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2021

PBC Shanghai Head Office
China Financial Market Development Report Committee

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Chapter 1 Overview

In 2021, due to the COVID-19 resurgence, the global economy, despite the recovery, picked up and then went down. Fluctuations in international financial markets intensified as major economies shifted their monetary policies. In the face of a complex external environment, China's economy continued to recover steadily, achieving new progress in high-quality development. The financial market continued to scale up; market reforms and innovation progressed steadily; the opening-up was advanced in an orderly manner. The financial market maintained a stable operation, extending stronger support for the real economy.

1.1 The macro environment for China's financial market development in 2021

1.1.1 International economic and financial situations

1.1.1.1 Recovery of world economy

(1) The global economy picked up and then dipped down

In H1 2021, thanks to the vaccination progress and the fiscal stimuli of developed economies, the global economic recovery gained momentum. Nevertheless, entering into H2, the Omicron variant of COVID-19 spread rapidly, persistently affecting the restoration of supply chains, the global economic recovery experienced a marginal slowdown.

Data of developed economies demonstrated positive growth for the whole year, with the growth rate hitting a year-high in Q2. In 2021, the annual real GDP of the United States (the U.S.) grew at a rate of 5.7 percent, and the GDP growth rates for each quarter came in at 0.6 percent, 12.2 percent, 5.0 percent, and 5.5 percent respectively[①]. The annual real GDP growth rate in the Eurozone was 5.4 percent, and the GDP growth rates for each quarter were -1.0 percent, 14.8 percent, 3.9 percent, and 4.6 percent respectively. Japan's real GDP growth rate came in at 1.7 percent, and by quarter, its GDP grew by -1.7 percent, 7.3 percent, 1.2 percent and 0.4 percent respectively. The United Kingdom (the U.K.) reported a real GDP growth rate of 7.4 percent, and by quarter, its GDP increased by -5.0 percent, 24.5 percent, 6.9 percent and 6.6 percent respectively.

Emerging markets and developing economies showed similar developments. In 2021, the annual real GDP growth rate of India stood at

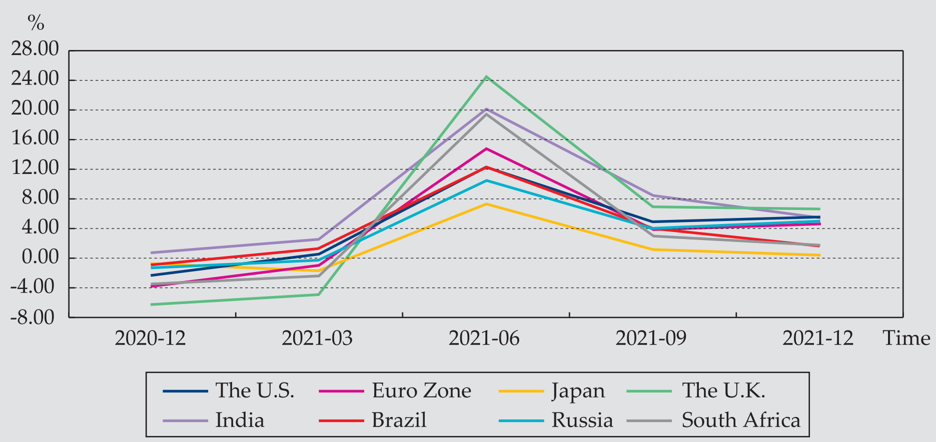
① The quarterly GDP growth of the U.S. is calculated on a yearly basis using the sum-of-the-year digits method, while that of other countries is calculated on a quarterly basis.

8.9 percent, and by quarter, its GDP grew by 2.5 percent, 20.1 percent, 8.4 percent, and 5.4 percent respectively. Brazil registered a real GDP growth rate of 4.6 percent, and the GDP growth rates for each quarter were 1.3 percent, 12.3 percent, 4.0 percent, and 1.7 percent respectively. Russia's real GDP growth rate came in at 4.7 percent, and the GDP growth rates for each quarter were -0.3 percent, 10.5 percent, 4.0 percent and 5.0 percent respectively. South Africa reported a real GDP growth rate of 4.9 percent, and by quarter, its GDP grew by -2.4 percent, 19.5 percent, 3.0 percent and 1.7 percent respectively.

(2) Global trade grew rapidly

In 2021, the value of global trade reached a record high of USD 28.5 trillion, up 25 percent year on year and higher than that in 2019, before the outbreak of COVID-19①. In terms of time, trade growth was stable in H1 2021 and accelerated in Q4. By type, the growth of trade in goods remained strong, increasing by nearly USD 200 billion in Q4 to a record high of USD 5.8 trillion. Trade in services reached USD 1.6 trillion in Q4, roughly the same level as before COVID-19 struck. By economy, the 27 European Union (EU) member states, China, the U.S., Japan, the U.K., India, Russia and Brazil reported a total export-import volume of USD 13.08 trillion, USD 6.05 trillion, USD 4.61 trillion, USD 1.53 trillion, USD 1.16 trillion, USD 0.97 trillion, USD 0.78 trillion, and USD 0.53 trillion respectively, accounting for 45.9 percent, 21.3 percent, 16.2 percent, 5.4 percent, 4.1 percent, 3.4 percent, 2.8 percent and 1.9 percent of the world's total respectively.

Figure 1.1 Economic growth rates of major economies from 2020 to 2021 (by quarter)



(Source: Wind)

① Source: *Global Trade Update* released by the United Nations Conference on Trade and Development (UNCTAD) in February 2022.

(3) Global direct investment rebounded greatly

In 2021, global foreign direct investment (FDI) inflows totaled USD 1.58 trillion, up 64 percent from the COVID-19-affected 2020 and higher than their pre-COVID-19 level in 2019[①]. FDI inflows to developed economies reached USD 745.7 billion, up 133.6 percent year on year, accounting for 68.9 percent of the global cross-border investment growth. FDI inflows to developing economies totaled USD 836.6 billion, up 29.9 percent. Among developed economies, FDI inflows to the U.S. surged 143.6 percent year on year, and that to Canada rose by 157.5 percent, bringing its rank from the 12th in 2020 to the 5th. FDI outflows from the U.S., the EU and Japan recorded USD 403.1 billion, USD 397.6 billion and USD 146.8 billion respectively, up 71.6 percent, 498.7 percent and 53.4 percent year on year respectively. FDI made by developing economies in Asia totaled USD 394.1 billion, up 4.2 percent from 2020.

(4) Commodity prices rose sharply

Energy prices continued to rise due to factors such as the mismatch between production and demand, extreme weathers, and geopolitical conflicts. In 2021, the global oil price measured by the U.S. West Texas Intermediate (WTI) Light Crude Oil soared amongst fluctuations by 57.94 percent from USD 47.62 per barrel at the beginning of the year to USD 75.21 on December 31. The Food and Agriculture Organization (FAO) Food Price Index rose from 113.3 in January to 133.7 in December. The prices of most nonferrous metals went up. At end-2021, the spot prices quoted by the London Metal Exchange (LME) of copper, aluminum, zinc, lead, tin and nickel were USD 9,692.0 per ton, USD 2,806.0 per ton, USD 3,630 per ton, USD 2,328.5 per ton, USD 39,635 per ton and USD 20,925 per ton respectively, up 22.4 percent, 39.4 percent, 30.8 percent, 15.1 percent, 88.4 percent, and 20.6 percent from the beginning of the year respectively. The prices of precious metals fluctuated observed throughout the year. London spot gold at end-2021 was USD 1,820.1 per ounce, down 6.3 percent from the beginning of the year.

1.1.1.2 International financial markets experienced increased volatility

(1) Developed economies shifted their monetary policies

In H1 2021, major developed economies continued to adopt loose monetary policies. In H2, however, inflationary pressures built up. In December, the Consumer Price Index (CPI) of the U.S. rose by 7 percent year on year, and the Harmonized Index of Consumer Prices (HICP) in the Eurozone increased by 5 percent year on year. Hence, central banks started to adjust monetary policies. The U.S. Federal Reserve (Fed) twice reduced its monthly asset purchases by USD 15 billion in November and December. The European Central Bank (ECB) announced in December to ease up on the asset purchases under the Pandemic Emergency Purchase Program (PEPP). The Bank of England unexpectedly raised the benchmark interest rate by 15 basis points (bps) to 0.25 percent in

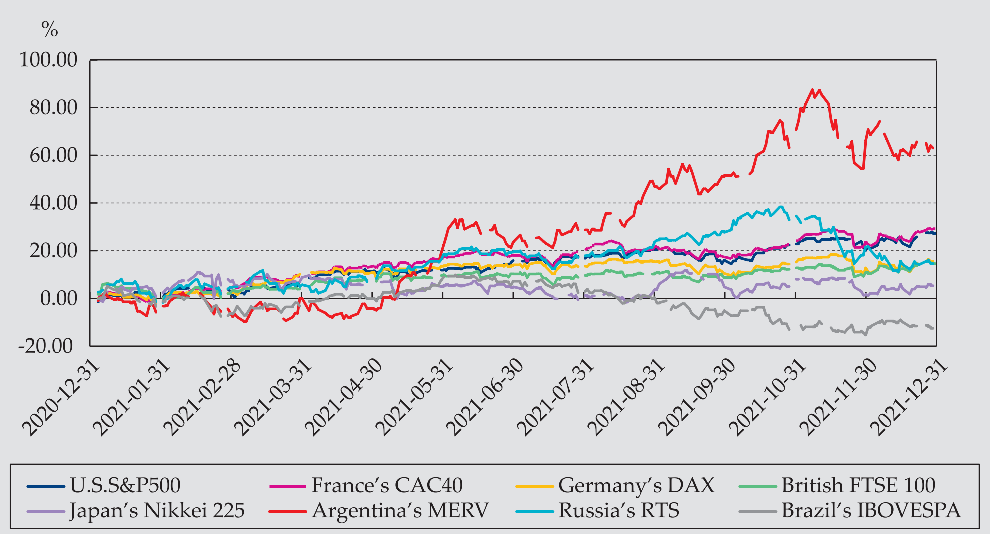
① Source: *World Investment Report 2022* released by the UNCTAD.

December. The Bank of Japan also started to slow down its asset purchases at end-2021. In addition, the Reserve Bank of New Zealand and Norges Bank increased interest rates twice in 2021, each by a total of 50 bps. The Bank of Canada ended quantitative easing, and the Reserve Bank of Australia reduced its bond purchases and exited the yield curve control.

(2) Global stock markets went up

Despite COVID-19 resurgence, global stock markets generally performed well thanks to abundant liquidity. The MSCI World Index rose from 2,670.04 at the beginning of 2021 to 3,231.73 at end-2021, up 21.0 percent. The U.S. S&P 500 Index and the Euro Stoxx 50 Index increased by 26.9 percent and 16.0 percent respectively. The stock markets of France, Germany, the U.K. and Japan rose by 28.9 percent, 15.8 percent, 14.3 percent, and 4.9 percent respectively. The stock markets of Argentina, Russia and Brazil grew by 63.0 percent, 15.0 percent and -11.9 percent respectively.

Figure 1.2 Movements of stock indices in major economies in 2021

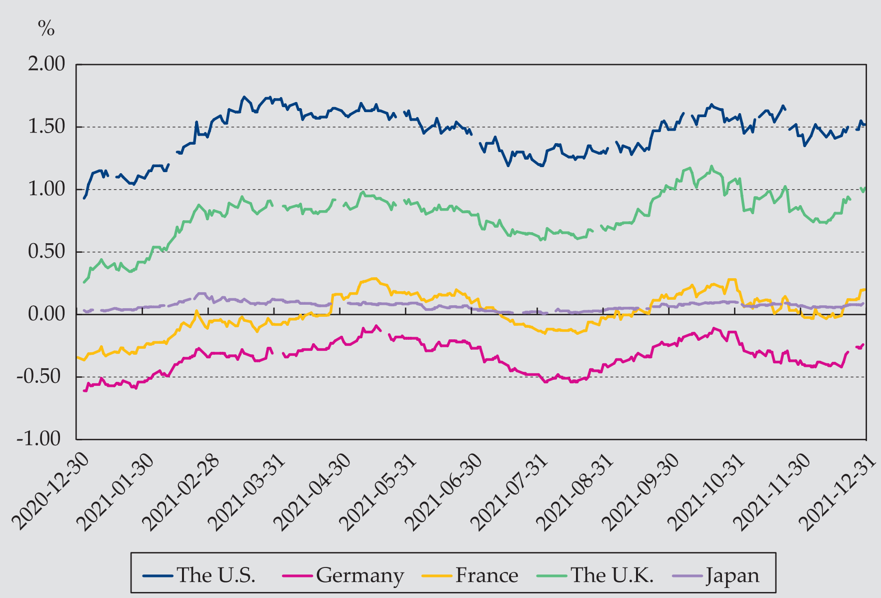


(Source: Wind)

(3) The yields on treasury bonds of major developed economies moved upwards

Affected by inflation, the pandemic and the Fed’s monetary policy, the yield on the U.S. 10-year treasury bond fluctuated within a wide range. It moved fast upwards in Q1 and fluctuated in both directions, reaching the year-high of 1.74 percent at end-March and closing at 1.52 percent at end-2021, up 59 bps from the beginning of the year; the yield on the German 10-year treasury bond remained negative, despite a slight growth, closing at -0.24 percent at year end; the yield on the French 10-year treasury bond turned from negative to positive and closed at 0.19 percent; the yield on the U.K. 10-year treasury bond climbed up to 1.01 percent, up 76 bps from the beginning of 2021; the yield on the Japanese 10-year treasury bond stayed above zero and fluctuated slightly, closing at 0.09 percent.

Figure 1.3 10-year treasury bond yields in major developed economies in 2021

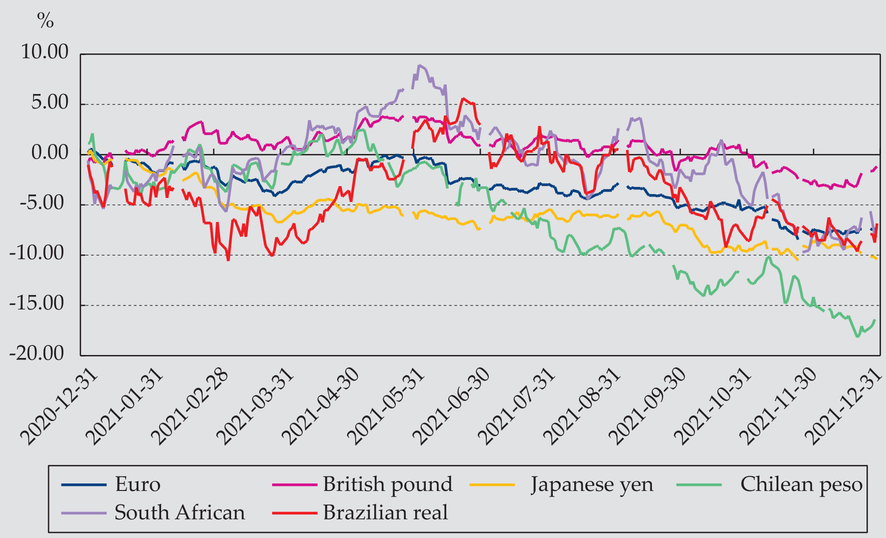


（Source: Wind）

(4) The USD index went up amid fluctuations while other major currencies weakened

Driven by expectations of shifting monetary policies and the heightened risk aversion, the US dollar strengthened amid fluctuations. At end-2021, the USD index closed at 95.97, up 6.8 percent from 89.88 at the beginning of the year. Other currencies generally weakened against the US dollar. According to the data released by the Fed, in 2021, the US dollar appreciated by 5.3 percent against the currencies of developed economies and 2.0 percent against the currencies of emerging economies. All currencies of major developed economies, except for Canadian dollar, weakened against the US dollar. Euro, British pound, and Japanese yen depreciated against the US dollar by 7.5 percent, 1.2 percent, and 10.4 percent respectively. Most currencies of developing countries also weakened against the US dollar. Specifically, Chilean peso and Argentine peso weakened against the US dollar by over 10 percent, and South African rand and Brazilian real weakened against the US dollar by 8.0 percent and 6.8 percent respectively.

Figure 1.4 Movements of major currencies



(Source: Wind)

(Note: The beginning of 2021 as the base)

1.1.2 Domestic economic and financial situations

In 2021, China's economy continued to recover steadily and achieved new progress in high-quality development. GDP grew by 8.1 percent in 2021 and 5.1 percent on average in the past two years, ranking top among major economies. The sound monetary policy was flexible, targeted, reasonable and appropriate. Money, credit and aggregate financing to the real economy (AFRE) increased reasonably, and the credit structure kept improving. The financial environment remained basically stable, and the financial sector continued to perform steadily.

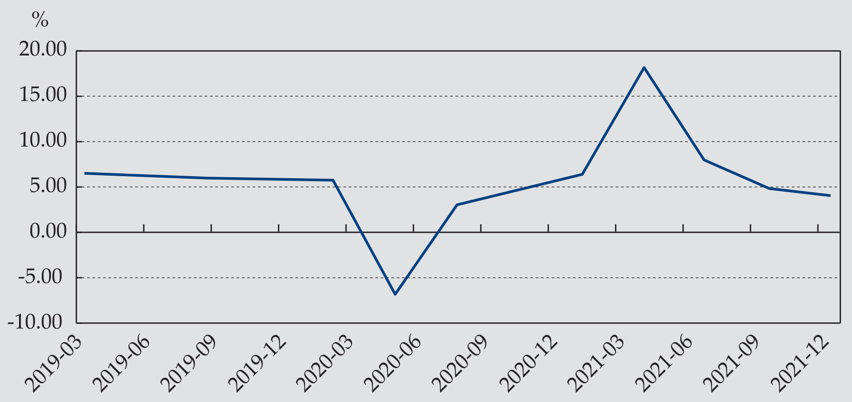
1.1.2.1 The national economy continued to recover and became more coordinated

(1) China's economy picked up steadily

After crossing the RMB 100 trillion threshold in 2020, China's GDP exceeded the RMB 110 trillion milestone in 2021, reaching RMB 114.4 trillion. China remained the world's second largest economy, with a per capita GDP of over RMB 8 trillion. The CPI in 2021 was up 0.9 percent from 2020, and prices stayed within reasonable ranges. In 2021, 12.69 million urban jobs were created, 830,000 more than the figure in 2020. The surveyed urban unemployment rate in 2021 turned out to be 5.1 percent, lower than the expectation of 5.5 percent estimated at the beginning of the year. In 2021, per capita disposable personal income stood at RMB 35,128, a real increase of 8.1 percent from the previous year, which was in tandem with the GDP growth. The total volume of China's imports and exports of trade in goods reached RMB 39.1 trillion in 2021, up 21.4 percent from

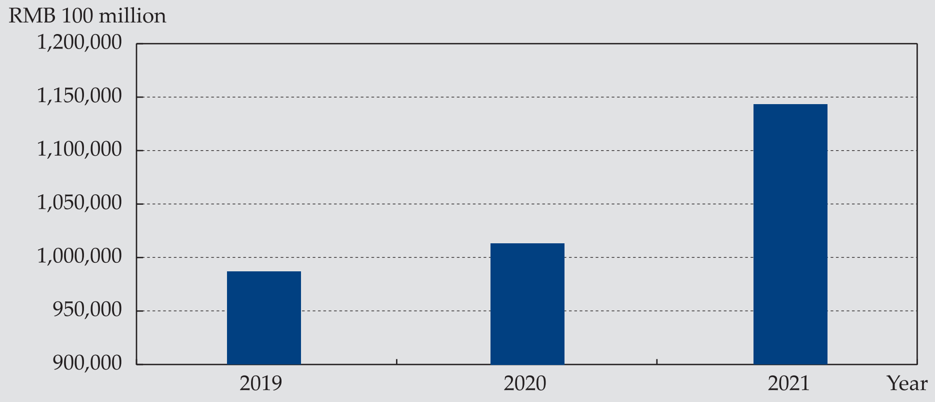
2020, making China the global leader of trade in goods for five consecutive years. In 2021, the actual use of FDI exceeded the threshold of RMB 1 trillion for the first time. Specifically, the actual use of foreign capital in the service industry and high-tech industries increased by 16.7 percent and 17.1 percent respectively, indicating constant improvements to the structure of foreign capital uses.

Figure 1.5 Year-on-year GDP growth rates by quarter from 2019 to 2021



(Source: National Bureau of Statistics (NBS))

Figure 1.6 Total volumes of GDP from 2019 to 2021



(Source: NBS)

(2) The economic structure continued to be optimized

Investment grew steadily. In 2021, the fixed-asset investment increased by 4.9 percent from 2020, and the two-year average growth rate was 3.9 percent. Investment in manufacturing and high-tech industries grew by 13.5 percent and 17.1 percent respectively, 8.6 percentage points and 12.2 percentage points higher than the overall investment growth respectively. Our economic development gained new momentum. In 2021, the added value of statistically large enterprises grew by 9.6 percent year on year, and that of the high-tech manufacturing sector and the equipment manufacturing sector rose by 18.2 percent and 12.9 percent respectively, 8.6 percentage points and 3.3 percentage points higher than the growth of statistically large enterprises. The outputs of new energy vehicles, industrial robots, integrated circuits, and microcomputer equipment expanded by 145.6 percent, 44.9 percent, 33.3 percent and 22.3 percent respectively. The growth of the modern service industry was encouraging. The added value of the information transmission, software, and information technology service industry grew by 17.2 percent; the added value of the accommodation and catering sector rose by 14.5 percent; the added value of the transport, warehousing and courier industry grew by 12.1 percent. In 2021, the revenue of statistically large service enterprises increased by 18.7 percent compared with 2020, and total profits grew by 13.4 percent.

1.1.2.2 The financial environment remained stable overall, and the financial sector continued to perform steadily

(1) Macro regulation in the financial sector was more forward-looking and stable

In 2021, the People's Bank of China (PBC) practiced the sound monetary policy that is flexible, targeted, reasonable and appropriate, gave top priority to stability, conducted cross-cycle policy design, and injected liquidity to the market with a mix of monetary policy tools, including reserve requirement ratio (RRR) cuts, medium-term lending facilities (MLF), central bank lending, central bank discounts, and open market operations, in a more forward-looking, flexible, and effective manner. In July, the PBC cut the RRR by 0.5 percentage points, releasing RMB 1 trillion of long-term liquidity. In August, it convened a meeting with financial institutions to analyze the monetary and credit situation, encouraging financial institutions to enhance the stability of the aggregate credit growth. In September, the PBC increased the quota of central bank lending by RMB 300 billion to support micro and small businesses (MSBs), encouraging locally incorporated banks to increase loans to MSBs and self-employed businesses. In November, the PBC launched the Carbon Emission Reduction Facility (CERF) and the special central bank lending of RMB 200 billion for the clean and efficient use of coals, so as to increase the overall energy supply capacity and promote the clean and efficient use of coals. In December, the PBC cut the RRR again by 0.5 percentage points, which released RMB 1.2 trillion of long-term funds, bringing the total long-term liquidity released in 2021 to RMB 2.2 trillion. It lowered the interest rates on central bank lending for rural development and MSBs by 0.25 percentage points respectively, and reduced the one-year loan prime rates (LPR) by 0.05 percentage points, steadily decreasing the overall financing costs for businesses. The two monetary policy instruments directly supporting the real economy were turned into market-oriented policy tools to support the financing of MSBs. The RRR for foreign currency deposits of financial institutions was raised by 2 percentage points, keeping the RMB exchange rate basically stable at an adaptive and equilibrium level.

(2) The money and credit aggregates saw reasonable growth, and the credit structure kept improving

At end-2021, the broad money supply (M2) and the AFRE stood at RMB 238.3 trillion and RMB 314.12 trillion respectively, up 9.0 percent and 10.3 percent year on year respectively, basically in tandem with the nominal GDP growth. Outstanding RMB loans reached RMB 192.7 trillion, up 11.6 percent from 2020 and RMB 19.95 trillion from the beginning of 2021, RMB 315 billion more than the increase during the same period in 2020. Specifically, medium and long-term (MLT) loans to enterprises and public institutions increased by RMB 9.2 trillion from the beginning of 2021, accounting for 76.8 percent of all corporate loans. MLT loans issued to the manufacturing sector rose by 31.8 percent, 20.2 percentage points higher than the average growth of all loans. Inclusive loans to MSBs reached RMB 19.2 trillion, up 27.3 percent year on year. 44.56 million MSBs were granted credit, 38 percent more than the previous year.

(3)The financial sector performed steadily, and total assets saw solid growth

The banking sector kept growing, and its capacity of compensating for losses from risks remained strong. The total assets denominated in RMB and foreign currencies owned by China's banking institutions totaled RMB 344.8 trillion, a year-on-year increase of 7.8 percent. The total liabilities of the banking sector were RMB 315.3 trillion, up 7.6 percent year on year. At end-2021, outstanding non-performing loans (NPL) of commercial banks (by legal person) stood at RMB 2.8 trillion, and the NPL ratio was 1.73 percent, lower than the 1.84 percent at end-2020. Loan loss reserves of commercial banks totaled RMB 5.6 trillion, and the provision coverage ratio was 196.91 percent, the loan loss provision ratio 3.40 percent, the capital adequacy ratio (CAR) 15.13 percent[①], and the liquidity ratio 60.32 percent. These indicators improved compared with their levels at end-2020. The securities industry secured steady growth with increasingly stronger capital strength. At end-2021, 140 securities companies brought in a total revenue of RMB 502.41 billion and a total net profit of RMB 191.119 billion. Total assets of the securities industry reached RMB 10.59 trillion, and net assets came in at RMB 2.57 trillion, up 19.07 percent and 11.34 percent year on year respectively. Net capital of the securities industry stood at RMB 2.00 trillion, of which RMB 1.72 trillion was the core net capital, both higher than the previous year.

In the insurance industry, primary premium income growth slowed down, whereas total assets continued to grow. In 2021, China's insurance industry achieved primary premium income of RMB 4.5 trillion, up 4.1 percent year

① Commercial banks do not include branches of foreign banks.

on year, slower than the increase in the same period in 2020. Insurance companies paid RMB 1.6 trillion in claim payments of primary insurance, up 14.1 percent year on year, a growth higher than that in 2020. At end-2021, total assets of insurance companies amounted to RMB 24.9 trillion, an increase of 11.5 percent from the beginning of 2021.

1.2 Main features of China's financial market performance in 2021

In 2021, the performance of China's financial market was overall stable. Financial reforms and innovations advanced steadily, the role of the market in resource allocation was at full play, and both the quality and quantity of supports for the real economy improved. Measures were taken to further open up the financial market in an orderly manner. Under market-oriented and law-based principles, new progress was achieved in forestalling and defusing financial risks.

1.2.1 The market scaled up steadily and prices remained stable

In 2021, the financial market expanded steadily in scale. The trading volume of the money market maintained reasonable growth, and the trading volume of bond repos increased by 11.9 percent. The bill market continued to scale up, registering RMB 24.15 trillion and RMB 15.02 trillion in bill acceptances and discounts, and 3,188,900 in the number of enterprise users of bills, indicating stronger payment and financing capacities of bills. The volume of outstanding bonds exceeded RMB 130 trillion, ranking the second in the world. The issuance volume of green bonds hit a new high and was up 166.1 percent year on year. The issuance of corporate credit bonds increased steadily, and corporate bond financing accounted for 10.5 percent of the AFRE, remaining the second largest source of financing (the first being lending). The issuance of local government bonds saw a significant growth. The stock market grew steadily. The financing volume on the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) combined increased by 9.0 percent over 2020, and the cumulative trading volume grew by 24.7 percent. The trading volume in the foreign exchange market saw a steady growth, with the foreign currency pair business in the interbank market growing by more than 90 percent. The total turnover of the derivatives market rose steadily. Commodity futures and options trading reached 69.8 percent of global commodity derivatives trading, and the RMB credit derivatives market scaled up remarkably.

In 2021, the types and number of financial market participants continued to increase. The interbank lending market had 67 new participants. The interbank bond market had around 3,800 participants[①] and a growing

① https://www.chinamoney.com.cn/chinese/rdgz/20220704/2408970.html.

number of investors, and trading activities of overseas institutions thrived, achieving a year-on-year growth of 25.4 percent in annual cash bond trading. In the stock market, the proportion of trading by institutional investors increased, and the trading structure constantly improved. Participants in the international business section of the Shanghai Gold Exchange (SGE) continued to diversify, with international institutions coming from 12 countries and regions.

In 2021, prices in financial markets remained basically stable. In the money market, the terminal interest rate moved slightly upwards with smaller fluctuations. The annual weighted average interest rates of interbank lending and pledged repos went up 40 bps and 36 bps over 2020 respectively, and the term structure was overall stable, with short-term products playing a dominant role. In the bill market, the interest rate of interbank discounts dropped, driving the discount rates down. Bond price indices rose steadily, and bond yields decreased amid fluctuations throughout 2021. The stock indices grew steadily, and their fluctuations continued to decline. The yearly change of the SSE Composite Index dropped by 19 percentage points from 2020, and that of the SZSE Component Index hit a new low after 2005. The RMB exchange rate showed two-way fluctuations, strengthening against most currencies, and the spot RMB exchange rate continued to increase against a basket of currencies. Gold prices generally declined, and the spread between domestic and overseas gold prices turned from negative to positive.

1.2.2 Reforms and innovations were steadily advanced, and the quality and efficiency of financial services for the real economy improved

In 2021, financial market reforms and innovations were steadily advanced. The interbank negotiable certificate of deposit (NCD) denominated in foreign currencies was launched, adding to the source of financing in foreign currencies for domestic financial institutions. The supply chain bill platform was upgraded, attracting more participants and achieving a cumulative turnover of RMB 67.16 billion. New rules on the administration of market makers in the interbank bond market were implemented. The self-regulatory guidelines for market makers aimed to strengthen self-regulatory management in the sector, and assessment began to use market-oriented indicators. The management and performance assessment mechanisms for market makers in the foreign exchange market were optimized, and functions of the bank-enterprise foreign exchange trading platform were improved. In the insurance market, commercial pension trials were launched, the comprehensive reform of auto insurance was pushed forward, and the reform for separating operating permits from business licenses was deepened, so as to further invigorate market participants. Innovations in commodity futures and options on futures persisted, and OTC businesses such as warehouse receipt transactions and commodity swaps increased in both varieties and models.

In 2021, the financial market provided more targeted services to the real economy. In serving private businesses and MSBs, 3.147 million micro, small and medium-sized enterprises (MSMEs) (98.7 percent of all enterprises) used bills in 2021, with a total amount of RMB 69.1 trillion (72.2 percent of the total). Bill businesses became more aligned with the needs of MSMEs, and the average face value of bills further decreased. Core enterprises on the supply chain and leasing companies were encouraged to indirectly support MSB financing by issuing asset-backed commercial papers, contributing to "increased volume, expanded coverage and lowered price" of MSB financing. The Beijing Stock Exchange (BSE) was established, and the National Equities and Exchange Quotations (NEEQ) reform went deeper, providing a major platform serving innovative small and medium-sized enterprises (SMEs). Transaction fees charged for derivative trading in the interbank foreign exchange market were waived for MSMEs to reduce their costs for hedging exchange rate risks. In terms of serving innovation-driven sci-tech enterprises, 162 companies specializing in "hard technology" were newly listed on the SSE STAR Market in 2021 and raised a fund of RMB 202.9 billion; 187 high-tech enterprises and 30 enterprises in strategic emerging industries were newly listed on the SZSE market in 2021, and nearly 90 percent of the newly listed companies were high-tech enterprises under the registration-based system of initial public offering (IPO). In supporting the implementation of key national strategies, bonds for strategic emerging industries, rural revitalization, revitalization of old revolutionary base areas, and flood prevention and recovery were launched; the Guangzhou Futures Exchange (GFEX) was established to support the development of the Guangdong-Hong Kong-Macao Greater Bay Area and the Belt and Road Initiative (BRI). In promoting the green and low-carbon development, 484 green bonds were issued in 2021, totaling RMB 604.2 billion, and the cumulative issuance volume ranking the second in the world; the National Interbank Funding Center (NIFC) launched the CFETS Green Bond Index and the CFETS Carbon Neutral Bond Index, and closed the first interbank swap deal linked to the CFETS Carbon Neutral Bond Index. In the stock market, the new energy industry chain performed prominently, with a 48.8 percent market cap increase for the new energy vehicle market, one of the greatest increases of the year.

1.2.3 Financial market opening-up was advanced in an orderly manner, and new achievements were made in interconnectivity

In 2021, the financial market opening-up was advanced in an orderly manner. In the bond market, the Southbound Bond Connect, an interconnectivity platform between the bond markets of the Chinese mainland and Hong Kong, was put into service; for the first time, the Sustainable Development Goal (SDG) bond issued by international development organizations and the green panda bonds issued by foreign governments were introduced to the interbank market; FTSE Russell added Chinese government bonds to its indices, before which Chinese bonds had already been included in the other two major bond indices in the world; for the first time, Chinese local governments issued bonds overseas. In the stock market, a growing number of A-shares listed on the STAR market were included in the Shanghai-Hong Kong Stock Connect and three major global stock indices, and the scope of the ETF Connectivity Scheme was expanded; capital markets along the Belt and Road received more support in their capacity building, and efforts were made to develop the China Europe International Exchange (CHINEX); regarding the Shanghai-London Stock Connect, its Global Depository Receipts (GDRs) business grew, with the eastbound and westbound businesses extending to Germany, Switzerland, and other mature markets outside the U.K. In the insurance market, the *Implementation Rules on the Regulations of the People's Republic of China on Foreign-funded Insurance Companies* was revised, removing the limit on foreign ownership to improve the investment and business environment of the insurance industry. In the foreign exchange market, regional interbank trading of the Chinese yuan against Indonesian rupiah was launched, and more currency risk management tools were developed, lowering currency translation costs for enterprises. In the gold market, the SGE international board participants included commercial banks, refining enterprises, trade companies, securities companies, and investment institutions. In the futures market, the participation of overseas institutions in crude oil futures kept increasing, and the "domestic trading + overseas delivery" model was available for several futures products. As such, China's futures market expanded in terms of cross-border businesses and became more acceptable in the international community.

1.2.4 The market-oriented and law-based approaches were applied, and new progress was secured in forestalling and defusing financial risks

In 2021, with market-oriented and law-based approaches, new progress was achieved in forestalling financial risks. In the bond market, the *Guiding Opinions on Advancing the Reform, Opening-up, and High-quality Development of the Corporate Credit Bond Market* was issued, which aimed to improve the legal system of the bond market and build a multi-tiered bond market system featuring robust regulation, orderly competition, transparency and openness; by improving the quality and differentiation of credit ratings, the credit rating industry delivered better services for the sound development of the bond market. In the securities market, the law enforcement and judicial mechanisms were further improved. The *Opinions on Strictly Cracking down on Illegal Securities Activities in Accordance with the Law* was released to consolidate the legal basis for integrity of the capital market and create a market ecosystem that respects law and values integrity. The bottom-line regulatory requirements for privately offered funds were reiterated and specified for the regulated development of the industry; tighter regulation was imposed on surprise shares purchase, abnormal share prices, tunneling, and shadow directors to prevent violations of laws and regulations for "wealth creation". The information disclosure system for trade acceptances came into force and that for commercial papers went into full-scale application after its trial implementation, marking a crucial step in building the bill market credit system and optimizing the market ecosystem. Regulation of the solvency of insurance companies was strengthened to guide insurance companies to go back to and focus on their main business.

In 2021, China constantly strengthened financial regulation and made solid progress in preventing financial risks in key areas. Risks in the bond market were forestalled and defused in a timely manner. In the market-oriented and law-based principles, all parties concerned were required to fulfill their responsibilities, outcomes of mechanism designs for default disposal were put into use, and the unified law enforcement mechanism was optimized to strictly crack down on violations of laws and regulations governing the bond market. Internet platform enterprises were urged to advance their financial services rectification plans in an orderly manner, and speculative trading of virtual currencies continued to be strictly curbed. Actions against monopoly and disorderly capital expansion were firmly implemented, and all types of financial businesses were included in supervision. The list of domestic systemically important banks (D-SIBs) was released, and applications for setting up financial holding companies (FHCs) were accepted for approval. The *Measures for the Administration of the Total Loss-absorbing Capacity of Global Systemically Important Banks* was formulated and implemented to ensure that global systemically important banks (G-SIBs) in China have sufficient loss-absorbing and recapitalization capacity. Capacity building for risk monitoring and response was strengthened, and ratings and stress tests were carried out as usual, so as to fully understand underlying risks and identify high-risk institutions.

1.3 Outlook of China's financial market development in 2022

The year 2022 is crucial to China's march towards the second centenary goal. For the development of China's financial market, we will follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implement the guidelines of the 19th National Congress of the Communist Party of China (CPC), the plenary sessions of the 19th CPC Central Committee, and the Central Economic Work Conference, give top priority to stability, and pursue progress while ensuring stability. Efforts will be made to ensure stability on six fronts and maintain security in six areas, stabilize the macro economy, deepen the institutional reforms in the financial sector, promote innovation and opening-up of the financial market, and step up support for the real economy, thereby standing ready for the convening of the 20th CPC National Congress.

First, stronger support will be extended to the real economy. We will fully tap into the role of the market in resource allocation, reinforce its function of providing financing, and create new financial products and services that directly support the real economy, so as to build a sound financing ecology. In the market-oriented and law-based principles, we will increase financial support for MSMEs and industries and enterprises hit hard by COVID-19, improve the support mechanism for bond financing of private businesses, and fully implement the registration-based IPO system, so as to expand channels of direct financing and guide more funds towards key areas. We will expand the coverage of inclusive finance, step up support for sci-tech innovation, green development, and advanced manufacturing, and improve our capability to support rural revitalization, thereby contributing to national strategies for regional development.

Second, innovation and development of the financial market will go deeper. We will increase the depth and breadth of the financial market, improve the multi-tiered capital market system, channel more medium and long-term capital into the market, optimize the market-based bond issuance mechanism, and expand the scale of the bond market. We will steadily advance the development of the derivatives market, give full play to the role of derivatives in risk diversification, and thus make the market more efficient and safer. We will construct key financial infrastructures, strengthen coordinated regulation over them, promote interconnectivity between infrastructures of the bond market to allow essential resources to flow more freely on a broader scale, and optimize the market system and regulatory approaches. We will push forward reforms of fundamental capital market institutions, improve the multi-tiered market system, fully implement the registration-based IPO system, and accelerate the transformation of regulation over stocks issuance. We will improve the laws and regulations for the bond market at a faster pace as part of our efforts to constantly optimize the institutional environment of the market. The management systems of the money, bill, gold, and derivatives markets will be further improved as well.

Third, the financial market will be opened up wider. Sticking to an overall national security outlook, we will constantly improve institutional arrangements, providing a friendlier and more convenient investment environment for domestic and overseas investors; and we will advance the opening-up of the bond market at a higher level. Regarding the bond market opening-up, we will shift the focus from the flow of market factors to rules and regulations, coordinate and synchronize the opening-up of the interbank and exchange bond markets, and steadily expand the two-way opening-up of institutions and products at a higher level. We will strive to achieve greater progress in the China-U.S. audit oversight cooperation, accelerate the implementation of policies on regulation over the listing of domestic enterprises on overseas exchanges, and continue to firmly and orderly support eligible enterprises to be listed overseas in accordance with laws and regulations. We will serve China's major opening-up initiatives, and encourage financial institutions to increase support for collaborative BRI projects.

Fourth, we will continue to forestall and defuse financial market risks. We will further improve the risk control system to reinforce the foundation for market stability. We will build a multi-dimensional risk prevention system, strengthen the tracking, monitoring, and information sharing of abnormal transactions and default risks, and promote early identification, early warning and early resolution of risks. We will prevent key risks in the market, strengthen the market-oriented restraint mechanism, significantly raise the cost of violations, and thus effectively maintain the market order. We will support the standardized development of Fintech in accordance with laws and safeguard fair competition with impartial regulation, with a view to invigorating all types of market participants.

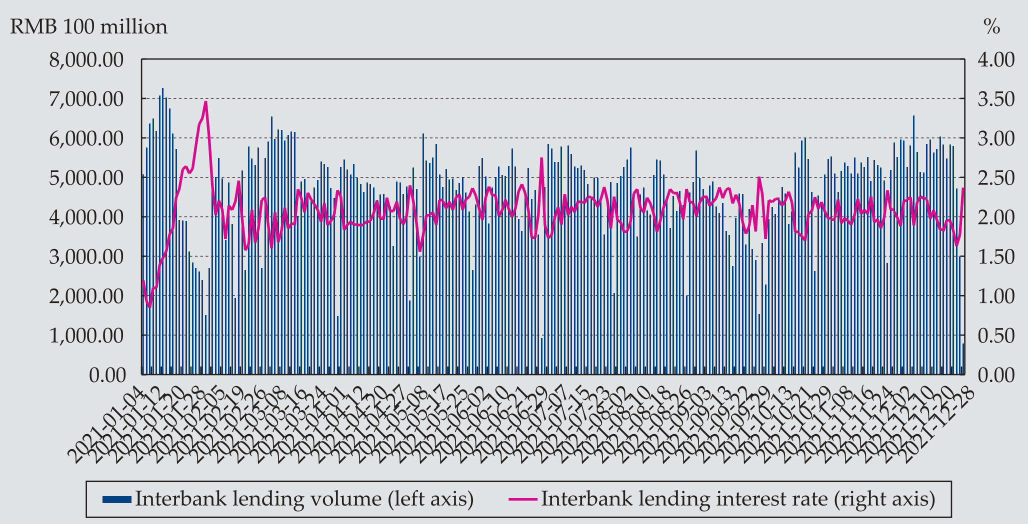
Chapter 2 Money Market

In 2021, the PBC continued to implement a sound monetary policy. The liquidity in the banking system remained adequate at a reasonable level, and the operation of the money market was generally stable. The trading volume of the money market grew steadily, and the market interest rates moved up overall. The issuance volume of interbank NCDs increased year on year, and the issuing rates went down amid fluctuations. The participants in the market were increasingly diversified, and financial institutions further expanded the financing channels. The transmission of monetary policy through the money market was enhanced. All these effectively underpinned the financial support for the real economy.

2.1 Interbank lending market

In 2021, the overall performance of the interbank lending market was stable. The number of market participants continued to grow, but the trading volume witnessed a slight decline. The interest rates went up with a significantly lower volatility, and the term structure was still dominated by short-term maturities.

Figure 2.1 Interbank lending volume and interest rate movement in 2021



(Source: China Foreign Exchange Trade System (CFETS))

2.1.1 Performance of the interbank lending market

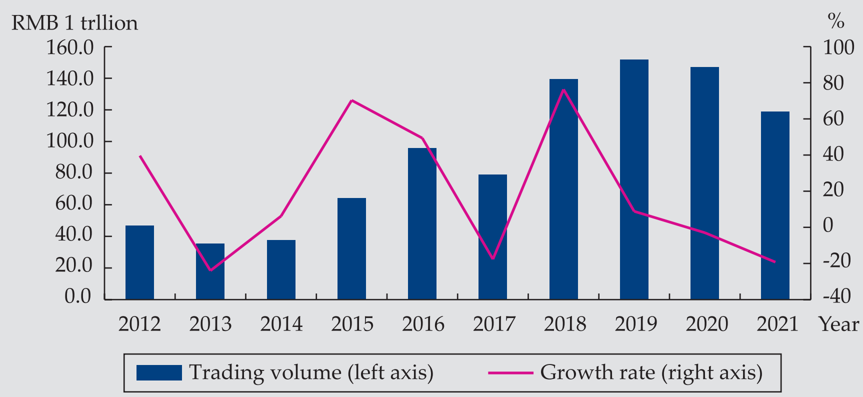
In 2021, the trading volume of the interbank lending market totaled RMB 118.82 trillion, down 19.25 percent year on year and registering an average daily trading volume of RMB 532.701 billion. The annual weighted average interest rate was 2.04 percent, up 40 bps year on year. As of end-2021, there were 2,345 market participants, an increase of 67 over the previous year.

2.1.2 Main features of the interbank lending market

2.1.2.1 Trading volume declined

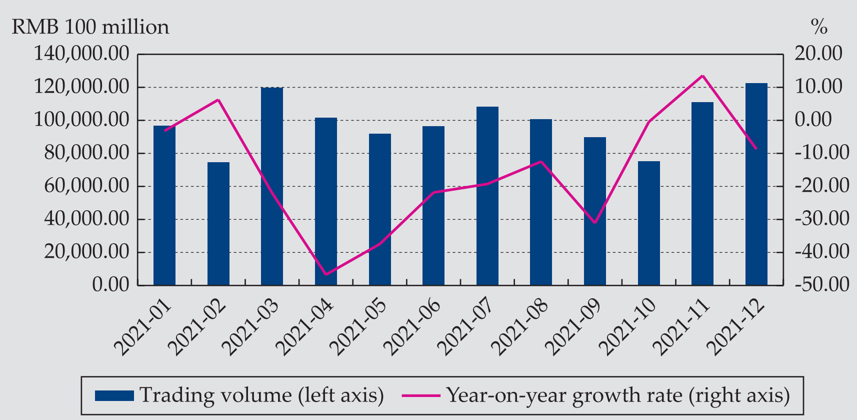
In 2021, the trading volume of the interbank lending market declined by 19.25 percent from the previous year. The monthly turnovers in February and November were higher over a year earlier, whereas the monthly turnovers in other months fell compared with the same period a year ago, especially in April, May, and September, when the turnover fell more than 30

Figure 2.2 Trading volumes and growth rates of the interbank lending market from 2012 to 2021



(Source: CFETS)

Figure 2.3 Monthly trading volumes and year-on-year growth rates of the interbank lending market in 2021



(Source: CFETS)

percent. The largest year-on-year decline, 46.73 percent, was reported in April.

2.1.2.2 The interests rate went up slightly at decreasing volatility

In 2021, the annual weighted average interest rate of the interbank lending market increased by 40 bps year on year. At end-2021, the daily weighted rates of the O/N and 7-day interbank lending stood at 2.21 percent and 2.48 percent respectively, up 87 bps and down 7 bps respectively compared with the beginning of the year. For most of 2021, the interbank lending rates moved steadily with small fluctuations. The variance of the daily weighted average rates was 0.09 in 2021, a marked decline compared with 0.23 in 2020.

