II. Potential macro environmental risk factors

2.1 International economic and financial conditions

2.1.1 International economic and financial conditions

From 2020 onwards, the US and Mainland China reached an agreement on phase one of the trade deal, and the UK officially left the European Union and immediately entered an 11-month transition period. Nevertheless, the outbreak of the COVID-19 pandemic in Mainland China not only put downward pressure on its own economy, but also caused severe spillover effects to other economies. The pandemic has spread globally, resulting in excessive volatility in international financial markets. In response to threats to economic growth and financial stability driven by the COVID-19 crisis, major economies have adopted accommodative monetary policies, expansionary fiscal policies, and other measures to stabilize financial markets.

The pandemic significantly jeopardized global growth momentum and the great plunge in oil prices would suppress inflation

In 2019, rising US-China trade tensions¹⁷ led to lower global trade and investment growth. Although trade tensions eased in the end of 2019, ¹⁸ uncertainties over US-China trade talks have aggravated business confidence and exports. As a result, the global economic growth rate decreased from 3.2% recorded in 2018 to 2.6% (Chart 2.1).





¹⁷ In May and August 2019, the US respectively imposed tariffs on US\$200 billion and US\$300 billion worth of Chinese goods. Mainland China also increased tariffs or lodged a complaint against the US with the World Trade Organization as a response.

¹⁸ The US and Mainland China reached an agreement on phase one of the trade deal in December 2019 and it was signed in January 2020. The deal stipulated that Mainland China should purchase an additional US\$200 billion of US goods and services before 2021. In exchange, the US agreed to cut partial tariffs.

In the beginning of 2020, the COVID-19 pandemic broke out in Mainland China and has rapidly spread across the world, derailing global economic growth momentum. To cope with the outbreak, Mainland China adopted measures such as lockdown and production shutdown, resulting in a dramatic drop in its international and domestic tourism and import demand. The unprecedented confinement measures caused a supply-side shock with major disruptions to supply chains. In the meantime, with the aim of curbing the pandemic, other major economies also enhanced crowd management, which posed threats to corporate operation and consumption that could trigger demand-side shocks with outright cancellation of orders. Considering the aforementioned factors, IHS Markit predicts¹⁹ that the global economy will experience a recession with growth forecast at -5.5% in 2020. Economic growth in advanced economies, including the US, the euro area, and Japan, is projected to reduce to -7.4%. Meanwhile, in view of the oil price collapse and weakening global demand, the average growth rate in emerging economies is forecast to decrease to -2.6% (Chart 2.1).

In 2019, affected by subdued momentum in global trade and unresolved US-China trade tensions, economic growth in most Asian emerging economies weakened. Looking ahead to 2020, since COVID-19 has disrupted Mainland China's demand and manufacturing production, IHS Markit anticipates that its economic growth will drop dramatically to 0.5%. For other Asian economies, any significant slowdown in Mainland China's economic growth arising from the pandemic could have negative spillovers to them. For instance, travel by tourists from Mainland China makes a key contribution to economic growth in both Thailand and the Philippines. Trade and industry chains in Hong Kong, South Korea, and Indonesia are all deeply connected with Mainland China. Therefore, IHS Markit projects that the economic growth rates in Hong Kong, South Korea, and the ten members and countries of the Association of South East Asian Nations (ASEAN-10) will markedly fall to -6.6%, -0.9%, and -2.6%, respectively.

A sharp drop in commodity prices will pull down global inflation

International oil prices fluctuated within a narrow range in 2019 (Chart 2.2). The average annual Brent crude oil spot price dropped to US\$64.37 per barrel from US\$71.19 registered in 2018, while the West Texas Intermediate (WTI) futures price showed a similar trend. In the meantime, metal prices fell, while food prices trended upwards. As a whole, with most commodity prices oscillating along a downward path, the global CPI inflation rate decelerated to 2.6% in 2019. The headline inflation rate in advanced economies decreased to 1.4%. On the other hand, although

¹⁹ See Note 1.

inflation rates in most emerging markets moderated, the average rate in all emerging economies accelerated to 4.0% amid the rapid spread of African swine fever throughout Mainland China (Chart 2.3).

