporate bond-buying program to respond to the impact of the pandemic. Mainland China stopped its monetary expansion and moved toward a stable and neutral policy stance from the second half of 2020, as well as successively putting an end to various COVID-related support measures. Lastly, some Asian economies (such as Hong Kong and South Korea) kept policy rates unchanged from the second half of 2020 onwards, sustaining accommodative monetary policies (Chart 2.18).

Chart 2.18 Policy rates in major economies



Notes: 1. Advanced economies: figure for the US is based on the target federal funds rate; for the euro area, the main refinancing operations fixed rate; for the UK, official bank rate; for Japan, interest rate on excess reserves.
2. Emerging Asian economies: figure for Mainland China is based on one-year loan prime rate; for Hong Kong, base rate; for South Korea, Bank of Korea base rate.
3. Figures are as of April 30, 2021.

Sources: Central bank and monetary authority websites.

Major economies announced further fiscal stimulus

In the first six months of 2020, widespread lockdowns amid the COVID-19 outbreak resulted in serious impacts on the real economy and posed downside risks to the global economic outlook. In order to assist vulnerable households and firms to weather the COVID-19 crisis, major economies deployed extraordinary fiscal policy support. In the second half of the year, high uncertainty around the evolution of the pandemic hindered economic growth. Accordingly, most economies continuously launched fiscal stimulus packages, focusing on unemployment benefits, extension of the loans to businesses, and vaccine distribution. For example, the US passed the second-largest pandemic aid bill in March 2021, totaling US$1.9 trillion. The European Union agreed to a €750 billion COVID-19 recovery fund. The Japanese government launched a new round of stimulus worth roughly ¥73.6 trillion.

2.2 Domestic macro environment

2.2.1 Domestic economic and fiscal conditions

Although private consumption, which was affected by the COVID-19 pandemic, turned to decline in 2020, the domestic economy grew moderately and inflation remained stable thanks to positive growth in exports and an increase in private investment. External debt servicing capacity stayed robust on the back of a persistent surplus in the balance of payments and ample FX reserves. With the government's fiscal deficits rising again, outstanding public debt marginally expanded but still stood within a manageable level. However, from mid-May 2021 onwards, the impacts of a global recurrence of the COVID-