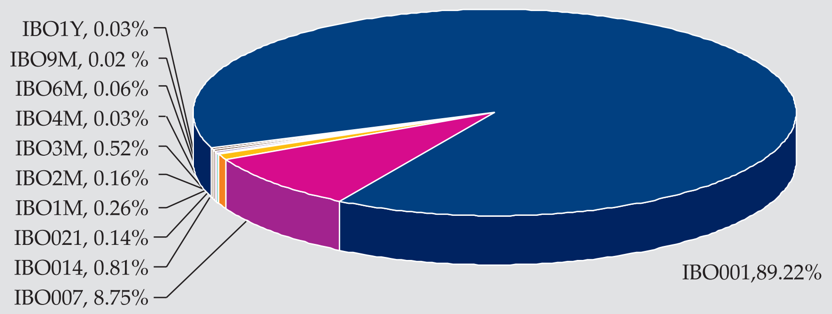
2.1.2.3 Large-scale commercial banks remained the major net lender in the interbank lending market

In 2021, the participants in the interbank lending market were still dominated by banking institutions, the trading volume of which accounted for 85.67 percent of the total, remaining flat with 2020. Specifically, joint-stock commercial banks, large-scale commercial banks, and city commercial banks recorded a trading volume of RMB 73.46 trillion (down RMB 23.52 trillion or 24.25 percent from 2020), RMB 41.93 trillion (down RMB 17.56 trillion or 29.52 percent from 2020), and RMB 37.14 trillion (down RMB 6.98 trillion or 15.82 percent from 2020) respectively, accounting for 30.91 percent, 17.64 percent and 15.63 percent respectively. Throughout the year, the major net lenders in the interbank lending market were large-scale commercial banks, joint-stock commercial banks and policy banks, with a net lending volume of RMB 25.21 trillion, RMB 12.22 trillion and RMB 7.91 trillion respectively, accounting for 51.41 percent, 24.92 percent and 16.12 percent respectively. The major net borrowers were securities companies, city commercial banks and finance companies, with a net borrowing volume of RMB 21.44 trillion, RMB 18.03 trillion and RMB 6.43 trillion respectively, accounting for 43.73 percent, 36.77 percent and 13.12 percent respectively.

2.1.2.4 The share of O/N interbank lending continued to decrease

In 2021, the term structure in the interbank lending market was still dominated by short-term maturities. The trading volume of O/N interbank lending registered RMB 106.02 trillion and accounted for 89.22 percent of the total, down 0.98 percentage points from 2020. The trading volume of 7-day interbank lending accounted for 8.75 percent of the total, up 1.06 percentage points from the previous year. The share of interbank lending with maturities between 14 days and 3 months was 1.89 percent, down 0.09 percentage points from the previous year. The share of interbank lending with a maturity of more than 3 months was 0.14 percent, up 0.01 percentage point from a year earlier.

Figure 2.4 Term structure of interbank lending in 2021



(Source: CFETS)

2.2 Bond repo market

In 2021, the performance of the bond repo market was overall stable. The trading volume kept expanding; the terminal interest rate in the market registered a slight increase; and the term structure maintained stable overall. Bond repo transactions became more convenient.

2.2.1 Performance of the bond repo market

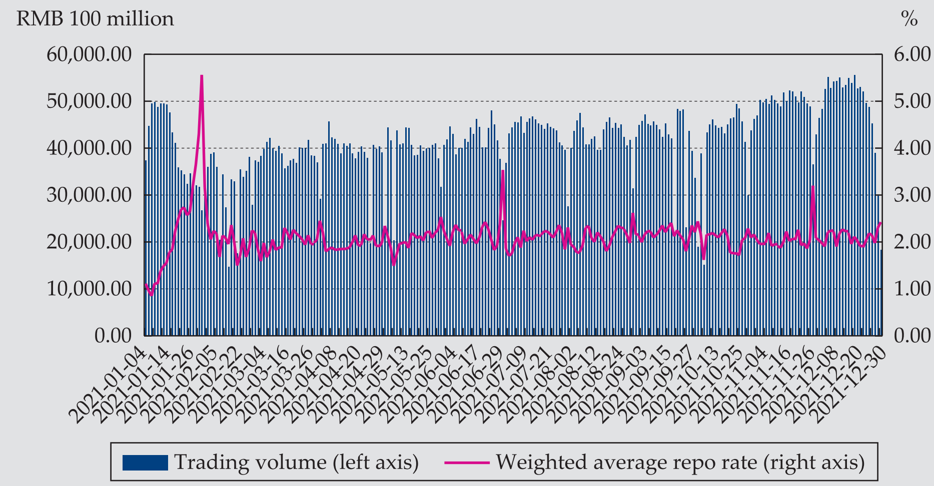
In 2021, the cumulative turnover of the bond repo market was RMB 1,395.38 trillion, up 11.88 percent year on year. Specifically, the cumulative turnover of interbank bond repo accounted for 74.90 percent of the total, down 2.05 percentage points from 2020. The cumulative turnover of exchange-traded bond repo represented 25.10 percent of the total, up 2.05 percentage points from 2020.

2.2.1.1 Performance of the interbank bond repo market

In 2021, the cumulative turnover of interbank bond repo was RMB 1,045.19 trillion, up 8.90 percent year on year, with the growth rate down 8.2 percentage points compared with the previous year. In particular, the cumulative turnover of pledged repo stood at RMB 1,040.45 trillion, up 9.21 percent year on year; the cumulative turnover of outright repo was RMB 4.74 trillion, down 32.60 percent year on year; and the share of the trading volume of pledged repo in the bond repo market further increased to 99.55 percent.

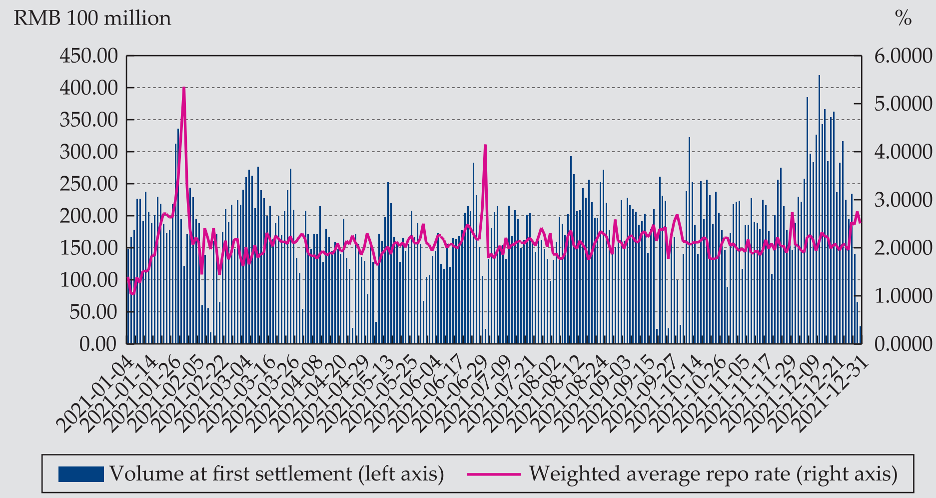
In 2021, the terminal interest rate in the interbank bond repo market fluctuated around the policy rate, with smaller fluctuations compared with the previous year. The weighted average pledged repo rate was 2.08 percent, up 36 bps year on year. The weighted average outright repo rate was 2.11 percent, up 33 bps year on year. The interest rate spread between pledged repo and outright repo was 3 bps, down 3 bps from 2020. The variances of the daily weighted average pledged repo rate and that of the daily weighted average outright repo rate were 0.17 and 0.16 respectively, down significantly from the level of 0.25 and 0.24 in 2020.

Figure 2.5 Volume and price of interbank pledged repo market in 2021



(Source: CFETS)

Figure 2.6 Volume and price of interbank outright repo market in 2021



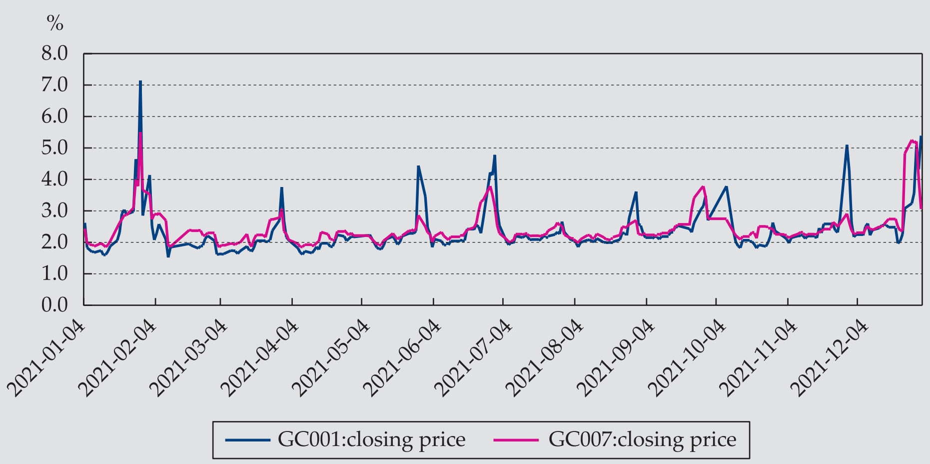
(Source: CFETS)

2.2.1.2 Performance of the exchange-traded bond repo market

In 2021, the cumulative turnover of exchange-traded bond repo was RMB 350.19 trillion, up 21.84 percent year on year. By trading venue, the cumulative turnover of bond repo on the SSE was RMB 313.75 trillion, up 20.86 percent year on year, while the cumulative turnover of bond repo in the SZSE was RMB 36.44 trillion, up 30.98 percent year on year. By product type, the cumulative turnover of pledged repo was RMB 341.61 trillion, up 21.76 percent from the previous year, and the cumulative turnover of pledge agreement-based repo was RMB 2.93 trillion, up 33.86 percent year on year.

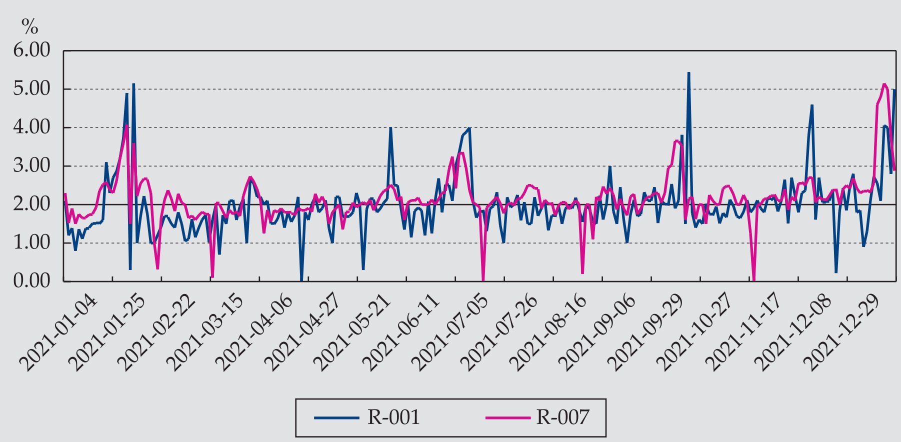
The interest rate of exchange-traded pledged bond repo was stable overall with a slight increase. For the SSE, the average 1-day fixing repo rate and the average 7-day fixing repo rate were 2.40 percent and 2.46 percent respectively, up 5 bps and 4 bps respectively from the previous year. For the SZSE, the weighted average rates of 1-day repo and 7-day repo were 2.39 percent and 2.48 percent respectively, up 7 bps and 2 bps respectively from a year earlier.

Figure 2.7 Movements of pledged fixing repo rates of the SSE in 2021



(Source: SSE)

Figure 2.8 Movements of pledged repo rates of the SZSE in 2021



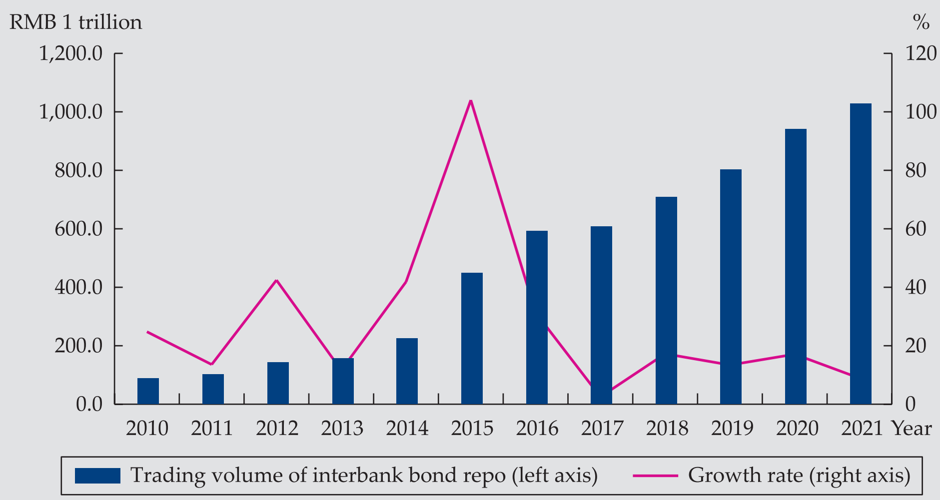
(Source: SZSE)

2.2.2 Main features of the bond repo market

2.2.2.1 The trading volume of bond repo kept rising

The trading volume of interbank bond repo market continued to rise and reported a year-on-year increase of 13 percent, 17.1 percent and 8.9 percent respectively in the past three years. In 2021, the trading volume of interbank pledged repo continued to increase, but at a lower rate of 9.21 percent year on year, down 8.4 percentage points from the previous year, and the trading volume of outright repo fell sharply by 32.60 percent year on year. As pledged repo accounts for a large share of China's interbank bond repo market, the trading volume of interbank bond repo maintained its growth. In 2021, the trading volume of exchange-traded bond repo increased by 21.84 percent year on year, a growth higher than that of the interbank market.

Figure 2.9 Trading volume and growth rate of interbank bond repo from 2010 to 2021

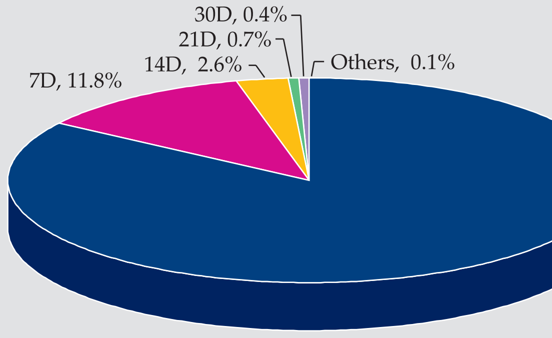


(Source: CFETS)

2.2.2.2 Term structure was overall stable, with short-term products playing a dominant role

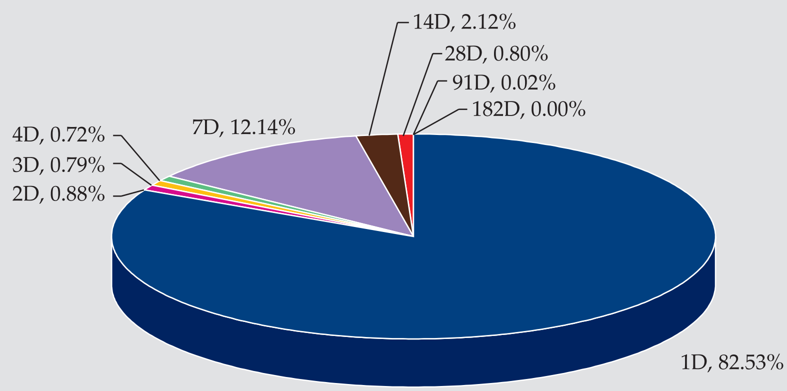
The term structure of bond repo market was overall stable, with short-term products playing a dominant role and making up a slightly greater proportion of the total. In 2021, the share of pledged repo transactions with a term of up to 7 days was 96.2 percent, up 1.0 percentage point from 2020. Pledged repo transactions with a term of up to 7 days on the SSE and the SZSE accounted for 97.05 percent of the total(on par with 2020)and 99.1 percent of the total(up 0.1 percentage point from a year earlier)respectively.

Figure 2.10 Term structure of pledged repo transactions in the interbank market in 2021



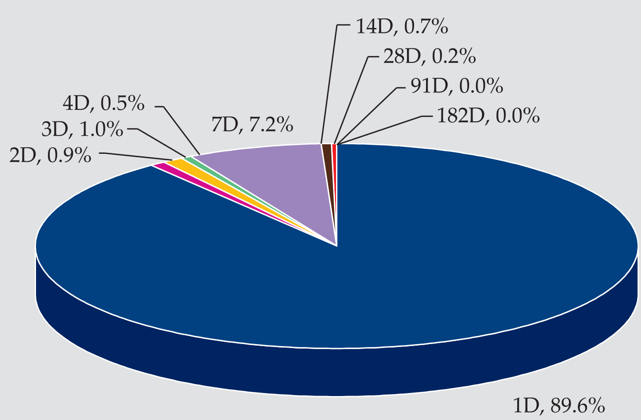
(Source: CFETS)

Figure 2.11 Term structure of pledged repo transactions on the SSE in 2021



(Source: SSE)

Figure 2.12 Term structure of pledged repo transactions in the SZSE in 2021



(Source: SZSE)
(Note: The numbers do not add up to 100% due to rounding)

2.2.2.3 The share of non-banking institutions and their products continued to grow

In 2021, from the perspective of capital inflow, the largest net borrowers in the interbank pledged repo market were fund companies, securities companies and specific asset management portfolios of fund companies, with a net borrowing of RMB 144.34 trillion, RMB 135.31 trillion, and RMB 32.79 trillion respectively, accounting for 33.97 percent, 31.84 percent, and 7.72 percent of the total. The net borrowing of non-banking institutions accounted for 92.99 percent of the total, up 1 percentage point from 2020. In 2021, in the SSE repo market, proprietary accounts of securities companies, special asset management products① and publicly offered funds ranked the top three in terms of capital inflow, accounting for 25.83 percent, 19.25 percent and 18.04 percent respectively. In the SZSE repo market, proprietary accounts of securities companies, funds and enterprise annuities were the top three items in terms of capital inflow, accounting for 32.26 percent, 23.24 percent and 11.67 percent respectively.

In 2021, from the perspective of capital outflow, the largest net lenders in the interbank pledged repo market were large-scale commercial banks, policy banks and joint-stock commercial banks, with a net lending of RMB 150.77 trillion, RMB 133.49 trillion and RMB 108.83 trillion respectively, accounting for 35.48 percent, 31.41 percent and 25.61 percent of the total lending. In 2021, in the SSE repo market, publicly offered funds, individuals and asset management products ranked the top three in terms of capital outflow, accounting for 28.01 percent, 23.89 percent and 23.31 percent respectively. In the SZSE repo market, individuals, funds and other professional institutions ranked the top three in terms of capital outflow, accounting for 79.37 percent, 6.90 percent and 4.57 percent respectively.

2.2.2.4 Transactions became more convenient

In the interbank bond repo market, X-Repo continued to play its role in facilitating the discovery of liquidity. In 2021, transactions executed via X-Repo accounted for 15 percent of the total, and the number of participating institutions (products) increased by 49 percent from 787 in 2020 to 1,170 in 2021. The largest daily share of transactions executed via X-Repo rose from 27 percent in 2020 to 31 percent in 2021.

In the exchange-traded bond repo market, the SZSE upgraded the pledge agreement-based repo business system in 2021. By improving the disclosure of identity information of the counterparties to a transaction, the SZSE enhanced transaction security. It also made the transactions more convenient and the fund use more efficient. Agreement-based repos further adapted to market demands,

① Special asset management products include private equity, separately managed funds, asset management products of securities companies, trusts, asset management products of futures companies, and asset management products of insurance companies.

newly incorporating the function of allowing changes to pledged bonds, counterparties to repo transactions and transaction amount, and adopting a more investor-friendly transaction reporting mode where a transaction is initiated by one party and confirmed by the other. Meanwhile, bond settlement became more efficient as funds became immediately available within the day of settlement. The SSE officially migrated non-transaction bond businesses from its call auction matching system to its integrated service platform, canceled the codes for deposits and withdrawals of repurchased pledged bonds, and streamlined the reporting of deposits and withdrawals to only requiring cash bond codes, making it more convenient and efficient for investors to undertake pledged repo transactions.

2.3 NCD market

In 2021, the NCD market witnessed a significant increase in issuance, with interest rates moving downward amid fluctuations. As for the term structure, long-term maturities increased. Trading in the secondary market was on a decline, and market participants further diversified. The demand for NCDs among non-legal-person products increased. With the launch of foreign currency-denominated NCDs, domestic financial institutions had an additional source of financing in foreign currencies.

2.3.1 Performance of the NCD market

In 2021, a total of 348 institutions issued NCDs, down 16 over the previous year. Altogether 29,900 NCDs were issued, up 1,200 over the previous year. The issuance amount stood at RMB 21.81 trillion, up 14.84 percent year on year. The number of subscription entities was 4,072, up 210 over the previous year and involving 40 types of institutions. The year-end outstanding volume was RMB 13.95 trillion, an increase of 24.83 percent from the previous year.

In 2021, the turnover of NCD transactions in the secondary market stood at RMB 155.22 trillion, down 7.24 percent year on year. Specifically, the turnover of pledged repo transactions stood at RMB 110.98 trillion, down 6.09 percent year on year and accounting for 71.50 percent of the total. The transactions concluded via cash bond deals amounted to RMB 44.11 trillion, down 9.91 percent year on year and accounting for 28.42 percent of the total. The outright repo traded RMB 0.13 trillion, down 27.78 percent year on year and accounting for 0.08 percent of the total. The bond lending transactions amounted to RMB 999 million, down 84.12 percent year on year.

2.3.2 Main features of the NCD market

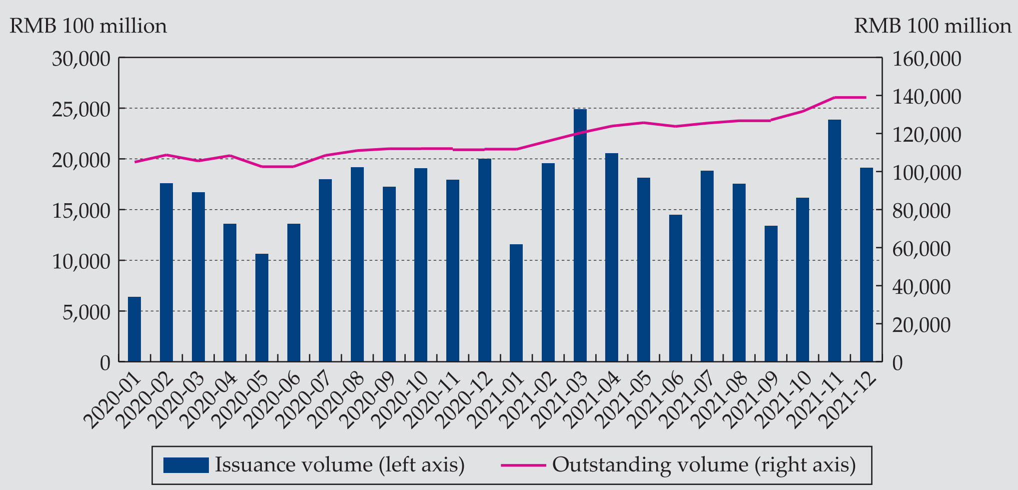
2.3.2.1 The issuance volume increased and the amount outstanding rose sharply

In 2021, the issuance volume of NCDs increased significantly, reporting a year-on-year growth of 14.84 percent and an average quarterly issuance volume of RMB 5.45 trillion. The issuance volumes went slightly down in Q2 and Q3 compared to that of Q1, and boosted significantly in Q4. It registered RMB 5.60 trillion, RMB 5.32 trillion, RMB 4.98 trillion, and RMB 5.91 trillion respectively for the four quarters of 2021.

In 2021, the outstanding volume of NCDs increased steadily. All months, except for January and June, witnessed positive growth, with a total growth of over RMB 1 trillion reported in Q4. At end-2021, the outstanding volume of NCDs amounted to RMB 13.95 trillion, up RMB 2.78 trillion from end-2020. In terms of issuer, the outstanding volume of NCDs issued by large-scale commercial banks, joint-stock commercial banks, city commercial banks and rural commercial banks remained stable and secured a moderate increase, up 36.25 percent, 24.11 percent, 18.92 percent and 20.20 percent respectively from end-2020.

In 2021, net financing through NCDs increased substantially to RMB 2.8 trillion, up 541 percent year on year. Net NCD financing of large-scale commercial banks and joint-stock commercial banks rose by 99.8 percent and 137.7 percent respectively, and that of city commercial banks and rural commercial banks increased from a negative to a positive number, registering RMB 677.07 billion and RMB 180.84 billion respectively.

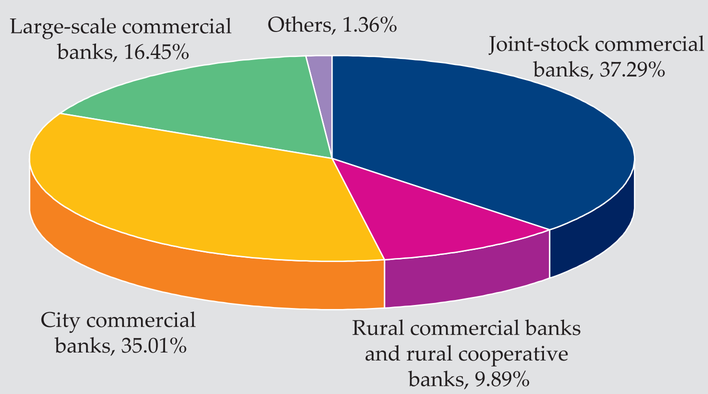
Figure 2.13 Monthly issuance of NCDs from 2020 to 2021



(Source: CFETS)

In 2021, joint-stock commercial banks, city commercial banks and large-scale commercial banks were the top three NCD issuers, the issuance volume of which accounting for 37.29 percent, 35.01 percent and 16.45 percent of the total respectively, up 0.3 percentage points, down 1.18 percentage points, and up 0.68 percentage points year on year respectively. Rural commercial banks and rural cooperative banks represented 9.89 percent of the total, down 0.23 percentage points from 2020.

Figure 2.14 Structure of NCD issuers in 2021



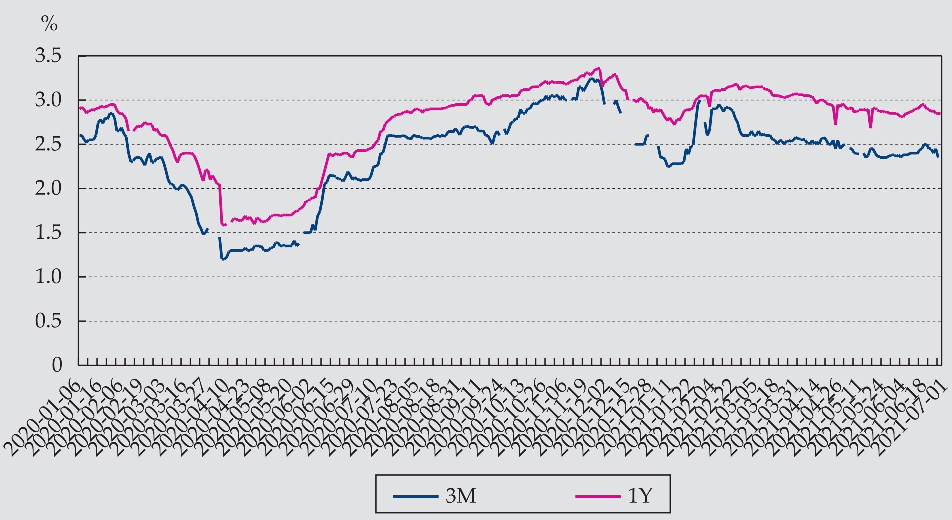
(Source: CFETS)

2.3.2.2 The issuing rates of NCDs went down with fluctuations and credit spreads decreased

In 2021, the issuing rates of NCDs underwent A-shaped movements. The RRR cut in H2 released RMB 2.2 trillion of long-term funds and moved the terminal interest rate of medium and long-term funds downward. More specifically, after reaching the maximum level in February, the issuing rates of NCDs went down with fluctuations. In Q2, the rates of 1-year NCDs fluctuated around 3.0 percent. In H2, due to the RRR cut, the issuing rates of NCDs continued to fluctuate downward, with the rates of 1-year NCDs moving between 2.65 percent and 2.8 percent. At end-2021, the rates of 3-month and 1-year NCDs issued by major joint-stock commercial banks decreased by 19 bps and 25 bps respectively from end-2020.

The credit spreads between different NCDs decreased with smaller fluctuations. The average credit spread between 3-month NCDs issued by major joint-stock commercial banks and those issued by AA+ rated institutions stood at 30 bps, down 5 bps from the previous period, and its fluctuations narrowed by 93 bps to 59 bps.

Figure 2.15 Movement of issuing interest rates of NCDs issued by major joint-stock commercial banks from 2020 to 2021



(Source: CFETS)

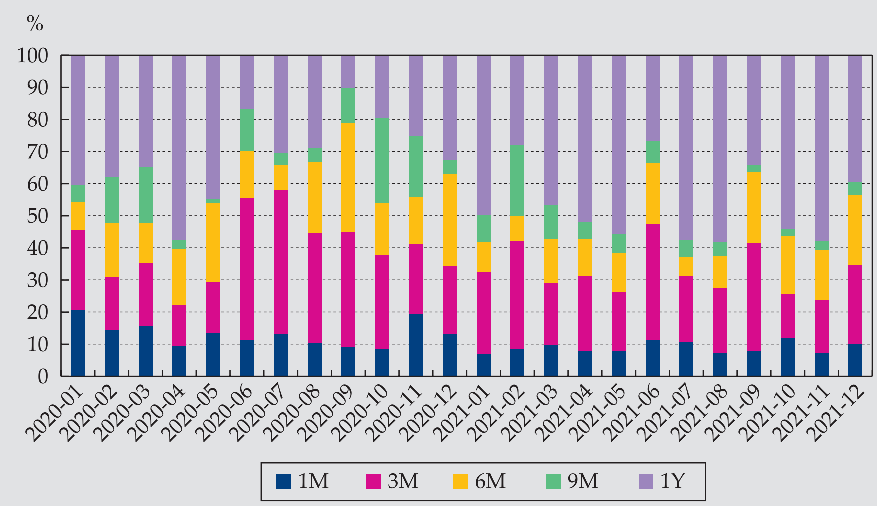
2.3.2.3 Funds, wealth management products and policy banks were the largest net buyers of NCDs in the secondary market, and the demand for NCDs among non-legal-person products increased

In 2021, the annual turnover in the NCD secondary market stood at RMB 44.11 trillion, accounting for 20.73 percent of transactions in the cash bond market and ranking only second to policy bank bonds. From the perspective of institution types, the top three net buyers of NCDs were funds, wealth management products and policy banks, with a net respective purchase of RMB 974.5 billion, RMB 940.3 billion and RMB 938.3 billion, accounting for 16.95 percent, 16.35 percent and 16.32 percent of the total respectively. The top net seller of NCDs was joint-stock commercial banks, with a net sale of RMB 2.31 trillion, making up for 40.2 percent of the total. They were followed by city commercial banks and securities companies, which accounted for 28.5 percent and 28.24 percent of the total respectively. In addition, regarding NCDs held by non-legal-person products, their share in the total holdings increased markedly in 2021, and their custody volume at end-2021 increased by 8 percentage points to 57.2 percent.

2.3.2.4 The share of 1-year NCDs increased significantly

In 2021, the liquidity in the banking system remained adequate at a reasonable level, and the costs for issuing NCDs were relatively low. As issuers preferred to lock in lower financing costs by issuing NCDs with longer maturities, the share of 1-year NCDs in all NCDs issued increased substantially, up 17 percentage points from 2020, amounting to 47.2 percent. The shares of NCDs with 1-month, 3-month, 6-month and 9-month maturities decreased by 3.91 percentage points, 4.03 percentage points, 5.01 percentage points, and 4.13 percentage points respectively compared with the previous year.

Figure 2.16 Distribution of issuance volume of NCDs by maturity from 2020 to 2021



(Source: CFETS)

2.3.2.5 The launch of foreign currency-denominated NCDs further enriched the sources for financial institutions to raise funds in foreign currencies domestically

In February 2021, under the guidance of the PBC, the self-regulatory mechanism of market rate pricing launched the foreign currency-denominated NCDs for domestic institutions, which added to the currencies of valuation for NCDs. In 2021, 29 institutions issued 38 foreign currency-denominated NCDs with a total volume of USD 3.17 billion, the maturities of which ranging from 1 month to 1 year. These NCDs were subscribed by 28 entities from 8 types of institutions, and the outstanding volume at end-2021 was USD 1.16 billion. The launch of foreign currency-denominated NCDs enriched the sources of financing in foreign currencies by domestic financial institutions, which helps financial institutions to effectively use both domestic and overseas markets for financing in multiple currencies, and thus extend stronger support for the real economy.

2.4 Outlook of the money market

In 2022, China will continue to implement a sound monetary policy that is flexible and appropriate, and maintain reasonable growths of money supply, credit supply and AFRE. As such, the liquidity of China's banking system will continue to remain adequate at a reasonable level, and the interbank lending market, the bond repo market and the NCD market are expected to function steadily. Money market management will be improved. First, efforts will be made to continuously improve the institutional arrangements for the money market, strengthen the capabilities to monitor the market and to provide early-warning of risks, and hold fast to the bottom line that no systemic financial risk should occur. Second, the mechanisms and services of the money market will be further improved to increase market transparency and creditworthiness, and constantly reinforce monetary policy transmission and liquidity management. Third, repurchase transactions will be more convenient and efficient, the risk management of transactions will be strengthened, and the role of the bond repo market will be given full play to. Fourth, the transparency and efficiency of the entire process of NCD issuance will be further enhanced.

Chapter 3 Bill Market

In 2021, the bill market scaled up and performed generally stable, serving SMEs and key areas more efficiently. Progress was made in the credit system building, consolidating the institutional arrangements in the bill market. Innovative business functions continued to exert their influence, and improvements were made to the supporting infrastructure for supply chain finance. As such, the bill market played a more effective role in supporting the real economy, especially SMEs.

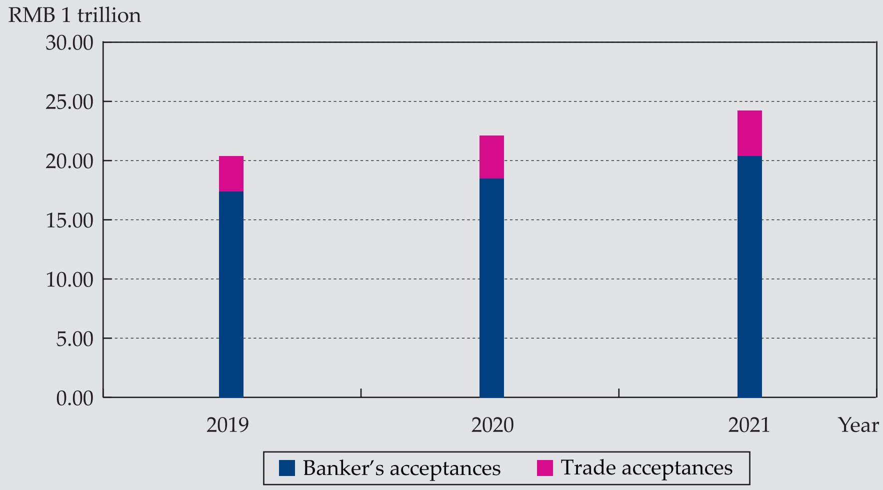
3.1 Performance of the bill market

3.1.1 Bill acceptances and discounts grew year on year in volume, with more powerful payment and financing functions

In 2021, bill acceptances throughout the market amounted to RMB 24.15 trillion, up 9.32 percent year on year. Among them, banker's acceptances totaled RMB 20.35 trillion, up 10.19 percent year on year; and trade acceptances totaled RMB 3.80 trillion, up 4.85 percent year on year. By types of institutions, acceptances of state-owned commercial banks grew by 12.96 percent year on year, 2.77 percentage points higher than the total growth of banker's acceptances; acceptances of joint-stock commercial banks grew by 10.79 percent year on year, 0.60 percentage points higher than the total growth of banker's acceptances; acceptances of city commercial banks and rural financial institutions grew by 8.49 percent and 6.93 percent respectively, 1.70 percentage points and 3.26 percentage points lower than the total growth of banker's acceptances. In 2021, endorsements throughout the market amounted to RMB 56.56 trillion, up 19.84 percent year on year. Among them, endorsements of banker's acceptances totaled RMB 53.59 trillion, up 20.38 percent year on year; and endorsements of trade acceptances totaled RMB 2.97 trillion, up 10.82 percent year on year.

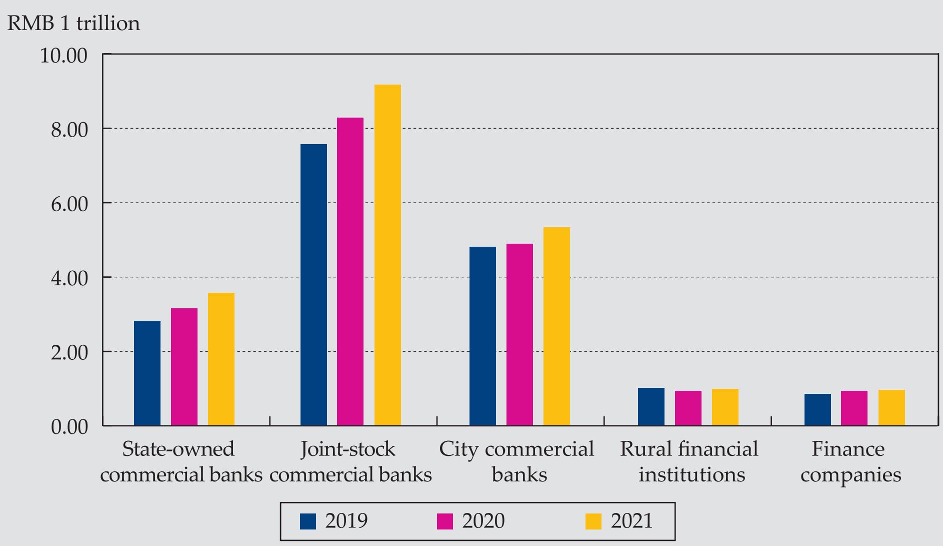
In 2021, bill discounts throughout the market amounted to RMB 15.02 trillion, up 11.93 percent year on year. Among them, discounted banker's acceptances totaled RMB 13.80 trillion, up 11.43 percent year on year, and discounted trade acceptances totaled RMB 1.22 trillion, up 17.98 percent year on year. The weighted average discount rate was 2.85 percent, 13 bps lower from the previous year. Specifically, the discount rates of banker's acceptances averaged 2.73 percent, down 13 bps year on year; and the discount rates of trade acceptances averaged 4.20 percent, down 20 bps year on year. By types of institutions, the volumes of bill discounts of state-owned commercial banks and city commercial banks increased by 14.96 percent and 13.66 percent respectively, 3.03 percentage points and 1.73 percentage points higher than the total average growth; the volumes of bill discounts of joint-stock commercial banks and rural financial institutions increased by 10.97

Figure 3.1 Changes in volumes of bill acceptances throughout the market from 2019 to 2021



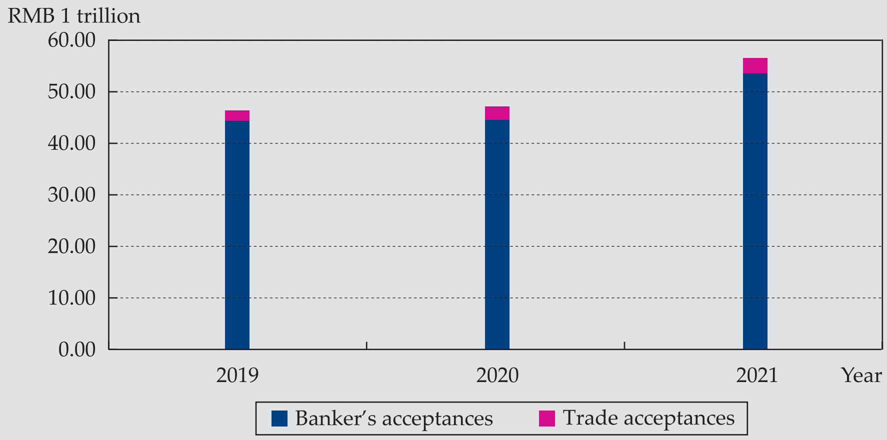
(Source: Shanghai Commercial Paper Exchange (SHCPE))

Figure 3.2 Changes in volumes of banker's acceptances by types of institutions from 2019 to 2021



(Source: SHCPE)

Figure 3.3 Changes in volumes of bill endorsements throughout the market from 2019 to 2021



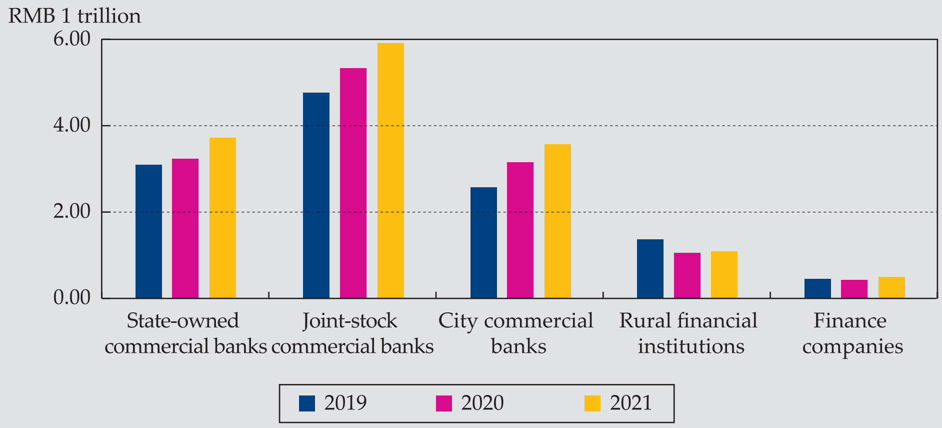
(Source: SHCPE)

percent and 2.81 percent respectively, 0.96 percentage points and 9.12 percentage points lower than the total average growth. As of end-2021, the outstanding volume of bills pledged at commercial banks amounted to RMB 1.12 trillion, up 9.70 percent year on year. In 2021, a total of RMB 1.68 trillion of funds were supplied to the market via central bank discounts, up 15.92 percent from the previous year.

Figure 3.4 Changes in volumes of bill discounts throughout the market from 2019 to 2021

(Source: SHCPE)

Figure 3.5 Changes in volumes of bill discounts by types of institutions from 2019 to 2021



(Source: SHCPE)

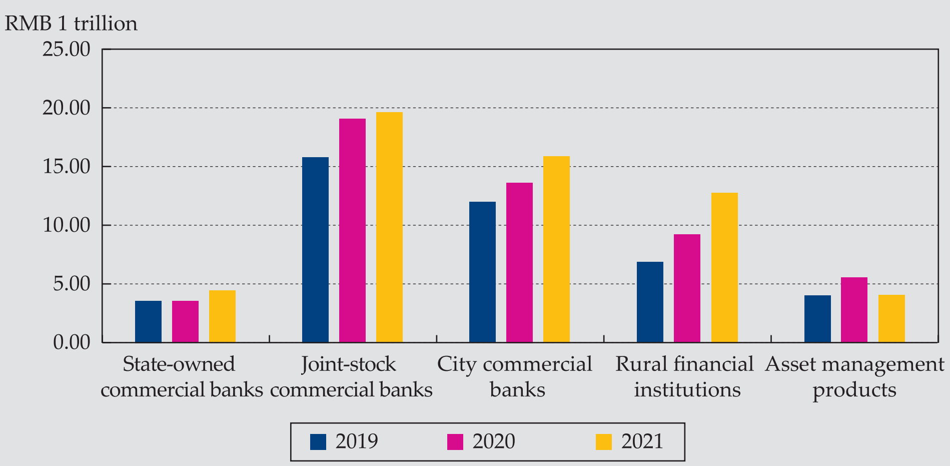
3.1.2 Transactions continued to thrive in the bill market, with the number of market participants growing steadily

In 2021, interbank discounts throughout the market totaled RMB 46.94 trillion, up 6.41 percent year on year, 7.20 percentage points lower than the growth rate in 2020. Specifically, interbank discounts to banker's acceptances totaled RMB 42.07 trillion, up 2.70 percent year on year, accounting for 89.63 percent of the total; and interbank discounts to trade acceptances totaled RMB 4.87 trillion, up 54.74 percent year on year, accounting for 10.37 percent (3.24 percentage points higher than 2020) of the total. Excluding internal transactions, interbank discounts at rural financial institutions, state-owned commercial banks and city commercial banks increased by 38.47 percent, 24.07 percent and 16.77 percent respectively from the previous year, the volume of interbank discounts at joint-stock commercial banks remained roughly on par with that in 2020; and interbank discounts to asset management products decreased by 26.81 percent[①] year on year. In 2021, the transaction volume of bill repos amounted to RMB 22.98 trillion, up 14.98 percent year on year. Specifically, pledged repos totaled RMB 21.70 trillion, up 11.06 percent year on year, accounting for 94.44 percent of the total; outright repos totaled RMB 1.28 trillion, up 187.53 percent year on year, accounting for 5.56 percent (2.22 percentage points higher than 2020) of the total. By types of institutions, repos at rural financial institutions and state-owned commercial banks increased by 33.76 percent and 15.91 percent respectively from the previous year, and those at joint-stock commercial banks and city commercial banks increased by 10.74 percent and 6.88 percent[①]

① The volume of interbank discounts of each type of institutions is calculated by adding up the volume of purchases and the volume of sales, the same hereinafter.

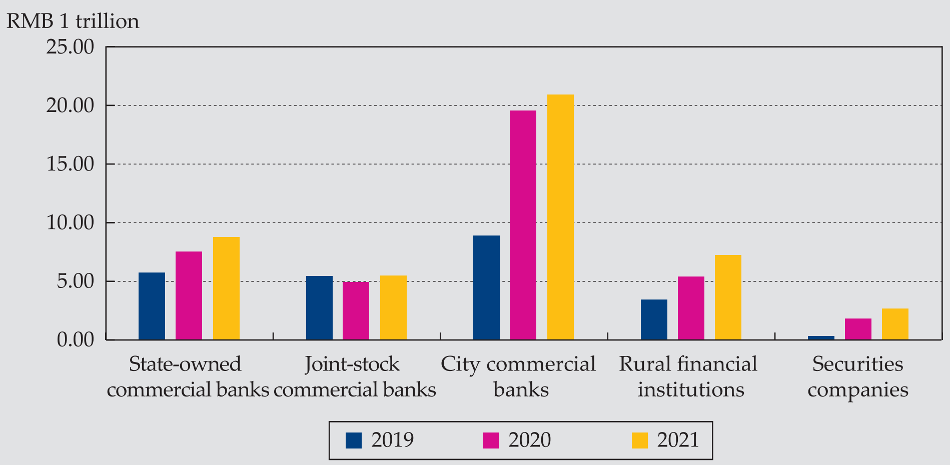
respectively from 2020. From the perspective of capital inflow and outflow, city commercial banks and securities companies were the major borrowers, state-owned commercial banks and joint-stock commercial banks were the major lenders, and rural financial institutions turned from a net lender in 2020 to a net borrower in 2021.