From early 2020 onwards, oil prices turned to a downward trend driven by a decline in oil demand amid an escalation of the COVID-19 pandemic. Additionally, following the collapse of the supply cut agreement between the Organization of the Petroleum Exporting Countries (OPEC) and Russia, some oil suppliers planned to boost production. This, together with lower oil demand stemming from tightened travel bans in Europe and the US, induced an oil price collapse.²⁰ Afterwards, despite the fact that the oil-producing nations reached a historic production cut agreement, the extent of the oil production cut was far below the decline in demand. Reflecting this, the May WTI futures price plummeted to a record low of US\$-37.63 per barrel on April 20, 2020. Since the acceleration of the pandemic also caused a decrease in demand and prices for other commodities, IHS Markit



Chart 2.2 Global commodity prices

Chart 2.3 Global headline inflation indices



predicts that the global headline inflation rate will drop to 2.0% in 2020. The headline inflation rate in advanced economies will sharply decrease to 0.6%, whereas the rate in emerging economies will fall slightly to $3.9\%^{21}$ (Chart 2.3).

²⁰ Brent oil spot price plunged by more than 70% from a high of US\$70.25 per barrel on January 6, 2020, to a low of US\$19.19 at the end of March.

²¹ IHS Markit anticipates that the CPI inflation rate in Mainland China will remain unchanged at 2.9% in 2020 compared to a year earlier.

With the outbreak of the COVID-19 pandemic, global financial conditions have tightened abruptly alongside exacerbating financial market turmoil

Financial conditions were getting tighter

In 2019, with uncertainties arising from US-China trade tensions and a global economic slowdown, major central banks adopted a more dovish stance. More accommodative monetary policies brought about an easing of financial conditions in advanced economies, particularly in the US and the euro area. In contrast, financial conditions in other advanced economies



continued to tighten. In Mainland China, financial conditions were marginally tighter as a result of a stock market plunge, while financial conditions in other emerging markets roughly remained unchanged (Chart 2.4).

From early 2020 onwards, the escalation of the COVID-19 pandemic put selling pressure on risky assets in global financial markets, resulting in stock market crashes and widening corporate bond spreads. Therefore, financial conditions in major economies, excluding Mainland China, tightened abruptly (Chart 2.4). Consequently, the corporate sectors would reduce investment because of rising funding costs and individuals would postpone their consumption amid a tightening of financial conditions. This, along with the impact of the pandemic that would entail a sharp slowdown in global economic activity,²² could increase economic and financial risks globally.

Since the beginning of 2020, volatility of global financial markets has spiked along with mounting market panic sentiment

Global stock markets reported severe contractions in response to the COVID-19 pandemic, and US stock markets hit multiple circuit breakers

In 2019, global stock markets were only hammered temporarily in May and August as the US announced new tariffs on Chinese imports. Besides that, the markets mostly delivered gains

²² According to the model estimation from the IMF, there is a 5% probability that global growth could fall below -7.4% in 2020. See IMF (2020), *Global Financial Stability Report*, April.

(Chart 2.5).

In January 2020, global stock markets followed their upward trend of 2019. However, from late February onwards, the spread of COVID-19 and plummeting oil prices induced mounting panic sentiment among investors and a sharp fall in global stock market values (Chart 2.5). Accordingly, the US stock market's circuit breakers were triggered several times and the VIX Index once surged to close at a record high of 82.69 in March (Chart 2.6). On March 23, the MSCI World Index fell to 384.04 (Chart 2.6), the lowest level recorded since 2016. Afterwards, with major economies successively introducing measures to combat the pandemic,²³ the VIX Index marked a decline to 40 or so and global stock markets recovered marginally (Chart 2.6).

Exchange rate volatility in most economies abruptly trended upward lately, and emerging market currencies faced sharp depreciations

In 2019, the movements of local currency exchange rates per US dollar diverged in advanced and emerging economies. Among them, exchange rates in advanced economies fluctuated within a narrow range. In contrast,



Chart 2.6 MSCI World Index and VIX Index



the US dollar index of emerging economies oscillated with an upward trend in the first three quarters before reversing to decrease since 2019 Q4 (Chart 2.7).

The US dollar index of advanced economies has declined since February 2020 as the spillovers of COVID-19 led to market expectations for interest rate cuts by the Fed. Nonetheless, against the backdrop of rapid spread of the pandemic, the index rebounded from lows after mid-March.

²³ See "Policy responses to COVID-19 in major economies" in this chapter.

Thereafter it dropped again after the Fed's announcement of unlimited bond buying. Reflecting repeated ups and downs of the dollar index, the volatility has risen in 2020 compared to that of the previous year²⁴ (Chart 2.7).