Figure 3.6 Changes in volumes of interbank discounts by types of institutions from 2019 to 2021 (excluding internal transactions)



(Source: SHCPE)

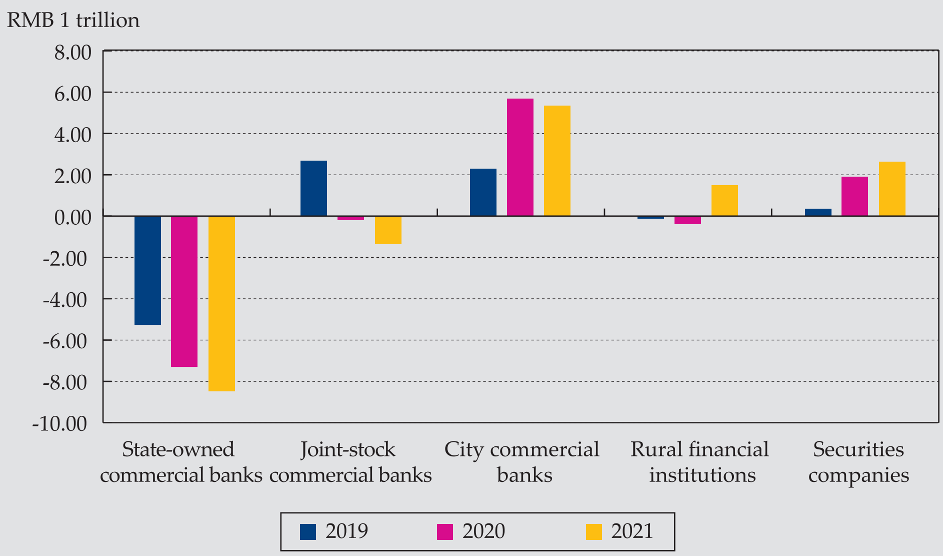
Figure 3.7 Changes in volumes of repos by types of institutions from 2019 to 2021



(Source: SHCPE)

① The volume of repo transactions of each type of institutions is calculated by adding up the volume of repos and the volume of reverse repos, the same hereinafter.

Figure 3.8 Changes in direction of capital flows through repos by types of institutions from 2019 to 2021



(Source: SHCPE)

As of end-2021, over 2,000 market entities participated in bill transactions. From the share of the transaction volume, state-owned commercial banks, joint-stock commercial banks and city commercial banks were major participants, accounting for an aggregate 76.68 percent of the total. Transactions of small and medium-sized financial institutions increased. Specifically, transactions of rural financial institutions and non-banking institutions increased by 37.12 percent and 75.08 percent respectively year on year, up 2.97 percentage points and 1.83 percentage points from 2020.

3.2 Main features of the bill market

3.2.1 The amount of bills used by enterprises continued to increase rapidly, demonstrating the prominent role of bills in serving MSMEs

In 2021, the number of enterprise users of bills[①] totaled 3,188,900, up 17.72 percent year on year. The amount of bills used by enterprises[②] reached RMB 95.72 trillion, up 15.75 percent year on year. The bill market concentrated more on serving MSMEs, vigorously supporting their sound operation and development. In 2021, the number of MSME users of bills reached

① The number of enterprise users of bills refers to the total number of enterprises that have undertaken bill acceptances, endorsements and discounts during the reporting period.

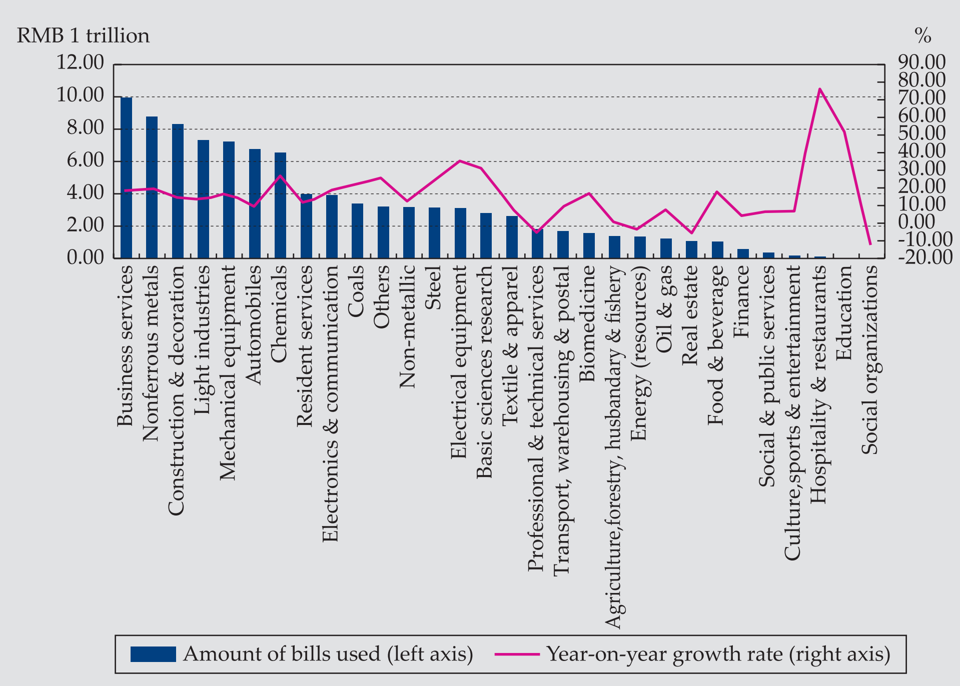
② The amount of bills used by enterprises refers to the total amount of bill acceptances, endorsements and discounts undertaken by enterprises during the reporting period.

3,147,300, accounting for 98.70 percent of the total; the amount of bills used by MSMEs reached RMB 69.10 trillion, accounting for 72.19 percent of the total. Bill businesses became more aligned with the needs of MSMEs in that the average face value of bills continued to decline. In 2021, the average face value of banker's acceptances was RMB 804,400, down 5.83 percent year on year; the average face value of trade acceptances was RMB 1,085,700, down 12.94 percent year on year.

3.2.2 The use of bills was secured for key industries, effectively implementing the macro policy

In 2021, with a view to better serving key industries and leading enterprises on the industry chain, entities of the bill market engaged in active innovation of their businesses and service models, enhanced the synergy and consistence between bill businesses and industry development, and thus exerting positive influence on macroeconomic recovery and industry restructuring. In 2021, 26 industries①, accounting for 86.67 percent of the entire economy, experienced year-on-year growth in the amount of bills used. Among them, seven primary bill user industries, including business services, nonferrous metals, construction and decoration, used RMB 54.62 trillion of bills, up 16.63 percent year on year, 0.88 percentage points higher than the average

Figure 3.9 Amount of bills used by industries and year-on-year growth rates in 2021



(Source: SHCPE)

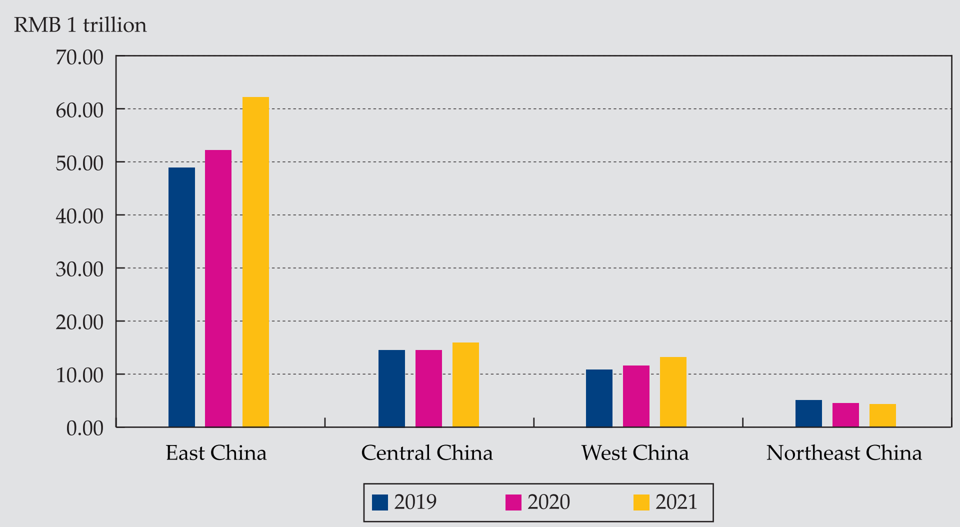
① To more accurately describe the use of bills across industries, we, based on the *Industrial Classification for National Economic Activities (2017)*, have reclassified the subcategories of enterprise users according to the types of end products and placed those enterprises into 30 industries, the same hereinafter.

growth throughout the market. Meanwhile, basic sciences research and biomedicine maintained a strong growth momentum, with the amount of bills used increasing by 29.93 percent and 17.19 percent respectively from 2020, 14.18 percentage points and 1.44 percentage points higher than the average growth of the market.

3.2.3 Bills supported coordinated regional economic development, with a significant increase of bill uses in East China

In 2021, bills used in East China amounted to RMB 62.34 trillion, up 19.23 percent year on year; bills used in Central China and West China registered RMB 15.75 trillion and RMB 13.36 trillion respectively, up 9.14 percent and 16.35 percent year on year; bills used in Northeast China totaled RMB 4.27 trillion, down 5.08 percent from the previous year. In East China, especially the Yangtze River Delta and the Pearl River Delta that are economically well-endowed and were less hit by COVID-19, bills used for enterprises' production and operation recovered rapidly. Coupled with the launch of several bill market products and the application of innovative businesses, bill businesses in these regions showed more consistency with regional economic development. Meanwhile, East China outran other regions in terms of the amount of bills used, playing an exemplary role in the development of bill businesses.

Figure 3.10 Changes in the amount of bills used across regions from 2019 to 2021



(Source: SHCPE)

3.3 Product innovation, institutional arrangements and infrastructure construction

3.3.1 The information disclosure system for bills came into implementation

On August 1st, 2021, the information disclosure system for trade acceptances officially came into implementation, marking a crucial step forward in building a credit system in the bill market and improving the ecosystem of the market. Disclosure of trade acceptance information added to the default costs of acceptors, increased the acceptability and liquidity of bills issued by enterprises of good credit quality, and thus gradually played out its role in improving the credit awareness of enterprises, enhancing transparency of risk information, and increasing the liquidity of trade acceptances. As of end-2021, there were 47,000 users registered with the information disclosure platform and 2.36 million bills that had disclosed acceptance activities. These bills had a value of RMB 2.5 trillion, accounting for 94 percent of the total. The public made 24.28 million queries on the platform.

3.3.2 The supply chain bill platform was upgraded

In January 2021, the SHCPE released the *Rules on Accessing the Supply Chain Bill Platform (for Trial Implementation)* to specify access conditions, procedures, monitoring, evaluation and others, which further standardized the access of supply chain platforms. In August, the supply chain bill platform completed a new round of the building and upgrading of system functions, making the processing of supply chain bill businesses more convenient and regulated, and increasing the number of supply chain platforms that were put into service. As of end-2021, there were over 3,000 enterprises registered with the supply chain bill platform, and over 60 percent of them were MSBs or engaged in agriculture and environmental protection. The total value of their businesses stood at RMB 67,163 million, and discounts and acceptances of supply chain bills accounted for 65.96 percent of the total. 47.96 percent of the discounts had an amount of less than RMB 10 million. Financing through discounts of low-value bills became more efficient, which vigorously supported the real economy.

3.3.3 The service efficiency of the "Discount Connect" continued to improve

In 2021, the "Discount Connect" business developed steadily, playing a positive role in matching the supply and demand in discount financing, improving the financing efficiency, and reducing the financing costs of businesses. As of end-2021, the "Discount Connect" served a total of 14,000 enterprises, up 79.03 percent year on year, and 92.13 percent of them were private businesses and MSBs; intentions were reached on the discount of 53,800 bills with a total amount of RMB 117,818 million, up 195.95 percent year on year, and 65.40 percent, or 35,200, of those bills were under RMB 1 million. In 2021, the average interest rate on bill discounts through the "Discount Connect" was 2.89 percent, down 14 bps from the previous year and 172 bps lower than the corporate loan rate. The "Discount Connect" effectively reduced financing costs in the real economy, rendered targeted support for private businesses and MSBs, and effectively alleviated the difficulties of bill financing.

3.3.4 The "Bill Payment Connect" showed a prominent advantage in providing inclusive financial services

In 2021, the SHCPE promoted the application of the "Bill Payment Connect" . It created sample scenarios like "bill + industrial manufacturing" and "bill + power generation" and promoted their use in several industries, contributing to the digitalization of bill payments in these industries and increasing the availability of bill services to enterprises. As of end-2021, 11 partner financial institutions, 164 banks enabling enterprises to open e-bill accounts, 44 B2B platforms and 3,025 platform companies participated in the "Bill Payment Connect", making a total payment of RMB 61.09 billion, a threefold increase from the beginning of the year, which realized the leap-and-bound growth of the "Bill Payment Connect" business. A total of 2,361 MSMEs and enterprises concerning agriculture, rural areas and rural people, or nearly 80 percent of the total, were supported by the "Bill Payment Connect". The share of discounted electronic bills signed off via "Bill Payment Connect" reached 54.22 percent, up over 11 percentage points from 2020, and the share on 10 active platforms reached 87.55 percent. As payments boosted financing, bills became more powerful in serving the real economy.

3.3.5 Delivery-Versus-Payment (DVP) was put into service for central bank discount settlement

In accordance with the *Notice of the General Administration Department of the People's Bank of China on DVP Settlement of Central Bank Discounts* (Yinfa No. 110 [2021]), the SHCPE released the *Guidelines for Operating the Central Bank Discount Business System* and the *Notice on Launching DVP for Central Bank Discount Settlement*, setting out rules on the handling of DVP settlements and detailed steps. On November 22nd, 2021, DVP was put into service for settling central bank discounts, with the business review and fund settlement procedures integrated, which improved processing efficiency and reduced operational risks.

3.4 Risk prevention and resolution

3.4.1 The risk prevention and resolution mechanism was refined for the bill market

In 2021, the SHCPE established the mechanism of risk identification, analysis and evaluation for the bill market, improved the system of indicators for monitoring corporate bill businesses, and stepped up monitoring of high-risk issues like overdue large-value bill payments, excessive acceptance activities, and over-leveraging. These efforts helped step up early-warning of risks and safeguarded the market order. The big data-based intelligent bill monitoring and early-warning platform was upgraded, contributing to the digitalized and intelligent monitoring; a risk monitoring cockpit was launched to visualize the monitoring process and improve monitoring efficiency. Meanwhile, to prevent risks in the bill market in a more standardized and forward-looking manner, the SHCPE studied and designed institutional arrangements for handling market risks, specifying the criteria, rules and procedures for resolving a number of market risks, including forged or false bills as well as financial institutions' excessive acceptance, overdue payments, and abnormal leverage ratios in repo transactions. As a result, risk prevention in the bill market became more standardized and orderly.

3.4.2 Active management services for corporate bill accounts were promoted

In 2021, the SHCPE promoted active management services for bill accounts, effectively forestalling risks in the processing of bill businesses through fake accounts. Throughout the year, the SHCPE organized promotional campaigns among nearly 500 enterprises and financial institutions; it also launched targeted promotion by organizing training sessions for finance companies and inviting leading finance companies to share their experiences. At end-2021, 2,209 clients activated active management services for their bill accounts and intercepted a number of occurrences where criminals engaged in transactions of electronic bills under the name of some companies.

3.4.3 The monitoring of bill business actors and risk warning were performed on an ongoing basis

In 2021, to timely identify and resolve risks, the SHCPE monitored the information of business actors in the Electronic Commercial Draft System (ECDS) on an ongoing basis, regularly checked their names recorded in the system against those in the business registration system, sent risk warnings to relevant financial institutions to report bills with material inconsistency, and required those institutions to troubleshoot in time and strengthen system control.

3.5 Outlook of the bill market

In 2022, the bill market will continue to promote the building of a credit system, extend stronger support for the real economy, and strengthen market risk prevention. Bill businesses are expected to maintain steady growths and vigorously support the sound development of enterprises, especially MSMEs. First, the credit environment of the bill market will continue to improve. With the implementation of the trade acceptance information disclosure system, the credit system of the bill market will be reinforced, market-based constraints will gradually exert their influence, enterprises will have their credit awareness enhanced, and the foundation for the sound development of the bill market will be further consolidated. Second, the bill market will extend stronger support to the real economy. As the new bill business system has been put into service, the supply chain bill platform will be upgraded, and the functions of the "Discount Connect" and the "Bill Payment Connect" systems will be improved. With such infrastructure improvements, the bill market will better accommodate the demand for industry chain and supply chain financial services, thereby extending stronger support for the real economy. Third, the risk prevention and resolution mechanism of the bill market will continue to improve. With the amendments to laws and regulations governing the bill market and the improvements to the system of indicators for monitoring corporate bill businesses, the risk prevention and resolution mechanism will be bolstered, thereby effectively safeguarding market order and boosting sound development of the bill market.

BOX 1 Implement the trade acceptance information disclosure system and build a credit system in the bill market

On August 1st, 2021, the trade acceptance information disclosure system officially came into force, indicating that the pilot of trade acceptance information disclosure completed and its full-scale implementation started, marking a crucial step forward to build a credit system in the bill market. As of end-2021, the platform had a total of 47,000 registered users, and the value of bills with disclosed items reached RMB 2.5 trillion, accounting for 94 percent of the total since the information disclosure system was implemented.

1. Reinforce the foundation and step up publicity to promote the implementation of the information disclosure system

To promote the implementation of the information disclosure system, the PBC organized extensive publicity campaigns. The SHCPE established and managed the bill information disclosure platform, formulated supporting rules, and organized disclosure by acceptors, going all out to ensure effective implementation of the system.

First, the information disclosure platform was improved to reinforce the foundation for system implementation. The information disclosure platform, established and managed by the SHCPE, is the only platform designated by the PBC to disclose information on bills. While maintaining stable and efficient operation, the platform has been improving and optimizing its functions according to user requirements and experience, which has contributed to increased user satisfaction and more efficient information disclosure and reinforced the foundation for the implementation of the information disclosure system.

Second, supporting rules were formulated to guide the system's implementation. On December 30th, 2020, the SHCPE released the Implementation Rules for the Information Disclosure of Trade Acceptances, setting out detailed guidelines for the implementation of the information disclosure system, linking the system with necessary procedures, and providing a practical framework for the standardized *disclosure of information on bills.*

Third, the system was promoted through multiple channels to encourage registration and disclosure of enterprises. As information disclosure was advanced through multiple channels, including policy publicity conferences, the contact person system, WeChat Q&A groups, and the platform hotline, acceptors were encouraged to register with the information disclosure platform and disclose relevant information in a timely manner. As more acceptors and finance companies recognized the importance of and participated in information disclosure, the platform had more registered users and a growing number of bills with disclosed information.

Fourth, attention was paid to the details of operation and services to support information disclosure. The disclosure of acceptors was monitored on an ongoing basis; procedures of operations on the information disclosure platform were specified and standardized; information disclosure inquiries via the hotline and WeChat groups were replied; and the information disclosure platform offered business operation inspection, technical support and user services. All these served to ensure the stable performance of the platform and supported the work on information disclosure.

2. Value credit standing and improve the credit environment, with market-based constraints showing their influence

Since its official implementation, the trade acceptance information disclosure system has gradually exerted its influence on reinforcing the credit awareness of enterprises, improving the effect of risk identification and enhancing the liquidity of trade acceptances.

First, enterprises complied with regulations when undertaking bill businesses and reinforced their credit awareness. By giving market-wide public alert on acceptors with abnormal behaviors, including failing to register with the platform, using forged or false accounts, delaying information disclosure, and continuously having overdue payments, the regulators have increased the cost of default for acceptors. Enterprises in a good credit standing, which disclose information timely and accurately, are more likely to access bank acceptance and discount services. As such, enterprises started to improve their credit, reinforce their credit awareness, and undertake bill businesses in a compliant manner. The registered users on the platform placed more value on their credit standing and made payments under regulations, contributing to the significant decrease in the percentage of trade acceptances with overdue payments.

Second, risk identification became more effective, and financial services more targeted. Based on the daily monitoring mechanism of the trade acceptance information disclosure platform, a number of incidents involving forged or false bills were detected and resolved in a timely manner. Those bills were locked up before circulating on the market, which protected *market participants from losses. In accordance with the requirements of the information disclosure system, financial institutions fulfilled the information query obligations to know about the bill acceptance information of enterprises and their credit standing. As such, financial institutions enhanced their ability to identify the credit standing of enterprises, guided the reasonable flow of funds to enterprises in a good credit standing, and extended targeted financial support to the real economy.*

Third, trade acceptances became more marketable and thus more powerful in supporting the real economy. The trade acceptance information disclosure platform, also serving as a platform for enterprises to present their credit standings, enhanced the transparency of their trade acceptances. As more acceptors began to register with the platform and disclose relevant information, the credit environment was improved on a continuous basis, which effectively increased the circulation efficiency of trade acceptances and facilitated fundraising. With a better credit environment, enterprises in a good credit standing became more willing to undertake acceptances and disclose information. In this way, a virtuous cycle of commercial credit took shape, which reinforced the effect of trade acceptances on supporting the real economy.

BOX 2 Upgrade the supply chain bill platform and utilize technologies to have the bill market extend stronger support to the real economy

The innovation of supply chain finance is a crucial path for the supply-side structural reform of the financial sector and for the financial sector to support MSMEs in their financing, and the development of supply chain bills is one of the key tasks of the PBC to promote standardization and innovation of supply chain finance. In 2021, under the guidance of the PBC, the SHCPE actively utilized technologies to upgrade the supply chain bill platform, which yielded solid progress in supporting the real economy with supply chain bills.

1. The supply chain bill platform continued to be optimized and upgraded

To better leverage the role of bills in supply chain finance and to implement the Opinions on Regulating the Development of Supply Chain Finance and Supporting the Stable Circulation, Optimization and Upgrading of Supply and Industry Chains (Yinfa No. 226 [2020]), in 2021, the supply chain bill platform had its system upgraded and optimized to support the entire life cycle of bills. Meanwhile, a sound risk prevention mechanism for the platform was established, and a new group of eligible supply chain platforms were put into service, which further strengthened the construction of supporting infrastructure for the bill market of supply chain finance.

First, system functions were improved on an ongoing basis to facilitate and standardize *the handling of supply chain bill businesses. To implement the requirements of Yinfa No. 226 [2020] on developing the supply chain bill platform's system functions related to the issuance and circulation of bills and financing, in August 2021, the platform was upgraded in accordance with the masterplan of the next-generation bill business system. After the upgrade, the platform was able to process banks' acceptance of supply chain bills and their endorsed circulation across platforms, and to support the uploading and binding of transaction relationship information as wells as the confirmation of payments at expiry; the platform improved the function of verifying enterprise information and stepped up the verification of the authenticity of enterprise identities; it enabled discounting banks to retrieve contracts, invoices and other information on the transaction relationship. After the new version of the platform was put into service, in the supply chain scenario, enterprises were provided with an additional option to issue banker's acceptances besides trade acceptances. Meanwhile, on the upgraded platform, enterprises may submit, via the supply chain platform, transfer-by-endorsement applications to enterprises on other platforms, which has realized the cross-platform circulation of supply chain bills and proved to be helpful for maintaining a virtuous cycle of the business ecosystem.*

Second, a growing number of eligible supply chain platforms were introduced to increase participants. In January 2021, the SHCPE released the Rules on Accessing the Supply Chain Bill Platform (for Trial Implementation), specifying the conditions and procedures required for supply chain platforms to access the supply chain bill platform. Since then, enterprises have been able to engage in rule-based supply chain bill business. After holistic evaluation of each applicant's overall conditions, customer base, ability to operate as a going concern, risk management capacity, and information integration ability, 15 supply chain platforms were introduced in 2021, and 12 of them gained access to the supply chain bill platform.

Third, a sound risk prevention mechanism was established to strictly control the risks of supply chain bills. To strengthen the construction of the risk prevention center in the bill market, explore improvements to the risk prevention mechanism for supply chain bills, and fulfill the requirements of Yinfa No. 226 [2020] on improving the information matching between supply chains and bills and establishing a mechanism for transaction authenticity verification, monitoring and early warning, the SHCPE pressed ahead with the implementation of the information disclosure system to promote the disclosure of information on supply chain bills, acceptances by enterprises on the platform, and credit standing of the acceptors, which reduced the risk of forged or false supply chain bills and helped market participants assess the credit risk of core enterprises.

2. Supply chain bills began to extend support to the real economy

With the upgrading of its core functions, the *supply chain bill platform had more participants, and its business volume kept rising. As of end-2021, there were over 3,000 enterprises registered with the platform, and over 60 percent of them were MSBs or engaged in agriculture and environmental protection; the cumulative volume of supply chain bill businesses amounted to RMB 67,163 million, indicating vigorous support for the real economy.*

First, supply chain bills were able to support various payment scenarios with greater convenience, promoting the bill-based processing of accounts receivable. Enterprises may directly issue and circulate supply chain bills for financing on their supply chain platforms, thus promoting the use of bills in the supply chain scenario, enhancing the convenience of bill businesses and the willingness of enterprises to use bills, and fundamentally advancing the bill-based processing of accounts receivable.

Second, transactions became more transparent to facilitate MSME financing. With supply chain platforms as the information intermediary, supply chain bills utilize technologies to integrate product, material, information and capital flows, thus forming an integrated service closed loop for the entire industry chain ecosystem. In this way, information asymmetry was mitigated, and the actual transaction relationships between enterprises were described with enhanced transparency, thereby increasing the convenience and availability of financing through bills.

Third, good credit was transmitted to increase the financing efficiency of MSMEs. The supply chain bill platform has promoted credit transmission of high-quality enterprises on the industry chain. As such, MSBs on the industry chain may share the resources brought by the good credit of core enterprises to obtain financing services from financial institutions at more preferential prices. Meanwhile, as supply chain bills boast information that is more transparent, financial institutions may, while handling discounts to supply chain bills, refer to the credit information of the acceptors, thus reviewing the discounts for MSMEs at greater efficiency and promoting financing through discounts to low-value bills.

Chapter 4 Bond Market

In 2021, China's bond market operated stably, with bond issuance and custody continued to grow, cash bond transactions kept active, and green bond market developed rapidly. The market witnessed steady improvement in product innovation capacity, and further enhanced coordinated infrastructure management and interconnectivity. As a result, the market further enabled high-quality development and increased its quality and efficiency in serving the real economy.

4.1 Performance of the bond market

4.1.1 Primary market

4.1.1.1 Bond issuance continued to grow

In 2021, a total of RMB 62.0 trillion of bonds were issued, up 8.1 percent year on year. Specifically, the interbank bond market saw an issuance volume of RMB 53.1 trillion, up 9.2 percent year on year, accounting for 85.6 percent of the total; the exchange market reported an issuance volume of RMB 8.9 trillion, up 2.2 percent year on year, accounting for 14.4 percent of the total.

The three types of bonds with the largest volume of issuance were NCDs, corporate credit bonds and financial bonds, with issuance at RMB 21.8 trillion, RMB 14.8 trillion and RMB 9.7 trillion, up 14.87 percent, 7.11 percent[①] and 4.34 percent year on year respectively.

Table 4.1 Issuance of major bonds in the bond market in 2021

Type of bonds	Issuance (RMB 100 million)	YoY growth (%)	Type of bonds	Issuance (RMB 100 million)	YoY growth (%)
Treasury bonds	66,758.1	-4.87	Credit asset-backed securities	8,815.3	11.87
Local government bonds	74,826.3	16.12	NCDs	217,922.9	14.87
Financial bonds	96,875.2	4.34	Others	6,300.7	-34.44

① The issuance volume of corporate credit bonds was RMB 13.9 trillion in comparable terms in 2020.

(continued)

Type of bonds	Issuance (RMB 100 million)	YoY growth (%)	Type of bonds	Issuance (RMB 100 million)	YoY growth (%)
Corporate credit bonds	148,385.3	7.11	Total	619,883.8	8.14

Source: China Securities Regulatory Commission (CSRC), China Central Depository & Clearing Co., Ltd. (CCDC) and Shanghai Clearing House (SHCH).

Notes: 1. Financial bonds include China Development Bank (CDB) and policy bank bonds, short-term financing bonds of securities companies, and interbank and exchange-traded financial bonds. In particular, interbank financial bonds refer to financial bonds issued by incorporated financial institutions established in China, including general financial bonds, subordinated debts, hybrid capital bonds, tier-2 capital instruments and perpetual bonds issued by commercial banks, supplementary capital bonds issued by insurance companies, and bonds issued by non-banking institutions such as auto-finance companies.

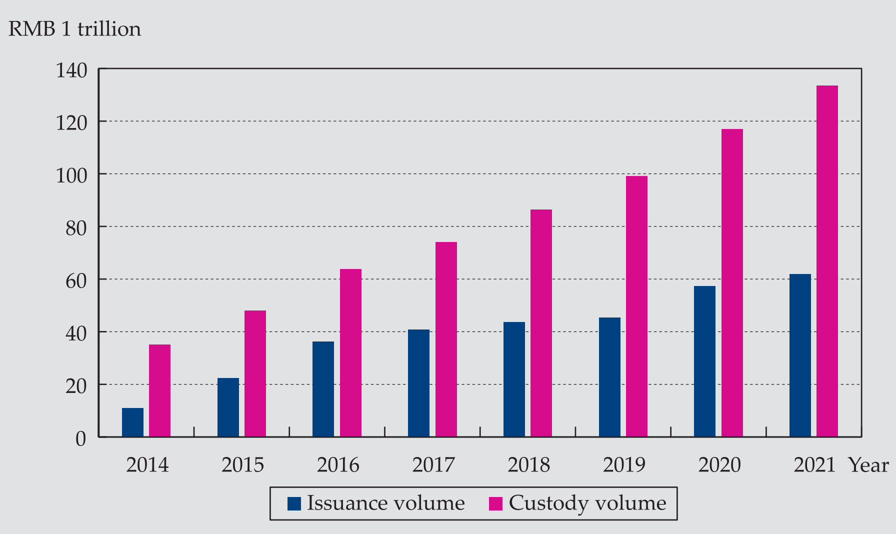
2. Corporate credit bonds include debt financing instruments of non-financial enterprises, asset-backed notes, enterprise bonds, corporate bonds and exchange asset-backed securities.

3. Others include bonds issued by Central Huijin Investment Ltd., debt financing plans of Beijing Financial Assets Exchange (BFAE), international institution bonds and standard commercial papers.

4.1.1.2 Custody volume grew by nearly 15 percent

As of end-2021, the outstanding bond custody volume was roughly RMB 133.5 trillion, up 14.1 percent year on year, of which RMB 114.7 trillion was in the interbank bond market (up 13.9 percent year on year and accounting for 85.9 percent of total bond custody volume) and RMB 18.8 trillion was in the exchange market (up 15.5 percent year on year and accounting for 14.1 percent of the total).

Figure 4.1 Bond issuance and custody volumes in the bond market



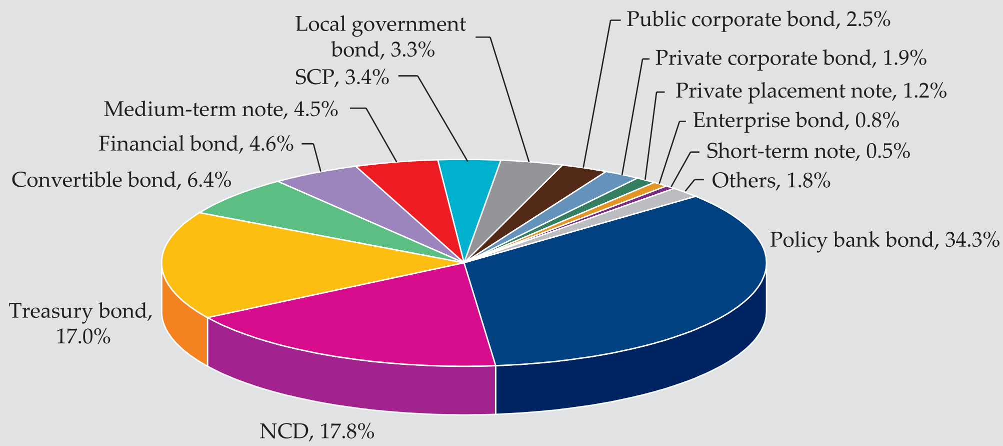
(Source: CSRC, CCDC and SHCH)

4.1.2 Secondary market

4.1.2.1 Cash bond transactions witnessed slight decline

In 2021, cash bond transactions totaled RMB 243.4 trillion, down 3.8 percent year on year, of which RMB 214.5 trillion was cash bond transactions in the interbank bond market (down 7.9 percent year on year and accounting for 88.1 percent of the total) and RMB 28.9 trillion was traded at the exchanges (up 43.4 percent year on year and accounting for 11.9 percent of the total).

Figure 4.2 Trading structure of cash bond transactions in the interbank bond market in 2021



(Source: CFETS, SSE and SZSE)

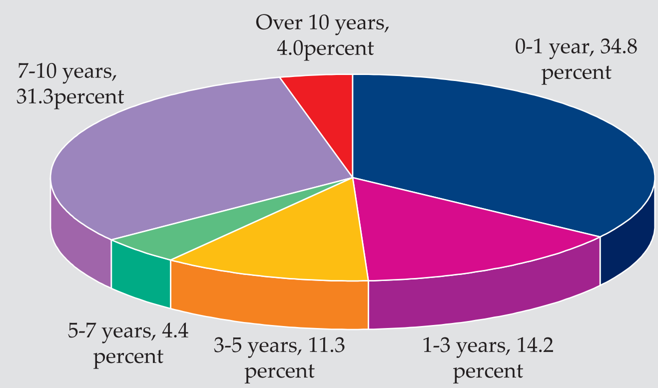
In terms of bond types, the most traded four categories in cash bond transactions were policy bank bonds, NCDs, treasury bonds and convertible bonds, which accounted for 34.3 percent (2.4 percentage points lower than the previous year), 17.8 percent (2.3 percentage points lower than the previous year), 17.0 percent (2.3 percentage points lower than the previous year) and 6.4 percent (0.8 percentage points higher than the previous year) of the transaction volume respectively.

In terms of maturities of transactions in the interbank bond market, bonds with a maturity of less than 1 year[①], 1-3 years , 3-5 years, 5-7 years, 7-10 years and more than 10 years recorded a trading volume of RMB 74.7 trillion, RMB 30.6 trillion, RMB 24.1 trillion, RMB 9.4 trillion, RMB 67.0 trillion and RMB 8.5 trillion respectively, accounting for 34.8 percent, 14.3 percent, 11.3 percent, 4.4 percent, 31.3 percent and 4.0 percent of the total[②].

① Here, 1 to 3-year bonds include 1-year bonds but not 3-year ones. The same applies to the following categories.

② Due to round-off, proportional data do not add up to 100%.

Figure 4.3 Term structure of cash bond transactions in the interbank market in 2021

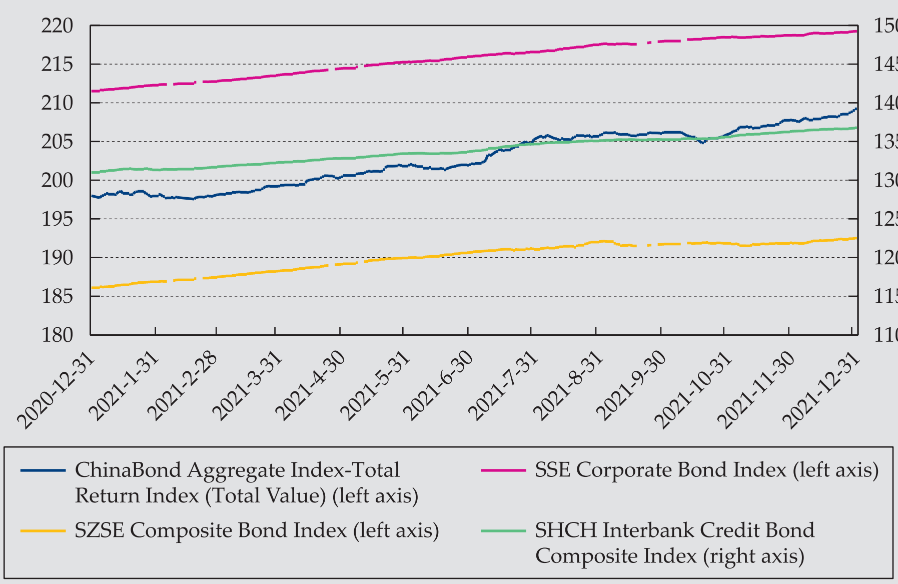


(Source: CFETS)

4.1.2.2 Bond price indices rose

Bond price indices generally followed an uptick trend. The ChinaBond Aggregate Index Total Return Index (Total Value) rose from 198.0 at end-2020 to 209.3 at end-2021, an increase of 5.7 percent over the year; the SHCH Interbank Credit Bond Composite Index (Total Return) rose from 131.0 at end-2020 to 136.8 at end-2021, an increase of 4.4 percent over the year; the SSE Corporate Bond Index rose from 211.5

Figure 4.4 Trend of bond indices in 2021



(Source: CCDC, SHCH, SSE and SZSE)

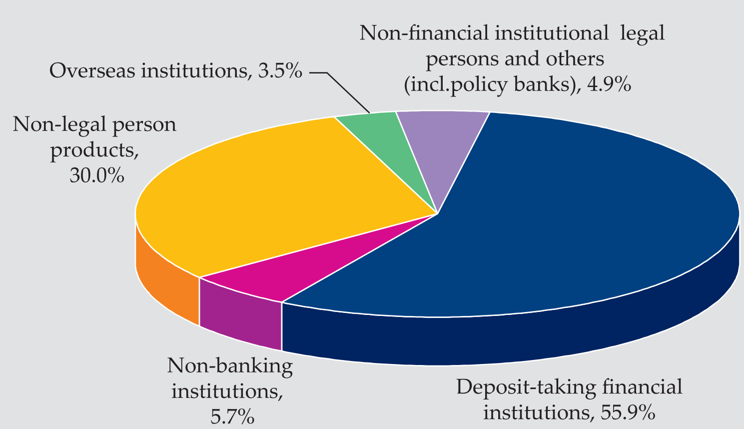
at end-2020 to 219.3 at end-2021, an increase of 3.7 percent over the year; the SZSE Corporate Bond Index rose from 186.1 at end-2020 to 192.6 at end-2021, an increase of 3.5 percent over the year.

4.1.2.3 Investor structure remained basically unchanged

Investors of the interbank bond market mainly consisted of deposit-taking financial institutions and non-legal-person products. As of end-2021, they were the two largest bond holders, posting RMB 63.6 trillion (accounting for 55.9 percent and down 2.0 percentage points from end-2020) and RMB 34.2 trillion (accounting for 30.0 percent and up 1.2 percentage points from end-2020) respectively. Local government bonds took up the largest share among the bonds held by deposit-taking financial institutions, while NCDs took up the largest share among those held by non-legal-person products.

The overall investor structure of the exchange market was generally unchanged from the previous year. As of end-2021, special asset management accounts[①] and banks held the largest amount of bonds on the SSE, posting RMB 4.35 trillion and RMB 1.89 trillion respectively, accounting for 28.6 percent and 12.4 percent of the total respectively. Due to SZSE's adjustments of investor structure from October 2021[②], as of end-2021, other professional institutions and general institutions held the largest amount of bonds on the SZSE, posting RMB 0.7 trillion and RMB 0.4 trillion respectively and accounting for 25.0 percent and 14.6 percent of the total respectively.

Figure 4.5 Investor structure in the interbank bond market at end-2021



(Source: SHCH and CCDC)

① Special asset management accounts include privately offered funds, segregated accounts, asset management business of securities companies, trust products, asset management business of futures companies, and asset management business of insurance companies.

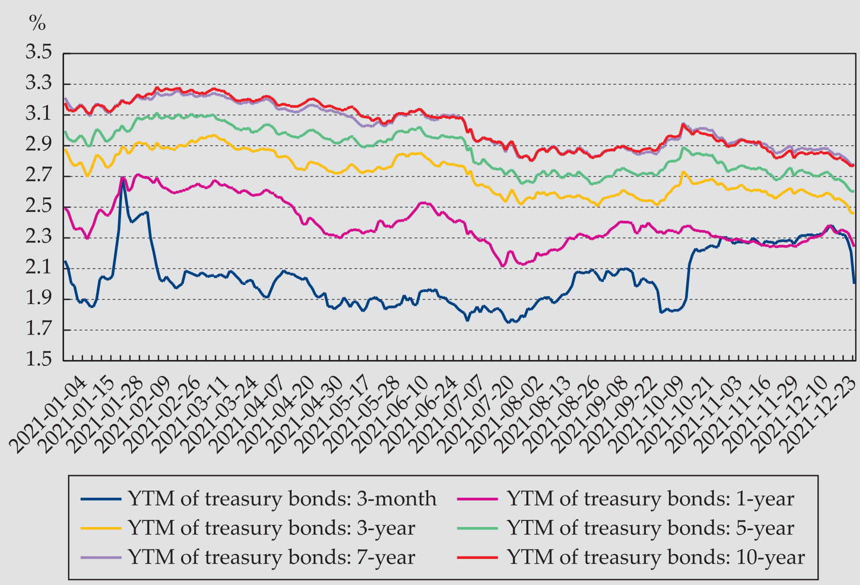
② From October 2021, the SZSE made minor adjustments to investor categorization according to the overall arrangements of the CSRC, when several sub-categories under general institutions were recategorized as other professional institutions.

4.2 Main features of the bond market

4.2.1 Bond yield generally moved downwards

In 2021, the yields on treasury bonds went downward amid fluctuations. From January to February, the momentum of economic recovery continued to consolidate, when the yields climbed up steadily to reach the yearly peak. From March to June, yields decreased slightly. In July, the PBC cut the RRR, bringing up expectations of loose monetary policies, and the yields fell rapidly. From August to September, expectations were corrected and yields rose. From October to December, the PBC increased the size of reverse repo, and reduced RRR and interest rates, causing the yields to go down. As of end-2021, yields on 3-month, 1-year, 3-year, 5-year, 7-year and 10-year treasury bonds were 2.00 percent, 2.24 percent, 2.46 percent, 2.61 percent, 2.78 percent and 2.78 percent respectively, falling by 15.12 bps, 25.23 bps, 42.00 bps, 38.69 bps, 43.00 bps and 40.26 bps from the beginning of the year.

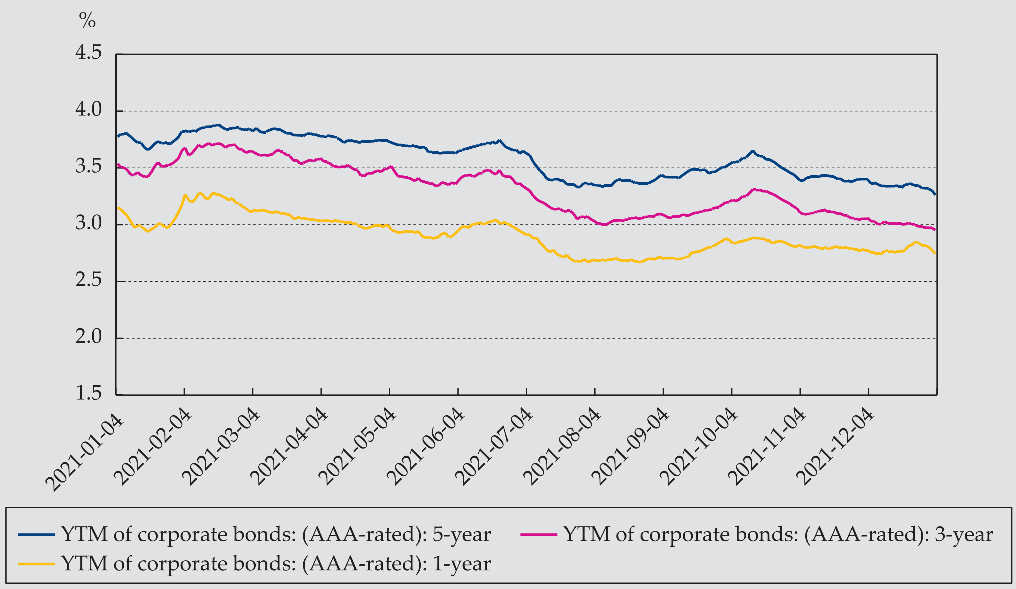
Figure 4.6 Changes in yields on treasury bonds with key maturities in 2021



(Source: CCDC)

Yields at the exchange market showed a similar trend in 2021. In H1 2021, yields rose first and then fell. The fall accelerated in July, and climbed up before falling between August and the end of the year. As of end-2021, yields on 1-year, 3-year and 5-year corporate bonds (AAA-rated) were 2.75 percent, 2.95 percent and 3.26 percent respectively, down 40.62 bps, 58.44 bps and 51.23 bps from the beginning of 2021.

Figure 4.7 Changes in yields on exchange-traded corporate bonds (AAA-rated) in 2021



(Source: SSE)

4.2.2 Green bond market enjoyed rapid growth

Guided by China's goal of peaking carbon emissions and realizing carbon neutrality, China witnessed an increasing volume of issuance in the green bond market, and the stock scale increased steadily. In 2021, 484 green bonds were issued in China with a total volume of RMB 604.2 billion, up 166.10 percent year on year[①], ranking the first in history and the second globally in terms of the cumulative issuance volume. Specifically, 266 green debt financing instruments (including green ABN) were issued in 2021, totaling RMB 313.517 billion, 5.76 times that of 2020 and accounting for more than 50 percent of the total issuance volume of domestic green bonds. Most green debt financing instruments have medium and long maturities, raising funds mainly for green sectors such as clean energy and clean transportation. The issuers were mainly in Beijing and coastal areas in East China. As of end-2021, green bonds in custody have reached RMB 1.13 trillion, an increase of RMB 234.501 billion or 26.07 percent throughout the year. Among them, outstanding green debt financing instruments stood at RMB 367.568 billion[②], an increase of 190.13 percent throughout the year.

① Source: The National Association of Financial Market Institutional Investors (NAFMII), Wind.

② When summing up the outstanding amount of bonds, green debt financing instruments include ABN under the NAFMII.

4.2.3 Bond trading remained brisk

In 2021, the turnover rate[①] in the interbank bond market was 173.4 percent, a decrease of 35.2 percentage points year on year, which was still quite active. The three most frequently traded categories were policy bank bonds, NCDs and book-entry treasury bonds, with their turnover rates reaching 406.6 percent, 310.0 percent, and 183.4 percent respectively. Commercial bank bonds, non-banking institutional bonds, ABS and enterprise bonds were traded more briskly, with a year-on-year increase of turnover rate of 65.2 percentage points, 30.6 percentage points, 18.9 percentage points, and 3.4 percentage points respectively.