Over the same period, a combination of the impact of the COVID-19 pandemic and an oil price plunge triggered a sharp depreciation of currencies and skyrocketing US dollar index in emerging economies. Afterwards, as the Fed announced it would purchase bonds in the amounts needed to support smooth market functioning and effective transmission of monetary policy, the index turned to descend (Chart 2.7).

Government bond yields in major economies sank to a record low

In 2019, affected by the fact that major central banks hinted at easier monetary policy stances owing to concerns about a global economic slowdown and subdued inflation prospects, long-term government bond yields initially trended downwards. The yields bounced back



Chart 2.7 The US dollar indices of advanced

and emerging economies

economies were developed by the Fed, and are weighted exchange rates of 7 and 19 trading partners, respectively. Base period is January 2016 (=100). Source: Fed.



thanks to some positive news: for example, the agreement on the US-China phase one trade deal. Nevertheless, bond yields in major economies headed in the opposite direction since February 2020 amid the COVID-19 crisis. In light of the deteriorating COVID-19 pandemic, together with an oil price plunge, government bond yields in the US, the UK, and the euro area fell to a 5-year low on March 9. Subsequently, the yields surged slightly as national authorities successively implemented fiscal stimulus packages (Chart 2.8).

²⁴ The standard deviation of the US dollar index in advanced economies surged from 0.74 in 2019 to 2.22 in 2020 Q1.

With widened high-yield corporate spreads, the default rate was forecast to be revised upward

After the 2008 GFC, the influence of expansionary monetary policy on lowering borrowing costs has provided stronger incentives for countries to increase leverage. According to the statistics of the Institute of International Finance (IIF), global debt across all sectors hit US\$255 trillion at the end of 2019, topping 322% of GDP, and was 40 pps higher than that of 2007. Among its components, non-financial corporate debt has surged over 70% since 2007 to US\$74.2 trillion.²⁵

Since late February 2020, the COVID-19 pandemic, coupled with elevating market, credit, and liquidity risks, raised market concerns about a large share of BBB corporate bonds being downgraded. As a result, high-yield bond spreads have widened dramatically. In the risky credit market segments, ²⁶ US high-yield corporate bond spreads rose to post-GFC highs (Chart 2.9), which could pose an adverse shock to financial markets.

2.1.2 Mainland China's economic and financial conditions

Economic growth slowed down significantly and continued to reach a record low

In 2019, owing to an escalation of the US-China trade dispute, Mainland China's trade growth dropped substantially.²⁷ Meanwhile, affected by weakening private consumption and investment momentum, the economic growth rate dropped to 6.1% in 2019 from 6.7% a year earlier (Chart 2.10) and continued to reach a record low.



Chart 2.10 Economic growth rate of Mainland China



²⁵ IIF (2020), Global Debt Monitor: COVID-19 Lights a Fuse, April.

²⁶ The risky credit market includes high-yield bonds, leveraged loans, and private debt markets. According to the IMF estimates, these markets have reached US\$9 trillion globally.

²⁷ According to the statistics of the National Bureau of Statistics of China, the annual growth rate of China's total trade volume in US dollars significantly reduced to -1.0% in 2019 from 12.6% a year before.

In the beginning of 2020, Mainland China's economic growth rate was battered severely by the outbreak of the COVID-19 pandemic and declined to -6.8% in 2020 Q1. IHS Markit sharply downgraded its forecast for the economic growth rate to 0.5% in 2020 (Chart 2.10).

CPI inflation rate expanded, while housing prices trended upwards

Affected by a sharp surge in pork and fresh fruit prices, the CPI inflation rate of Mainland China was 2.9% throughout 2019, an increase of 0.8 pps compared to a year earlier. In the beginning of 2020, the food inflation rate continued to rise owing to seasonal factors and a lower base period of the previous year. As a result, the annual CPI inflation rate reached 4.3% in March 2020 (Chart 2.11). IHS Markit projects the annual CPI inflation rate throughout 2020 will remain unchanged at 2.9%.

With regard to the housing market, an accommodative monetary policy constantly adopted by the People's Bank of China







(PBC) led to speculative trading, fueling a rise in the annual growth rate of housing prices in 70 medium-large cities in the first half of 2019. However, the growth of housing prices trended downwards in the second half of 2019 (Chart 2.12).

The PBC continued to implement sound monetary policies aiming to provide market liquidity

From 2019 onwards, in response to US-China trade tensions, the PBC adopted sound monetary policy tools, such as targeted or across-the-board cuts in reserve requirement ratios and the

medium-term lending facility (MLF),²⁸ along with short-term reverse repo operations in the open market, to keep ample liquidity in the financial system. In early 2020, the escalation of the COVID-19 pandemic triggered financial market turmoil. In response, the PBC further cut its reserve requirement ratios and expanded the volume of reverse repo operations in the open market, so as to inject capital into the market.