Table 4.2 Annual turnover rates of major bond types in the interbank bond market in 2021

Types of bonds	Cash bond turnover rate (%)	YoY growth (percentage point)	Types of bonds	Cash bond turnover rate (%)	YoY growth (percentage point)
Book-entry treasury bonds	183.4	-52.9	Non-banking institutional bonds	89.8	30.6
Local government bonds	26.0	-26.1	Debt financing instruments of non-financial enterprises	173.7	-16.2
Policy bank bonds	406.6	-68.9	NCDs	310.0	-125.3
Government-backed agency bonds	27.4	-24.8	Enterprise bonds	59.4	3.4
Commercial bank bonds	146.2	65.2	ABS	40.7	18.9

4.2.4 The structure of corporate bond issuance and investors changed at exchanges

In 2021, the structure of corporate bond issuance and their investors changed on the SSE. Among them, the volume of publicly offered corporate bonds registered RMB 2.04 trillion, accounting for 54 percent of the total and representing a year-on-year growth of 21 percent, and most issuers were AAA-rated entities. The volume of non-publicly offered corporate bonds registered RMB 1.75 trillion, accounting for 46 percent of the total and representing a year-on-year fall of 10 percent. Professional institutions, such as special asset management accounts and banks' wealth management products saw a remarkably increasing share in participating investors, up 9.1 percentage points and 3.2 percentage points respectively from the previous year, while bonds held by general legal persons dropped by 10.1 percentage points from the previous year.

In 2021, the structure of corporate bond

① Cash bond turnover rate = (cash bond trading amount in a period/custody amount at the end of a period) × 100 (percent).

issuance and their investors on the SZSE also changed. Among them, the volume of publicly offered corporate bonds registered RMB 0.55 trillion, accounting for 70 percent of the total and representing a year-on-year growth of 44 percent, and most issuers were AAA-rated entities. The volume of non-publicly offered corporate bonds registered RMB 0.24 trillion, accounting for 30 percent of the total and representing a year-on-year fall of 16 percent. Other professional institutions (including banks' wealth management products) saw remarkably increasing share in participating investors, up 22.5 percentage points from the previous year, while bonds held by general legal persons dropped by 33.3 percentage points from the previous year.

4.2.5 Local government bonds increased significantly in issuance volume

In 2021, the issuance volume of local government bonds reached RMB 7.49 trillion, up 16.3 percent from the previous year, providing solid fiscal support for social economic development. The weighted average issuing rate of local government bonds stood at 3.36 percent, 24 bps higher than that of treasury bonds of the same maturity during the previous five working days. The pricing gap of local government bonds between regions with different levels of economic development and debt ratios became more prominent, reflecting continued improvement in market-based local government bond issuance.

4.3 Product innovation in the bond market

4.3.1 Innovative green bonds and sustainability bonds were introduced to help realize the goal of peaking carbon emissions and achieve carbon neutrality

4.3.1.1 Multiple innovative products including carbon-neutral green bonds were offering

In the interbank market, in February 2021, the National Association of Financial Market Institutional Investors (NAFMII) innovatively launched carbon-neutrality bonds, precisely guiding funds raised to support green and low-carbon fields and leading the development of the domestic carbon-neutrality bond market. In the same month, China Three Gorges Corporation and five other issuers successfully issued the first batch of carbon-neutrality bonds in the interbank market, which was the first green bond specifically labeled as carbon-neutral in the world. In March, the CDB issued China's first green financial bond with the theme of carbon neutrality to global investors in the interbank market, raising funds to facilitate the decarbonization of the power system and help realize the upgrading of the energy system. In April, the NAFMII launched the sustainability-linked bond (SLB). Through structural design, the SLB satisfied the capital demand of enterprises for low-carbon transition, thus helping energy-intensive and high-polluting industries to move towards clean and low-carbon development. In May, GD Power Development and six other issuers issued the first batch of SLBs in the interbank market, encouraging enterprises to advance green and low-carbon transition through market-based constraint mechanisms, and helping achieve the goal of sustainable development. As of end-2021, a total of 131 green debt financing instruments labeled as carbon-neutral have been issued in the interbank market, with a volume of RMB 177.661 billion, accounting for 56.67 percent of green debt financing instruments issued in the year and 69 percent of carbon-neutrality bonds issued in the whole market. During the same period, 24 SLBs were issued in the interbank market, with a total amount of RMB 34.8 billion.

In the exchange market, in February 2021, the SSE launched green bonds specially used for carbon neutrality. In July, under the original framework of green bonds, the SZSE launched special carbon-neutrality bonds, SLBs, as well as blue bonds, an innovative sub-type of green bonds dedicated to sustainable use of marine resources. In August, the SSE piloted to launch blue bonds. In 2021, the issuance volume of green bonds and green ABS added to RMB 119.52 billion on the SSE, up 75.7 percent year on year. This included RMB 69.09 billion of green bonds (including RMB 37.7 billion of carbon-neutral green bonds) and RMB 50.43 billion of green ABS. As of end-2021, 16 special carbon-neutrality bonds and green ABS have been issued on the SZSE, raising more than RMB 13 billion.

4.3.1.2 Carbon-neutrality bond index and relevant products were launched

In March 2021, ChinaBond Pricing Center Co., Ltd. released the “ChinaBond–Carbon Neutral Green Bond Index” consisting of carbon-neutral green bonds publicly offered in China. The release of the index positively responded to the national strategic decision pursuing green, low-carbon and sustainable development, and provided investors with high-quality indexed investment targets and performance benchmarks for carbon-neutrality bonds. In the same month, the SHCH released the SHCH Carbon-neutrality Bond Index. In May, the first carbon-neutrality themed structured product facing individual investors was issued, with linkage to the “ChinaBond-Carbon Neutral Green Bond Index” , and guided funds to green and low-carbon industries. In the same month, with the SHCH Carbon-neutrality Bond Index as the target, the Industrial Bank issued carbon-neutrality bond index-linked RMB structured deposits, and completed back-to-back options trading based on the product.

COLUMN Innovative development of green bond products and ESG applications contribute to the achievement of the “30·60” goal

To fully implement Xi Jinping’s Thought on Ecological Civilization, and execute measures for reducing pollution, cutting carbon emissions and enhancing synergies, all parties in the *bond market actively promoted the innovative development of green bond products and ESG applications, in a way to respond to China's "dual carbon" strategy and promote green and high-quality development.*

1. Carbon-neutrality bonds and SLBs were innovatively introduced

Under the guidance of the PBC, the NAFMII innovatively launched carbon-neutrality bonds and SLBs to guide more resources to flow into green and low-carbon fields through special products, and improve the ability of debt financing instruments to serve the real economy.

In 2021, the NAFMII innovatively launched carbon-neutrality bonds and issued the Notice on Clarifying Relevant Mechanisms for Carbon-neutrality Bonds, with an aim to help achieve the "30·60" goal. Carbon-neutrality bond refers to a debt financing instrument that raises funds specifically for green projects with carbon emission reduction benefits. As a sub-type of green debt financing instruments, it needs to meet four core elements including fund use for green bonds, project evaluation and selection, fund management and information disclosure in its duration. In 2021, carbon-neutrality bonds registered and issued at NAFMII supported clean energy, clean transportation, sustainable buildings and low-carbon industrial transformation, raising RMB 153.575 billion, RMB 21.186 billion, RMB 2.7 billion and RMB 200 million respectively. According to the assessment and certification report, based on the proportion of funds raised in total project investment, carbon-neutrality bonds issued in 2021 are expected to reduce 30,878,400 tons of carbon emissions and save 13,564,500 tons of standard coal each year.

In April 2021, the NAFMII launched SLBs to meet the capital demand for the transition of traditional industries or the sustainable development of other industries such as new energy. It is thus an innovating financing tool for low-carbon transition. SLBs are debt financing instruments that link the terms of bonds to the issuer's sustainable development goals, including key performance indicators (KPIs) and sustainability performance targets (SPTs). The KPIs are sustainability performance indicators central to the issuer's businesses. The SPTs are quantitative evaluation targets based on KPIs, with a clear deadline for achievement. As of end-2021, the 24 SLBs registered and issued at the NAFMII involved 20 issuers, among which 92 percent were enterprises in traditional industries such as power, steel, coal, cement, construction and transportation. The scope of SLB application is still expanding to meet the financing needs of more enterprises for their low-carbon transition.

2. Progress was secured in ESG applications in the bond market

In recent years, sustainable investment represented by ESG has played an active role in realizing China's "30·60" goal and its sustainable economic and social development, and the concept of ESG investment has soon *gained popularity. As of end-2021, 84 Chinese institutions have signed up to the United Nations Principles for Responsible Investment (PRI), registering an increase of 53 percent over 2020 and the fastest growth worldwide.*

In 2021, solid progress has been made in ESG applications in the domestic bond market. First, ESG evaluation system and database continued to improve in the bond market. Based on introducing the first ESG evaluation system covering all domestic corporate bond issuers in 2020, the CCDC comprehensively upgraded the system in 2021 to cover all domestic public credit bond issuers and A-share listed companies. As a result, a product system covering ESG evaluation, ESG database, ESG report, ESG indices and ESG consulting has taken its shape. Second, ESG index investment strategies and products witnessed rapid development. In 2021, based on the ChinaBond ESG evaluation system, a series of indices were released, including the ESG Select Credit Bond Index reflecting ESG development in the bond market, the first ESG bond index of the insurance and asset management industry, the first high-grade Yangtze River Delta ESG-themed bond index, and the first domestic ESG-themed USD bond index of Chinese enterprises, providing performance benchmarks and tracking targets for ESG investment. Third, ESG information is an effective supplement to the traditional credit rating framework based on financial information, and ESG evaluation plays an increasingly important role in credit analysis and risk management. At present, many market institutions have begun to take ESG indices as a lens to observe investment risks. Some large institutions implement investment strategies such as negative elimination and positive screening on the basis of ESG evaluation, and consider the ability of conducting ESG evaluation as an important criterion for selecting asset managers.

4.3.2 Bonds themed on strategic emerging industries, rural revitalization, revitalization and development of old revolutionary base areas, and flood control and reconstruction were created for the implementation of key national strategies

4.3.2.1 Rural vitalization bills and other instruments were introduced to help implement key national strategies

To fulfill relevant requirements of the CPC Central Committee and the State Council on comprehensively promoting rural revitalization, in March 2021, the NAFMII launched rural revitalization bills focusing on extending financial support for the development of agriculture, rural areas and rural people, which expanded financing channels for rural revitalization. As of end-2021, 105 enterprises in 25 provinces (autonomous regions and municipalities) have issued 132 series of rural revitalization bills, raising RMB 101.462 billion in total. The funds raised were mainly used to facilitate the sales and distribution of agricultural and subsidiary products, support the construction and maintenance of agriculture-related toll roads, power projects, rural logistics and other infrastructure, and boost the development of characteristic agriculture and industrial parks.

To facilitate the implementation of key national strategies, policy banks issued various themed bonds to guide social capital to support national key areas, major strategies, and economic and social development. China Development Bank(CDB) issued RMB 32.6 billion of special bonds for rural revitalization and the coordinated development of the Beijing-Tianjin-Hebei Region, and RMB 10 billion of green financial bonds for ecological protection and high-quality development of the Yellow River Basin, with a view to supporting the consolidation of achievements in the critical battle against poverty and promoting coordinated regional development. The Export-Import Bank of China (EximBank) issued a total of RMB 9 billion of themed financial bonds on supporting the development of the Guangdong-Hong Kong-Macao Greater Bay Area, combating flood and stabilizing foreign trade, as well as preventing flood, resuming production and securing energy supply, with a view to earnestly implementing decisions and arrangements on extending financial support for the construction of the Greater Bay Area as well as flood control and relief. Agricultural Development Bank of China (ADBC) issued RMB 8 billion of themed financial bonds to support the construction of cold chain logistics and "Nanfan Silicon Valley", and issued its first carbon-neutrality bond of RMB 3.6 billion for forest carbon sink, with a view to helping build key national bases and implementing major national decisions and arrangements on peaking carbon emissions and realizing carbon neutrality.

With regard to the exchange market, to implement the arrangements of the CPC Central Committee on effectively linking up the consolidation of achievements in the combat against poverty with the implementation of the rural revitalization strategy, the SSE and the SZSE also issued special corporate bonds for rural revitalization. In 2021, the issuance of rural revitalization bonds stood at RMB 4.8 billion on the SSE; As of end-2021, the total issuance of rural revitalization bonds has reached RMB 1.3 billion on the SZSE.

4.3.2.2 Innovative debt financing instruments for the revitalization and development of old revolutionary base areas were launched to bolster high-quality development

To fulfill the policy requirements of the CPC Central Committee and the State Council on revitalizing and developing old revolutionary base areas and progressively realizing common prosperity, and to give full play to debt financing instruments in channeling direct financing to these areas, in August 2021, for the construction and development of old revolutionary base areas, the NAFMII launched debt financing instruments to injecting fresh capital into the local real economy. In August 2021, Shandong Hi-speed Group successfully issued and registered the first debt financing instrument for old revolutionary base areas, raising funds to bolster the revitalization and development of the Yimeng Old Revolutionary Base Area. This greatly improved accessibility of the area and had a positive impact on the development of its real economy. As of end-2021, a total of 21 enterprises have issued RMB 29.4 billion of bonds for old revolutionary base areas, of which RMB 12.1 billion was used for the revitalization and development of eight areas, namely the former Central Soviet Area of Jiangxi, Fujian and Guangdong, Shaanxi-Gansu-Ningxia Border Region, Sichuan-Shaanxi Border Region, Zuoyou River Old Revolutionary Base Area, Dabie Mountain Old Revolutionary Base Area, Yimeng Old Revolutionary Base Area, Taihang and Hunan-Jiangxi Border Region.

4.3.3 Debt financing instruments were upgraded to serve the financing needs of private businesses, MSBs and high-growth enterprises

4.3.3.1 The "second arrow" continued to play a leading role in the bond issuance of private enterprises

The NAFMII led China Bond Insurance Co., Ltd. to provide targeted support for the bond financing of private enterprises, and continuously optimized the mechanism of supporting instruments. In 2021, the NAFMII encouraged private enterprises to raise RMB 75.88 billion through bond issuance, 1.4 times that of 2020. As of end-2021, it has encouraged 113 private enterprises to issue a total of debt financing instruments valuing at RMB 186.88 billion.

4.3.3.2 Asset-backed commercial paper (ABCP) was vigorously promoted to enable MSB financing in a more targeted and precise manner

As of end-2021, the issuance of ABCP has reached RMB 191.242 billion, of which RMB 145.659 billion was issued in 2021, up 219.55 percent year on year. Core enterprises in the supply chain and leasing companies were encouraged to issue ABCPs and shore up MSB financing in an indirect manner, in a bid to increase the volume, expand the coverage and lower prices for the fundraising of MSBs. With more than 2,000 MSBs having met their financing needs, the role of ABCP in serving financial inclusiveness was highlighted.

4.3.3.3 Debt financing instruments for high-growth enterprises were launched to support innovative enterprises

To actively implement the spirit of policies relating to sci-tech innovation in the 14th Five-Year Plan, in March 2021, the NAFMII launched the debt financing instrument for high-growth enterprises under the theme of sci-tech innovation (hereinafter referred to as high-growth bond). As of end-2021, 21 high-growth bonds totaling RMB 15.38 billion have been issued in the interbank market. A total of 15 out of the 19 issuers were private enterprises, representing 88.75 percent of the issuance volume and covering 10 sectors (integrated circuits, semiconductors, telecommunications, electrical equipment, engineering machinery, smart home, biology, medicine, chemical fiber manufacturing and energy) in 12 provinces or municipalities including Shanghai, Sichuan and Jiangsu. In 2021, under the framework of innovation and entrepreneurship bonds, the SSE and the SZSE piloted the issuance of sci-tech innovation bonds to further focus on the leading role of sci-tech innovation. Throughout the year, a total of RMB 16.66 billion of such bonds was issued with the support.

4.3.3.4 Debt financing plans served the real economy with better quality and greater efficiency

In 2021, 1,393 debt financing plans (totaling RMB 503.413 billion) were listed on the BFAE, serving the real economy in a more effective manner. First, financial inclusion continued to improve. During the year, 76 private enterprises received support with a total financing of RMB 64.621 billion, accounting for 12.84 percent of the total, an increase of 3.74 percentage points compared with 2020. Second, the BFAE launched the "supply chain debt financing plan". Over the year, the filing amount of shelf-registration issuance reached RMB 13 billion, involving 269 listed assets totaling RMB 143 million, benefiting thousands of MSBs along the industry chain, such as industrial e-commerce, electronics manufacturing, transportation, logistics and engineering construction.

4.3.4 Asset securitization products stepped up innovation

In 2021, many of the first innovative asset securitization products were launched. In the interbank market, the first two rural revitalization ABCPs were issued, one of which was the "2021 Puhui No.1 Asset-backed Notes (Rural Revitalization) of New Hope (Tianjin) Commercial Factoring (Phase I)" introduced in April. The underlying assets benefited about 2,000 individual farmers, herdsmen and dealers. In June, the "2021 Asset-backed Notes (High-growth Bonds) of Sunward Intelligent Equipment (Phase I)" was issued as the first "high-growth" ABN. In October, the "2021 Private Placement Green Asset-backed Notes (quasi-REITs) of State Power Investment Corporation Guangdong Electric Power (Phase I)" was issued as the first quasi-REITs product in the interbank market. In the exchange market, publicly traded infrastructure REITs were successfully issued and listed. The first batch included nine products listed in June 2021, and the whole year witnessed 11 listings, raising a total of RMB 36.413 billion. In addition, a number of innovative green ABS and intellectual property ABS were issued. In March, the "2021 Private Placement Green Asset-backed Notes of State Grid International Leasing (Phase I)" became the first carbon-neutrality asset-backed note, and the "Green Asset-backed Special Plan of Additional Price Subsidies of Renewable Energy of China Longyuan Power Group (Phase II)" became the first exchange carbon-neutrality ABS. In January, the "Intellectual Property (Human Capital) Asset-backed Special Plan of Yeda Zhirong-Yantai Development Zone" and "No.2 Intellectual Property Asset-backed Special Plan (Strategic Emerging Industries) of Futian District-Ping An Securities-Shenzhen High-tech Investment" were issued. The former was China's first human capital asset-backed special plan, and the latter was the first intellectual property ABS specifically for strategic emerging industries. In December, the "No.5 Intellectual Property Asset-backed Special Plan (Enterprises with Technical Know-how, Sophisticated Operation, Unique Products, and Innovative Abilities) of Baoan District-Ping An Securities-Shenzhen High-tech Investment" was issued as China's first intellectual property ABS specially in support of such enterprises.

4.3.5 Bond collaterals were more widely used

4.3.5.1 Multiple innovative monetary policy tools were introduced

In July 2021, in accordance with the *Notice of the General Administration Department of the People's Bank of China on the DVP Settlement of Standing Lending Facilities for Small and Medium-sized Financial Institutions* (Yinbanfa No. 63 [2021]), the CCDC encouraged small and medium-sized financial institutions to realize DVP settlement by participating in the Standing Lending Facility (SLF) business. This further improved the security and convenience of monetary policy operations and ensured that small and medium-sized financial institutions can secure short-term liquidity support smoothly. In December, the CCDC provided bond collateral management services for the PBC's first CERF and special central bank lending for the clean and efficient use of coal, supporting the development of key fields such as clean energy, energy conservation, environmental protection and carbon emission reduction technologies, contributing to peaking carbon emissions and achieving carbon neutrality.

4.3.5.2 Market-oriented products were continuously innovated and developed

In 2021, the SHCH diversified the market-based service scenarios of collateral management by first implementing collateral management businesses for interbank credit-granting and interbank deposit, helping improve the capability of commercial banks to manage interbank business risks. It was also the first in the entire market to provide collateral management for bonds as margins in bilaterally cleared OTC derivatives transactions, providing support for the steady development of the derivatives market. In 2021, the CCDC launched its general collateral management services, expanding the spectrum of bond collateral for financing transactions in the foreign money market, sponsoring RMB 247.6 billion of bond collateral for interbank credit-granting, collateral of deposits with agreement, and bond as margins in futures transactions, helping improve the risk management system in the financial market. At the same time, the CCDC also continuously strengthened product innovation and mechanism building, such as launching the foreign currency repo business and accepting treasury bonds as margins in futures trading in Shanghai International Energy Exchange (INE).

4.3.5.3 Breakthroughs were made in cross-border applications

In 2021, new breakthroughs were made in exploring the cross-border use of bond collateral. In international investment and financing and other fund management businesses conducted by the Ministry of

Finance (MOF), RMB bonds were used to support loan issuance from international financial organizations. Foreign central banks used domestic bond collateral to carry out currency swap business, and bonds with the participation of RMB Qualified Foreign Institutional Investors (RQFII) were first used as margins for futures transactions. As China's bond market became more mature, RMB-denominated bond assets have been increasingly recognized internationally. In March 2021, the CCDC and the International Swaps and Derivatives Association (ISDA) jointly issued a white paper entitled *Use of RMB-denominated Chinese Government Bonds as Margin for Derivatives Transactions*, bringing new ideas for the cross-border application of RMB-denominated bond assets.

4.4 Building of the bond market

4.4.1 Administration of the bond issuance market was further enhanced

4.4.1.1 Electronic underwriting and distribution services were introduced

Bond issuance in the primary market was further regulated. In June 2021, the CFETS issued the *Operating Rules on Underwriting and Distribution Transactions in the Local Money Market of the National Interbank Funding Center (for Trial Implementation)*, supporting underwriters to provide underwriting and distribution services for various types of bonds and offering standardized distribution vouchers. Based on centralized management and standardized electronic credentials throughout the process of bond underwriting and distribution, operational risks could be reduced with labor costs saved. In addition, the whole process was traceable for interim and ex-post monitoring. As of end-2021, 143 institutions have participated in underwriting and distribution businesses and completed a total of 2,145 bond subscriptions and distributions.

4.4.1.2 Quotation of underwriting services were further regulated to strengthen self-regulation of issuance businesses

To further encourage and safeguard fair competition in the market and regulate business operations of lead underwriters, in August 2021, the NAFMII issued the *Notice on Further Regulating the Quotation of Underwriting Services of Debt Financing Instruments*, clearly establishing a filing mechanism that requires underwriters of debt financing instruments to report their underwriting fee after unified issuance. The filing mechanism further improved the self-regulatory management framework of underwriting services in the interbank bond market, enhanced the awareness of self-regulation and compliance of market institutions in their underwriting businesses, and promoted fair and orderly competition in the market.

4.4.1.3 Institutions and mechanisms for the interbank corporate asset securitization market were improved

In January 2021, the NAFMII issued the *Guidelines on Due Diligence of Asset-backed*

Notes of Non-financial Enterprises (for Trial Implementation). During the trial period, the lead underwriter and the management institution of the special purpose vehicle (SPV) shall refer to the requirements of the *Guidelines* and conduct due diligence on institutions involved in the ABN to be registered and issued as well as the underlying assets. This is expected to effectively strengthen self-regulation of the market, cultivate sound market ecology, and promote sustainable and healthy development of the ABN market. In December, in line with the principle of remaining "standardized, transparent and regulated", the NAFMII released three reference texts, including the *ABCP Trust Contract (Reference Text) (2021 Edition)*, *ABCP Master Definition Table (Reference Text) (2021 Edition)* and *ABCP Prospectus (Reference Text) (2021 Edition)* for the reference of all market institutions, with an aim to promote high-standard and high-quality market development.

4.4.1.4 The registration-based system reform continued to advance in the exchange bond market

In May 2021, the SSE and the SZSE solicited public opinions on the *Rules on the Issuance and Listing Review of Corporate Bonds*, *Rules on the Issuance of Corporate Bonds*, *Rules on the Listed Transfer of Non-publicly Offered Corporate Bonds*, and *Measures for the Administration for Investor Suitability in the Bond Market*. The exposure drafts of relevant rules improved the supporting regulations for the registration-based corporate bond system. With respect to implementation standards and norms, they further reflected the characteristics of simple and friendly self-regulatory rules. Regarding the building of the corporate bond market, they focused on the endogenous mechanism of the market while giving full play to the role of self-regulation, and highlighted daily supervision and maintenance of the market order.

4.4.1.5 The system of supporting rules on publicly traded infrastructure REITs was continuously improved

In January 2021, in order to improve the system of supporting rules on publicly traded infrastructure REITs, in accordance with the overall deployment of the CSRC, the SSE and the SZSE formulated and issued three main business rules to ensure the orderly advancement of the pilot program. These include *Business Measures for Publicly Traded Infrastructure Real Estate Investment Trusts (REITs) (for Trial Implementation)*, the *Guidelines No. 1 for the Application of Rules on Publicly Traded Infrastructure Real Estate Investment Trusts (REITs) – Review Concerns (for Trial Implementation)*, and the *Guidelines No. 2 for the Application of Rules on Publicly Traded Infrastructure Real Estate Investment Trusts (REITs) – Offering Business (for Trial Implementation)*. The above three rules mainly defined business procedures, review standards and offering process of publicly traded infrastructure REITs, marking phased progress of the exchange market in advancing the pilot. In June, in order to regulate existing businesses of publicly offered infrastructure securities investment funds, and facilitate relevant business operations by fund managers and other market participants, the SSE and the SZSE formulated and published guidance for their duration management, clarified relevant arrangements such as trading mechanism, financing business and information disclosure.

4.4.1.6 Local government bonds were issued in the OTC market nationwide

According to the requirements specified in the *Notice on Further Improving the OTC Issuance of Local Government Bonds* (Caiku [2020] No.49) released by the MOF, in 2021, the CCDC encouraged 36 local governments to issue 48 bonds over the counter, totaling RMB 21.299 billion. Small and medium-sized institutions and individual investors accounted for 45 percent and 55 percent of the subscriptions respectively, showing increased diversification of investors in local government bonds. Local governments actively explored issuing themed or special bonds in the OTC market, mainly raising funds for transportation infrastructure, ecological and environmental protection, healthcare, agriculture, forestry and water conservancy. These efforts strongly boosted the local people's livelihood and municipal development, stimulated social investment, and attracted people to participate in local development and share the fruits of reform and development.

4.4.1.7 The term structure of local government bonds was continuously optimized

According to relevant provisions in the *Opinions on Further Improving Local Government Bond Issuance* (Caiku [2020] No.36) released by the MOF, in 2021, the term structure of local government bonds was continuously optimized, with the share of ultra-long-term local government bonds dropped. The weighted average maturity was 11.95 years, 2.7 years shorter than that of 2020 (14.65 years). Among them, the weighted average maturity of newly issued bonds and refinancing bonds were 14.56 years and 8.3 years, 0.88 years and 4.44 years shorter than that of 2020 respectively. Issuance of ultra-long-term bonds with maturities of more than 10 years reported RMB 4.64 trillion, accounting for about 62 percent of the total, down nearly 15 percentage points from 2020. At the same time, the CCDC conducted cost and risk measurements on 37 local government bond issuers, and designed an optimal term structure plan to make the maturity arrangements more scientific. This helped avoid excessive financial pressure caused by mass interest payments in a short period, and promoted long-term and stable financing of local governments.

4.4.2 Bond trading market administration continued to improve

4.4.2.1 New regulations on market-making operations were officially implemented

In January 2021, following the guidelines of the State Council on canceling the administrative licensing permits for bilateral market makers and the PBC Announcement [2020] No. 21, the NAFMII released the *Self-regulatory Guidelines for Cash Bond Market Making Operations in the Interbank Bond Market* and the *Assessment Indicators for Market Making Operations in the Interbank Bond Market*, which have been put into practice since April 1st, 2021. The

Self-regulatory Guidelines emphasizes the industry's self-regulation and the *Assessment Indicators* highlights the orientation by market demands. The release of these two documents strengthened the interim and ex-post management of market making, thus was conducive to the high-quality development of the business under a new management mode. After the CFETS released the *Operating Guidelines of National Interbank Funding Center for Cash Bond Market Making in the Interbank Bond Market* at end-2020, the previous regulations were turned into new ones and another ten market makers were registered. Meanwhile, the CFETS further upgraded its trading system to improve the functions of electronic trading infrastructure, with newly added compliance monitoring over market making quotation, thus supporting market makers to practice the business efficiently. In the exchange market, the SSE and the SZSE solicited opinions for the *Guidelines No. 3 for Bond Trading Business: Bond Market Making* in April 2021, planning to establish market-making policies for exchange market bonds and thus improving the liquidity in the secondary market of bonds.

4.4.2.2 The services for bond trading and circulation became easier

In April 2021, the PBC Announcement [2021] No.4 was released to adjust the measures concerning the administration of bond trading and circulation in the interbank bond market, requiring the CCDC and the SHCH to directly connect their systems with the NIFC and electronically transmit information of bond trading and circulation within the day of bond registration. Upon receiving complete information, the NIFC should be prepared for related services in a working day according to the *Announcement*'s requirements.

4.4.2.3 Underlying bonds for market-making were expanded

To implement the guidelines of the CPC Central Committee on "improving the yield curve of treasury bonds that reflects market supply-demand relations", in 2021, the underlying bonds for market-making in the bond market were further expanded to increase the liquidity of treasury bonds in the secondary market, and facilitate the coordinated development of primary and secondary markets. In 2021, supporting services for the market making of CDB bonds initiated the first selling operations to meet overseas demands; and the supporting services for EximBank bonds were launched, conducting the first operation in June, and starting normal operations since November. These effectively improved the vitality of existing bonds.

4.4.2.4 Rules on exchange-based bond trading were continuously optimized

In April 2021, the SSE solicited public comments for the *Implementation Rules of Shanghai Stock Exchanges on Bond Trading* and three supporting guidelines. These draft documents, following the development trend of the bond market and demonstrating the features of bond trading that is dominated by institutional investors with low frequency in large amount, aimed to build an independent system of bond trading rules that fits the bond market characteristics. In the same month, the SZSE solicited public comments for the *Implementation Rules of Shenzhen Stock Exchanges on Bond Trading* and three supporting guidelines. The *Rules* and supporting guidelines optimized the arrangements for bond trading on the SZSE in a multi-layered and comprehensive way, with the scope of participants expanded and the bond trading participant system set up, so as to enrich trading arrangements, regulate the reporting factors and optimize the risk management mechanism.

4.4.2.5 Steps were taken to advance the separation of stock and bond services in the exchanges' bond trading system

In December 2021, the centralized price bidding platform for new bonds on the SSE was launched, migrating the cash bond bidding and pledged repo trading from the previous bid matching platform to the new one. In the early stage, non-trading bond business was migrated to the comprehensive business platform in May and the block trading of bond was transferred to the fixed income platform in October, after which the business operations kept stable. So far, the SSE has separated the stock and bond trading systems, where the centralized price bidding, agreement-based trading, pledged repo and other SSE bond businesses are operated in the new bond trading system independently, separating from the stock one. The SZSE released the notice on making technical preparation for implementing the bond trading rules, and planned for the stock-bond system separation reform.

4.4.2.6 Norms of the use of instant messengers for interbank market trading were released

In December 2021, to strengthen regulation over trading behaviors, the NAFMII released the *Notice on Regulating the Use of Instant Messengers for Interbank Market Trading* (NAFMII [2021] No. 222). Learning from both international and domestic market systems, and focusing on the trading communication and bidding sessions, the *Notice* required market entities to engage in bond and derivatives trading in a regulated way with the use of instant messengers with functions of real-name registration, authority management, information logs and record saving, and raised requirements on the institution and individual's use of such messengers, especially the group chats. It set a one-year transition period to guide market entities to regulate their behaviors in an orderly manner. Meanwhile, it was specified that operators of the messaging services for the interbank market should be subject to self-regulation. The *Notice* aimed to address the irregularities emerging from the use of personal communication tools in trading, which concerned the daily trading of all participants in the secondary market and was conducive to maintaining the order of interbank market trading.

4.4.3 Duration management in the bond market continued to be enhanced

4.4.3.1 Performance management over the funds for local government special bond projects was reinforced

In June 2021, the MOF released the *Measures* *for the Performance Management of Funds for Local Government Special Bond Projects*, which required the localities to manage the full lifecycle performance of special bond funds, through ex-ante performance appraisal, performance goal management, performance operation monitoring, performance evaluation management and application of evaluation results, in line with the principles of "managing performance in a scientific, regulated, open and transparent way through collaboration and strengthened application of results" . It was specified in the *Measures* that , in the principle of ensuring the unity of subjects in evaluation and follow-up treatment, the MOF should take the performance evaluation results and spot check results into consideration when allocating the debt quotas for additional local government special debts; the provincial fiscal departments should adopt the spot check results and key performance evaluation results for the allocation of special debt quotas; and local fiscal authorities should take the performance evaluation results as the factor for adjusting special bond quotas in the construction period and for fiscal subsidy allocation during the operational period. The *Measures* aimed to enable relevant authorities and project participants to fulfill their respective responsibilities, improve the allocation efficiency and usage efficacy of the funds raised through bonds, and forestall risks of local government debts.

4.4.3.2 Duration management of corporate credit bonds was further enhanced

In March 2021, the State-owned Assets Supervision and Administration Commission (SASAC) of the State Council published the *Guiding Opinions on Strengthening the Debt Risk Management of Local State-owned Enterprises*, requiring the building of a full lifecycle management mechanism of bonds. In April, the NAFMII released the *Guidance on Duration Risk Management of Non-financial Corporate Debt Financing Instruments in the Interbank Bond Market*, further specifying the credit risk management of such instruments. In December, the National Development and Reform Commission (NDRC) published the *Notice on Implementing Risk Identification of Principal and Interest Payment and Duration Supervision of Corporate Bonds 2022* (NDRC Caijin [2021] No. 1035) that required related departments to inspect and examine the issued corporate bonds, enhance duration supervision, and hold principal underwriters and other intermediaries accountable.

COLUMN Coordinate the high-quality development of corporate credit bond market

Corporate credit bond market, as an important channel for the businesses to raise funds directly, has played a significant role in serving the real economy, optimizing resource allocation and supporting macro regulation. In August 2021, the PBC, the NDRC, the MOF, China Banking *and Insurance Regulatory Commission (CBIRC), the CSRC and the State Administration of Foreign Exchange (SAFE) jointly released the Guiding Opinions on Advancing the Reform, Opening-up and High-quality Development of the Corporate Credit Bond Market to earnestly implement the guidelines of the Fifth Plenary Session of the 19th CPC Central Committee and the Central Economic Work Conference, improve the legal system of the bond market, and build a multi-tiered bond market system that features robust regulation, orderly competition, transparency and openness.*

Consisting of 32 articles in 12 chapters, the Opinions offered guidance in ten aspects, i.e., improving the legal system, promoting category-based convergence in the management of bond issuance and trading, enhancing the effectiveness of information disclosure, tightening regulation over credit rating agencies, strengthening investor suitability management, improving the pricing mechanism, enhancing regulation and joint law enforcement, coordinating macro management, advancing the building of a multi-tiered market, and promoting opening-up at a higher level.

As a joint effort of multiple authorities to coordinate the reform, opening-up and high-quality development of the corporate credit bond market, the Opinions improved the top-level design for the bond market, enabled the free intermarket flow of capital and other factors, and boosted market operation efficiency, with a view to providing more convenient services of higher quality for the real economy's financing in the bond market, thus driving up the proportion of the direct financing and facilitating the new development paradigm with domestic circulation as the mainstay and domestic and international circulations reinforcing each other.

Upon its release, according to the overall spirit, all parties in the bond market have pushed ahead with their own tasks for the sustained and sound development of the corporate credit bond market, so as to foster a multi-tiered bond market system that features robust regulation, transparency and openness.

4.4.4 The information disclosure system in the bond market was enhanced

At end-2020, the PBC, the NDRC and the CSRC jointly released the *Measures for the Administration for Information Disclosure of Corporate Credit Bonds (hereinafter referred to as the Measures for the Administration)* which came into forces as of May 1st, 2021. In 2021, the NAFMII, the SSE, the SZSE and the CCDC introduced their own provisions to implement the *Measures for the Administration* respectively.

4.4.4.1 NAFMII modified information disclosure rules and the system of registration documents and forms

To implement the *Measures for the Administration* respectively and supporting policies, regulate the information disclosure of issuers of non-financial corporate debt financing instruments and other entities, and enhance the transparency of bond market investor protection, in March 2021, the NAFMII revised and released the *Information Disclosure Rules on Non-financial Corporate Debt Financing Instruments in Interbank Market (2021)* and the *System of Registration Documents and Forms for Non-financial Corporate Debt Financing Instruments in Interbank Market (2021)*. It modified the disclosure requirements on the issuance and duration period of debt financing instruments issued by non-financial institutions. The revision aimed to achieve the following goals. The first was to strengthen accountability of the entities and individuals who are responsible for the information disclosure, regulate the successors, and optimize the internal control mechanism, where controlling shareholders and actual controllers are obliged to cooperate on the disclosure and those who commit information disclosure violations should be held accountable. The second was to refine and specify details on the disclosure of non-financial information. The standards for major issue disclosure should be adjusted to the changes in market situations and regulatory policies, and more information is required for matters such as free transfer and asset restructuring, so as to curb debt evasion through correlation. The third was to regulate information disclosure requirements on default disposal and the mechanism of investor protection, and set up differentiated disclosure requirements for bankrupt enterprises to reduce the cost of bankruptcy. Moreover, the fourth was to strengthen regulatory restrictions on private placement products and allow these products to have agreement on the frequency of regular reports and the types of major reporting matters, so as to improve the products' flexibility.

4.4.4.2 Exchange market continued to improve the information disclosure mechanism

In 2021, the SSE and the SZSE solicited public opinions on the drafted and modified the *Rules on the Issuance and Listing Review of Corporate Bonds*, the *Rules on the Issuance of Corporate Bonds*, the *Rules on the Listing (Transfer) of Non-publicly Offered Corporate Bonds*, and the *Measures for the Administration for Investor Suitability in the Bond Market* respectively and released rules concerning the disclosure of corporate bond information, for example, the *Guidelines No. 1 of Shanghai Stock Exchange for Application of Self-regulatory Rules on Corporate Bonds – Continuous Information Disclosure of Corporate Bonds (hereinafter referred to as the Continuous Information Disclosure Guidelines)*.

The *Rules on the Issuance and Listing Review of Corporate Bonds* focused on regulating and specifying the content of review for bond issuance, and highlighted the self-regulatory requirements, supervision and restrictions on issuance review, which helped improve the review mechanism and make the review more transparent. The amended *Rules on the Issuance of Corporate Bonds* and *Rules on the Listings (Transfer) of Non-publicly Offered Corporate Bonds* further optimized related arrangements on the listing, delisting and transfer of corporate bonds, and improved the institutional guarantee with a focus on strengthening information disclosure requirements, consolidating the accountability of professional institutions and enhancing the self-regulation of exchanges, all conducive to the stable and healthy development of the registration-based exchange bond market. The revised *Measures for the Administration of Investor Suitability in the Bond Market* mainly refined the standards of investors, and added provisions on the suitability of new business investors while strengthening corresponding responsibilities of securities institutions, indicating stronger investor protection. The *Continuous Information Disclosure Guidelines* was the first to propose self-regulatory standards on the content and format of regular reports at the exchange level, which identified the basic principles and requirements on information disclosure, guided the entities to disclose more on solvency analysis, and further clarified the disclosure standards for major matters.

4.4.4.3 Information disclosure management of enterprise bonds continued to be optimized

To further implement the *Measures for the Administration*, the CCDC and the NAFMII jointly released the *Notice on Information Disclosure of Enterprise Bonds* in April 2021, which specified that new applicants should draft their application documents in accordance with the *Measures for the Administration* from May 1st, 2021.

4.4.4.4 Full lifecycle information disclosure system of local government bonds further improved

In 2021, the MOF further enhanced the information disclosure management of local government bonds to continuously improve the disclosure system. As required by the MOF, the information disclosure template system for additional local government special bond projects built by the CCDC was officially launched. Combining the functions of template generation, statistics, information collection, and inquiry by continuously optimizing the templates, the system has enabled more efficient and regulated information reporting and disclosure to a great extent. Meanwhile, the CCDC launched the disclosure portal for local government bonds, which showcased the basic conditions of the issuance of local government bonds across China in a visualized form of Chinese map, and redesigned the sub-tags of disclosure documents to categorize and display them in a scientific, centralized, clear and traceable way, making the interface more friendly and satisfying the investors' demands for information acquisition.

4.4.5 Efforts were made to drive the high-quality development of the credit rating industry

4.4.5.1 Compulsory credit rating for corporate bonds was canceled

In February 2021, the CSRC released the amended *Measures for the Administration of Issuance and Trading of Corporate Bonds* and the *Measures for the Administration for the Credit Rating Business in the Securities Market*. The former canceled the compulsory rating requirements on publicly offered corporate bonds and the rules stipulating that ordinary investors can only subscribe for AAA-rated bonds, while the latter canceled the compulsory rating requirements for registration. In March, the NAFMII released the *Notice on Arrangements of Canceling Compulsory Rating of Debt Financing Instruments*, which further removed the compulsory disclosure of the bond's rating during the issuance, apart from the cancellation of mandatory credit rating report in the registration and application of debt financing instruments, and only kept the requirement on disclosing the enterprise's rating. In August, the PBC, the NDRC, the MOF, the CBIRC and the CSRC jointly issued the *Notice on Promoting the Sound Development of the Credit Rating Industry in the Bond Market*, lowering the regulatory requirements on external rating, followed by the PBC Announcement [2021] No. 11 which piloted the cancellation of the credit rating requirements in the issuance of debt financing instruments issued by non-financial enterprises.

4.4.5.2 Credit rating management of local government bonds was further regulated

To advance the sound development of the local government bond market, and further regulate the credit rating management of local government bonds, in January 2021, the MOF released the *Interim Measures for the Administration of Credit Rating of Local Government Bonds* (Caiku [2021] No. 8), regulating the matter from multiple dimensions including market order, business procedure and industry regulation, etc. It pointed out that local fiscal authorities, when choosing credit rating agencies (CRAs), should guide them to set reasonable standards of credit rating charges .The CRAs are forbidden from disturbing the market order through such means as malignant price war or competing by offering favorable rating levels. The CRAs should present objective and impartial rating opinions based on the features of general bonds and special bonds, and the results should reasonably reflect the difference between projects. The CRAs of local government bonds should abide by corresponding self-regulatory rules and be subject to self-regulation. The MOF will work with other regulators to improve the reward and penalty mechanism for acts of good or bad faith and promote the coordinated regulation mechanism for the credit rating of local government bonds.

4.4.6 Risk prevention and bond default disposal mechanisms were improved

4.4.6.1 Emphasis was placed on forestalling and defusing ex-ante and interim risks, and strengthening duration risk management

In April 2021, the NAFMII released the *Guidelines for Duration Risk Management of Debt Financing Instruments of Non-financial Enterprises in the Interbank Bond Market* to guide duration management institutions to take the initiative to carry out such duration risk management. The *Guidelines* raised detailed requirements on categorized management, credit risk monitoring, risk screening and pressure test over duration management institutions. At the same time, the NAFMII published two appendices to the *Guidelines*, namely the *Referential Factors for the Categorization of Enterprises in the Pool of Concern*, and the *Risk Monitoring and Disposal Records*, offering reference for duration management institutions to set standards for the categorization of enterprises of concern, for them to establish their own records for risk and default disposal, and for them to make surveys on the funding arrangements for solvency. The *Guidelines* helped regulate the credit risk management of existing debt financing instruments of non-financial enterprises in the interbank bond market, and fortified risk prevention in the bond market. In December 2021, the NDRC released the *Notice on Carrying out Works Concerning the Risk Screening of Principal and Interest Payment and Duration Regulation of Enterprise Bonds 2022*, requiring relevant parties to conduct comprehensive risk screening over issued enterprise bonds and deliver solid results out of risk monitoring, analysis and early warning.

4.4.6.2 More approaches were developed for bond default and risk disposal

In March 2021, the SHCH released the *Guidelines of the Shanghai Clearing House for Bond Default and Risk Disposal (for Trial Implementation)*. The *Guidelines* introduced new disposal approaches, such as changing the core information of registration, writing off bonds after repaying principal and interest in other means, withdrawing the declaration for exercising repurchases, and writing off bonds upon the issuer's bankruptcy. Together with the previous settlement services for default bonds upon maturity and pilot bond replacement and cash tender offer business, they can provide market institutions with a diversified and alternative risk prevention and disposal toolkit, with disposal procedures further regulated and the efficiency improved. The SHCH also launched the auto-settlement service for default bonds upon maturity and issued the *Notice on Exempting from Signing "the Commitment Letter on Businesses Concerning the Transfer and Settlement of Default Bonds upon Maturity"*, helping improve the market-based pricing and valuation system of such bonds.

4.4.7 Institutional building for green bonds and sustainability bonds was pushed ahead

4.4.7.1 Green bond catalogue was unified

In April 2021, the PBC, the NDRC and the CSRC jointly released the *Green Bond Endorsed Projects Catalogue (2021 Edition)*, which was officially implemented from July 1st. The *Catalogue* unified the criteria for defining green projects among regulatory authorities of green bonds for the first time, effectively reduced the costs of green bond issuance, trading and management, and elevated the pricing efficiency of the green bond market. It excluded the projects of clean use of fossil fuels such as coal which have high carbon emissions, and basically aligned its Level-II and Level-III Categories with those of the world's mainstream taxonomy of green assets, facilitating the alignment of China's green bond market with the international market. It also included categories of green industries that are key areas for the nation's development in the new era, such as green agriculture and green architecture, driving the green and low-carbon transformation and development of China. Moreover, the Level-IV Categories remain basically consistent with the Level-III Categories of the *Directive Catalogue for Green Industries* (*2019 Edition*), making operations more convenient, which is conducive to the transition of existing green bonds. The introduction of the *Catalogue* further regulated the development of domestic green bond market and facilitated the expansion of the market.

4.4.7.2 Commercial banks were guided to invest in green bonds

In June 2021, the PBC released the *Green Finance Assessment Program for Banking Institutions* and set to implement the *Program* from July 1st. The *Program* further expanded the coverage of the commercial banks' evaluation businesses from green loans to green loans and bonds, while reserving room for green equity investment, leasing, trust and wealth management. It helped to continuously guide banking institutions to invest in green bonds, promote the building of a green bond incentive mechanism and create new drivers for the development of the green bond market. Meanwhile, it would further increase the investment demands of relevant institutions to green bonds and motivate market institutions to invest more in green bonds.

4.4.7.3 Green bond certification became regulated

In September 2021, as approved by the PBC and other regulators, the Green Bond Standard Board (GBSB) released the No. 1 Announcement, namely the *Announcement of Operation Rules on Market-based Certification of Green Bond Certification Agencies (for Trial Implementation) and Supporting Documents*, to improve the quality of the certification in concern. In December, upon reporting to and approval by the PBC and other regulators, *China's Green Bond Principles* reviewed by the GBSB was officially launched, which facilitated the unification of domestic standards and the alignment with international standards.

4.5 Opening-up of the bond market

4.5.1 Opening-up policies were continuously improved

4.5.1.1 The business of Southbound Trading was launched

In September 2021, the Southbound Trading under mutual bond market access between the Chinese mainland and Hong Kong (hereinafter referred to as Southbound Bond Connect) was launched. It is an arrangement that enables institutional investors of the Chinese mainland to invest in the Hong Kong bond market through connection between the financial infrastructure service providers of the Chinese mainland and Hong Kong. Southbound Bond Connect is an important measure of the central government to support the development of Hong Kong and deepen the cooperation between the Chinese mainland and Hong Kong, fully demonstrating the central government's emphasis on consolidating and enhancing Hong Kong's status as an international financial center, and its confidence in and resolution of supporting the long-term prosperity, stability and development of Hong Kong. It is conducive to consolidating Hong Kong's status as a gateway and hub linking the Chinese mainland and global markets, integrating Hong Kong into the big picture of national development, and improving the institutional arrangements of the two-way opening-up of China's bond market. On the first trading day of Southbound Bond Connect, over 40 Chinese mainland institutional investors conducted more than 150 transactions with 11 Hong Kong market makers, with the turnovers amounting to approximately RMB 4 billion and covering major bond categories on the Hong Kong market.

4.5.1.2 Registration entity of overseas institutions was adjusted to be the legal person

In March 2021, the PBC Shanghai Head Office issued a notice to change the registration entity of overseas institutions from products to legal persons, which further streamlined registration formalities and hugely improved the efficiency of market access. As of end-2021, 250 overseas institutions have registered under the new mode.

4.5.2 The level of openness continued to increase

4.5.2.1 Overseas institutions were increasingly engaged in the interbank market

As of end-2021, 1,016 overseas institutional entities have entered the interbank bond market, an increase of 111 from the end of the previous year. Among them, 507 entered the market through direct investment, 728 through the Bond Connect and 219 through both means. The outstanding bond custody volume of overseas institutions in China's bond market reached RMB 4.1 trillion, accounting for 3.1 percent of the total, of which outstanding custody of overseas institutions in the interbank bond market totaled RMB 4.0 trillion. Overseas institutions became more active in trading, achieving an annual cash bond trading of RMB 11.6 trillion, up 25.4 percent year on year and accounting for 2.7 percent of the total cash bond trading in China.

4.5.2.2 Panda Bond market was more developed

In 2021, the policies and rules of the Panda Bond market continued to improve with a system consisting of "two guidelines, one provisions, one form and one Q&A" . On such basis, the market scale grew steadily. At end-2021, the existing Panda Bonds in China's bond market amounted to RMB 199.31 billion, and the issued Panda Bonds totaled RMB 545.75 billion. In 2021, the ADB issued Panda Bond in the interbank bond market, and its last issuance was 12 years ago. There were more and more high-quality issuers. At the same time, the Panda Bond market kept innovating. In the interbank market, the first non-financial corporate sustainability bond of the international development organizations' SDG bonds, and the foreign governments' green Panda Bonds were launched. In addition, the first batch of Panda Bonds under the DFI registration mode which enables multiple types of debt securities to be registered at the same time was issued, and the piloted Panda Bond got listed in Chongwa (Macao) Financial Asset Exchange Co., Ltd.

COLUMN Social bonds and sustainability bonds were piloted in the Panda Bond market

To implement the guidelines of the CPC Central Committee and the State Council on "promoting high-quality development" and "implementing the UN 2030 Agenda for Sustainable Development", under the guidance of the PBC, the NAFMII released the Q&A on Piloting Social Bond and Sustainability Bond Businesses in November 2021, which introduced the two bonds and piloted the businesses for overseas issuers.

Internationally, the bonds themed on sustainability include green bonds, social bonds and sustainability bonds, collectively known as GSS bonds. Social bonds are those that raise funds exclusively for social responsibility projects, and sustainability bonds are those offering funds for green projects and social responsibility projects. This pilot filled the gap of China's social and sustainability bonds. The Q&A clarified the "four pillars" of these bonds. First, the funds raised should all be used for eligible social responsibility projects (funds raised through sustainability bonds should be used for social responsibility projects and green projects). Second, the issuers should establish and disclose the criteria and procedures of selecting social responsibility projects. Third, the issuers should ensure that the funds are exclusively used for eligible projects and encourage the set-up of regulatory accounts. Fourth, regarding disclosure, the use of funds and relevant information about social responsibility projects should be disclosed annually prior to the maturity of bonds. It also encouraged that the issuers employ external evaluation institutions for bond certification before issuance and in the duration.

In November 2021, the Far East Horizon Limited issued the first sustainability bond in China's bond market, raising funds for projects of sewage treatment, intelligent bus, new energy vehicle purchase and healthy aged care, releasing remarkable environmental and social benefits.

4.5.2.3 Chinese T-bond was officially included in FTSE Russell index

In October 2021, the Chinese government bonds were included in World Government Bond Index (WGBI) of FTSE Russell, which would be completed in 36 months step by step. Before that, Chinese bonds had been included in Bloomberg Barclay Global Aggregate Index, and J.P. Morgan's Government Bond Index-Emerging Markets (GBI-EM). So far, the three major bond indices have all included Chinese bonds, reflecting the confidence of international investors in the long-term sound development of Chinese economy and the further opening-up of the financial sector.

4.5.2.4 Chinese local government bond was first issued overseas

In October 2021, the Guangdong Provincial Government and Shenzhen Municipal Government issued offshore RMB local government bonds in Macao and Hong Kong respectively. Guangdong Province issued RMB 2.2 billion worth of bonds, all general bonds of a 3-year maturity; and Shenzhen issued RMB 5 billion worth of bonds, with the variety covering 2-year general bonds, as well as 3-year and 5-year special bonds, including green bonds. These bonds were actively subscribed by overseas institutions from Hong Kong and Macao, and the funds raised would be used for projects of national key support, such as education, science and technology, and agriculture. The issuance of first-batch offshore local government bonds opened up new channels for local governments to issue bonds for fundraising, which carried great significance for supporting the development of Guangdong-Hong Kong-Macao Greater Bay Area, the building of the new development paradigm, as well as the advancement of RMB internationalization.

COLUMN MarketAxess became the third overseas trading platform

In September 2021, to further facilitate the overseas institutions' investment in the interbank bond market and expand trading channels for them, under the guidance of the PBC, the CFETS incorporated MarketAxess as an overseas third-party trading platform to support both direct trading services and the Bond Connect scheme.

MarketAxess, a world leading fixed income electronic trading platform, now serving as the third overseas trading platform, enables overseas investors to conduct request for quotation (RFQ) trading with domestic market makers through the CFETS, and supports the international payment mode for the Bond Connect scheme.

Since 2017, the CFETS has introduced three overseas platforms for the Bond Connect scheme and direct trading services, namely the Tradeweb, Bloomberg and MarketAxess, to support overseas investors to directly trade with domestic market makers in the CFETS system by log onto overseas platforms. This served to make it remarkably easier for overseas institutions to trade, satisfied their demands for RMB bond investment, and promoted the high-quality opening-up of the interbank bond market.

4.6 Outlook of the bond market

In 2022, the Chinese bond market will further strengthen its institutional mechanism as well as product innovation to continuously improve the quality and efficiency of the bond market in serving the real economy, and continue to open up and develop based on market-oriented, law-based and internationalized principles. First of all, it will accelerate the legal system building and continuously optimize the institutional environment of the bond market. Second, it will further regulate development, and firmly forestall and diffuse default risks in the bond market. Third, it will step up efforts in product innovation, and give full play to the supporting role of the bond market to the real economy, especially the green and low-carbon development, sci-tech innovations, private businesses and MSBs. Fourth, in order to facility the domestic and overseas investors, it will pay more attention to promote the interconnectivity of domestic and overseas bond markets at home and abroad, to offer continuous convenience for the domestic and overseas investors. Fifth, it will continue to polish the bond market policies for high-level opening-up.

BOX 3 Reform the market maker system reform for higher- quality development of the bond market

In 2021, guided by the PBC, the CFETS continued to implement the market maker system reform in the interbank bond market, offering services and convenience for the market making business. First, the new regulations on market making were put into use with a stable transition secured. Following the arrangements of the PBC on "reforming the market maker system in a market-oriented way", the CFETS drafted and released operating guidelines and organized 83 existing market makers and 10 new market makers to engage in communications and sign the market-making agreement. The CFETS also provided them with business guidance and ensured timely monitoring of their operations. Second, with stronger publicity across the market, efforts were made to increase the willingness of market makers to make independent quotation, improve the ability of pricing bonds, and guide financial institutions to conclude trading directly through the electronic platform. Third, the CFETS further improved the trading system and vigorously supported market makers to make automated quotation through APIs, so as to push ahead with the orderly development of automated businesses.

Since the reform, the market has witnessed remarkably more active quotations for market making, with a huge increase in market making transactions. In 2021, there were 38.28 million quotations for market making, nearly fivefold of last year. On a daily average, 4,698 bonds were under quotation for various types of bonds including treasury bonds, policy bank bonds, local government bonds, general financial bonds issued by commercial banks and corporate debenture bonds. This served to enhance the price discovery capability of multiple types of bonds. In terms of pricing spreads, the two-way quotation spreads for all types of bonds were notably narrowed, where the spreads for interest rate bonds and corporate debenture bonds in Q4 went down by 13 bps and 39 bps respectively compared with the level before the reform, and that for active bonds maintained within the range of 0.5 bps. In terms of market making transactions, 3,511 transactions were concluded on a daily average, up 104 percent year on year, with a daily volume of RMB 92.5 billion, up 1 percent year on year.

Chapter 5 Stock Market

In 2021, the stock market pursued progress while ensuring stability, securing new achievements in serving high-quality development and the building of the new development paradigm. The functions of the stock market were effectively leveraged, the financing scale hit a record high, and the factors of sci-tech innovation aggregated. The capability of the market to support the real economy was improved in terms of both quantity and quality, and its reform was comprehensively deepened in all aspects. The conditions for the overall implementation of the registration-based IPO system were gradually in place. The quality of listed companies was effectively enhanced and substantial improvement was made in investment-side reform and high-quality development of the industry. The two-way opening-up of the stock market was steadily advanced, the market structure was increasingly improved, and the vitality and resilience of the market were significantly enhanced. Risks of various types contracted and remained under control.

5.1 Performance of the stock market

5.1.1 Share issuance and financing

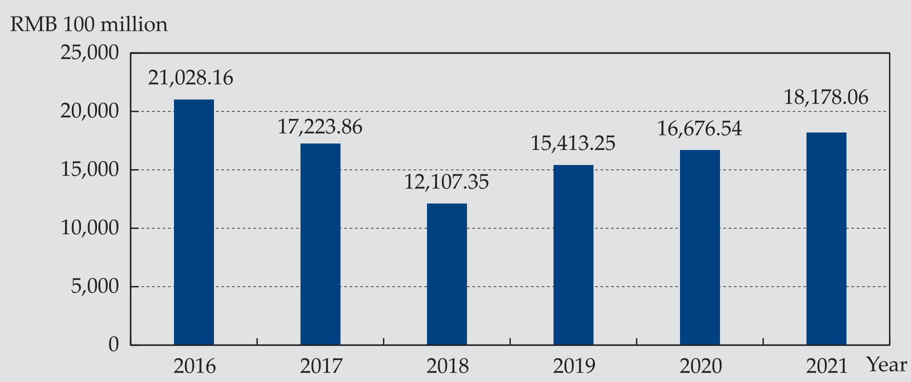
In 2021, both the total number of companies raised funds and their total financing volume on the SSE and the SZSE increased[①]. A total of 1,212 companies raised funds on the SSE and the SZSE through IPO, additional shares issuance, share allotment, convertible bond issuance and exchangeable bond issuance, up 17.56 percent year on year, with a total financing volume of RMB 1,817.806 billion, up 9.00 percent from RMB 1,667.654 billion in 2020. The volume of funds raised through IPO saw a big rise. Among these companies, 481 raised funds through IPO, up 21.46 percent year on year, and the total financing volume of IPO stood at RMB 535.144 billion, up 13.87 percent year on year. A total of 520 companies issued additional shares, up 43.65 percent year on year, and the volume was RMB 908.259 billion, up 8.89 percent year on year.

In 2021, no preferred stocks were issued, and share allotment and the issuance of convertible bonds and exchangeable bonds decreased. In 2021, none of the listed companies issued

① The data in Chapter 5 comes from Wind Info.

preferred stocks, while in 2020, eight listed companies issued preferred stocks. A total of seven companies completed share allotment, a sharp drop from 18 in 2020, involving a volume of RMB 49.335 billion, a decrease of 3.82 percent from the previous year. A total of 127 listed companies issued convertible bonds, down 38.35 percent year on year, with a volume of RMB 247.385 billion, a slight decline from RMB 247.525 billion in 2020. A total of 34 listed companies issued exchangeable bonds, down 17.07 percent year on year, with a volume of RMB 43.152 billion, down 6.19 percent.

Figure 5.1 Total financing volume on the SSE and the SZSE from 2016 to 2021



(Source: Wind)

5.1.2 Stock trading and holding

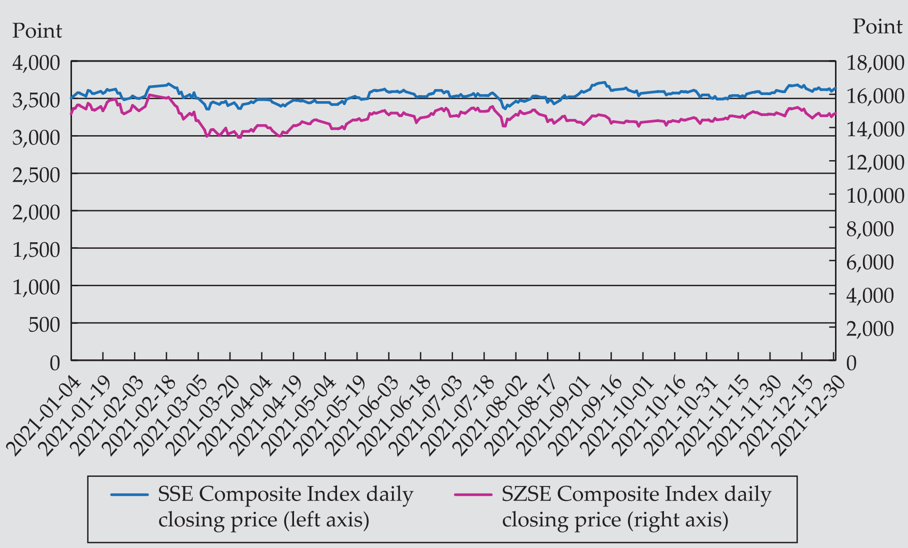
Throughout the year, turnover of A-shares on the SSE and the SZSE totaled RMB 257.97 trillion, up 24.72 percent year on year, including RMB 103.46 trillion from SSE Main Board, up 33.65 percent year on year, RMB 10.54 trillion from SSE STAR Market, with an average daily turnover of RMB 43.384 billion, RMB 89.64 trillion from SZSE Main Board, up 17.68 percent year on year, and RMB 54.33 trillion from SZSE ChiNext Board, up 16.41 percent year on year. In 2021, the trading volume of institutional investors accounted for 36.47 percent on the SSE, an increase of 8 percentage points from 2020, while that of individual investors accounted for 63.53 percent, down 8 percentage points from 2020. On the SZSE, the trading volume of institutional investors accounted for 33.55 percent, an increase of 7 percentage points from 2020, while that of individual investors accounted for 66.45 percent, a slight decline from 2020.

At end-2021, the foreign shareholding ratio dropped slightly from 4.69 percent at the end of 2020 to 4.55 percent, while the market value of shares held by domestic institutions accounted for 17.87 percent, up from 16.42 percent, and the market value of shares held by individual investors accounted for 24.48 percent, up from 22.93 percent. The negotiable market value of A-shares owned by institutional investors in the SZSE market stood at RMB 20.18 trillion, accounting for 58.26 percent, whereas the market value of shares held by individual investors in the SZSE market was RMB 14.46 trillion, accounting for 41.74 percent.

5.1.3 Stock indices and market fluctuations

In 2021, the stock market witnessed a year of sound operations, and major SSE and SZSE indices saw a steady rise. In particular, the SSE Composite Index, the SZSE Component Index, and the ChiNext Board Index have all gone up for three consecutive years, rising by 4.80 percent, 2.67 percent and 12.02 percent respectively in the year.

Figure 5.2 Movements of SSE and SZSE Main Board Indices in 2021



(Source: Wind)

In 2021, the SSE indices continued to be less volatile, whereas the volatility of SZSE indices was at a historic low. In particular, the yearly change of the SSE Composite Index reached 12.65 percent, down 19 percentage points from the previous year. The SSE Composite Index experienced a change of above 1 percent for as many as 57 days, 21 days fewer than the previous year. The yearly change of the SZSE Component Index reached 22.95 percent, the lowest level since 2005. The SZSE Component Index experienced a change of above 1 percent for as many as 90 days, 21 days fewer than the previous year. The yearly change of the ChiNext Board Index reached 37.34 percent, the second lowest level since 2005 (the lowest was 21.47 percent in 2017). The ChiNext Board Index experienced a change of above 1 percent for as many as 123 days, 19 days fewer than the previous year.

5.2 Main features of the stock market

5.2.1 Financing structure was continuously optimized to serve the sci-tech innovation strategy

In 2021, a total of 249 enterprises made IPOs on the SSE, 16 more than the previous year, and raised RMB 365.4 billion, up 5 percent year on year. Among these enterprises, 162 were listed on the SSE STAR Market and raised RMB 202.9 billion, accounting for 56 percent of the total fund raised through IPOs. Among them, there were 55 enterprises dedicated to the new-generation information technology, 36 biomedical and pharmaceutical enterprises, 33 high-end equipment enterprises, 18 enterprises engaging in energy conservation and environmental protection, 13 new material enterprises, and seven new energy enterprises. In particular, nine of them were not profitable at the time of listing, two were red-chip enterprises, and two were enterprises with special shareholding structures. The inclusiveness of listed companies continued to increase, which effectively facilitated the formation of innovation capital. In 2021, a total of 232 enterprises made IPOs on the SZSE, 71 more than the previous year, and raised RMB 169.7 billion, up 34 percent year on year. Among these enterprises, 199 were listed on the SZSE ChiNext Board and raised RMB 147.5 billion, accounting for 87 percent of the total fund raised through IPOs.

5.2.2 The SSE and the SZSE indices went up amid fluctuations throughout the year, and the trading volume increased significantly

The SSE Composite Index reached a yearly high of 3,731.69 points in the first quarter of the year, hit a yearly low of 3,312.72 points, and closed at 3,639.78 points, up 4.80 percent for the year. This marked a rise of the index for three consecutive years. The SSE 50 Index, SSE 100 Index and SSE 150 Index, which represent large-, mid- and small-cap stocks, decreased by 10.06 percent, increased by 18.50 percent and rose by 25.35 percent respectively. The SZSE Component Index gained 2.67 percent in 2021, and the ChiNext Board Index rose 12.02 percent in 2021, up for three consecutive years. The yearly change of the SZSE Component Index reached 22.95 percent, the lowest level since 2005. The yearly change of the ChiNext Board Index reached 37.34 percent, the second lowest level since 2005 (the lowest was 21.47 percent in 2017).

In 2021, the turnover of the stock market continued its increase, with a daily turnover of over RMB 1 trillion as the new normal. A total of 151 trading days throughout the year saw a daily turnover of over RMB 1 trillion, accounting for 62 percent of the total trading days in 2021. Turnover of A-shares on the SSE and the SZSE totaled RMB 257.97 trillion throughout the year, up 24.72 percent year on year, and the average daily turnover of A-shares on the SSE and the SZSE stood at RMB 1,061.6 billion. In particular, turnover of A-shares on the SSE totaled RMB 114.00 trillion, up 35.71

percent year on year, and the average daily turnover of A-shares on the SSE stood at RMB 469.1 billion; turnover of A-shares on the SZSE totaled RMB 143.97 trillion, up 17.20 percent year on year, and the average daily turnover of A-shares on the SZSE stood at RMB 592.5 billion.

5.2.3 Stocks of various sectors showed structural differentiation, and stocks related to the new energy industry chain grew stronger

The new energy and cyclical sectors led all the gainers. Under China's "dual carbon" strategy, new energy defined the future direction of energy transition. Thus, stocks related to relevant sectors continued to grow, with the sector of new energy vehicles rising by 48.81 percent throughout the year, leading the increase. As inflation expectations rose worldwide, the prices of commodities continued to soar, and cyclical sectors performed actively, with non-ferrous metals, coal, and steel increasing 40.47 percent, 39.60 percent, and 34.06 percent respectively.

The real estate and the insurance sectors performed below expectations, while food and beverage and pharmaceutical and biological sectors saw a slight pickup. The real estate sector continued to fall, further decreasing 11.89 percent in 2021 after a decline of 10.85 percent in 2020. The weakening equity market and the obvious sluggish growth of insurance premiums affected its performance. The insurance sector plummeted by nearly 40 percent, and the non-banking financial sector led the decline. Food and beverage and pharmaceutical and biological sectors rose by 84.97 percent and 51.10 percent respectively in 2020, while their gains fell by 6.01 percent and 5.73 percent respectively in 2021.

5.2.4 The share of institutional investors in the trading volumes increased, and the investors' trading structure was constantly improved

Institutional investors exerted a greater impact on the market, whereas individual investors experienced a decline in their share in the trading volume. In 2021, the trading volume of domestic institutional investors accounted for 26.69 percent of the total on the SSE, a significant increase from 19.93 percent of the previous year, and the trading volume of foreign investors accounted for 8.30 percent of the total on the SSE, an increase from 7.00 percent of the previous year, whereas the trading volume of individual investors accounted for 63.53 percent, a decline from 71.49 percent of the previous year. In 2021, the trading volume of institutional investors accounted for 33.55 percent of the total in the SZSE market, up 7 percentage points from the previous year, with a year-on-year increase of 26.37 percent, and the trading volume of individual investors accounted for 66.45 percent, a slight decrease from 2020.

5.2.5 Northbound investment increased sharply, with a growing inflow of funds into stock of cyclical and sci-tech sectors

In 2021, the northbound investment maintained a net inflow for every month, with the cumulative net inflow reaching a record high of RMB 432.1 billion (net inflow through the Shanghai-Hong Kong Stock Connect stood at RMB 193.7 billion and that through the Shenzhen-Hong Kong Stock Connect stood at RMB 238.4 billion). There were a total of 1,485 stocks eligible for northbound investment, the total market capitalization of which stood at RMB 75 trillion. Since the beginning of 2021, the average gain of these stocks recorded 24.83 percent, and the median was 8.62 percent. The northbound investment was continuously dominated by investment in large-cap stocks, whereas the underlying stocks changed. The stocks of cyclical sectors with faster growth in performance and those of sci-tech giants with great growth potentials were favored, whereas stocks of traditional "white horse" stocks (stocks with good public performance) such as Kweichow Moutai, Hengrui Medicine, and Ping An Insurance were dumped.

5.2.6 The scale of funds grew continuously, and the REITs market developed steadily

The fund market has become an increasingly critical place for Chinese investors to allocate financial assets, and its wealth management function has been increasingly prominent with the underlying assets covering domestic stocks, bonds, currencies, gold, and overseas assets (including Hong Kong stocks, US stocks, European stocks, crude oil futures, and foreign currency of the US dollar). As of end-2021, a total of 545 funds have been listed on the SSE, with a total value of RMB 1,180.9 billion, an increase of 27 percent over the end of 2020. In particular, the assets held in the form of ETFs listed on the SSE soared to RMB 1.14 trillion, and the cumulative turnover of the ETFs was RMB 15.25 trillion, with domestic shares both exceeding 80 percent. Meanwhile, a total of 229 ETFs were listed on the SZSE, with the asset size totaling RMB 267.4 billion, an increase of 36 percent compared with the end of 2020. The cumulative turnover of the ETFs on the SZSE was RMB 2,744.5 billion, rising by 16 percent from end-2020. There were 305 listed open-ended-funds (LOFs) listed on the SZSE, with the asset size totaling RMB 51.1 billion, the same as that of the previous year.

The REITs market developed steadily in 2021. By the end of December 2021, a total of six publicly traded infrastructure REITs have been listed and traded on the SSE, five of which have been traded smoothly. The REITs raised a fund of RMB 19.9 billion and the average daily turnover rate stood at 1 percent to 2 percent, demonstrating a sound liquidity. A total of five publicly traded infrastructure REITs have been listed and traded on the SZSE, raising a total of RMB 16.501 billion. The underlying infrastructure projects were mainly located in such key regions as the Beijing-Tianjin-Hebei Region, the Guangdong-Hong Hong-Macao Greater Bay Area, and the Yangtze River Economic Belt. The projects covered four mainstream infrastructure fields, including garbage disposal and biomass power generation, industrial parks, toll roads and warehousing logistics. Beijing Financial Assets Exchange Co., Ltd. developed equity trading services for rental housing enterprises in a steady way. Under the current system of legal policies, Beijing Financial Assets Exchange Co., Ltd. guided relevant service providers to invest in and get involved in rental housing in accordance with international rules, so as to realize direct financing for rental housing enterprises, and promote the accelerated development of professional and institutionalized entities in the sector. In 2021, Beijing Financial Assets Exchange Co., Ltd. provided equity trading services for seven rental housing enterprises, with the total registered capital reaching about RMB 5.7 billion.

5.3 Reform and innovation of the stock market

5.3.1 Steps were taken to consolidate outcomes of the registration-based IPO system while pushing the reform further ahead

First, the disorderly expansion of capital was curbed. Measures were taken to accurately act in line with the "three principles" (honoring the basic connotation of the registration-based IPO system, learning from best international practices, and reflecting Chinese characteristics and features of the development phase) of the registration-based IPO system reform, and properly manage the relations between the IPO reform and other six key tasks, namely improving the quality of listed companies, strengthening the accountability of financial intermediaries, safeguarding market order, defining the role of stock exchanges in stock offering reviews, transforming the role of CSRC in stock offering regulation, and forestalling abuse of power. The positioning of the SSE STAR Market and the SZSE ChiNext Board was upheld, with their role as market gatekeepers strengthened. The national industrial policy was strictly implemented, and the whole process of the listing of enterprises in specific sectors and sensitive enterprises was put under strict control. Second, the systems and rules were evaluated and improved in a timely manner. The major operations of the registration-based IPO system were comprehensively evaluated and summarized, and suggestions for improvement were proposed. The system of information disclosure was improved to regulate the regular reporting and information disclosure of listed companies. The underwriting mechanism for shares of the registration-based IPO system was evaluated and improved, the rules and regulations on business implementation were revised and released, and the implementation effect of the new regulations was monitored on a continuous basis. The mechanism of the transfer listing of NEEQ-listed companies to the SSE STAR Market and the SZSE ChiNext Board was established to promote the companies to apply for transfer listing. Third, institutional building for the review mechanism was enhanced to improve the quality and efficiency of review. The guide to the review of enterprises applying for issuance and listing was formulated, and the focuses of acceptance and review were revised. The structure of the listing committee was optimized to strengthen its independence. The review mechanism for M&As was improved, and the committees for M&A on the SSE STAR Market and the SZSE ChiNext Board were set up respectively. The regulations on the management of firewalls for the issuance and listing of companies were formulated to improve the isolation mechanisms of departments. The consultation and communication mechanisms of applying for listing and review were established. The questions and answers for review were released, and the updates of review were formulated and issued, so as to raise review standards and enhance information disclosure. Precise inquiries and continuous inquiries were enhanced. The significance and pertinence of review and inquiry were highlighted. Fourth, the regulation-oriented approach was upheld to see that market entities fulfill their responsibilities. The information verification requirements for intermediaries were further clarified, and the business guidelines for on-site supervision were released, to guide intermediaries to improve their practices, and strictly impose punishments on intermediaries for their violations in accordance with regulations.

5.3.2 Beijing Stock Exchange was launched

On September 2nd, 2021, President Xi Jinping announced in a video address to the Global Trade in Services Summit of the 2021 China International Fair for Trade in Services (CIFTIS) that "we will continue to support the innovation-driven development of SMEs, by deepening the reform of the New Third Board and setting up Beijing Stock Exchange(BSE) as the primary platform serving innovation-oriented SMEs" . On September 3rd, the BSE was registered and established as China's first corporate-based stock exchange approved by the State Council. On November 15th, 2021, the BSE opened for business, and the first batch of 81 SMEs were listed on the exchange. The establishment of the BSE represented a major new strategic arrangement to improve capital market services for building a new development paradigm and promoting high-quality development. It was regarded as an important measure to implement the national strategy of innovation-driven development and to continuously foster new growth drivers, also an essential part of deepening the financial supply-side structural reform and improving the multi-tiered capital market system, thus carrying great significance to better leveraging the function of capital markets, to promoting the integration of technology and capital, and to supporting the innovation-driven development of SMEs. As of end-2021, a total of 82 companies have been listed on the BSE, with their total market capitalization amounting to RMB 272.275 billion. In 2021, the BSE hosted 41 IPOs, raising RMB 7.522 billion. The trading volume stood at RMB 160.98 billion, with the turnover ratio recording 206.50 percent and the overall P/E ratio reaching 46.66[①].

① Source: *Beijing Stock Exchange Market Statistics Bulletin 2021* released by Beijing Stock Exchange. The offering and trading data include the data of "select tier" companies from January 1st to November 12th. From November 15th to December 31st, a total of 11 companies completed their public offering and started trading on the BSE, raising RMB 7.522 billion. The listed companies on the BSE issued 3.745 billion shares and raised RMB 66.717 billion.

5.3.3 The SZSE completed its merger of the Main Board and the SME Board

On February 5th, 2021, approved by the CSRC, the SZSE started preparing for the merger of the Main Board and the SME Board (hereinafter referred to as "the merger of the two boards"). Under the overall planning and guidance of the CSRC, and following the general approach of "Two Unification and Four Unchanged" (making business rules and mode of operation supervision unified, and keeping issuance and having the listing conditions, investor's threshold, trading mechanism, and code and abbreviation of securities unchanged), the SZSE carried out relevant works with market participants in a steady manner. The SZSE organized the integration of relevant business rules and operation supervision modes, and made adaptive adjustments to relevant indices and fund products. The SZSE successfully upgraded the technical systems and steadily advanced the issuance and listing arrangements. The merger of the two boards was officially implemented on April 6th, representing an important measure to deepen capital market reform in all respects. After this merger, the SZSE is expected to form a simplified market pattern that takes the Main Board and ChiNext Board as the main body, and boasts not only more concise structure and more distinctive features but also a clearer market positioning. The Main Board of SZSE focuses on supporting relatively mature enterprises to raise funds and grow better and stronger, while the ChiNext Board mainly offers services to growth enterprises engaging in innovation and entrepreneurship, highlighting innovation, creativity and originality, and traditional industries that are deeply integrated with new technologies, new industries, new business forms and new models. The SZSE would be able to provide enterprises in different development stages and of different types with financing services, thus further improving the capability of the capital market to serve the real economy. Conducive to clarifying the functional positioning of the two boards, consolidating market foundation, improving market quality and efficiency, and boosting vitality and resilience of the capital market, the merger would also help highlight the market positioning of the ChiNext board and thoroughly implement the innovation-driven development strategy. By giving full play to the functions of the SZSE, it would contribute to improving the market-based allocation of capital factors, and better bolster the development of the Guangdong-Hong Kong-Macau Greater Bay Area and the pilot demonstration area of socialism with Chinese characteristics, as well as the overall national strategic development. Therefore, the merger of the two boards is of great significance for refining market functions, strengthening the foundation of the market, improving market activity and resilience, facilitating market-based allocation of capital factors, and better facilitating the overall national strategic development.

5.3.4 The service mechanism for sci-tech innovation was improved

In 2021, the SSE and the SZSE continuously advanced the building of market for products and the innovation of institutions and mechanisms, and enhanced independent technological innovation and guarantee capabilities, in a way to provide significant support for serving the national strategy of innovation-driven development. First, the financing channels for sci-tech innovation enterprises were enriched, sci-tech innovation bonds were launched, and the duplication and scale development of intellectual property securitization products were advanced. The functions of V-Next platform were improved to facilitate the high-level circulation of "technology, industry and finance" . Second, the indicator system for the evaluation of sci-tech innovation attributes was further optimized to intensify on-going regulation focusing on relevant attributes, and the mechanism connecting the regulation over enterprises engaged in transfer listing was established to advance their application for transfer listing. Third, steps were taken to deepen cooperation with the Ministry of Industry and Information Technology (MIIT), the Ministry of Science and Technology (MOST) and other relevant authorities, perfect the system of services for sci-tech innovation, and proactively communicate with and support enterprises in key industries such as the new-generation information technology, bio-medicine, and green energy, in a bid to serve the national strategy of innovation-driven development. Fourth, the business guideline system that is much clearer and simplified was established to extend strong support for the equity financing of sci-tech innovation enterprises. Fifth, the support for M&A was intensified to facilitate the upgrading and transformation of enterprises on the Main Board towards sci-tech innovation. Sixth, efforts were devoted to introducing sci-tech innovation indices continuously, promoting the inclusion of sci-tech innovation enterprises into major international indices and enriching the chain of sci-tech innovation ETFs on a continuous basis.

5.3.5 Multiple measures were adopted to improve the quality of listed companies

First, the corporate governance of listed companies was continuously advanced. The SSE and the SZSE revised and improved listing rules, strengthened requirements on corporate governance, and further defined the responsibilities of intermediaries. Moreover, the exchanges stepped up training for the "critical few", and built a platform for direct communications between the board of directors of listed companies and investors based on briefings on performance and other activities, so as to further regulate corporate governance. Second, the clearing of inferior assets was accelerated to ensure that the delisting was conducted smoothly in a stable way. New delisting rules were strictly implemented, and the delisting mechanism was continuously improved, aiming to effectively strengthen regulation, smooth the various channels for delisting, and support listed companies to clear out risks through multiple approaches such as M&As, bankruptcy and restructuring. Third, the SSE and the SZSE played the role of information disclosure regulation in forestalling market risks. By improving the quality of information disclosure and stepping up risk study and assessment, they made predictions on major risk events and coordinated with relevant parties to resolve risks in a stable manner. Fourth, special measures to serve the *Three-year Action Plan for the Reform of State-owned Enterprises (2020-2022)* were implemented to support state-owned enterprises (SOEs) to grow better, bigger and stronger. In 2021, 23 SOEs got listed on the SSE or realized business integration through restructuring, and 20 SOEs completed the mixed ownership reform through equity restructuring. SZSE-listed SOEs raised medium- and long-term development funds through restructuring for listing and refinancing, flexibly availed fixed-income securities and ABS products, actively participated in the pilot of publicly traded infrastructure REITs, and promoted the market-based allocation of elements such as property, capital and technology. Fifth, the engagement with all parties was proactively promoted to create synergy in improving the quality of listed companies. The SSE and the SZSE, playing their role as the information hub, strengthened communication and collaboration with local governments and state-owned assets administration departments, set up platforms for information sharing with state-owned assets administration departments and their local representative offices, to promote synergy among various departments.

5.3.6 The delisting mechanism was continuously improved

The first was to implement delisting rules in a detailed manner, optimize delisting indicators, and refine implementation standards. In 2021, the SSE released the *Guidelines for the Self-regulatory Management of Listed Companies No. 2 – Business Operations*(*No. 7*) and *Guidelines for the Self-regulatory Management of Listed Companies on the STAR Market*(*No. 9*), to crack down on shell companies in a targeted way and strengthen the verification requirements for audit institutions. In April 2021, the SZSE issued *the Notice on Operating Income Deduction under New Delisting Rules* to better guide practices. On November 19th, 2021, the SZSE published *Business Guidelines No. 12 for Listed Companies – Issues Concerning Operating Income Deduction* and *Business Guidelines No. 13 for Listed Companies on the ChiNext Market – Issues Concerning Operating Income Deduction*, to refine implementation standards, define responsibilities, specify expectations, and thus improve the regulation over delisting. Second, the new delisting rules were strictly implemented in accordance with laws and regulations. The SSE and the SZSE leveraged the synergy of the CSRC, CSRC local offices, and the exchanges to build cooperation mechanisms for the daily monitoring and early warning of delisting risks, delisting decision-making, safe operations of delisting businesses, and collaboration on handling delisting, so as to ensure that the delisting risks were disposed in a steady way. By specifying regulatory requirements for annual report disclosure, and holding regulatory talks and annual report inquiries with the enterprises' administrative departments and others, they worked to intensify responsibilities of the listed companies for information disclosure, ensure that the intermediaries fulfill their responsibilities, and strictly crack down on attempts to avoid the delisting, to ensure that the new delisting rules were effectively executed. According to the administrative penalty imposed by the CSRC on Kangdexin Composite Material Group (KDX) for its illegal activities including financial fraud and the retroactive adjustment of financial statements from 2015 to 2018, in April 2021, the SZSE decided to delist KDX in accordance with laws and regulations. Third, delisting channels were expanded to support listed companies to clean up their risks through multiple ways such as voluntary delisting, M&A, bankruptcy or restructuring. Moreover, relevant business rules were improved.

5.3.7 The special representative litigation system for securities disputes was initiated

The special representative litigation system for securities disputes represents an important achievement made to enhance the fundamental institutional building of the capital market, and also a critical innovation in China's civil action system. Implementing the special representative litigation system for securities disputes in China's capital market is not only an important measure to thoroughly implement the guidelines of the CPC Central Committee and the State Council on "zero tolerance" over illegal activities in the capital market, but also a powerful weapon to protect the legitimate rights and interests of investors, especially small and medium-sized investors, and comprehensively deepen the capital market reform, which is of great significance in maintaining an open, fair and just market order, and promoting the high-quality development of the capital market. China's special representative litigation system for securities disputes is the securities civil action system with Chinese characteristics and suitable for China's national conditions, granting the qualification of litigation representatives to public welfare institutions working to protect the legitimate rights and interests of investors. It stipulates that the investors may engage in litigation with the approach of "implicit participation and explicit withdrawal" . The system upholds the principle of public interests and technology, increases the efficiency of rights protection, reduces the costs of rights protection, focuses on the prevention and control of litigation procedures, and makes better use of multiple dispute settlement mechanisms, thus shaping a three-dimensional pattern for the protection of investors' rights. The Kangmei Case, in which the ordinary representative lawsuit was transformed to special representative litigation, is China's first case filed under the special representative litigation system, setting a milestone in the history of capital market development. It is of great significance to both the sound development of the capital market and the protection of investors' legitimate rights and interests, and thus expected to have a positive and far-reaching impact.

5.4 Risk prevention and resolution

5.4.1 Risk events of the stock market in 2021 and their resolution

In 2021, the exchanges earnestly implemented the important instructions and major decisions and arrangements made by the CPC Central Committee and the State Council on the capital market, and resolutely implemented the requirements of preventing and defusing financial risks and ensuring stability on six fronts, while upholding the policy of "system building, non-intervention, and zero tolerance" and the working requirements of "standing in awe of the market, rule of law, professionalism and risks and pooling the efforts of all sides to develop the capital market" . The risk control and prevention system was continuously improved, special guidelines on risk management were formulated, and relevant business guides were revised and released, to help resolve the risk of outstanding stock pledges. Dynamic monitoring of key risks was enhanced to increase risk monitoring of listed companies, strengthen the supervision over high-risk enterprises, and effectively reduce the number of high-risk enterprises. Risk assessment was conducted on a regular basis to continuously improve risk analysis, early warning, and response capabilities. The indicator system for the real-time surveillance and monitoring of transactions was continuously improved to further increase the adaptability, accuracy, and effectiveness of indicators. The trading suspension and verification mechanism was optimized to effectively reduce the speculation in the market. On the whole, no major risk events occurred in the stock market in 2021. Though there were some abnormal fluctuations due to bond defaults and rising commodity prices, the operation of stock indices was not affected overall and the market operated in a stable and orderly manner.

5.4.2 The risks of listed companies were resolved and the conundrum where the shareholders use a high proportion of shares as pledge to raise funds was tackled

In 2021, the SSE strengthened communication and cooperation with all local financial regulatory bureaus and representative offices and organized on-the-spot visits and virtual meetings to have a deeper understanding of the enterprises' demands and difficulties in defusing risks, and actively communicate with them on risk resolution. The SSE also developed innovative approaches to deal with the conundrum where the shareholders use a high proportion of shares as pledge to raise funds, enhanced communication with financial institutions, and facilitated efforts from the side of pledgees. It put in place targeted measures for specific enterprises, to help them defuse risks, summarize the lessons, and enhance risk resolution capabilities. In December 2021, the SZSE formulated and released the *Guidelines No. 1 for Securities Trading Businesses on the Shenzhen Stock Exchange-Risk Management of Stock Pledged Repo Transactions* to guide securities companies to provide funds to major shareholders of listed companies with a high proportion of pledges in a prudent way. For high-risk scenarios including where shareholders pledge a large part of their stocks, risk management department is required to intervene, conduct special review, and report to the institution of the securities company that exercises the duties of operations and management or the inter-departmental business decision-making body for deliberation and approval, so as to give full play to the role of the internal control system of securities companies.

5.5 Opening-up of the stock market

5.5.1 The mode of interconnectivity between domestic and overseas stock exchanges was optimized

5.5.1.1 Efforts were made to advance the inclusion of eligible A-shares listed on the SSE STAR Market into the scope of stocks for trading under the Shanghai-Hong Kong Stock Connect and the three major stock market indices

The scope of stocks for trading was expanded in an orderly manner. SSE STAR Market-listed shares that are constituent stocks of the SSE 180 Index and SSE 380 Index, or have H-share counterparts listed in Hong Kong, were formally included into the scope of stocks for trading under the Shanghai-Hong Kong Stock Connect scheme. As of December 31st, 2021, a total of 42 SSE STAR Market-listed shares have been included into the scope of stocks for trading under the Shanghai-Hong Kong Stock Connect scheme. Efforts were made to advance the inclusion of SSE STAR Market-listed shares into the three major stock market indices successively. On March 22nd, 2021, a total of 11 STAR stocks were included in the FTSE GEIS for the first time. On May 28th, 2021, the first batch of five STAR stocks was included in the MSCI Global Standard Indices. On September 20th, the first 23 STAR stocks were included in the Dow Jones Global Indices (DJGI) of S&P Global.

5.5.1.2 The depository receipt business under the Stock Connect scheme achieved two-way expansion

In 2021, the depository receipt business under the Shanghai-London Stock Connect scheme was further expanded. The scheme was extended to both domestic exchanges such as the SZSE and those of overseas developed stock markets in Germany and Switzerland besides the U.K. Meanwhile, the types of financing Chinese Depository Receipts (CDRs) were increased, and overseas listed companies were allowed to offer CDRs on domestic stock exchanges for fundraising. Relevant business rules were also revised to make the stock connect scheme more refined and optimized. As of end-2021, a total of four SSE-listed companies have offered GDRs on the London Stock Exchange (LSE), raising USD 5.84 billion. On December 24th, the SSE and the SZSE launched depository receipt businesses under the Stock Connect scheme and solicited public comments on relevant supporting rules.

5.5.1.3 The scope of ETF Connectivity scheme was expanded

On January 25th, 2021, the SZSE and Japan Exchange Group, Inc. (JPX) signed a memorandum of understanding (MOU) to deepen cooperation on Exchange Traded Funds (ETFs) connectivity and cross-border investment and financing engagement, etc. On April 8th, the second batch of China-Japan ETF Connectivity products was launched. The Japanese market introduced iFreeETF China STAR50 (2628 JP) as Japan's first ETF to target companies listed on the SSE STAR

Board, achieving the two-way connectivity of ETF products. ETF products tracking the Guangdong-Hong Kong-Macao Greater Bay Area Innovation 100 Index and the Nikkei 225 Index respectively were also unveiled to invest in Tokyo Stock Exchange and the SZSE. On May 11th, the SSE and the Korea Exchange (KRX) signed a MOU on closer cooperation to strengthen collaboration in the fields of ETF, index and bond markets. Currently, an ETF connectivity mechanism between China and the ROK is being advanced steadily. On June 1st, two ETFs were listed simultaneously on the SEE and the Hong Kong Exchanges (HKEX) under the new Mainland-Hong Kong ETF Cross-listing Scheme. On December 20th, the SSE and the KRX formally unveiled three jointly developed stock indices. On December 24th, the SSE, the SZSE, the HKEX and the CSDC announced that they had reached a consensus on the overall plan for ETFs to be included in the stock connect, and that they would complete relevant businesses and technical preparations within approximately six months. On December 28th, the SZSE and the Singapore Exchange (SGX) signed the "Memorandum of Understanding (MOU) on SZSE-SGX ETF Product Link" to deepen cooperation on promoting ETF connectivity.

5.5.2 Opening-up of the stock market on a higher level was steadily advanced

5.5.2.1 Efforts were made to actively participate in the affairs of international organizations

First, the SSE and the SZSE participated in relevant works of international organizations in a pragmatic way. The SSE and the SZSE actively participated in the exchanges, governance, and rule-making of international organizations. Moreover, they publicized China's experience and practices in developing the capital market at the platforms of multilateral organizations, including the International Organization of Securities Commissions (IOSCO), the World Federation of Exchanges (WFE), the United Nations Sustainable Stock Exchanges (UN SSE) initiative and others, to supplement for institutional building of global capital market governance. The SSE, as a WFE member, proactively gave feedback on key issues such as the regulatory reform of and business innovation for the global capital market, and engaged in global governance of the sector. In April 2021, the SSE attended the sub-forum on financial opening-up and financial cooperation of the Boao Forum for Asia Annual Conference 2021, on which occasion it introduced the status-quo of the SSE market, shared the experience and practices of promoting connectivity between Chinese and Asian financial markets as well as the global financial market, and published a signed article in the official publication of the annual conference. The SSE also actively participated in the formulation of Financial Information eXchange (FIX) standards, and initiated the application concerning LFIXT national standards. LFIXT, as a part of the current FIX session profiles, was officially included in the ISO 3531 series. In the publications of the WFE and the IOSCO released on official websites, the SZSE published a number of articles on several issues, including the high-quality operation of the ChiNext Board under the registration-based IPO system and the efforts to serve the low-carbon sustainable development. The SZSE also launched the "2021 World Investor Week" series activities, held bell-ringing ceremony for gender equality, and provided policy suggestions to the *Model Guidance on Climate Disclosure: A Template for Stock Exchanges to Guide Issuers on TCFD Implementation* launched by the UN SSE. Second, the SSE and the SZSE responded to the initiatives proposed by international organizations. In September 2021, for the first time, the SSE worked with six other WFE member exchanges and settlement institutions in the Chinese mainland to jointly hold the bell-ringing ceremony, as response to the global initiative "Ring the Bell for Enhancing Financial Literacy" supported by the IOSCO and the WFE, which helped facilitate international cooperation on raising public awareness of investor education and protection, create synergy in telling the stories of China's capital market, and thus enhance the international influence of the market. Third, the SSE and the SZSE actively held international exchange activities. From September 6th to 9th, the SZSE, as the co-organizer, successfully held the 60th WFE General Assembly & Annual Meeting both in-person and virtually. Senior management and officials from 84 institutions, including securities and futures exchanges, clearing houses, and financial regulators, attended the meeting. It fully demonstrated the great vitality of the Chinese economy and finance, and China's pragmatic engagement in the global governance of the sector.