Mainland China's government actively adopted expansionary fiscal policies

In 2019, Mainland China's government actively implemented expansionary fiscal policies, including expansion of government spending, tax breaks, and fee reductions. Nevertheless, Mainland China still faced greater downward pressure on the economy. In late May 2020, in order to mitigate the severe impact on the economy arising from the COVID-19 pandemic, the government further adopted policies to expand domestic demand, such as raising the caps on the budget deficit to GDP ratio and the quota of special local government bonds, along with the issuance of special government bonds for containing the COVID-19 pandemic and the extension of tax breaks and fee reductions.

SSE Composite Index and RMB FX rate both trended upwards before fluctuating with a downward trend

In the beginning of 2019, the SSE Composite Index rebounded dramatically. Nevertheless, intensified US-China trade tensions led to a drop in the stock market in early May. Afterwards, the index fluctuated within a narrow range. In March 2020, the SSE Composite Index trended downwards driven by the plunge of global stock markets (Chart 2.13).

Regarding the FX market, affected by the escalation of the US-China trade dispute in early May 2019, coupled with Mainland



China's designation as a currency manipulator by the US in early August, the renminbi exchange rate against the US dollar depreciated substantially. Afterwards, supported

²⁸ The MLF was introduced by the PBC, which provides funds for those commercial and policy banks that meet the PBC's macroprudential requirements and offer qualified collateral to it. This facility adjusts financial institutions' medium-term funding costs so that they can offer funds with lower costs to the real economy. As a result, the funding costs of the corporate sector will decrease.

by increased optimism about a US-China trade deal, the renminbi turned to appreciate against the US dollar. However, in early 2020, the exchange rate depreciated sharply amid mounting market panic sentiment (Chart 2.14).

The continual increase in aggregate financing to the real economy pushed up the credit risks

In 2019, against a backdrop of a shift towards easier monetary policy by the PBC, the annual growth rate of broad money supply M2 rose to 8.7% from 8.1% a year before. Meanwhile, the increment in aggregate financing to the real economy reached RMB25.7 trillion. Among them, the increment in bank loans increased to RMB16.8 trillion, accounting for the largest share. Off-balance sheet credit continued to shrink by RMB1.8 trillion amid more stringent supervision, but the decline narrowed (Chart 2.15).

At the end of 2019, the NPLs of commercial banks in Mainland China stood at RMB2.41 trillion, an annual increase of 19.16%, while the NPL ratio rose to 1.86% from 1.83% a year before (Chart 2.16), reflecting a deterioration in credit quality. Additionally, the outstanding amount of special-mention loans also rose to RMB3.77 trillion. In sum, the outstanding amount of classified assets expanded to RMB6.18 trillion. Given that the COVID-19 outbreak has inflicted severe damage on Mainland China's economic and financial











conditions, a persistent spread of the pandemic in the future could further increase the credit risks, which warrants close attention.

Mainland China's potential risks mounted with rising debt

According to the statistics of the Bank for International Settlements (BIS), the outstanding debt for nonfinancial sectors in Mainland China reached a record high of RMB255.9 trillion, equivalent to 258.7% of annual GDP, at the end of 2019 (Chart 2.17). Among them, the outstanding debt for the corporate sector, which is the main focus of deleveraging efforts, continually increased and stood at RMB147.7 trillion at the end of 2019.

With regard to the household sector, the outstanding debt, which was highly concentrated in

mortgages,²⁹ reached RMB54.6 trillion at the end of 2019 (Chart 2.17). Excessive financing of the household sector may increase the bubble risk in the real estate market.

The outstanding amount of government debt reached RBM53.6 trillion at the end of 2019 (Chart 2.17). Affected by the recent policy that encouraged local governments to use special bonds for infrastructure construction in response to the downward risk of the economy, the debt service pressure on local governments may further surge in the future.





²⁹ According to the statistics of the PBC, the outstanding amount of personal house-purchasing loans stood at RMB30.2 trillion at the end of 2019, accounting for more than 50% of total household loans.