5.5.2.2 Multiple measures were adopted to advance high-quality development of BRI projects

First, overseas equity cooperation was steadily advanced to support the capacity building of capital markets of BRI participating countries, and actively serve the two-way opening-up of China's capital market. In 2021, China Europe International Exchange (CEINEX) operated steadily, with trading and investment maintaining stability while making steady progress and the research on innovative businesses being carried out steadily. As of the end of December 2021, a total of 40 products have been listed for trading on the CEINEX market, including one stock, 13 ETFs, and 26 bond products. The Astana International Exchange (AIX), accepted as a full member of the WFE, launched the first AIX Qazaq Index (AIXQI) measuring the performance of the shares of Kazakhstan linked companies. AIX trading volume in 2021 increased five times over 2020. As of the end of December 2021, a total of 138 products have been listed for trading on the AIX market, including 111 fixed-income products, 25 equity products, and two fund products denominated in Kazakhstani Tenge, Chinese yuan, Euro, US dollar and others. The SZSE strengthened exchanges on market development experience, provided multiple rounds of online training and consultation for Dhaka Stock Exchange (DSE) of Bangladesh, Pakistan Stock Exchange Limited (PSX) and other exchanges on market development and relevant technical issues and businesses. It also supported the upgrading of technology systems and the building of characteristic market segments in these exchanges in which the SZSE has a stake. The SZSE delivered the upgraded technology system to the PSX on schedule and cooperated with PSX on the launch of the system. Pak Agro Packaging Limited (PAPL) became the first company to get listed on PSX's Growth Enterprise Market (GEM) board, and market transactions remained active. The SZSE supported the DSE to officially launch the DSE-SME platform in September 2021, and the first batch of six SMEs with Bangladeshi characteristics got successful listed on the platform. The market share of the DSE remained top in Bangladesh. Second, the Shanghai International Center for Communication and Cooperation between Exchanges (SICCCE) continued its communication with exchanges of the BRI participating countries, and supported them with promotion activities. On April 27th, 2021, the SICCCE assisted the SSE and the China Overseas Development Association (CODA) to hold an online promotion event for the Astana International Financial Center (AIFC). Nearly 70 participants from China International Capital Corporation (CICC), China Construction Bank (CCB), and Kazakhstan's enterprises attended the event, which further advanced the market development of the AIX. Third, the SZSE promoted the cross-border investment and financing engagement among BRI participating countries via the V-Next platform. The SZSE V-Next platform provides one-stop services, including roadshow promotion, information display, and training, for domestic and foreign sci-tech innovation enterprises. As of end-2021, its cross-border services have covered 46 countries and regions; international partners have reached 133; and 153 roadshows for cross-border investment and financing have been held, serving 1,435 overseas projects. Cross-border roadshow engagement activities were organized mainly for advanced manufacturing, sci-tech innovation, low-carbon sustainability, and others, to support domestic enterprises to get connected with high-quality industries and element resources in ASEAN and other BRI markets.

5.5.2.3 Services offered to overseas investors were enhanced in quality and efficiency

The content and form of international promotion services were enriched by tailoring promotion services for different targets and topics in an innovative way, and efforts were made to actively expand sustained cooperation with overseas institutions and the two-way information exchange mechanisms, strengthen policy communication, and stabilize market expectations. First, efforts were made to attract overseas medium and long-term funds via multiple channels. The SSE successfully held the Shanghai Stock Exchange Global Investors Conference 2021 (SSE GIC 2021), to comprehensively introduce the SSE market and SSE-listed companies to global investors. About 2,000 international investors attended the conference. Throughout the year, the SSE organized international promotion activities on specific topics such as the second anniversary of the STAR market, indexing investment, and the four major markets including the stock market, the bond market, the fund market and the derivatives market, with the cumulative number of online participants totaling 500 person times. The SSE built a platform for global investors to communicate with the enterprises, and organized training on foreign investor relations management for SSE-listed companies, covering nearly 200 SSE-listed companies in total. The SSE further promoted SSE-listed companies to foreign investors, organized activities to introduce companies listed on SSE Main Board and SSE STAR Market to global investors, covering a total of 52 companies and about 750 person times of participants. The SZSE carried out extensive online roadshows. Throughout the year, a total of 170 batches of engagement and exchanges with overseas institutions were organized mainly online. The exchange also held 16 one-on-few roadshows and 19 one-on-one roadshows, and participated in 15 promotion activities themed on overseas intermediaries and investment institutions where SZSE representatives delivered speeches. It worked with the HKEX to jointly carry out promotion activities to celebrate the fifth anniversary of the launch of Shenzhen-Hong Kong Stock Connect. For the first time, the SZSE hosted the Shenzhen Stock Exchange Global Investor Service Week to introduce SZSE's one-stop allocation platform involving multiple products such as stocks, bonds, funds, and indices, as well as the connection mechanisms, to global investors. Second, the channels and ways for global investors to invest in China's markets were enriched. The SSE facilitated the first SSE STAR Market 50 Index ETF to get listed overseas on NYSE Arca, and SSE STAR Market 50 Index ETFs were listed for trading in seven foreign markets worldwide throughout the year. The market value held by foreign capital and the trading volume of foreign capital in the STAR market both increased significantly compared with the previous year. The SZSE facilitated ChiNext Index ETF to get listed on NYSE for the first time, and a total of nine fund products tracking the performance of SZSE characteristic indices were listed on overseas markets, which became significant targets for foreign investors to allocate A shares. The SSE and the SZSE actively advanced the inclusion of listed companies on the SSE and the SZSE markets into international indices such as MSCI indices and FTSE Russell Indices. MSCI launched the MSCI China A 50 Connect Index in October 2021, which was based on A shares investable under the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect scheme.

5.5.2.4 International cooperation on green finance was advanced

First, the exchanges participated in the standard-setting for global green finance. The SSE joined WFE's Sustainability Working Group (SWG) as the Vice-Chair, and during its term, worked with the office of WFE in London to give the group's feedback to the IOSCO, the Task Force on Climate-Related Financial Disclosures (TCFD), the Financial Stability Board (FSB), and other relevant organizations, and provided guidance to member exchanges on developing ESG guidelines. At the same time, as a member of the UN SSE Climate Disclosure Advisory Group, the SSE shared China's experience and cases on supporting green development with the capital market, and the cases shared were included in the *Model Guidance on Climate Disclosure: A Template for Stock Exchanges to Guide Issuers on TCFD Implementation* and *Action Plan to Make Markets Climate Resilient: How Stock Exchanges Can Integrate the TCFD Recommendations* officially released by the UN SSE in June 2021. The SZSE, as a member of WFE's SWG, UN SSE, and other international organizations on green finance, contributed China's solutions to sustainable development in aspects of research projects, standards, guidelines, and practices, etc. Also, it participated in drafting the *Model Guidance on Climate Disclosure: A Template for Stock Exchanges to Guide Issuers on TCFD Implementation* as a member of the UN SSE's Advisory Group and offered policy suggestions on a continuous basis. Second, cross-border investment and financing engagement in green industries were facilitated. The SSE held "Dialogue with International Investors: ESG Capacity Building for Listed Companies" and "ESG Series of Listed Companies in the SSE", to encourage global investors to increase ESG investment in the SSE. The SZSE specifically set up a session on interpreting China's carbon neutrality policy and hosted an ESG investment roundtable forum in its Global Investor Service Week to introduce China's philosophy and practices of green finance development. In September and November, the SZSE held the "Roadshow for International Carbon Neutrality Projects (for Low Carbon Materials)", the "Roadshow for Carbon Neutrality Post-Investment Projects" and other activities online to facilitate the engagement and cooperation on green industries and technologies between China and other parts of the world. Third, international publicity of green finance was enhanced. The SSE was invited to produce a video for the 26th United Nations Conference of Parties on Climate Change (COP26), in which it introduced the achievements made by the SSE and China in sustainable development. In 2021, a signed English article *Path to a Green China: The Role of Capital Markets in Decarbonising the Future* was released on the official website of the WFE, calling on global counterparts to jointly focus on green finance. The SSE also communicated its green finance policies and practices on well-known domestic and foreign platforms such as the WFE, the World Economic Forum (WEF), and Sina Finance, with a total of six keynote speeches released and articles published. The SZSE produced a series of video programs to communicate with global investors on carbon peaking and carbon neutrality. In November, it delivered a keynote speech titled *Green Finance Boosts the Green Recovery of the Global Economy*, and worked with ASEAN financial institutions to jointly explore the connectivity and cross-border cooperation in green finance. In December, the SZSE participated in the Sustainable Stock Exchange Roundtable co-hosted by UN SSE and other institutions to introduce SZSE's major achievements in green development, and proposed that domestic and foreign exchanges and asset management institutions should jointly make use of financial tools and thus contribute to the realization of the zero-carbon commitments as China's cooperation initiative.

5.6 Outlook of the stock market

In 2022, China's A-share market is expected to continue with the momentum of stable growth in recent years. After China sent the policy signal of "stabilizing growth" and intensified implementation efforts, the recovery of the listed companies' revenue growth and their margin expansion as well as the continuous inflow of medium- and long-term incremental capital will become two major pillars underpinning the fundamentals of and liquidity in the stock market. In the principle of "prioritizing stability while pursuing progress", the capital market will highlight the task of stabilizing growth and forestalling risks, and continue with the comprehensive and deepened reform and opening-up of the market. First, the capital market will become more resilient amid stable and sound development. Second, as reforms are further advanced, the capital market will be more transparent. Third, the capital market will demonstrate great vitality with enhanced capability to serve high-quality economic development. Fourth, with the steady advancement of institutional opening-up, the capital market will open wider to the world. Fifth, the supply of the rule of law will be continuously strengthened for a more regulated capital market.

BOX 4 Adhere to the positioning of the STAR Market in promoting key and core technology innovation, and issue the *Guidelines for Continuous Disclosure on Sci-tech innovation Attributes for Listed Companies on the SEE STAR Market*

On June 11th, 2021, under the guidance of the relevant CSRC departments, the SSE formulated and issued the Guidelines No. 3 for the Application of Self-regulatory Rules on Listed Companies on the SEE STAR Market – Continuous Disclosure of Science and Technology Innovation Attributes and Related Issues. The Guidelines No. 3 aimed at clarifying the issues and requirements concerning the information disclosure of sci-tech innovation attributes after the companies got listed on the STAR Market, urge listed companies to adhere to their positioning of pursuing sci-tech innovation and promoting high-quality development.

The formulation of the Guidelines No. 3 is an important measure to implement General Secretary Xi Jinping's requirement on "establishing the sci-tech innovation board and pilot the registration-based IPO system; we should adhere to the positioning of sci-tech innovation, improve the quality of listed companies, support and encourage the listing of technology enterprises with strong expertise, emphasize information disclosure, reasonably manage expectations, and strengthen regulation." Since the establishment of the STAR Market, the SSE has always attached great importance to the sci-tech innovation attributes of companies *listed on the STAR Market. In addition to formulating and revising the business rules supporting the Guidelines for the Evaluation of Science and Technology Innovation Attributes (for Trial Implementation) for the IPO on the STAR Market, and requiring the businesses to comply with relevant provisions on sci-tech innovation attributes, the SSE also paid great attention to matters concerning the attributes in the process of continuous regulation. Focusing on information disclosure, the SSE urged the companies listed on the STAR Market to adhere to their positioning of sci-tech innovation, and worked to set up a regulatory system on sci-tech innovation attributes covering the whole business process from issuance to listing.*

In terms of content, the Guidelines No. 3 has the following features. First, it comprehensively stipulates the requirements on continuous information disclosure of sci-tech innovation attributes of companies listed on the STAR Market. More specifically, it urges the companies to invest the funds they raised in sci-tech innovation, and timely disclose fund usage as well as the progress and changes of invested projects. It urges the companies to maintain R&D investment, ensure the orderly advancement of R&D projects, and maintain the advanced nature of core technologies. Meanwhile, it requires that the companies fully explain the reasons for significant changes in the amount of R&D investment and the proportion of R&D investment to revenue, along with the effect of such changes. It urges that the companies maintain the stability of their R&D teams, improve R&D capabilities, regularly disclose changes of the R&D teams, and continuously evaluate and identify core technical personnel based on realities.

Second, it respects the development law of listed companies on the STAR Market. Fully considering the different development stages, R&D cycles and industry characteristics, and in line with the basic logic of continuous regulation, it does not make any mandatory requirements on the indicators of sci-tech innovation attributes. Nevertheless, special focus is placed on major changes of the issues concerning sci-tech innovation attributes, including relevant indicators. In one respect, in cases where relevant indicators change within a normal range due to the improvement of main businesses and the shifting of R&D cycles, it guides the companies to fully inform the market of the actual conditions. In another respect, if there are significant risks or uncertainties in the R&D progress or product commercialization, it urges the companies to disclose risks in a timely manner.

Third, it implements the requirements of building a concise and friendly system of rules by not increasing the cost of information disclosure for market entities, and clarifies the arrangements for exemption and voluntary disclosure. In recent years, under the guidance of the CSRC, the SSE conducts regulation on listed companies by focusing on building a system of rules on continuous regulation with listing rules at the core, and rules application and business *guidelines as the supplement. The Guidelines No. 3 implements the construction arrangement for the system of rules, and integrates and elaborates on the disclosure requirements for issues concerning sci-tech innovation attributes without adding to the companies' disclosure costs, while facilitating the understanding and application of market entities. Meanwhile, the Guidelines No. 3 goes in line with the Rules Governing the Listing of Stocks on the Science and Technology Innovation Board of Shanghai Stock Exchange in terms of suspension and exemption from disclosure, and allows the companies to suspend and be exempted from disclosing information involving state secrets or commercial secrets, so as to meet their actual needs. It encourages the companies to voluntarily disclose R&D progress and other matters concerning sci-tech innovation in accordance with laws and regulations, so as to improve the timeliness of information disclosure.*

Next, the SSE will urge companies listed on the STAR Market to remain true to their original aspirations, continue to guide the listed companies on the STAR Market to devote efforts and resources primarily to their main businesses and sci-tech innovation, and help them secure progress in achieving technological breakthroughs and realizing self-reliance and self-improvement in science and technology.

BOX 5 Performance of the ChiNext reform and the pilot registration-based IPO system

On April 27th, 2020, the Masterplan for the Implementation of the Reform of the ChiNext Board and the pilot program of the Registration-based IPO System was approved by the Central Commission for Comprehensively Deepening Reform (CCDR), and the ChiNext reform and the pilot registration-based IPO system was officially initiated. On August 24th, the reform of the SZSE ChiNext Board and the pilot of the registration-based IPO system were successfully launched. Adhering to pursuing market-oriented, law-based and international reform, the SZSE stood fast to the positioning of the ChiNext Board, prioritized the task of supporting sci-tech innovation and leading high-quality development with innovation, and took proactive steps to serve the innovative enterprises and startups with great growth potential, striving to build itself into a quality innovation capital center and a world-class exchange. Since the launch of the registration-based system, the market has operated steadily overall, and the major institutional arrangements have stood the preliminary test of the market, demonstrating favorable reform results on the whole.

1. Remarkable results were made in serving the strategy of innovation-driven development

The ChiNext Board actively served the businesses of innovation, creativity and originality, served traditional industries that are deeply integrated with new technologies, new industries, new business formats and new models, and provided *important support to high-tech enterprises, enterprises in strategic emerging industries, and innovative enterprises and startups with growth potential for them to make use of the capital market. The SZSE promoted the development of the ChiNext Board in a featured way different from the SSE STAR Market, and formed a complementary market pattern with the SSE STAR Market, each of them emphasizing on different aspects. Currently, nearly 50 percent of the companies listed on the ChiNext Board are from new-generation IT, bio-pharmaceuticals, new materials and high-end equipment industries, including a group of quality enterprises with core technologies and innovation capability, showing clear industry cluster effect. As of end-January 2022, a total of 276 companies had been newly listed on the ChiNext Board, with the total IPO financing recording RMB 232.7 billion and their total market capitalization reaching RMB 2.17 trillion. Among them, over 80 percent are high-tech enterprises and 40 are specialized, sophisticated, featured and novel SMEs, showing distinctive attribute of innovation. In particular, 125 enterprises have forecast their performance in 2021, which was to achieve an average net profit of RMB 189 million to RMB 214 million, higher than the average of the total companies listed on the ChiNext Board. Altogether 124 enterprises were expected to achieve profitability, 80 to achieve year-on-year growth in net profit, 36 to see their net profit increase by more than 50 percent, and 11 to increase their net profit by more than 100 percent, demonstrating sound growth potential and profitability. The ChiNext Board operated steadily in general. As of end-January 2022, the ChiNext Board indices have risen by 14 percent. The daily turnover averaged RMB 260 billion and the daily turnover rate averaged 3.22 percent.*

2. The basic institutional reform of China's capital market was facilitated

The SZSE advanced a series of basic institutional reforms for the ChiNext Board such as the overall planning on IPO and underwriting, listing, trading, continuous regulation, and delisting, which produced initial results. In terms of IPO and underwriting, the market-based pricing capability for the newly issued shares was significantly improved, and IPO pricing was generally prudent, with differential pricing being made for different companies. The P/E ratio of 57 percent companies were between 20 and 50, and the proportion of the companies with a P/E ratio of more than 50 or less than 20 were 12 percent and 31 percent respectively. The P/E ratio of new shares showed a significant positive correlation with the averaged P/E ratio of the industry, the averaged P/E ratio of comparable companies, and the proportion of the issuer's R&D investment, reflecting the results of market games. In terms of the trading system, the SZSE eased the price limit, optimized the temporary market suspension mechanism, established the "price cage" mechanism, and improved the mechanisms of securities margin trading and refinancing, making the market game more sufficient. The efficiency of share pricing was significantly improved, and the prices of new shares were basically adjusted in place within *three trading days after the listing. On average, 2.16 percent of outstanding stocks rose or fell by over 10 percent per day, significantly lower than the 2.86 percent prior to the reform. In terms of continuous regulation, the financing efficiency and the marketization degree of refinancing offering were continuously improved. In 2021, companies listed on the ChiNext Board completed 201 contracts of refinancing, raising RMB 213.344 billion. Both the quantity and amount reached new records. Companies with less losses or profits would have to wait longer for their IPO after registration, and the discount rate of private placement differentiated. For delisting mechanisms, the supporting rules on the delisting system were revised twice, and a normalized delisting mechanism was built. Since 2020, the SZSE have decided to delist seven companies from the ChiNext Board.*

3. Efforts were made to advance the building of a SZSE market system with clear structure and distinctive characteristics

The merger of the Main Board and the SME Board was an important measure to support the ChiNext Board reform and the pilot registration-based IPO system. On February 5th, 2021, upon approval of the State Council, the CSRC started promoting the merger of the Main Board and the SME Board. On April 6th, the merger was officially implemented. After 21 years, companies were able to issue and get listed on the SZSE Main Board again. As of end-January 2022, 25 companies have successfully made their IPOs and got listed on the SZSE Main Board, raising a fund of RMB 20 billion. After the merger, the SZSE put in place the market system of the Main Board plus the SME Board with a clear structure and distinctive characteristics, which enabled the exchange to provide financing services for different types of companies at different development stages. Also, the merger served to further enhance the SZSE's vitality and resilience, facilitate market-based allocation of capital elements, and thus boost the innovation-driven high-quality economic development.

4. Steps were taken to advance the building of a sound ecosystem supporting stable operations of the registration-based IPO system

Since 2020, the new Securities Law, the Amendment XI to the Criminal Law, and the Opinions on Strictly Cracking Down on Illegal Securities Activities in Accordance with the Law were rolled out successively, which greatly increased the cost of legal violations, and provided strong legal guarantee for the registration-based IPO system. The Supreme People's Court of China, the Higher People's Court of Guangdong Province, and Shenzhen Intermediate People's Court all issued opinions on providing judicial guarantees for the ChiNext reform and the pilot registration-based IPO system, and ensured centralized jurisdiction over relevant cases. The interpretation on special representative litigation system for securities disputes was released to address the problems arising out of judicial practices of securities class action system with Chinese characteristics, and create a sound legal environment for the reform of the registration-based IPO system. The securities *regulators gave full play to their regulatory roles, enhanced regulation over intermediaries in the process of registration review, issuance and listing, and continuous regulation, strengthened communication and cooperation with relevant departments, local governments, and law enforcement authorities, to severely crack down on the illegal activities in securities in accordance with the law.*

The ChiNext reform and the pilot registration-based IPO system, as a critical step in push forward sweeping reforms of the capital market, not only made breakthroughs and shored up institutional weaknesses, but also secured steady progress while maintaining system stability and continuity. Expectations of existing listed companies and investors were stabilized and the market embraced sound development, which accumulated valuable experience for implementing the registration-based IPO system across the market.

Chapter 6 Foreign Exchange Market

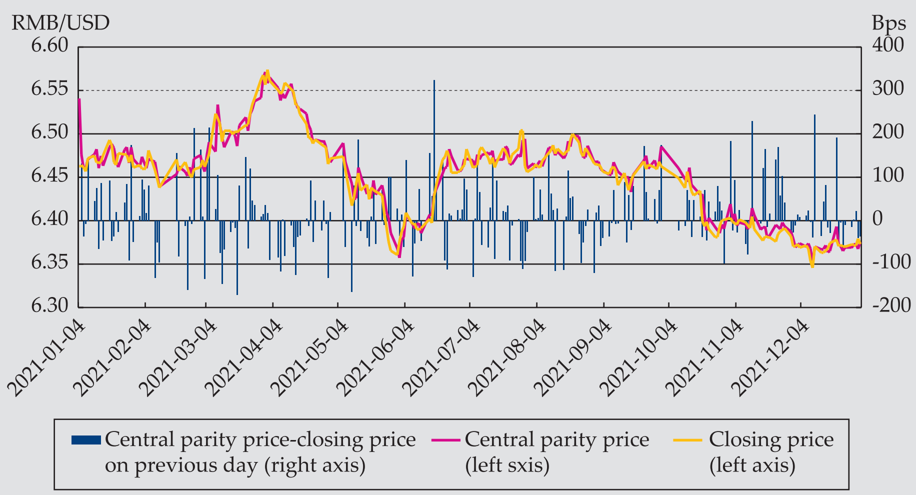
In 2021, the RMB exchange rate maintained two-way fluctuations, and the rate against USD was generally stable. The trading volume grew steadily in China's foreign exchange market, with active trading and investment in both the RMB foreign exchange market and the foreign money market, and more concentrated liquidity in the domestic currency pairs market. Overseas institutions maintained active transactions.

6.1 Performance of the foreign exchange market

6.1.1 The RMB exchange rate maintained two-way fluctuations

In 2021, influenced by global COVID-19 situations and rising geopolitical risks, the RMB exchange rate experienced two-way fluctuations amid an overall appreciation. The RMB spot rate saw an uptick and kept strengthening against a basket of currencies. At end-2021, the CFETS RMB Index, the RMB index against the BIS and SDR currency basket were 102.47, 106.66, and 100.34 respectively, representing an appreciation of 8.05 percent, 8.09 percent, and 6.48 percent from end-2020. According to data from the Bank for International Settlements (BIS), in 2021, China's nominal effective exchange rate (NEER) and

Figure 6.1 Domestic RMB exchange rate against USD



(Source: CFETS)

real effective exchange rate (REER, inflation-adjusted) increased by 8.0 percent and 4.5 percent respectively.

6.1.2 Trading volume grew steadily in the foreign exchange market

In 2021, against the prolonged global pandemic and amid profound and complex changes in international political and economic environments, the trading volume of the interbank foreign exchange market grew steadily, with substantial progress in market development and construction. In 2021, the cumulative turnover of the interbank foreign exchange market (including the foreign money market) registered USD 45.6 trillion, up 25.3 percent year on year. Trading and investment were active in the RMB foreign exchange market, with an annual trading volume of USD 31.3 trillion, up 23.4 percent from 2020; the foreign money market witnessed the increased trading activity, with a trading volume of USD 12.7 trillion, up 24.7 percent year on year; the domestic currency pairs market saw more concentrated liquidity, with a trading volume of USD 1.6 trillion, a sharp year-on-year increase of 93.1 percent.

6.2 Main features of the foreign exchange market

6.2.1 RMB exchange rate against USD remained generally stable amid two-way fluctuations

In 2021, the RMB continued to strengthen against USD. The central parity rate and the spot rate at end-2021 registered 6.3757 and 6.3730, appreciating by 2.34 percent and 2.62 percent compared with those at end-2020 respectively. At end-2021, the rates of China onshore spot (CNY) and China offshore spot (CNH) appreciated by 2.7 percent and 2.2 percent respectively. There was a tight spread between the onshore and offshore rates, with a daily average of 58 bps, lower than that in 2020 (94 bps). During the year, the RMB exchange rate experienced two-way fluctuations, fluctuating within a narrow range from January to March, rising from April to May, going down from June to August, and then generally appreciating amid fluctuations. In 2021, the RMB exchange rate against USD remained basically stable at an adaptive and equilibrium level, making the RMB one of the few currencies that remained stable against USD.

6.2.2 The RMB foreign exchange market grew in trading volume

Thanks to continuous import and export growth, the RMB foreign exchange market accumulated a turnover of USD 31.3 trillion in 2021, increasing by 23.4 percent year on year. Specifically, as the USD liquidity was abundant in the domestic market, banks were encouraged to use swaps to convert USD-denominated funds into RMB-denominated funds, generating a total trading volume of USD 20.3 trillion in the interbank foreign exchange and currency swap market, up 24.4 percent year on year. The total trading volume of the interbank spot foreign exchange market reached USD 10.0 trillion, up

19.4 percent year on year, of which 96 percent were USD-denominated transactions. The total trading volume of the interbank foreign exchange option market and forward market was USD 893.4 billion and USD 108.9 billion, up 57.7 percent and 4.3 percent year on year respectively.

6.2.3 The foreign currency interest rate market saw rapid growth

In 2021, the foreign currency interest rate market accumulated a total turnover of USD 13 trillion, with a daily average of USD 52.4 billion, up 25 percent year on year. The highest daily turnover in 2021 exceeded USD 70 billion. Specifically, the daily turnover of foreign currency lending averaged USD 51.2 billion, up 23 percent year on year, maintaining the dominant position in the foreign currency interest rate market and ranking the second in the interbank foreign exchange market by turnover. The daily turnover of foreign currency repos, interest rate swaps and interbank deposits reported USD 1.2 billion, USD 4 million and USD 2 million, up 136 percent, 382 percent and 256 percent year on year respectively. By maturities, O/N transactions still dominated others, accounting for 83 percent of the total, down 4 percentage points from the previous year; transactions with a maturity of overnight to within a month increased, accounting for 15 percent of the total, up 4 percentage points from the previous year; those with a maturity of longer than a month remained relatively stable, accounting for about 2 percent of the total.

6.2.4 Overseas institutions remained active in transactions

Overseas institutional market participants continued to grow in the number and turnover. At end-2021, there were 176 overseas institutions participating in the interbank foreign exchange market, up by 18 from the end of the previous year. Specifically, the RMB foreign exchange market had 130 overseas member institutions, up by 13 from the end of the previous year. Over the year, trading by overseas institutions in the interbank RMB foreign exchange market amounted to RMB 923.372 billion, with a daily average standing at RMB 3.8 billion (up 10.1 percent year on year). The market share of overseas institutions was 1.5 percent, down slightly by 0.18 percentage points from the previous year. By institution types, participating banks saw their daily average trading volume growing by 19 percent year on year, accounting for 54 percent of the total, taking the lead in market share and trading volume growth for the second consecutive year. Overseas central banks maintained the second place in trading volume, but their daily average generally leveled with that in the previous year. The average daily trading volume of RMB clearing banks edged up 6 percent year on year. By products of trading, overseas institutions mainly traded derivatives such as foreign exchange swaps, with the average daily trading volume increasing by 12.27 percent year on year and accounting for 86.31 percent of the total turnover of overseas institutions, up 1.7 percentage points year on year.

6.3 Innovation and institutional construction

6.3.1 The market maker administration and appraisal mechanism was improved to promote sound market development

According to policies of the SAFE on improving the market maker system in the interbank foreign exchange market, integrated market makers were selected. Under relevant guidelines, tentative market makers submitting applications were evaluated, and the trading system was modified accordingly. Improvements were made to the "market makers-tentative market makers-general institutions" structure in order to further standardize the development of the interbank foreign exchange market, improve the exchange rate formation regime, and give full play to the market's role in price discovery. Meanwhile, measures and detailed rules on market makers' appraisal were revised and released accordingly, which further improved the evaluation indicators and system, guided market makers to comply with regulations on their transactions, and promoted the sound development of the market.

6.3.2 The foreign exchange market became more capable of serving the real economy

Functions of the bank-enterprise foreign exchange trading platform were improved, enabling electronic multi-bank inquiries, transactions and whole-process management, and facilitating foreign exchange transactions and risk management of enterprises. Transaction fees from derivatives trading in the interbank foreign exchange market were reduced or waived for MSMEs to lower their currency hedging costs. Enterprises were guided to establish the concept of risk neutrality, and banks were encouraged to enhance their ability to serve the real economy.

6.3.3 The foreign exchange market was opened up further to facilitate currency conversion of overseas institutions

Regional trading of RMB against Indonesian Rupiah was launched. On September 6th, 2021, under the mechanism of cooperation on a local currency settlement (LCS) framework between China and Indonesia, the RMB/IDR currency pair was officially listed for trading in the regional interbank market. Products included spot, forwards, swaps and currency swaps. Appointed cross-currency dealers (ACCD) recognized by both the PBC and Bank Indonesia provide support for regional trading and clearing in the interbank market. RMB/IDR was the first regional currency pair that allows derivatives trading. As more Indonesian banks participated in the China-Indonesia bilateral LCS mechanism, positions clearing became more convenient. The launch of regional trading of the RMB/IDR currency pair in the interbank market is conducive to forming a direct quotation mechanism for RMB/IDR, reducing the currency conversion costs of enterprises and promoting bilateral economic and trade cooperation.

The foreign exchange risk management

information services under the Bond Connect Scheme were launched. On March 12th, 2021, the CFETS launched the foreign exchange risk management information services under the Bond Connect scheme, providing information on currency conversion, currency hedging, and bond investment under the Bond Connect scheme. Starting from September 13th, Bond Connect Company Limited (BCCL) has the authorization to provide foreign exchange services related to the Bond Connect, such as customer filing, information reporting, and inquiry. This facilitated Hong Kong's settlement banks in providing currency conversion and foreign exchange risk management services to overseas institutional investors, and enabled Bond Connect investors to select multiple settlement banks.

6.3.4 The CFETS promoted innovation in foreign currency interest rate market and improved the efficiency of foreign currency financing

The CFETS engaged in the foreign currency repo business with the CCDC. On July 12th, 2021, the CFETS and the CCDC jointly launched the foreign currency repo business with bonds under the CCDC custody as the collateral, and adopted auto selection of bond collateral in foreign currency repos to support further development of the market. Under the new mode, which was created by the CFETS and the CCDC in collaboration, the CCDC serves as an independent third-party institution in the foreign currency repo market to provide investors with whole-process collateral management services such as marking to market, automatic adjustment, and default disposal. This is conducive to further improving the efficiency of foreign currency financing, preventing the market's credit risks, and increasing the efficiency of institutions in allocating financial assets.

The CFETS also expanded the scope and application scenarios of collateral for foreign currency repos. On May 17th, 2021, it successfully launched the foreign currency repo business with foreign currency NCDs as the collateral, further expanding the scope of collateral in foreign currency repos. So far, multiple types of collateral, both at home and abroad, in various currencies were accepted in the foreign exchange NCD market to meet the transaction needs of different participating institutions and improve the efficiency of institutions in managing foreign currency assets and liabilities. On November 30th, the CFETS expanded the agent messaging services for foreign currency repos to the secondary custody mode, providing participating institutions with one-stop and whole-process services, including trading, transaction confirmation, message sending, feedback collection, and order and settlement status inquiries. Besides further reducing the transaction costs of institutions, this move promoted the cooperation between the CFETS and custody institutions under different modes for an open trading ecosystem in the interbank market.

6.3.5 Data services were innovated and optimized to expand the information service system

Improvements were made to foreign currency lending market sentiment indicators. On July 26th, 2021, the CFETS and Shanghai CFETS-NEX International Money Broking Co., Ltd. started the optimization of the Interbank USD Lending Market Sentiment Indicator. In addition to the existing morning indicator, the intraday indicator, with reference to the supply and demand in domestic and overseas markets and changes in intraday liquidity, was unveiled, which further expanded the domestic USD reference system and satisfied market demands for pricing benchmarks.

The CFETS launched the Reference Data Interface to serve foreign exchange transactions, allowing users to automatically download basic data of foreign exchange market institutions and products, holidays, and value dates. This move improved market efficiency and increased automatic transactions.

The CFETS also improved Internet information services. With the integration of some iTrader functions into iDeal, the market information system was further improved. For instance, the market information system for foreign exchange option transactions and quotations was redesigned and released; market information systems were developed for transactions in the RMB, bonds and derivatives, local and foreign money market information became interconnected; and inquiries of order data were enabled.

6.3.6 Intensified efforts were devoted to forestalling and diffusing market risks

Cooperation was available on the resolution of defaults on foreign exchange netting. The CFETS, in collaboration with the SHCH, expanded the default disposal channel from the customer end to the interbank foreign exchange market, added hedging and position auction to the means of default disposal, and realized online and direct processing throughout the process of default disposal. All these averted information leakage that could have impacted the market and prevented local risks from evolving into systemic financial risks. As such, financial risks were effectively forestalled and defused to safeguard the stability of the financial market.

6.4 Outlook of the foreign exchange market

In 2022, the foreign exchange market will continue to improve its products and trading mechanism, enrich currency hedging tools in the domestic market, launch foreign exchange exotic options and “One-Click-Order” mode for options, and advance research on pilot RMB and foreign exchange futures. Products and system functions of the bank-enterprise foreign exchange trading platform will be improved. The foreign currency interest rate market will witness further improvement in its trading mechanism and products, with explorations to be made in the centralized netting of foreign currency pairs. The two-way opening-up of the foreign exchange market will be brought to a higher level. The China (Shanghai) Pilot Free Trade Zone (SHFTZ) will work to provide services for foreign exchange transactions of minor currencies, facilitating domestic and overseas bond investors in their foreign exchange risk management through the interbank foreign exchange market. In addition, interconnectivity scenarios will be innovated by introducing liquidity from overseas platforms into the foreign currency pair market, and direct connection between domestic and overseas foreign currency repo markets, etc.

Chapter 7 Gold Market

In 2021, global gold prices generally went downward, and major international and domestic gold markets saw decreased trading volume. The demand for investment in domestic gold ETFs grew rapidly, while commercial banks exercised tighter control on personal precious metal businesses. Infrastructure and institutional construction were further improved in the gold market.

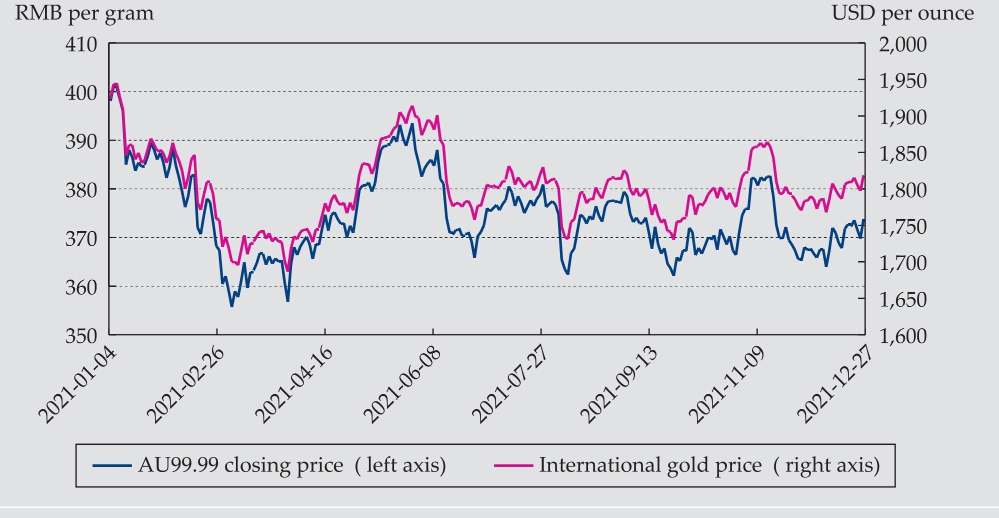
7.1 Performance of the gold market

7.1.1 Gold trading in the SGE

7.1.1.1 Spot gold price fell amid fluctuations, with turnover shrinking

In 2021, gold price at the SGE rose first and then fell, showing a downward trend with fluctuations. Au99.99, the most traded spot gold contract, opened at RMB 397.48 per gram at the beginning of 2021, registering a yearly high of RMB 402.48 per gram and a yearly low of RMB 260.88 per gram, and closed at RMB 373.85 per gram at year-end, representing a decline of 4.14 percent year on year. Throughout the year, the cumulative turnover in the SGE posted RMB 20.53 trillion, down 52.62 percent year on year. Specifically, the gold turnover was RMB 13.08 trillion, down 41.99 percent year on year, and the trading volume reached 34,800 metric tons, down 40.62 percent year on year.

Figure 7.1 Gold price movements in domestic and overseas markets in 2021



(Source: SGE)

7.1.1.2 The gold price matching market and inquiry market shrank, while the pricing market expanded

In 2021, the trading of gold, silver and platinum in the price matching market, the inquiry market and the pricing market of the SGE was carried out in an orderly manner. With respect to gold trading, the trading volumes of the price matching market, the price inquiry market and the pricing market were 12,400 metric tons, 21,200 metric tons and 1,184.35 metric tons, with a turnover of RMB 4.66 trillion, RMB 7.97 trillion and RMB 443.781 billion respectively.

7.1.1.3 Cleared funds continued to increase, and gold deposit and withdrawal climbed up

In 2021, the SGE maintained safe and efficient funds clearing, settlement, delivery, storage and transportation. Throughout the year, the SGE cleared RMB 4.70 trillion of funds on a net basis, reporting a daily average of RMB 19.329 billion and an increase of 3.63 percent compared with 2020. Physical gold withdrawal and deposit on the main board of the SGE amounted to 1,745.70 metric tons and 1,553.67 metric tons, up 44.83 percent and 21.32 percent from the previous year respectively. Physical gold withdrawal and deposit on the SGE international board were 121.61 metric tons and 110.67 metric tons, up 303.30 percent and 1,257.94 percent from the previous year respectively.

7.1.2 Gold futures and gold options trading in the SHFE

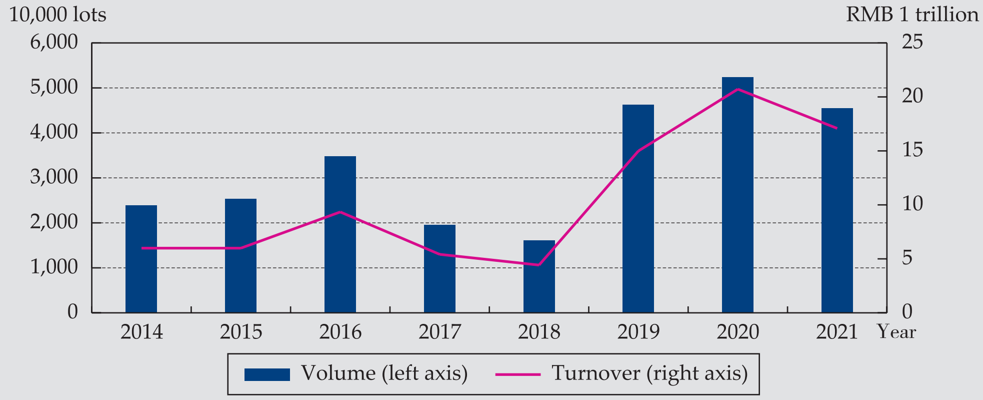
7.1.2.1 Gold futures prices were generally weak amid fluctuations

In 2021, the gold futures contract in the Shanghai Futures Exchange (SHFE) opened at RMB 401.40 per gram, reaching RMB 406.94 per gram at its highest and RMB 354.58 per gram at its lowest, with the largest spread registering RMB 52.36 per gram. The contract closed at RMB 376.42 per gram at end-2021, a decrease of RMB 21.18 per gram (5.33 percent) from RMB 397.6 per gram at end-2020.

7.1.2.2 Gold futures turnover and positions shrank slightly, with deliveries surging

In 2021, the amount and value of gold futures trading in the SHFE registered 45.4122 million lots (45,400 metric tons) and RMB 17.08 trillion respectively, down 13.34 percent and 17.54 percent year on year, with a daily turnover of 186,900 lots and RMB 70.304 billion. Daily average position and delivery stood at 209,000 lots and 5,169 lots (5.17 metric tons) respectively, up -21.06 percent and 88.10 percent year on year. At end-2021, there were six designated gold delivery warehouses, including Industrial and Commercial Bank of China (ICBC), Agricultural Bank of China (ABC), Bank of China (BOC), China Construction Bank (CCB), Bank of Communications (BOCOM), and Shanghai Pudong Development Bank (SPD Bank), with 39 depository locations in total.

Figure 7.2 Gold futures trading in the SHFE from 2014 to 2021



(Source: SHFE)

7.1.2.3 Gold futures options trading was smooth

The daily average trading volume, turnover and position of gold options registered 12,900 lots, RMB 52.8639 million and 32,800 lots respectively. In terms of the market size of underlying assets, the ratio of the daily average trading volume of gold options to that of underlying gold futures was 6.91 percent, and the ratio of daily position of gold options to that of underlying gold futures reached 15.70 percent. With regard to option exercise, gold options experienced 12 maturity dates, during which period 766 contracts exercised the option and were delisted successfully, totaling 15,460 lots, basically in the money.

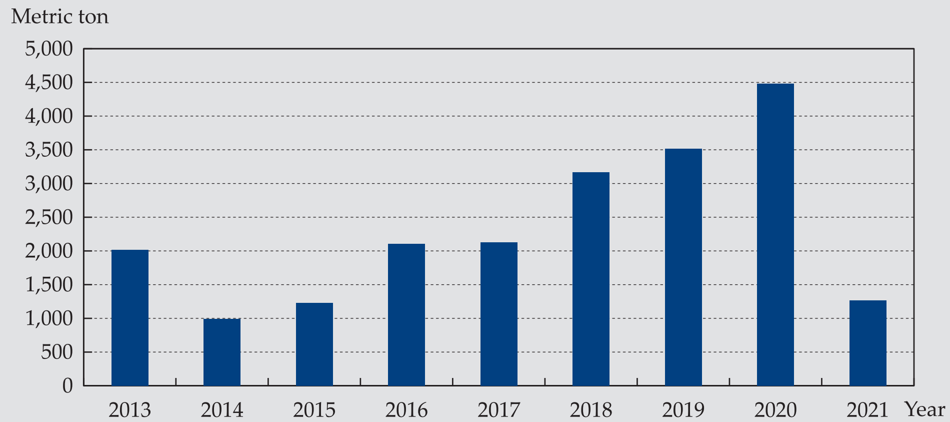
7.1.3 OTC gold business of commercial banks

In 2021, commercial banks traded 5,489.18 metric tons of gold in the domestic OTC market, down 51.89 percent year on year. In particular, an increase was seen in gold leasing, and a decline was posted in account gold, gold derivatives trading, physical gold and gold-based wealth management product sales.

7.1.3.1 Account gold trading volume declined

In 2021, bilateral trading volume of account gold by commercial banks was 1,268.44 metric tons and the turnover was RMB 474.066 billion, down 71.69 percent and 72.27 percent year on year respectively. In particular, the trading volume and turnover of USD-denominated account gold added up to 96.93 metric tons and RMB 36.317 billion respectively, down 67.08 percent and 68.17 percent year on year respectively; those of RMB-denominated account gold were 1,171.51 metric tons and RMB 437.749 billion respectively, down 72.01 percent and 72.56 percent year on year respectively. As of end-December, clients of account gold businesses held a net long position of 60.80 metric tons, down 21.91 percent year on year.

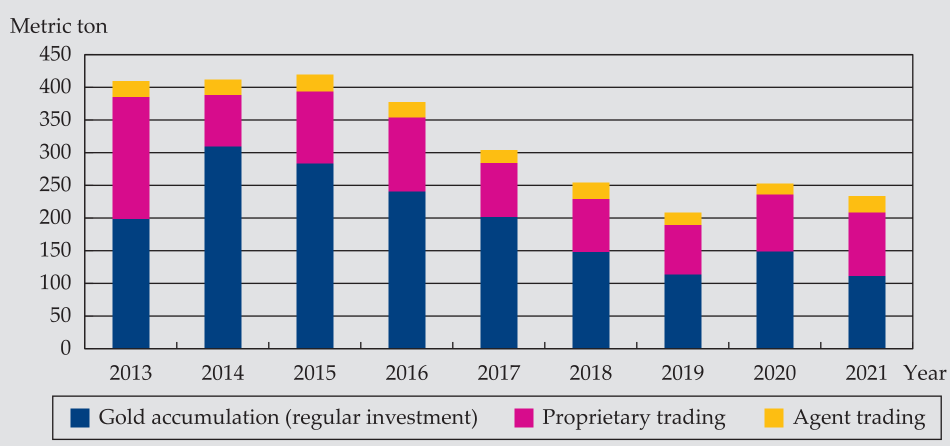
Figure 7.3 Account gold trading volume of commercial banks from 2013 to 2021



7.1.3.2 Physical gold sales of commercial banks experienced structural changes

Physical gold sales of commercial banks include sales and repos of proprietary physical gold, agent physical gold, and gold accumulation (regular investment). In 2021, commercial banks sold 233.25 metric tons of physical gold, reaching RMB 92.445 billion in turnover, down 7.59 percent and 9.10 percent year on year respectively. Specifically, proprietary trading, agent trading and gold accumulation (regular investment) posted 97.56 metric tons, 24.52 metric tons and 111.17 metric tons, up 12.33 percent, 50.99 percent and -25.55 percent from a year earlier respectively.

Figure 7.4 Sales of physical gold by commercial banks from 2013 to 2021



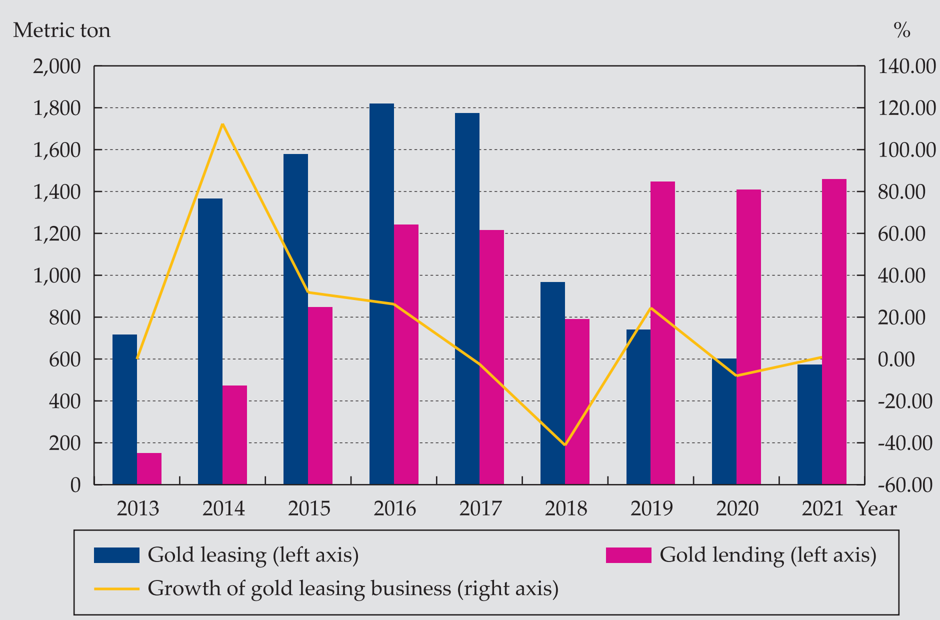
7.1.3.3 Assets managed through gold-based wealth management and asset management products decreased

In 2021, the notional principal amount of gold-based wealth management and asset management products sold by commercial banks totaled RMB 2,509.848 billion, and RMB 2,597.565 billion of such products were redeemed, down 34.63 percent and 33.12 percent year on year respectively. At end-2021, the outstanding balance of gold-based wealth management products reported RMB 405.235 billion, down 14.73 percent year on year.

7.1.3.4 Gold leasing business experienced ups and downs

Gold leasing business consists of interbank gold lending/borrowing, and gold leasing of commercial banks to corporate clients. In 2021, the turnover of gold leasing business of commercial banks totaled 2,030.85 metric tons, up 0.89 percent year on year. In particular, commercial banks leased 572.39 metric tons of gold to clients, a year-on-year decline of 5.06 percent, and leased 1,458.46 metric tons of gold to interbank clients, up 3.43 percent year on year. At end-2021, the outstanding leasing balance of gold business stood at 1,357.16 metric tons, a year-on-year growth of 13.71 percent.

Figure 7.5 Gold leasing business of commercial banks from 2013 to 2021



7.1.3.5 Domestic gold derivatives trading generally registered a lower volume

In 2021, the trading volume of domestic OTC gold derivatives by commercial banks was 1,860.27 metric tons, down 41.03 percent year on year. In terms of product structure, gold forward trading, gold swaps trading and gold options trading reached 365.95 metric tons, 1,455.32 metric tons and 39.00 metric tons, down 28.29 percent, 43.01 percent and 56.95 percent year on year respectively. In terms of currencies, the trading volume of RMB-denominated OTC gold derivatives and USD-denominated ones amounted to 431.07 metric tons and 1,429.20 metric tons, down 37.18 percent and 42.10 percent year on year respectively.

7.2 Main features of the gold market

7.2.1 Gold prices experienced continuous and intensifying fluctuations

In 2021, high inflation accompanying the COVID-19 resurgence, economic and trade frictions amid the competition among major countries, supply chain recovery, and monetary policy-making in developed economies led by the US Federal Reserve had a lasting influence on the global economy and financial markets. As uncertainties increased in the gold market, gold prices became more volatile. In 2021, gold prices in the international market moved basically in tandem with those in the domestic market, going down in the first three months and then picking up with continuous fluctuations. In 2021, the international spot gold opened at USD 1,909.07 per ounce, registering a yearly high of USD 1,959.29 per ounce and a yearly low of USD 1,676.82 per ounce, and closed at USD 1,829.24 per ounce at year-end, representing a decline of 3.60 percent year on year. During the same period, the SGE Au99.99 closed at RMB 373.85 per gram, down 4.14 percent year on year.

7.2.2 Spread between domestic and international gold prices turned from negative to positive, and commercial banks resumed gold imports

In 2020, domestic gold prices maintained a discount to international gold prices, and commercial banks began to suspend gold imports from May. In 2021, the spread gradually turned positive from a long-lasting large discount. Except in May and June, the spread basically maintained positive throughout the year, with an annual average of RMB 1.14 per gram. As domestic gold prices climbed from a discount to a premium to the international gold prices in 2021, commercial banks restarted gold imports from March. In 2021, commercial banks imported 576.10 metric tons of gold, amounting to RMB 212.558 billion, up 549.32 percent and 484.58 percent year on year respectively.

7.2.3 The turnover of the SGE, the SHFE, and the OTC market shrank simultaneously for the first time

In 2021, the trading volume of the domestic gold market reached 131,100 metric tons, down 25.04 percent year on year. The turnover of the SGE, the SHFE, and the OTC market shrank by 13.36 percent to 52 percent. This was partially explained by the shift of investors' trading preferences to commodities.

7.2.4 Demand for domestic gold ETFs grew fast

In 2021, due to violent stock market fluctuations and falling gold prices in China, some investors built gold positions at technical lows by buying gold ETFs. At end-2021, there were 15 gold ETFs available for investment in the domestic market, an increase of four from the previous year. These ETFs held 74.74 metric tons of gold, up 23.68 percent year on year. Among them, Huaan Yifu (32.03 metric tons) and Bosera (25.28 metric tons) took the top two, accounting for 42.86 percent and 33.82 percent respectively.

7.3 Institutional development and infrastructure construction

7.3.1 Institutions were further improved

First, the PBC issued the *Interim Measures for the Administration of Gold Leasing Business (Exposure Draft)* to further regulate the development of gold leasing business and prevent risks in the gold market. Second, the SGE revised the *Interim Provisions of Shanghai Gold Exchange on Irregular Trade Monitoring*, *Measures for the Administration of Anti-money Laundering*, and *Implementation Measures for Members of Shanghai Gold Exchange on Anti-money Laundering and Counter-terrorist Financing* to strengthen comprehensive risk management and full-cycle member administration, and improve the long-term mechanism of risk management. Third, the SHFE released the *Gold Futures Contract of Shanghai Futures Exchange (Revised)* and *Announcement on Publishing the Amendment of Option Contracts and Options Trading Rules* to continuously improve mechanisms for trading and delivery of commodities and exercising of options.

7.3.2 The service system continued to improve

In 2021, the SGE continued to improve its services for the market. First, it effectively reduced transaction costs. By cutting transaction fees, storage fees, freight and insurance fees, delivery fees and transfer fees multiple times and improving the fee structure, the SGE extended support to member institutions, reduced investors' transaction costs, and supported the real economy. During the year, the SGE waived a total of RMB 495 million fees for its members. Second, it optimized clearing and settlement functions. Specifically, it strengthened margin management, earnestly fulfilled its responsibilities as a qualified central counterparty and information disclosure obligations, set up a mechanism of liquidity stress testing, and carried out annual default disposal drills and emergency drills. Third, it comprehensively improved the service system of delivery, storage and transportation, optimized the storage network layout, and upgraded the functions of delivery services.

7.3.3 Continued progress was made in infrastructure development

First, the PBC Shanghai Head Office and the SGE jointly completed the construction of China's Gold Market Trade Report Database (Phase I) and put it into service, which integrated data in the OTC market with in-house data of the SGE, improved the comprehensiveness and unification of trading data in the gold market, and made monitoring, administration and risk prevention more efficient and sustainable in the gold market.

Second, committed to the goal of "excellence, safety, innovation and service", the SGE developed and launched its fourth-generation system (Phase I). With safe and efficient operation, the system provided technical support for the development of the gold market.

Third, the SGE put the Shanghai South Bund production and operation building and the Shenzhen Operation Center into use. In doing so, disaster recovery and backup centers were activated in both Shanghai and Shenzhen, allowing remote disaster recovery actions. This infrastructure layout laid a foundation for the long-term development of the gold market.

7.4 Opening-up of the gold market

In 2021, the international business of the SGE grew in an orderly manner, with a steady growth of market entities, posting a turnover of RMB 3.07 trillion, down 62.84 percent year on year. Specifically, gold traded RMB 1.25 trillion, down 59.06 percent year on year.

First, business participants became further diversified. The SGE actively developed the international market and steadily increased the number of participants in the market. At end-2021, it had 95 international members and 82 international clients, in which nine new international members joined during the year. International members, from 12 countries and regions around the world, include commercial banks, refining enterprises, trade companies, securities companies and investment institutions, among others.

Second, the trading platform was further extended. Taking advantage of the SHFTZ as a pioneer, the SGE steadily promoted the FT accounts of its international board in certain free trade zones outside Shanghai. So far, the FT account of the SGE international board is available in Shenzhen for transactions, which increased the coverage and influence of the SGE international trading platform.

7.5 Outlook of the gold market

In 2022, China's gold market will continue to secure progress while ensuring stability, coordinate market innovation and risk prevention and control, and continue to serve the real economy. The trading mechanisms and institutions will be improved for a more efficient and secure infrastructure system. Publicity and education will be available for gold investors, and market administration and monitoring will be strengthened, thereby effectively forestalling risks in the gold market.

Chapter 8 Insurance Market

In 2021, adhering to the people-centered development philosophy, China's insurance industry actively supported COVID-19 containment, work and production resumption, people's livelihood, and the real economy. With improving institutional arrangements, the insurance industry enhanced the level of guarantee and the ability to resist risk. As such, China's insurance market remained the world's second largest for four consecutive years in a row, exerting greater international influence.

8.1 Performance of the insurance market

8.1.1 Primary premium income

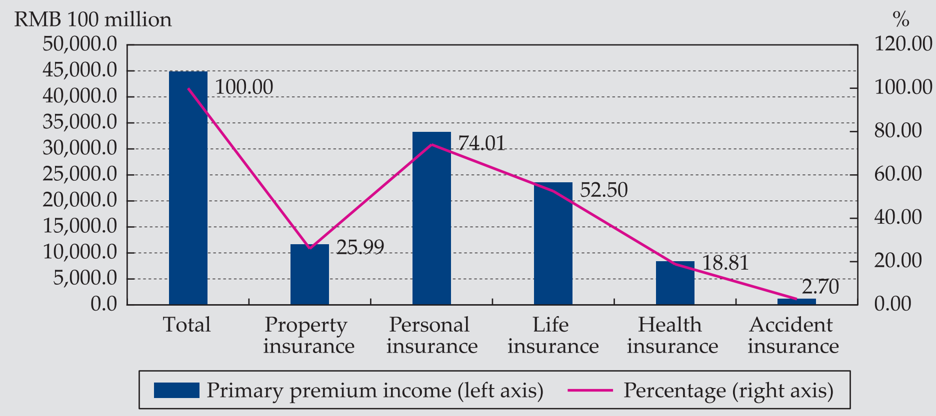
In 2021, China's insurance industry realized primary premium income of RMB 4,490.02 billion, up 4.05 percent① year on year on a comparable basis. Property insurance and personal insurance accounted for 25.99 percent and 74.01 percent respectively. In specific, the primary premium income of property insurance companies and personal insurance companies registered RMB 1,367.65 billion and RMB 3,122.37 billion respectively, up 1.92 percent② and 5.01 percent③ year on year respectively on a comparable basis. From 2017 to 2020, primary premium income of insurance companies recorded RMB 3,658.10 billion (up 18.16 percent year on year), RMB 3,801.66 billion (up 3.92 percent year on year), RMB 4,264.50 billion (up 12.17 percent year on year), and RMB 4,525.73 billion (up 6.13 percent year on year) respectively. In particular, on a year-on-year basis, primary premium income of property insurance companies increased by 13.76 percent, 11.52 percent, 10.72 percent, and 4.36 percent respectively, and that of personal insurance companies rose by 20.04 percent, 0.85 percent, 12.82 percent, and 6.90 percent respectively.

① From June 2021 on, insurance companies undergoing risk resolution are not included in the industry summary data. Source: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034665&itemId=954&generaltype=0, accessed on: July 4th, 2022.

② Data used to calculate, on a comparative basis, the growth rates of property insurance items are sourced from: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034666&itemId=954&generaltype=0, accessed on: July 4th, 2022.

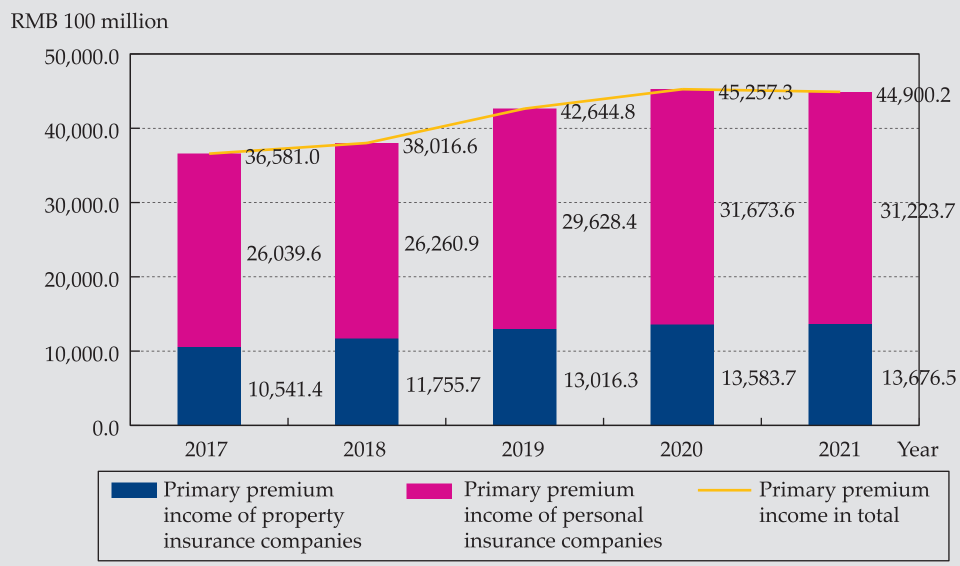
③ Data used to calculate, on a comparative basis, the growth rates of personal insurance items are sourced from: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034667&itemId=954&generaltype=0, accessed on: July 4th, 2022.

Figure 8.1 Primary premium income and insurance structure in 2021



(Source: Official website of the CBIRC)

Figure 8.2 Primary premium income from 2017 to 2021

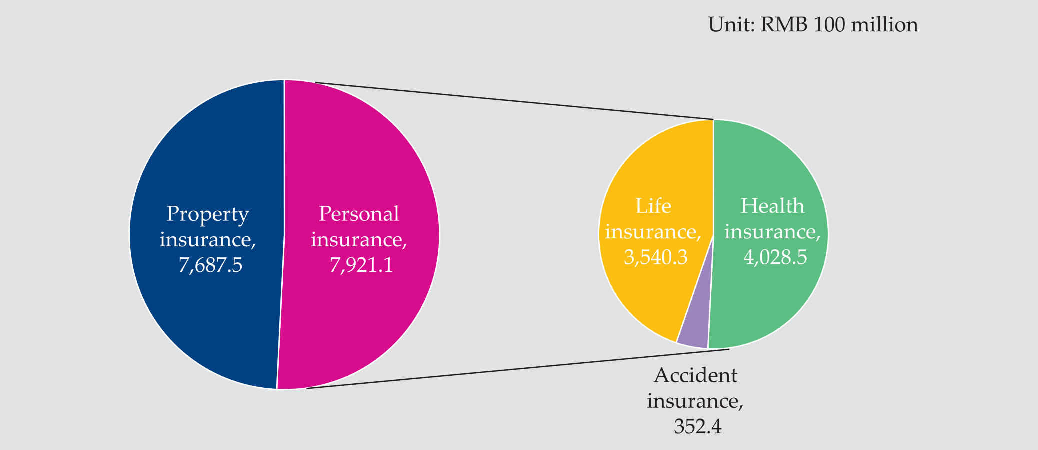


(Source: Official website of the CBIRC)

8.1.2 Claims payment of primary insurance

In 2021, insurance companies paid RMB 1,560.86 billion in claims payment of primary insurance, up 14.12 percent year on year on a comparative basis, registering a higher growth rate than the previous years. In particular, the claims payment of property insurance and personal insurance accounted for 49.25 percent and 50.75 percent respectively. The claims payment by property insurance companies and personal insurance companies came in at RMB 884.80 billion and RMB 676.06 billion, up 13.55 percent and 14.87 percent[①] year on year on a comparative basis. From 2017 to 2020, claims payment of the insurance industry recorded RMB 1,118.08 billion (up 6.35 percent year on year), RMB 1,229.79 billion (up 9.99 percent year on year), RMB 1,289.40 billion (up 4.85 percent year on year), and RMB 1,390.71 billion (up 7.86 percent year on year) respectively. In particular, on a year-on-year basis, claims payment of primary insurance by property insurance companies increased by 8.95 percent, 17.43 percent, 12.76 percent, and 8.27 percent respectively, and that by personal insurance companies rose by 3.89 percent, 2.81 percent, -3.88 percent, and 7.33 percent respectively.

Figure 8.3 Structure of claims payment in 2021



(Source: Official website of the CBIRC)

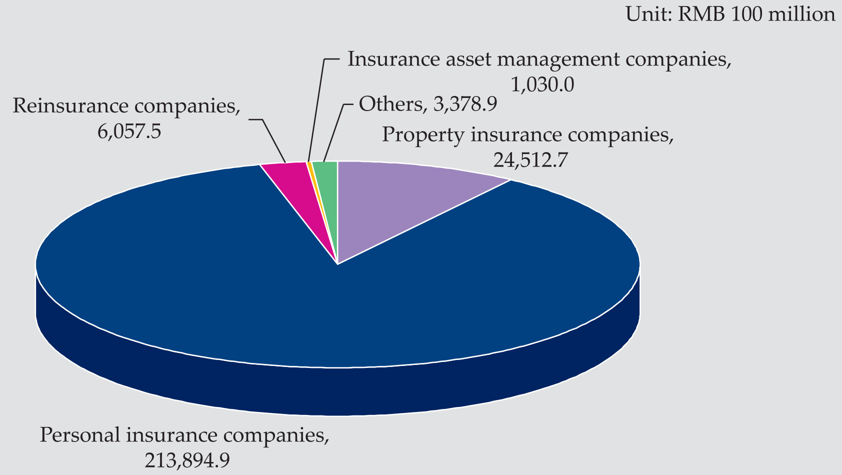
8.1.3 Insurance assets

At end-2021, total assets of insurance companies amounted to about RMB 24.9 trillion, an increase of RMB 2.6 trillion, or 11.5 percent, on a comparative basis from the beginning of the year. Total assets of property insurance companies, personal insurance companies, reinsurance companies, insurance asset management companies, and other institutions stood at RMB 2.5 trillion (up 6.0 percent from the beginning of the year), RMB 21.4 trillion (up 12.4 percent from the beginning of the year), RMB 605.75 billion (up 22.2 percent from the beginning of the year), RMB 103.0 billion (up 35.4 percent from the beginning of the year),

① Data used to calculate, on a comparative basis, the growth rates of property insurance items are sourced from: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034666&itemId=954&generaltype=0, and data used to calculate, on a comparative basis, the growth rates of personal insurance items are sourced from: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034667&itemId=954&generaltype=0.

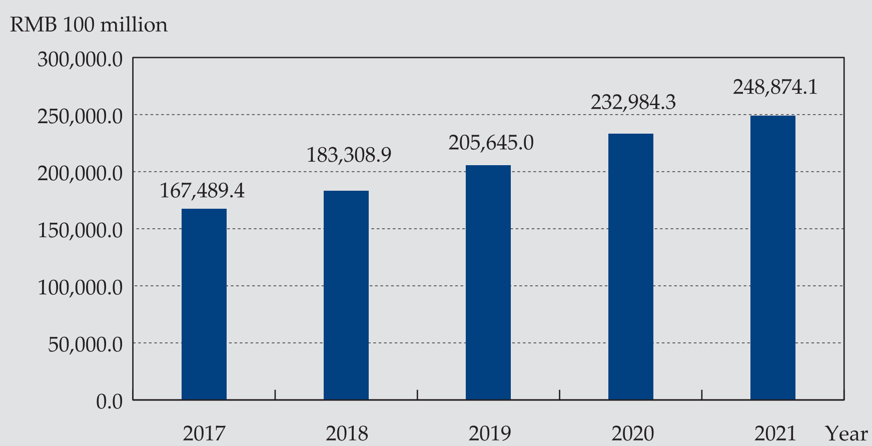
and RMB 337.89 billion respectively. From 2017 to 2020, total assets of the insurance industry registered RMB 16.7 trillion (up 10.80 percent year on year), RMB 18.3 trillion (up 9.45 percent year on year), RMB 20.6 trillion (up 12.18 percent year on year), and RMB 23.3 trillion (up 13.29 percent year on year) respectively.①

Figure 8.4 Structure of total assets in the insurance industry in 2021



(Source: Official website of the CBIRC)

Figure 8.5 Total assets in the insurance industry from 2017 to 2021



(Source: Official website of the CBIRC)

① Source: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1037852&itemId=915, accessed on: February 14th, 2022.

8.2 Main features of the insurance market

8.2.1 The capacity of insurance guarantee continued to increase

In 2021, the insurance industry took an active part in the building of a multi-tiered social security system that covers healthcare and elderly care, launched pilot programs to promote tax-deductible health insurance and tax-deferred pension, steadily advanced the comprehensive reform of auto insurance, and deepened the reform of agricultural insurance. In 2021, the insurance industry registered RMB 12,146.2 trillion in the total amount insured, realizing a sharp year-on-year increase of 40.71 percent on a comparative basis. In particular, the amount insured by property insurance companies and personal insurance companies was RMB 10,860.3 trillion (up 45.53 percent year on year on a comparative basis) and RMB 1,285.9 trillion (up 9.96 percent year on year on a comparative basis) respectively.[①] By types, the amount insured registered RMB 511.51 trillion for auto insurance, RMB 4,927.94 trillion for liability insurance, RMB 4.72 trillion for agricultural insurance, RMB 2,110.98 trillion for health insurance, RMB 3,933.43 trillion for accident insurance, RMB 31.76 trillion for newly sold life insurance, and RMB 625.86 trillion for other types of insurance. With these insurance products, around RMB 11.6 billion of claims payment were made for the post-rainstorm reconstruction in Henan and Shanxi.[②]

8.2.2 The coverage of insurance expanded steadily

In 2021, the number of newly sold insurance policies was 48.896 billion, including 47.941 billion by property insurance companies and 954 million by personal insurance companies. By types, the accumulated number of new policies stood at 567 million for auto insurance, 4.308 billion for cargo transportation insurance, 9.185 billion for liability insurance, 2.488 billion for guarantee insurance, 11.982 billion for health insurance, and 5.416 billion for accident insurance. New life insurance sold stood at 78 million, among which 64 million were attributed to general life insurance. The accumulated number of other types of insurance was 14.871 billion. The COVID-19 vaccine insurance insured over 2.8 billion doses of vaccines.[③]

8.2.3 The insurance industry in general was adequately solvent

In 2021, the business management of the insurance industry remained sound and steady.

① Data used to calculate, on a comparative basis, these growth rates and those of primary premium income come from the same source.

② Source: https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034725&itemId=915, accessed on: January 30th, 2022.

③ Source: https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034725&itemId=915, accessed on: January 30th, 2022.

In terms of corporate governance indicators, the governance of insurance institutions secured stable performance with good momentum for growth. The rating (in percentage) of related-party transaction management increased by 8.93 percentage points year on year, and that of board governance for property insurance companies and personal insurance companies increased by 4.17 percentage points and 2.78 percentage points respectively.① In terms of business indicators, at end-2021, the total net assets of insurance companies stood at RMB 2,930.56 billion. In terms of solvency, the insurance industry maintained stable operation overall, with the solvency ratio kept within a reasonable range. At end-2021, the average comprehensive solvency ratio and average core solvency ratio of 179 insurance companies, which were reviewed by the CBIRC's Solvency Supervision Committee at its meetings, stood at 232.1 percent and 219.7 percent respectively. In particular, the average comprehensive solvency ratios of property insurance companies, personal insurance companies, and reinsurance companies were 283.7 percent, 222.5 percent, and 311.2 percent respectively.② In terms of risk and risk management indicators, at end-2021, 91 of the insurance companies reviewed by the CBIRC's Solvency Supervision Committee at its meetings were rated A in the composite rating of risks, 75 rated B, 8 rated C, and 4 rated D.③

8.2.4 Insurance funds showed significant advantages in long-term investment

At end-2021, outstanding insurance funds stood at RMB 23.23 trillion. Among them, bank deposits totaled RMB 2.62 trillion and accounted for 11.27 percent of the total; investment in bonds amounted to RMB 9.07 trillion and made up a share of 39.04 percent in the total; investment in stocks and securities investment funds amounted to RMB 2.95 trillion and accounted for 12.70 percent of the total; other investment registered RMB 8.59 trillion and represented 36.99 percent of the total. Insurance funds were given full play to their advantages in long-term investment and were invested in a number of major national strategic projects, such as the development of the Yangtze River Economic Belt, the development of the Guangdong-Hong Kong-Macao Greater Bay Area, and the coordinated development of the Beijing-Tianjin-Hebei region.

8.3 Reform and innovation in the insurance market

8.3.1 Exclusive commercial pension trials were launched for the standardized development of the third-pillar pension

In May 2021, the CBIRC issued the *Notice on*

① Source: https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1028635&itemId=915&generaltype=0, accessed on: January 30th, 2022.

② Source: https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1040213&itemId=915&generaltype=0, accessed on: July 4th, 2022.

③ Source: https://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1040213&itemId=915&generaltype=0, accessed on: July 4th, 2022.

Exclusive Commercial Pension Trials (CBIRC No. 57 [2021]), which set out rules and standards for premium payment methods, accumulation and annuitization period designs, coverage, cancellation, information disclosure, and product management of exclusive commercial pension products, and specified regulatory support policies on the proportion of investment in equity assets and the minimum capital requirement. According to the *Notice*, exclusive commercial pension trials would begin on June 1st in Zhejiang (including Ningbo) and Chongqing and last for one year tentatively, with six participating insurance companies.①

In December, the CBIRC issued the *Notice on Regulating and Promoting the Development of Pension Institutions* (CBIRC No. 134 [2021]), supporting the participation of eligible pension companies in exclusive commercial pension trials.

8.3.2 Comprehensive reform of auto insurance advanced, and related tasks were carried out, with progress made

In September 2020, the CBIRC released the *Guiding Opinions on Implementing the Comprehensive Reform of Auto Insurance*, the *Actuarial Provisions on Model Commercial Auto Insurance*, and the *Announcement on Adjusting the Liability Limit and Tariff Floating Coefficient of Compulsory Auto Liability Insurance*. Following those releases, the comprehensive reform of auto insurance was launched. Since then, the reform has created remarkable social benefits. Premiums and fees of auto insurance went down, and liability limits and the ratio of vehicles covered by commercial auto insurance went up. At end-2021, auto insurance premium income accounted for 56.8 percent (down 3.9 percentage points from the previous year) of total premium income of property insurance companies,② close to the ratios in major economies, including the U.S. (43 percent) and Japan (50 percent).

To implement the arrangements of the CBIRC on the comprehensive reform of auto insurance, the *Clauses of Commercial Insurance Exclusively for New Energy Vehicles (for Trial Implementation)* and the *Schedule of Baseline Pure Risk Premiums of Commercial Insurance for New Energy Vehicles (for Trial Implementation)* were promulgated. On December 27th, 2021, the Shanghai Insurance Exchange (SHIE) officially launched the new energy vehicle (NEV) insurance trading platform, with the products of 12 property insurance companies dedicated to NEVs listed, supporting the development of the new insurance business and rending the benefits of the comprehensive auto insurance reform to NEV owners.

① CBIRC issues the *Notice on Exclusive Commercial Pension Pilots*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=983946&itemId=915&generaltype=0, accessed on: February 7th, 2022.

② Calculated based on data from the CBIRC official website: http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1034666&itemId=954&generaltype=0, accessed on: July 4th, 2022.

8.3.3 Regulation of insurance intermediaries was strengthened to improve their information technology application and business management

To strengthen the regulation of insurance intermediaries, improve their information technology application and business management, and promote the high-quality development of the insurance brokerage business, on January 12th, 2021, the CBIRC released the *Notice on Issuing the Regulatory Measures on Information Technology Application of Insurance Intermediaries* (CBIRC No. 3 [2021]), which set out comprehensive requirements for information technology application of insurance intermediaries. Institutions that fail to comply with the requirements would be prohibited from engaging in the insurance brokerage business.[①] The SHIE launched the insurance intermediary service platform, which rests on the Software as a Service (SaaS) system and transaction connection services to provide one-stop solutions to the digitalization of insurance intermediaries. As of end-2021, the platform has extended support to over 400 insurance intermediaries and over 30 insurance companies.

8.3.4 The reform for separating operating permits from business licenses was deepened to further energize market entities

In line with the decisions and arrangements made by the CPC Central Committee and the State Council on continuously deepening the reform of "streamlining administration, delegating powers, improving regulation and services", streamlining the approval process in the insurance industry, improving market access services, further optimizing the business environment, energizing market entities, and promoting the high-quality economic development, on July 27th, 2021, the CBIRC released the *Notice on Issuing the Implementation Plan for Deepening the Reform for Separating Operating Permits from Business Licenses and Further Stimulating the Vitality of Market Entities* (CBIRC No. 25 [2021]), setting out detailed reform measures for state-specified business license items requiring administrative approval. According to the *Notice*, China will adopt a full-scale list-based management for insurance business license items requiring administrative approval, where the reform will focus on improving administrative approval services by simplifying requirements of materials and streamlining procedures. Also, more efforts will be devoted to further carrying out pilot reforms in free trade zones, where the reform will focus on shifting from approval to filing. More specifically, based on regulation realities, for certain insurance institutions, items such as the establishment of branches and the verification of senior management appointment will require only ex-post filing, instead of ex-ante approval. By streamlining administration, delegating

① CBIRC Officials Answer Press Questions on the *Regulatory Measures on Information Technology Application of Insurance Intermediaries*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=958272&itemId=915&generaltype=0, accessed on: February 7th, 2022.

powers, improving market access services, and innovating and strengthening interim and ex-post oversight, China will foster a market access environment that is fair, open, convenient, and efficient for the banking and insurance industries.①

8.3.5 The market-based reform of the use of insurance funds went deeper, improving the effect and efficiency of the insurance market in serving the real economy

To deepen the market-based reform of the use of insurance funds, on September 18th, 2021, the CBIRC released the *Notice on Matters Concerning the Registration of Capital Assistance Programs and Insurance Private Equity Funds* (CBIRC No. 103 [2021]). In line with the *Notice*, insurance asset management institutions can only file for their capital assistance programs and insurance private equity funds and no longer need to register with the authorities. PICC Insurance Asset Registration and Trading System Co., Ltd. and the Insurance Asset Management Association of China (IAMAC) will handle the filing process for the two businesses separately.② On November 17th, the CBIRC issued the *Notice on Issues Concerning Insurance Fund Investment in Publicly Traded REITs* (CBIRC No. 120 [2021]) to revitalize existing assets invested in infrastructure projects and raise the proportion of direct financing.③ On November 19th, the CBIRC issued the *Notice on Adjusting the Credit Rating Requirements of Bond Investment by Insurance Funds and Other Related Matters* (CBIRC No. 118 [2021]) to expand the uses of insurance funds and give more discretion to insurance institutions.④ On December 3rd, the CBIRC issued the *Notice on Relevant Matters of Insurance Funds Participating in Securities Lending Business* (CBIRC No. 121 [2021]) to further standardize the participation of insurance funds in securities lending.⑤ On December 17th, the CBIRC issued the *Notice on Amending Certain Regulatory Documents Concerning Insurance Fund Investment* (CBIRC No. 47 [2021]) to amend certain regulatory documents, which is expected to increase the discretion of market entities in investment, provide long-term funds for the multi-tiered capital market, and guide

① CBIRC releases the *Notice on Issuing the Implementation Plan for Deepening the Reform for Separating Operating Permits from Business Licenses and Further Stimulating the Vitality of Market Entities*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=998699&itemId=915&generaltype=0, accessed on: February 7th, 2022.

② CBIRC Officials Answer Press Questions on the *Notice on Matters Concerning the Filing of Capital Assistance Programs and Insurance Private Equity Funds*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1010313&itemId=915, accessed on: February 7th, 2022.

③ CBIRC Officials Answer Press Questions on the *Notice on Issues Concerning Insurance Fund Investment in Publicly Traded REITs*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1018670&itemId=915&generaltype=0, accessed on: February 11th, 2022.

④ CBIRC Issues the *Notice on Adjusting the Credit Rating Requirements of Bond Investment by Insurance Funds and Other Related Matters*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1018999&itemId=917&generaltype=0, accessed on: February 11th, 2022.

⑤ CBIRC Issues the *Notice on Relevant Matters of Insurance Funds Participating in Securities Lending Business*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1021800&itemId=915, accessed on: February 11th, 2022.

insurance funds to increase investment in standardized products to prevent investment risks.①

8.4 Opening-up of the insurance market

8.4.1 Guiding opinions were released to advance the development of Shanghai as an international reinsurance center

To earnestly implement the requirements in the *Guidelines of the CPC Central Committee and the State Council for Supporting the High-level Reform and Opening-up of the Pudong New Area in Shanghai and Building Pudong into a Pioneer Area for Socialist Modernization*, on October 26th, 2021, the CBIRC and Shanghai Municipal People's Government released the *Guiding Opinions on Advancing the Development of Shanghai as an International Reinsurance Center* (CBIRC No. 36 [2021]), setting out guidelines, goals, and underlying principles for the undertaking. Four key tasks were specified. The first was to make, advanced institutional arrangements, to gradually build Shanghai's reinsurance market with competitive edges. The second was to improve the abilities to supply and innovate reinsurance products, to support and secure national strategies. The third was to advance institutional opening-up at a higher level, to reinforce the international competitiveness of Shanghai as a reinsurance center. Furthermore, the fourth was to speed up reinsurance talent development, to build a think tank for the reinsurance market.②

8.4.2 The *Implementation Rules of the Regulations of the People's Republic of China on Foreign-funded Insurance Companies was amended*

To implement the decisions and arrangements made by the CPC Central Committee and the State Council on promoting the opening-up of the financial sector, and to further refine the rules supporting the *Regulations of the People's Republic of China on Foreign-funded Insurance Companies*, on March 19th, 2021, the CBIRC released the *Decision on Amending the Implementation Rules of the Regulations of the People's Republic of China on Foreign-funded Insurance Companies* to further clarify market access requirements for foreign insurance group companies and overseas financial institutions, improve the requirements for the turnover and access of shareholders, maintain regulatory consistency, and remove the limit on foreign ownership. Under the *Regulations of the People's Republic of China on Foreign-funded Insurance Companies* and the amended implementation rules, the CBIRC has been improving the investment and business environment for the

① CBIRC Issues the *Notice on Amending Certain Regulatory Documents Concerning Insurance Fund Investment*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1024398&itemId=917&generaltype=0, accessed on: February 11th, 2022.

② *Guiding Opinions of the CBIRC and Shanghai Municipal People's Government on Advancing the Development of Shanghai as an International Reinsurance Center*, http://www.cbirc.gov.cn/cn/view/pages/govermentDetail.html?docId=1014500&itemId=871&generaltype=1, accessed on: February 7th, 2022.

insurance industry to boost market vitality and improve the effect and efficiency of the insurance industry in serving the real economy.①

8.4.3 Support was extended to the development of Hong Kong as a financial hub to promote exchange between the insurance markets in Hong Kong and the Chinese mainland as well as their development

To thoroughly implement the requirements of the CPC Central Committee on further opening up the financial sector and to support the development of the Guangdong-Hong Kong-Macao Greater Bay Area, in August 2021, the CBIRC released the revised *Solvency Regulatory Rules on Insurance Companies – Questions and Answers No. 1: Default Risk Factors of Reinsurance Counterparties in Hong Kong during the Transition Period of the Equivalence Assessment Framework Agreement on Solvency Regulatory Regime* (CBIRC No. 30 [2021]), clarifying that, for qualified reinsurance institutions in Hong Kong, the term of reinsurance credit risk factor applicable when ceded from the Chinese mainland-based direct insurance companies is extended to June 30th, 2022. With this move, the Chinese mainland carried out the equivalence mutual recognition of the solvency regime with Hong Kong and provided corresponding favorable regulatory policies.②

To support domestic insurance companies intending to issue catastrophe bonds in Hong Kong, the CBIRC issued the *Notice on Matters Concerning Domestic Insurance Companies Issuing Catastrophe Bonds in Hong Kong Market* (CBIRC No. 102 [2021]), which specified the application scope of catastrophe bonds, the access requirements and regulation of special purpose insurers (SPIs), laws and risk control requirements to be strictly complied with by insurance companies, and information reporting requirements for insurance companies issuing catastrophe bonds,③ so as to establish a multi-tiered catastrophe risk diversification mechanism.

8.5 Outlook of the insurance market

In 2022, the insurance industry will stay committed to high-quality development, speed up transformation, and integrate its development into the national strategy. Measures will be taken to foster a reasonably structured and fully functioning insurance supply system that covers various risks and

① CBIRC Releases the *Decision on Amending the Implementation Rules of the Regulations of the People's Republic of China on Foreign-funded Insurance Companies*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=971672&itemId=917&generaltype=0, accessed on: February 7th, 2022.

② CBIRC Extends the Applicable Period of Reinsurance Credit Risk Factors during the Transition Period of Equivalence Assessment Framework Agreement on Solvency Regime for HK Reinsurance Counterparties, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1000238&itemId=915&generaltype=0, accessed on: February 7th, 2022.

③ CBIRC Issues the *Notice on Matters Concerning Domestic Insurance Companies Issuing Catastrophe Bonds in Hong Kong Market*, http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=1010125&itemId=915&generaltype=0, accessed on: February 7th, 2022.

features orderly competition, thereby extending all-round support for the building of a new development paradigm. Insurance companies will be urged to focus on their main businesses and improve their products, and the mechanism of collaborative insurance for key areas will be optimized. Health insurance services will be improved, the third-pillar pension will be standardized, inclusive insurance supporting agriculture, rural areas and rural people will be promoted, and green financial products and services will be innovated, thereby promoting common prosperity and the dual-carbon goal. Efforts will be made to explore differentiated development and competition and embrace digitalization, thereby boosting the quality of development. Corporate governance will be refined to explore, establish, and improve a modern corporate system that features Chinese characteristics and conforms to international standards. The high-level opening-up will be further promoted to support key state-level opening-up moves and step up support for the joint development of the BRI. Measures will be taken to guard against risks, comprehensively reinforce internal control, foster the awareness of compliance, and boost the endogenous impetus for compliant business activities.

BOX 6 The SHIE secured new progress in supporting the development of Shanghai as an international reinsurance center

1. Shanghai accelerated the development of an international reinsurance center

In July 2021, the Guidelines of the CPC Central Committee and the State Council for Supporting the High-level Reform and Opening-up of the Pudong New Area in Shanghai and Building Pudong into a Pioneer Area for Socialist Modernization was released, which required the SHIE to play a constructive role in developing a world-leading reinsurance center. For the first time ever, the SHIE, a national financial infrastructure, received explicit instructions to play a key role in the development of Shanghai as an international reinsurance center. To implement the key national strategy, in October 2021, the CBIRC and Shanghai Municipal People's Government jointly released the Guiding Opinions on Advancing the Development of Shanghai as an International Reinsurance Center (hereinafter referred to as the Guiding Opinions) as a master plan for the international reinsurance center development in Shanghai. The SHIE will be closely involved in several tasks, including "developing a Shanghai-based, international digitalized reinsurance registration, clearing and settlement platform system, formulating blockchain-based reinsurance data interchange standards, and improving the Lujiazui International Reinsurance Conference as a communication platform".

2. Financial infrastructures served for the development of a world-leading reinsurance center

To deliver on the purpose of the Guidelines and the Guiding Opinions and better support the *development of a world-leading reinsurance center, the SHIE engaged actively in the construction of remote and in-person service facilities ("One Conference" plus "One Platform") and the formulation of "One Set of Standards", providing essential factors, market conditions, and rules for the domestic reinsurance market to participate in and lead global risk diversification and governance initiatives.*

The "One Conference" refers to the Lujiazui International Reinsurance Conference, which has been held three times since 2019 and is now the world's fourth largest annual gathering of reinsurance dealers. With stronger support from the CBIRC and Shanghai governments at the municipal and district levels, the third Lujiazui International Reinsurance Conference held in 2021 attracted a total of 1,357 registered participants from 405 institutions worldwide. At the conference, the Guiding Opinions was released. The conference surpassed its two predecessors in terms of authority, influence, and trading volume, and is becoming, at a faster pace, an important scenario of matching-based reinsurance transactions and international exchange and cooperation.

The "One Platform" refers to the world's first digitalized reinsurance registration, clearing and settlement platform. The SHIE focused on the weak links of the infrastructure in the global reinsurance market, seized the opportunity of digitalization, and drew on practices of the interbank market to build new, digitalized reinsurance infrastructure, which was put to trials in Shanghai. Leveraging blockchain and other digital technologies, the platform enables reinsurance companies to exchange transaction data on a real-time basis, sign and archive contracts electronically. It also enables automatic account clearing and instant fund settlement. As such, institutions gather in a digital environment for efficient interactions and transactions. Pilot institutions realized an exponential increase in reinsurance transaction efficiency, saving around 80 percent labor costs.

The "One Set of Standards" refers to the standards for blockchain-based reinsurance data interchanges. Under the leadership of the CBIRC and the Insurance Standardization Sub-committee of the China Financial Standardization Technical Committee (CFSTC), the SHIE, together with reinsurance institutions, formulated the world's first blockchain-based reinsurance data interchange standards and corresponding clearing and settlement rules for the platform, including an industry-recognized standardized reinsurance contract format and account statement. This "lingua franca" for data interchange has been verified as effective through pilots. As an exemplary case of high-level institutional opening-up of China's insurance industry, it serves to improve the global influence of China's financial market rules and data standards.

Chapter 9 Derivatives Market

In 2021, China's derivatives market saw a steadily growing trading volume, accelerated innovation of varieties, and more investors in both numbers and categories. With continuously improved market mechanism, it made sound progress in opening-up, and gained a greater clout internationally. Its functions were further leveraged, thus rendering vigorous support to economic and financial sectors in forestalling market risks and better serving the real economy.

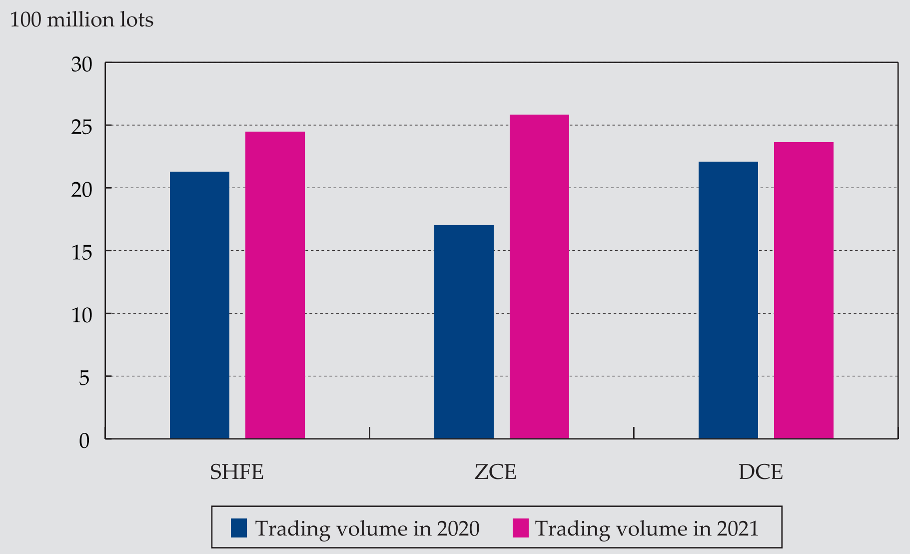
9.1 Commodity futures and options market

9.1.1 Performance of the commodity futures and options market

In 2021, the trading of China's commodity futures and options market expanded significantly, realizing a cumulative trading volume of 7.392 billion lots and a cumulative trading turnover of RMB 463.03 trillion, up 22.44 percent and 43.76 percent year on year respectively. China's trading volume of commodity derivatives accounted for 69.79 percent of the world's total, up nearly 7 percentage points from 62.99 percent recorded for the previous year.

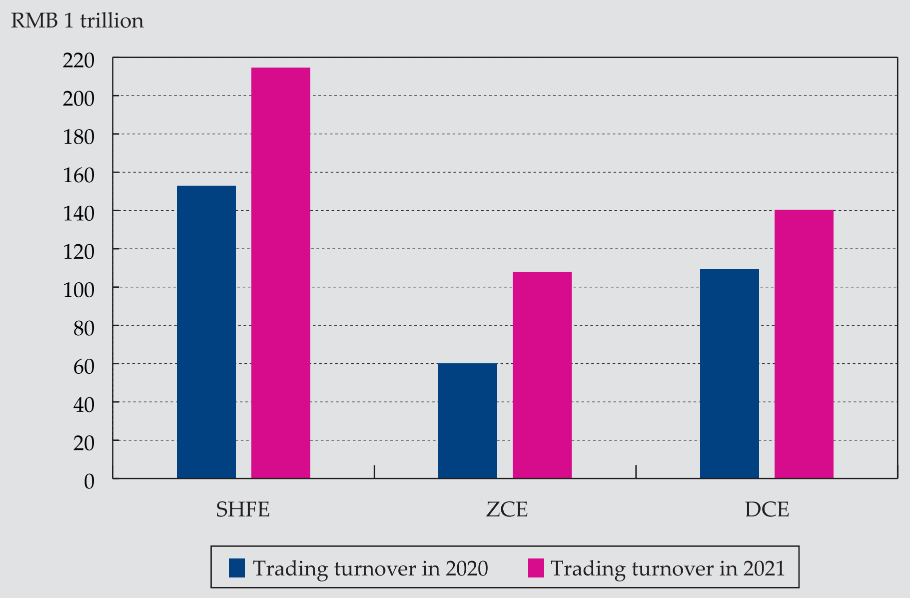
As for exchanges, the SHFE including the INE realized a cumulative trading volume of 2.446 billion lots and a cumulative trading turnover of RMB 214.58 trillion, up 14.90 percent and 40.43 percent year on year respectively, accounting for 33.09 percent and 46.34 percent in the market respectively. Zhengzhou Commodity Exchange (ZCE) realized a cumulative trading volume of 2.582 billion lots and a cumulative trading turnover of RMB 108 trillion, up 51.75 percent and 79.73 percent year on year respectively, taking up 34.93 percent and 23.32 percent of the market respectively. Dalian Commodity Exchange (DCE) realized a cumulative trading volume of 2.364 billion lots and a cumulative trading turnover of RMB 140.5 trillion, up 7.12 percent and 28.62 percent year on year respectively, accounting for 31.98 percent and 30.34 percent in the market respectively.