2.1.3 Policy responses to COVID-19 in major economies

With regard to the global COVID-19 issue, the International Monetary Fund (IMF) recommends³⁰ that individual countries should secure adequate resources for the health care system and enhance international cooperation. Besides this, in order to avoid the COVID-19 pandemic inducing sharp damage on economic activity, central banks should ensure sufficient provision of liquidity and credit to markets, and expand easing monetary policies. Moreover, financial supervisors should encourage banks to renegotiate loan terms for distressed borrowers, and governments should implement targeted fiscal stimulus.

Major economies have recently adopted accommodative monetary policy stances

To contain economic damage following the rapid spread of the COVID-19 pandemic, major central banks have promptly introduced a series of actions, such as policy rate cuts (Chart 2.18), large asset purchase programs, and active open market operations. These measures have provided massive liquidity to curb market panic. For example, the Fed has made emergency rate cuts twice throughout March 2020, lowering the federal funds rate by a total of 150 bps, and announced an unlimited asset purchase program in an unprecedented move. Additionally, the Fed provided up to US\$2.3 trillion in loans to increase the flow of credit to households and corporations. With the aim of maintaining liquidity for the real economy, other major central banks also adopted easing monetary policy stances



Furthermore, to better meet market needs for US dollars, the Fed and five central banks namely, the Bank of Canada, the Bank of England, the European Central Bank (ECB), the Bank

focusing on quantitative easing (QE), and offered funding for banks to lend to corporations.

³⁰ IMF (2020), World Economic Outlook, April.

of Japan, and the Swiss National Bank-agreed to reactivate unlimited US dollar liquidity swap facilities. Thereafter, the Fed set up temporary swap lines worth US\$450 billion with nine additional central banks. The provision amounted to up to US\$60 billion or US\$30 billion for each central bank, so as to relieve strains in global US dollar funding markets. For more detailed monetary policy responses to COVID-19 in major economies, please see Table 2.1.

Major economies have launched expansionary fiscal policies

Movement restrictions on products and crowds amid the COVID-19 outbreak have resulted in serious impacts on the real economy and posed downside risks to the global economic outlook. In order to assist households and corporations to weather the COVID-19 crisis, major economies successively launched fiscal stimulus packages, including raising expenses for virus prevention and vaccine development, as well as offering credit guarantees and subsidies to the most affected industries and firms, and providing direct cash transfers to support vulnerable households. For example, the US has passed four fiscal stimulus bills totaling US\$2.9 trillion,

Table 2.1 Monetary and fiscal policy responses to COVID-19 in major economies in 2020							
Monetary policies				Fiscal policies			
Policies	Economies	Contents		Policies	Economies	Contents	
Interest rate cut	US, UK, M. China, S. Korea and HK	The Fed lowered its target band for the federal funds rate by a total of 150 bps to 0-0.25%.		Financial aid or subsidies to households and corporations	China, S.	The authorities provided cash, vouchers, unemployment assistance, tax reductions, rent relief, and industrial development funds for vulnerable industries.	
Lowering required reserve ratios	M.China	The maximum cut to the required reserve ratios was 2%.					
Expanding asset purchase programs	US, euro area, Japan, UK and S. Korea	Asset purchases included bonds, commercial paper, ETFs or REITs. Among the economies, the US announced an unlimited asset purchase program.		Bailout loans or loan guarantees	1 /	The US government passed an estimated US\$2.2 trillion CARES Act and a US\$483 billion Paycheck Protection Program and Health Care Enhancement Act.	
Actions to facilitate lending from banks		Actions were operated mainly through loan guarantees or refinancing operations rate cuts. The Fed provided US\$2.3 trillion in loans.		Enhancing pandemic control	US, EU, M. China, HK and Japan	The measures included funding packages for COVID-19 containment, vaccine development, free COVID-19 testing and support to health care workers.	
Repo	US, UK and Japan	The Fed established a temporary repurchase agreement facility for foreign and international monetary authorities.		Suspending budget restriction rules and extending	The European Com proposed maximum EU and M. for budgetary requi China and Mainland China	The European Commission proposed maximum flexibility for budgetary requirements, and Mainland China accelerated the use of special	
Dollar liquidity swap lines and emergency lending facilities	US	The Fed authorized dollar liquidity swap lines with 14 central banks and adopted multiple emergency lending facilities.		use of bonds		local government bonds.	

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Note: Data related to US fiscal policies are as of May 2020. Other data are as of April 2020. Sources: Official websites of selected economies, IMF and relavant news/reports. Summarized by the CBC. far higher than the US\$0.79 trillion made available during the GFC in 2008. The Japanese government approved a record 117 trillion yen economic stimulus package. Other major economies deployed substantial fiscal stimulus as well (Table 2.1).