Figure 9.1 Cumulative trading volume of SHFE, DCE, and ZCE from 2020 to 2021



(Source: CFA)

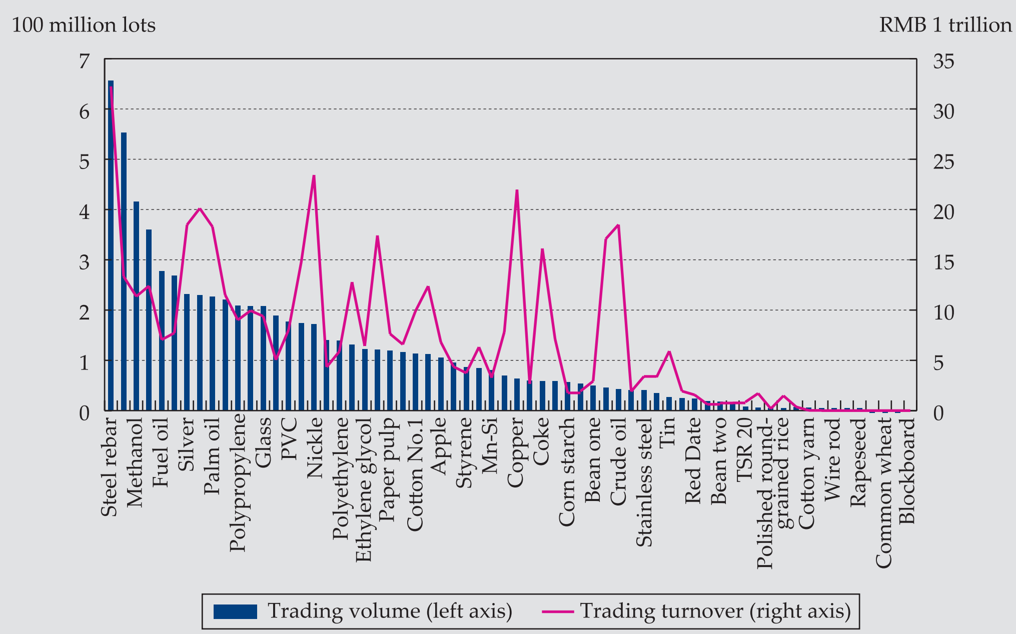
Figure 9.2 Cumulative trading turnover of SHFE, DCE, and ZCE from 2020 to 2021



(Source: CFA)

In 2021, China's commodity futures market registered a cumulative trading volume of 7.177 billion lots and a turnover of RMB 462.77 trillion, up 21.06 percent and 43.73 percent year on year respectively. Agricultural products saw a cumulative trading volume of 1.963 billion lots and a turnover of RMB 112 trillion, up 6.7 percent and 32.15 percent year on year respectively; metal reported a cumulative trading volume of 2.156 billion lots and a turnover of RMB 203.75 trillion, up 27.62 percent and 35.55 percent year on year respectively; energy and chemicals realized a cumulative trading volume of 3.058 billion lots and a turnover of RMB 147.02 trillion, up 27.45 percent and 69.16 percent year on year respectively.

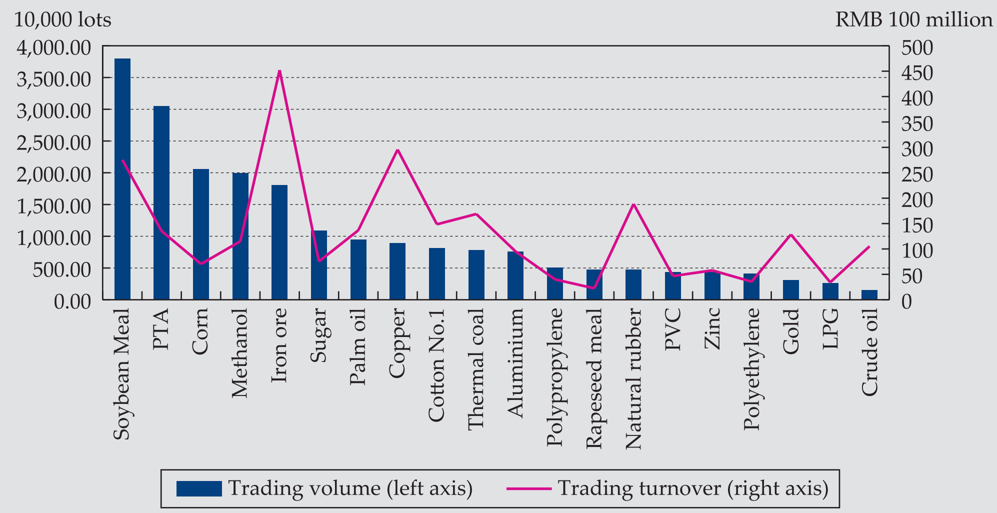
Figure 9.3 Cumulative trading volume and turnover of various commodity futures in China in 2021



(Source: CFA)

In 2021, China's commodity options market sustained rapid growth, seeing a cumulative trading volume of 215 million lots and a cumulative trading turnover of RMB 260 billion, up 97.27 percent and 134.14 percent year on year respectively. As of end-2021, a total of 20 varieties of commodity options were listed on the market, which was two more than end-2020.

Figure 9.4 Cumulative trading volume and turnover of various commodity options in China in 2021



(Source: CFA)

In 2021, the world's top five exchange-traded commodity derivatives markets were China, the U.S., the U.K., Russia, and India, which combined accounted for 97.58 percent of the total. China has been the world's largest exchange-traded commodity derivatives market since 2009.

Table 9.1 Trading statistics of the world's top five exchange-traded commodity derivatives markets in 2021

2021 ranking	Country/Region	Volume (100 million lots)	YoY growth(%)	Market share(%)	2020 ranking
1	China	73.92	22.44	69.79	1
2	The U.S.	13.17	-9.36	12.43	2
3	The U.K.	7.19	1.19	6.79	4
4	Russia	7.19	-16.35	6.79	3
5	India	1.89	-26.70	1.78	5

Source: Futures Industry Association.

9.1.2 Main features of the commodity futures and options market

9.1.2.1 The trading turnover of energy and chemical futures registered the biggest growth, and the trading volume of metal futures grew at the fastest pace

In 2021, energy and chemical futures saw a cumulative trading volume of 3.058 billion lots and a cumulative trading turnover of RMB 147.02 trillion, up 27.45 percent and 69.16 percent year on year respectively; agricultural products realized a cumulative trading volume of 1.963 billion lots and a cumulative trading turnover of RMB 112 trillion, up 6.7 percent and

32.15 percent year on year respectively; metals reported a cumulative trading volume of 2.156 billion lots and a cumulative trading turnover of RMB 203.75 trillion, up 27.62 percent and 35.55 percent year on year respectively.

9.1.2.2 The trading volume of commodity options increased rapidly, and the composition of varieties traded became more even

In 2021, the trading volume and turnover of China's commodity options market increased by 97.27 percent and 134.14 percent from the previous year respectively. Top three varieties in terms of trading volume were Soybean Meal, PTA, and Corn options, with a trading volume of 37.9928 million lots, 30.5238 million lots, and 20.6003 million lots respectively; the cumulative trading volume of the three options accounted for 41.45 percent of the total, down 7.65 percentage points from the previous year. Top three varieties in terms of trading turnover were Iron Ore, Copper, and Soybean Meal options, with a trading turnover of RMB 45.203 billion, RMB 29.567 billion, and RMB 27.554 billion; the cumulative trading turnover of the three options accounted for 38.94 percent of the total, down 11.22 percentage points from the previous year.

9.1.3 Innovation and institutional building of the commodity futures and options market

9.1.3.1 Varieties were further innovated to foster a sounder product system of futures and options

In 2021, four new varieties were listed in China's commodity futures and options markets, including two commodity futures and two commodity options. Specifically, Crude Oil options were listed on the shanghai International Energy Exchange (INE), Peanut futures were listed on the ZCE, and Hog futures and Palm Oil options were listed on the DCE.

As of end-2021, there were 84 listed varieties on China's commodity futures and options markets, including 64 futures varieties and 20 options.

9.1.3.2 The trading tools of Crude Oil futures were continuously improved

In 2020, the INE introduced the order type of Trading at Settlement (TAS) for Crude Oil futures. In 2021, the INE further optimized TAS, and completed an optimization plan which, based on the trading rules and market conditions of Crude Oil futures in Shanghai, plans to add the feature of premium and discounted offers, extend the trading time of TAS, and increase the number of contracts covered.

9.1.3.3 OTC market construction secured initial progress, and continuously expanded the space for serving the real economy

In 2021, the commodity futures exchanges continued to advance developing the OTC market, with a growing number of varieties and modes of OTC businesses, such as warrant trade, commodity swap, basis trading, and OTC options, and continuously expanded the inter-institutional market of OTC commodity derivatives. The report repository for OTC derivatives trading became China's first report repository recognized by the Financial Stability Board (FSB).

9.1.3.4 Legal system continuously improved

In January 2021, the CSRC revised the *Administrative Measures for the Qualifications of Directors, Supervisors, and Senior Managers of Futures Companies*, optimizing relevant provisions and further clarifying regulatory requirements for relevant entities; it also revised the *Administrative Measures for Futures Exchanges*, improving the rule on the use of negotiable securities as margins, adding provisions on the central counterparty status of futures exchanges and the netting settlement system, and responding to overseas institutional investors. In July 2021, the CSRC published the *Measures for the Administrative Penalties for Securities and Futures Violations*, with an aim to regulate the inspections and penalties performed by the CSRC and its local offices to offer solid institutional support for more effective inspections and penalties.

9.1.4 Opening-up of the commodity futures and options market

9.1.4.1 Cross-border regulatory cooperation was actively carried out

In August 2021, the SHFE signed a memorandum of understanding with Thailand Futures Exchange (TFEX), thus establishing the framework foundation for substantive cooperation in the future. In November 2021, the ZCE and the Malaysia Derivatives Exchange (MDEX) signed a memorandum of understanding to strengthen their communication mechanism and partnership in derivatives.

9.1.4.2 Cross-border businesses were expanded

First, more overseas entities were involved in the trading of Crude Oil futures. As of end-2021, a total of 75 overseas intermediaries were registered at the INE, and the overseas clients were located in more than 20 countries and regions in Asia, Africa, Europe, North America, South America, and Oceania. Second, overseas businesses were expanded steadily. In 2021, the business of picking up goods overseas for Low Sulfur Fuel Oil futures of the INE was carried out smoothly, thus initially implementing the model combining the practices of “delivering domestically and picking up overseas” and expanding the scope for the futures market to serve the cross-border operations of the businesses in the real economy.

9.1.4.3 The futures market was increasingly recognized globally

In 2021, the SHFE and the INE won a slate of 2021 awards from Futures & Options World (FOW) magazine, including “Exchange of the Year – Derivatives”, “Exchange of the Year – Commodities”, and “Chinese Exchange of the Year”.

9.1.5 Outlook of the commodity futures and options market

First, the institutional system of the futures industry will be further improved. In 2021, breakthroughs were made in the efforts to formulate laws for the industry. The *Futures and Derivative Law of the People's Republic of China* passed the second reading, and was promulgated in April 2022 and took effect starting from August 1st, 2022. In the future, relevant stakeholders in the futures market will, under the guidance of the legal framework and principles of the *Law*, improve the institutional system consisting of department regulations and self-regulatory rules, consolidate legal system building of the market, and enhance the capability of law-based market governance. Second, the market will continue to develop and launch new varieties and improve the product structure. Driven by supply-chain demands, the market will optimize existing varieties and effectively introduce new ones, thus constantly releasing new varieties for industry chains related to the listed ones. Efforts will be made to advance the innovation of refined oil, natural gas, carbon emission rights, and new energy metals futures. The market will also support China Commodity Indices Co., Ltd. in starting operations in Xiongan, so as to formulate and publish unified commodity indices and increase the supply of index products in China.

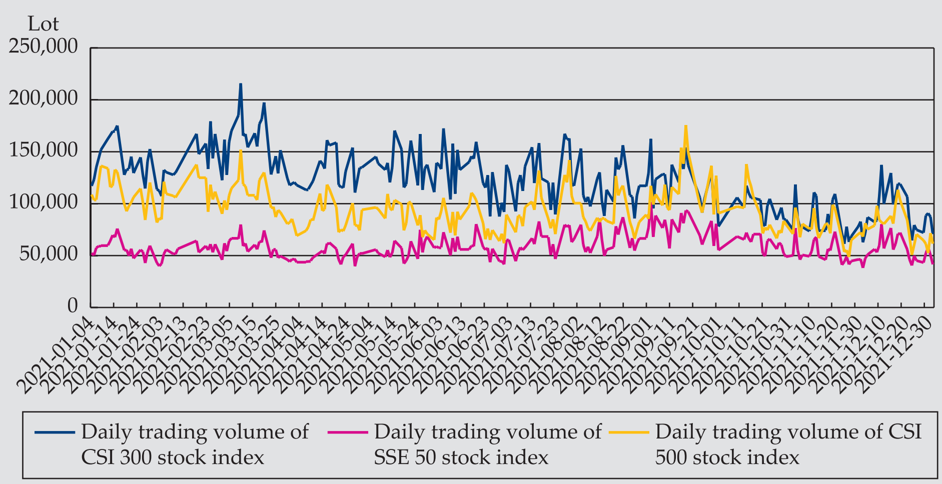
9.2 Stock futures and options market and treasury bond futures market

9.2.1 Performance of the stock futures and options market and treasury bond futures market

9.2.1.1 Stock index futures

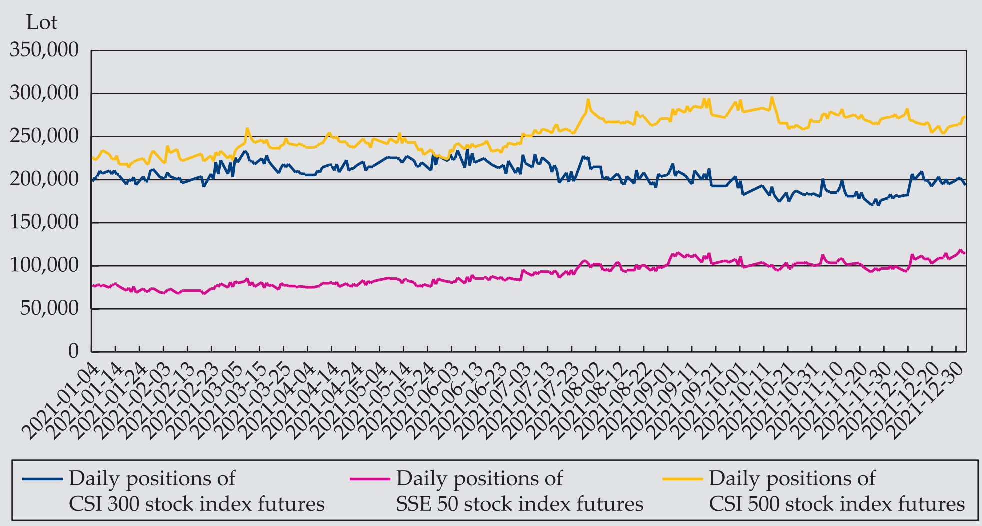
In 2021, the total trading volume of the three stock index futures, namely CSI 300, SSE 50, and CSI 500, was 66.7393 million lots with a total value of RMB 90.4 trillion, down 10.42 percent and up 1.66 percent year on year respectively. The average daily trading volume and average daily positions were 274,600 lots and 549,000 lots, down 10.42 percent and up 24.86 percent year on year respectively. The

Figure 9.5 Daily trading volume of stock index futures in 2021



(Source: China Financial Futures Exchange (CFFEX)) average daily volume to open interest ratio was 0.5, which still maintained at a low level. The correlations between the stock index futures prices and spot prices of the three stock index futures were high. The price correlation coefficients between the closing price of the dominant contracts and the closing price of the corresponding underlying index of CSI 300, SSE 50, and CSI 500 futures were 0.9954, 0.9986, and 0.9905 respectively.

Figure 9.6 Daily positions of stock index futures in 2021

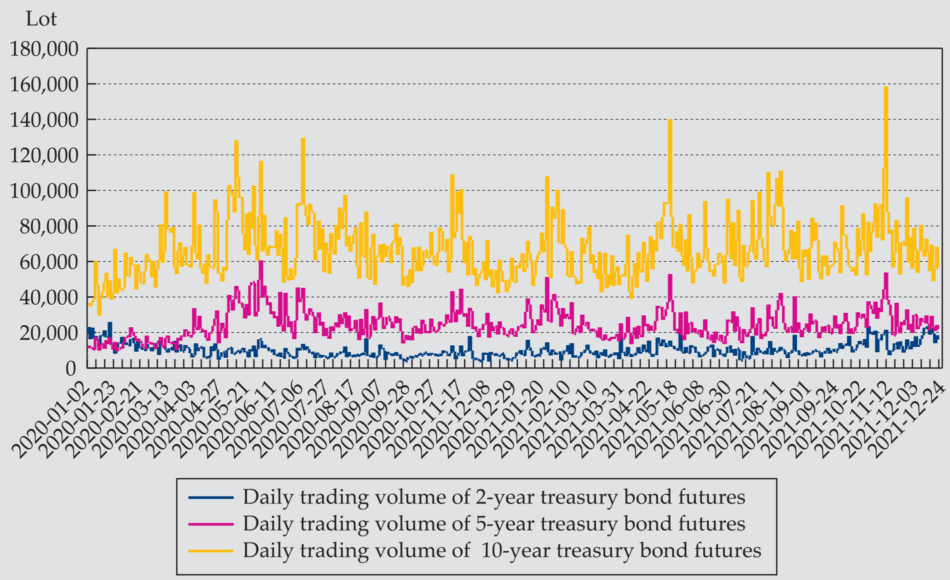


（Source: CFFEX）

9.2.1.2 Treasury bond futures

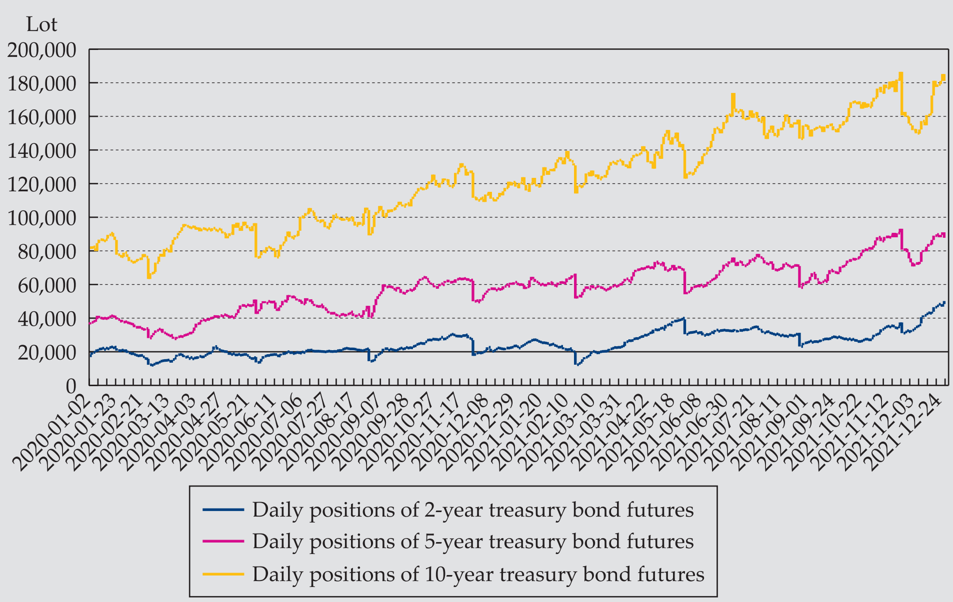
In 2021, the 2-year, 5-year, and 10-year treasury bond futures registered a total trading volume of 25.0523 million lots with a total value of RMB 27.51 trillion, up 4.23 percent and 4.34 percent year on year respectively. The average daily trading volume and average daily positions were 103,100 lots and 246,000 lots, growing by 4.23 percent and 49.41 percent year on year respectively. The average daily volume to open interest ratio was 0.42, which maintained at a relatively low level. The treasury bond futures prices and spot prices of the three treasury bond futures were highly correlated. The price correlation coefficients between the price of the dominant contracts of 2-year, 5-year, and 10-year treasury bond futures and the spot price were 0.98, 0.99, and above 0.99 respectively. The deliveries of 12 treasury bond futures contracts were completed successfully in 2021, the total number of deliveries was 17,714 lots with an average delivery rate of 2.82 percent, and the deliveries were handled smoothly.

Figure 9.7 Daily trading volume of treasury bond futures from 2020 to 2021



(Source: CFFEX)

Figure 9.8 Daily positions of treasury bond futures from 2020 to 2021

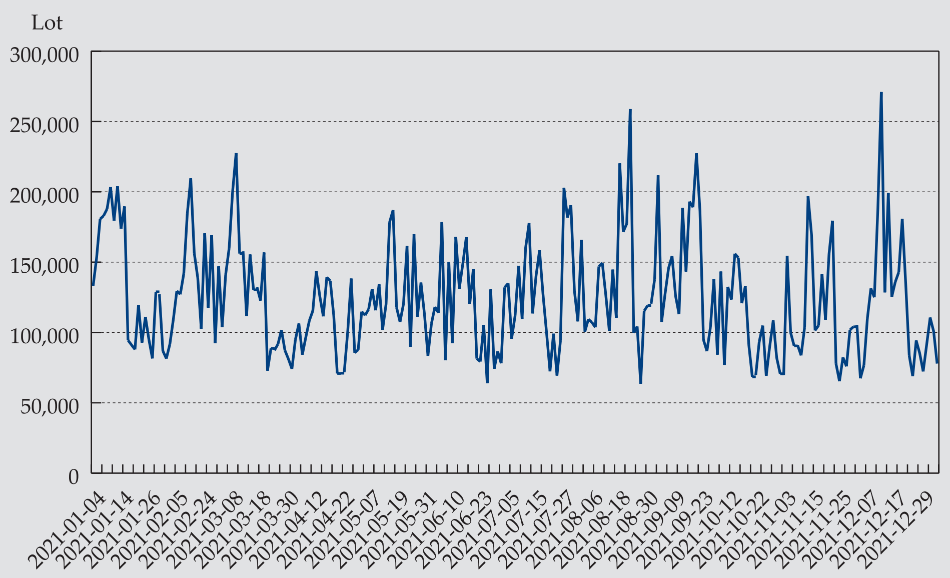


(Source: CFFEX)

9.2.1.3 Stock index options

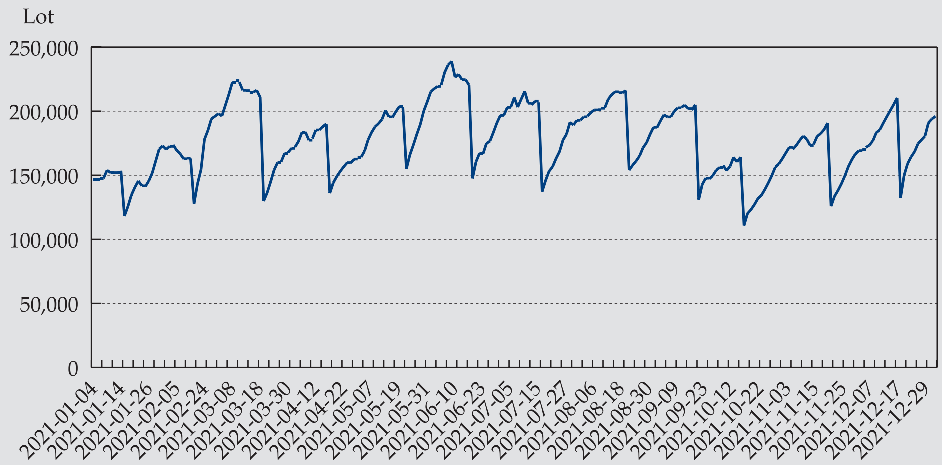
In 2021, the CSI 300 index options saw a total trading volume of 30.2415 million lots with a total notional trading value of RMB 15.42 trillion. The average daily notional trading value was RMB 63.456 billion, and the cumulative premium trading value was RMB 248.589 billion. The average daily trading volume and average daily positions were 124,400 lots and 176,800 lots, up 80.55 percent and 70.75 percent year on year respectively. The average daily volume to open interest ratio was 0.7, which maintained at a relatively low level. The correlations between the stock index options prices and spot prices of the stock index options were high. The price correlation coefficients between the composite futures price of the current month at-the-money (ATM) contracts of CSI 300 index options and the closing price of CSI 300 index and the closing price of the current month contracts of CSI 300 index futures were 0.9980 and 0.9999 respectively.

Figure 9.9 Daily trading volume of CSI 300 index options in 2021



(Source: CFFEX)

Figure 9.10 Daily positions of CSI 300 index options in 2021



(Source: CFFEX)

9.2.1.4 The stock options market maintained stable operation and expanded steadily

In 2021, the cumulative trading volume of SSE ETF options was 1.097 billion contracts, including 591 million call options contracts and 506 million put options contracts. The average daily trading volume and average daily positions were 4.516 million contracts and 5.0042 million contracts. The total notional trading value was RMB 46.03 trillion, with an average daily notional trading value of RMB 189.432 billion. The cumulative premium trading value was RMB 823.328 billion, with an average daily premium trading value of RMB 3.388 billion. In particular, the cumulative trading volume of SSE 50 ETF options was 629 million contracts, including 346 million call options contracts and 283 million put options contracts, with an average daily trading volume of 2.5899 million contracts and the largest daily volume of 5.569 million contracts.The position at the end of the year was 3.0207 million contracts, with an average daily position of 3.051 million contracts and the largest daily position of 4.1161 million contracts; the total notional trading value was RMB 21.87 trillion, with an average daily notional trading value of RMB 90.008 billion.The cumulative premium trading value was RMB 387.564 billion, with an average daily premium trading value of RMB 1.595 billion. The cumulative trading volume of CSI 300 ETF options on the SSE was 468 million contracts, including 245 million call options contracts and 223 million put options contracts, with an average daily trading volume of 1.9261 million contracts and the largest daily volume of 4.1414 million contracts.The position at the end of the year was 1.8244 million contracts, with an average daily position of 1.9532 million contracts and the largest daily position of 2.4420 million contracts. The total notional trading value was RMB 24.16 trillion, with an average daily notional trading value of RMB 99.424 billion.The cumulative premium trading value was RMB 435.764 billion, with an average daily premium trading value of RMB 1.793 billion.

In 2021, CSI 300 ETF options on the SZSE realized a cumulative trading volume of 72 million contracts, including 39 million call options contracts and 33 million put options contracts, with an average daily trading volume of 295,800 contracts.The position at the end of the year was 317,400 contracts, with an average daily position of 356,900 contracts.The total notional trading value was RMB 3.7 trillion, with an average daily notional trading value of RMB 15.235 billion; the cumulative premium trading value was RMB 58.895 billion, with an average daily premium trading value of RMB 242 million.

9.2.2 Main features of the stock futures and options market and treasury bond futures market

9.2.2.1 The open interest of stock index futures and options hit new highs, and more institutional investors were involved in the market

In 2021, the average daily positions of stock index futures increased by more than 20 percent from the previous year. The total open interest in the market and the open interest of some varieties hit new highs several times. The total open interest in the market peaked on July 28th, 2021, standing at 623,400 lots; the open interest of CSI 500 index futures peaked at 296,500 lots on October 12th, 2021; and the open interest of SSE 50 peaked at 119,000 lots on December 29th, 2021. The average daily positions of stock index options grew by more than 70 percent compared to the previous year, with the largest volume standing at 238,800 lots. Institutional investors accounted for 51 percent and 69 percent, respectively, of the trading volume and open interest in the stock futures market, and took up 63 percent and 58 percent, respectively, of the trading volume and open interest in the stock options market.

9.2.2.2 The stock index futures and options markets remained stable, with market functions further leveraged

In 2021, the indicators of the stock index futures market maintained at a reasonable level, with the market overall operating in a stable and orderly manner. The volume to open interest ratio of the stock index futures market was 0.5, and the futures trading volume to spot trading volume ratio was 0.37; the volume to open interest ratio of the stock index options market was 0.7, and the futures trading volume to spot trading volume ratio was 0.19. Therefore, the trading intensity in the markets was moderate. Based on the stable operations of products, their functions were further brought into play. Institutional investors adopted stock index futures and options to manage market risks, and put options, as the insurance for market downside risks, accounted for 41.72 percent of the total trading volume and 42.76 percent of the total open interest.

9.2.2.3 The stock options market featured generally controllable risks and broad market participation, with the economic function of options leveraged

In 2021, the average daily volume to open interest ratio of the stock options market on the SSE was 0.92, the average daily futures trading volume to spot trading volume ratio was 0.28, and the share of speculative transactions was 18.71 percent. Throughout the year, the quality index of the options market averaged at 125.62 (values above 100 indicate sound liquidity and high pricing efficiency), and the market quality was gradually improved; the risk index of the options market averaged at 33.99 (values below 60 indicate relatively low risks), and the market risks were small. As of end-2021, the number of options investor accounts on the SSE market was 542,400, an increase of 52,800 accounts throughout the year. A total of 90 securities companies and 32 futures companies obtained the qualification as trading participants of stock options on the SSE and were granted the access to trading in options brokerage business. In particular, 63 securities companies among them were also granted the access to options proprietary trading. As of end-2021, there were 18 SSE 50 ETF options market makers, including 14 main market makers and 4 general market makers. There were 17 market makers of CSI 300 ETF options, including 13 main market makers and 4 general market makers. As the stock options market was expanded steadily, an increasing number of investors used options to insure and enhance their yields. The shares of insurance-type and yield-enhancing transactions with the use of options throughout the year on the SSE reached 8.84 percent and 51.07 percent respectively. In 2021, the average daily insured market value of the market was RMB 31.51 billion, with the largest daily insured market value reaching RMB 43.557 billion.

In 2021, the average daily volume to open interest ratio and the average daily futures trading volume to spot trading volume ratio of CSI 300 ETF options on the SZSE market were 0.83 and 0.04 respectively, which indicated rational trading behaviors of investors. As of end-2021, there were 201,000 CSI 300 ETF options investor accounts on the SZSE market. A total of 89 securities companies and 30 futures companies obtained the qualification as trading participants of stock options on the SZSE and were granted the access to trading in options brokerage business. In particular, 44 securities companies among them were also granted access to options proprietary trading. There were 13 main market makers and 5 general market makers involved in the market-making business, and the options market achieved sound and orderly operations. The shares of insurance-type and yield-enhancing transactions with the use of CSI 300 ETF options on the SZSE market were 9.98 percent and 55.74 percent respectively, and the average daily insured market value of the market was RMB 2.864 billion, which suggested that the economic function of options was gradually fulfilled.

9.2.2.4 The treasury bond futures market expanded steadily, with its function effectively leveraged

In 2021, the trading volume and open interest of treasury bond futures both raced to record highs. The largest daily trading volume registered 233,900 lots on November 19th, 2021, and the total open interest peaked at 324,600 lots on December 30th, 2021. In 2021, the engagement of institutional investors was enhanced steadily, institutional investors took up 88.4 percent in the average daily positions of treasury bond futures, up 2.77 percentage points from 2020. China's national economy recovered continuously throughout the year, though confronted with multiple challenges such as complicated international situations, the COVID-19, and extreme weather. The market institutions had increasing demands for interest rate risk management, and the treasury bond futures market expanded steadily, operated in a stable and orderly manner, and played an active role in the underwriting, trading, market-making, and asset management of interest rate bonds.

9.2.3 Innovation, institutional and infrastructure building of the stock futures and options market and treasury bond futures market

9.2.3.1 The first batch of insurers participated in the trading of treasury bond futures

In 2021, in order to further implement requirements specified in the *Notice on the Participation in Treasury Bond Futures Trading in the China Financial Futures Exchange by Commercial Banks and Insurance Institutions*, which was jointly issued by the CSRC, the MOF, the PBC, and the CBIRC, the CFFEX followed the principles of "high standards, steady start, and controllable risks" and the philosophy that "approval will be granted to any entity once it meets all conditions", and took solid steps to promote the stable participation of insurers in the market. In 2021, the first batch of insurers, seven in total, participated in treasury bond futures trading. The insurers participated in the market in an orderly manner and conduct transactions in a prudential and sound fashion, and the investor structure of treasury bond futures was further improved.

9.2.3.2 The bilateral quotation order mechanism for options market makers was introduced

In order to promote the stable, orderly, and sound development of the options market, the SSE kept optimizing the options mechanism. In February 2021, the SSE introduced the bilateral quotation order mechanism to options market makers, so as to increase their quotation efficiency and reduce the occupation of technological resources. Overall, the market makers were effectively engaged in the bilateral quotation order business, thus better bringing their market functions into play and delivering substantial results in optimization.

9.2.3.3 The TraDing GateWay (TDGW) offer software (for options) was launched

In order to improve trading services, reduce the delay in trading entrustment, and boost user experience in the market, the SSE's offer software, TDGW, was brought into service for options operators on March 1st, 2021. As an upgrade to the existing offer software, TDGW is no longer dependent on databases, and performs real-time interactions with the technical systems of market institutions via the telecommunication mode of message flows. Since its launch, the software has effectively reduced the delay in the declaration of entrustment, and further advanced the lightweight, independent R&D of offer software in the trading system.

9.2.4 Opening-up of the stock futures and options market and treasury bond futures market

9.2.4.1 Business preparedness continued to deepen to further consolidate the institutional system of opening-up

The CFFEX continuously carried out research on the program of further opening up the markets of stock index futures and treasury bond futures, and further prepared qualified foreign investors for participating in the hedging trading of stock index options, so as to satisfy overseas investors' increasing demands for investment and risk management in China's stock and bond markets.

9.2.4.2 The international BRI projects were advanced intensively

In 2021, based on the overall opening-up landscape of China's capital market, the CFFEX coped with the adverse impacts of the COVID-19, consolidated the foundation of international BRI projects with PSX and CEINEX, and ensured the stable and orderly development of overseas investment projects. The CFFEX helped the PSX mitigate the impacts of the pandemic and further consolidate the foundation of Pakistan's capital market, which led to significant improvements in multiple basic performance indicators and a great leap in the year-round financial results. Meanwhile, it also extended continuous support to the CEINEX for the development of its existing businesses and product innovation, accelerated research on the approaches to interconnectivity and cooperation between the Chinese and German capital markets, and fully tapped the potential of cross-border cooperation between the two markets. As of the end of December 2021, the CEINEX had 40 listed spot products, including 1 stock product, 13 ETFs, and 26 bonds.

9.2.5 Outlook of the stock futures and options market and treasury bond futures market

First, the effectiveness of self-regulation will be improved, so as to demonstrate the sense of responsibility and achieve new goals in comprehensively deepening the capital market reform, promoting the sound development of the real economy, and facilitating the implementation of national strategies, and stand ready for the convening of the 20th CPC National Congress with outstanding achievements. Second, financial futures and options products will be enriched, with more varieties of ETF options introduced. Third, qualified domestic and foreign investors will be encouraged to participate in the financial futures and options market, where more medium and long-term capital will be introduced, and the markets of stock index futures and treasury bond futures will be further opened up. Fourth, market efficiency will be increased, and the derivatives trading and settlement mechanism will be improved, so as to steadily enhance the efficiency of trading and fund usage. Fifth, it will strengthen the building of the derivatives market, providing better services for participants, and enhancing investor education, so as to beef up market services in both depth and breadth.

9.3 RMB interest rate derivatives market

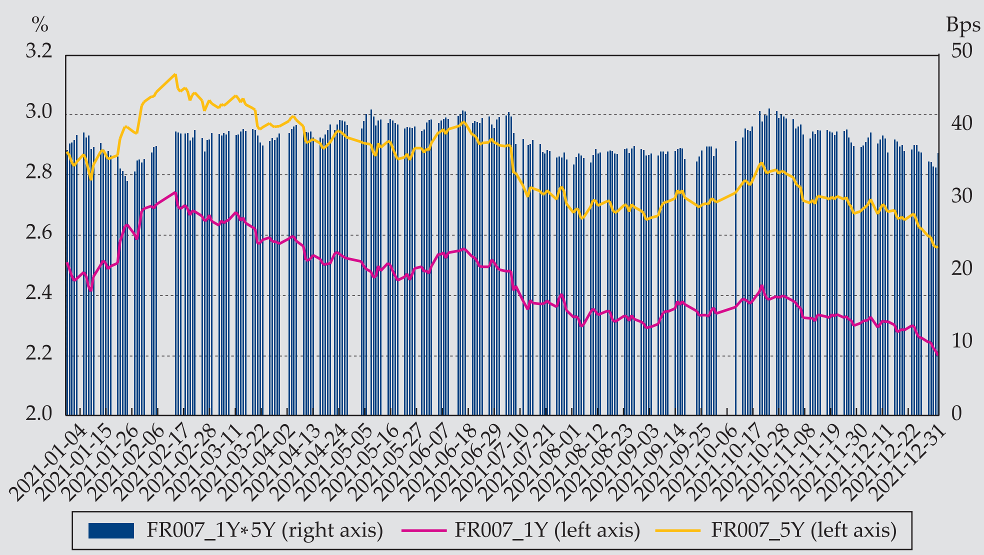
9.3.1 Performance of the RMB interest rate derivatives market

9.3.1.1 The year-round trading volume continued to grow

In 2021, the interest rate derivatives market saw a cumulative trading volume of 256,800 lots with a trading turnover of RMB 21.5 trillion. The interest rate swap market registered a cumulative trading volume of 252,000 lots, and the notional principal totaled RMB 21.1 trillion, up 8 percent year on year; at end-2021, the outstanding amount of legacy contracts of interest rate swaps in the market stood at RMB 25 trillion, a year-on-year decrease of 5 percent from end-2020. The bond forward market (including standard bond forwards) reported a cumulative trading volume of 4,405 lots with a trading turnover of RMB 261.49 billion. Interest rate options achieved a cumulative trading volume of 390 lots with a trading turnover of RMB 75.62 billion.

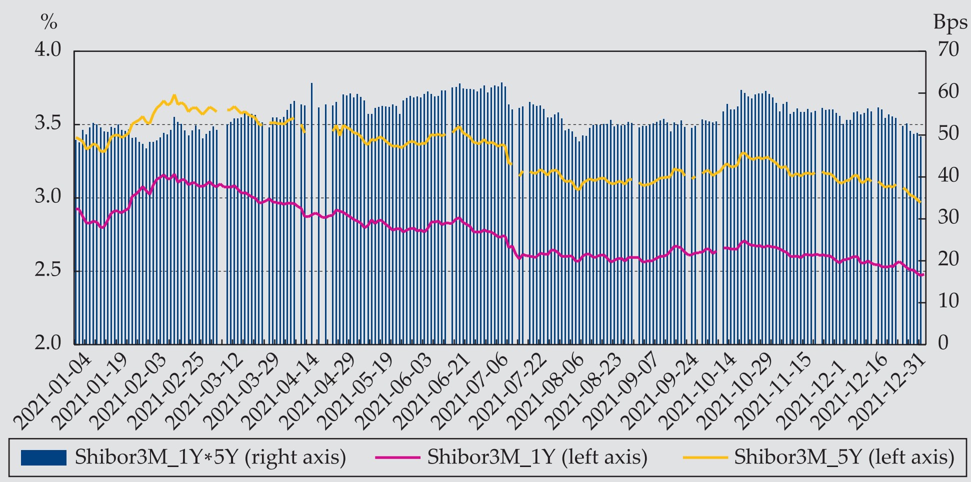
At end-2021, the prices of FR007_1Y and FR007_5Y both dropped by 31 bps compared with early 2021 to 2.2 percent and 2.56 percent respectively, and their movements throughout the year were 54 bps and 57 bps respectively. The spread between FR007_1Y and FR007_5Y swaps fluctuated between 30 and 40 bps throughout the year.

Figure 9.11 Price movements of FR007 swap contracts in 2021



(Source: CFETS)

Figure 9.12 Price movements of Shibor3M swap contracts in 2021

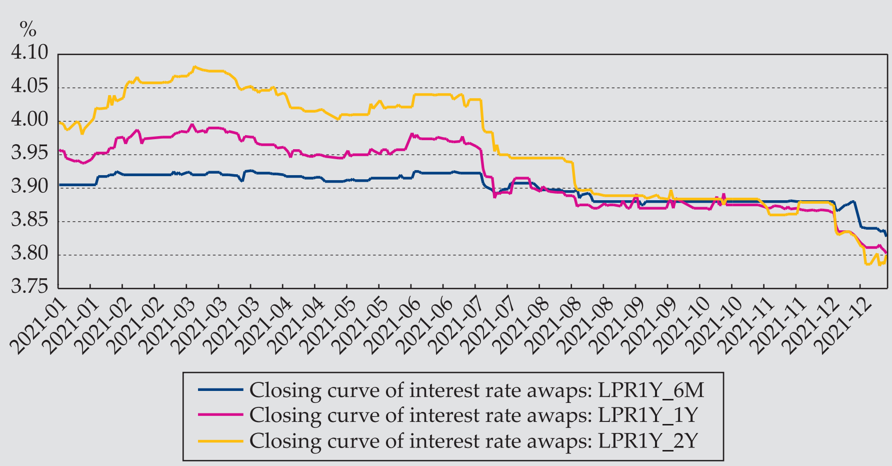


(Source: CFETS)

9.3.1.2 The volume of centralized clearing grew faster than total trading volume

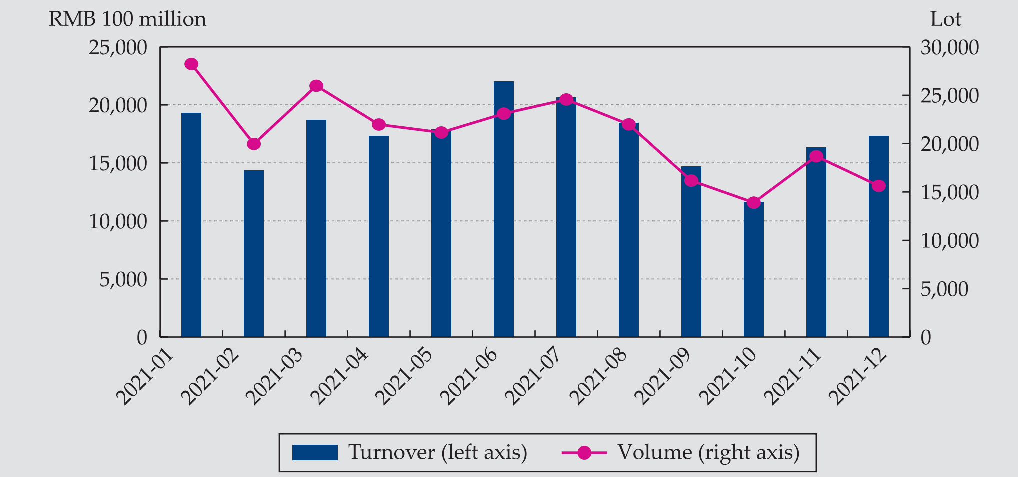
In 2021, the centralized clearing of interest rate swaps registered a total volume of 251,400 lots with a turnover of RMB 20.88 trillion, up 9.6 percent year on year. Among them, transactions with FR007 as the reference rate reported a total volume of 225,400 lots with a turnover of RMB 18.28 trillion; transactions with Shibor_3M as the reference rate achieved a total volume of 25,500 lots with a turnover of RMB 2.54 trillion; transactions with LPR1Y as the reference rate had a total volume of 164 lots with a turnover of RMB 13.28 billion; and transactions with Shibor_O/N as the reference rate reached a total volume of 300 lots with a turnover of RMB 51.4 billion.

Figure 9.13 Price movements of LPR1Y interest rate swaps in 2021



(Source: CFETS)

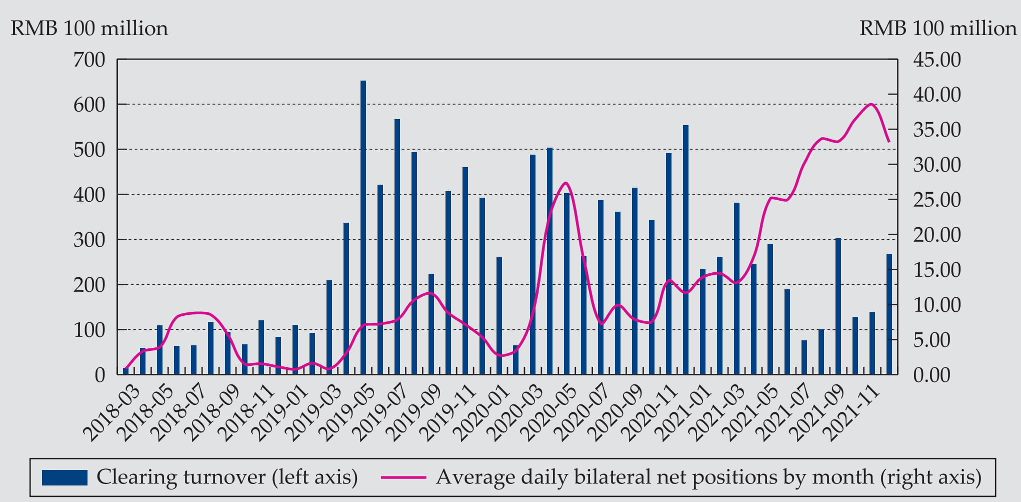
Figure 9.14 Centralized clearing business of interest rate swaps in 2021



(Source: SHCH)

Throughout the year, the centralized clearing of standard bond forwards reported a total volume of 4,404 lots with a turnover of RMB 261.48 billion. By contract types, cash settlement contracts totaled 4,279 lots with a turnover of RMB 258.08 billion, and physical delivery contracts registered a total volume of 125 lots with a turnover of RMB 3.4 billion. By contract underlying types, contracts with CDB bonds as the underlying asset achieved a total volume of 2,988 lots with a turnover of RMB 151.34 billion, and contracts with ADBC bonds as the underlying asset reached a total volume of 1,416 lots with a turnover of RMB 110.14 billion.

Figure 9.15 Performance of standard bond forwards since 2018



(Source: SHCH)

9.3.2 Main features of the RMB interest rate derivatives market

9.3.2.1 The reference rate of interest rate swaps was dominated by FR007, and the term structure was dominated by 1-year maturity and shorter ones

The reference rate of interest rate swaps was dominated by FR007 and Shibor, and transactions with the two rates as the reference rate combined accounted for 99.1 percent of the total. Specifically, interest rate swaps with FR007 as the reference rate achieved a turnover of RMB 18.3 trillion, accounting for 86.7 percent of the total; interest rate swaps with Shibor as the reference rate registered a turnover of RMB 2.6 trillion, taking up 12.4 percent of the total.

In 2021, the centralized clearing business of interest rate swaps grew steadily, and the clearing of contracts with short maturities increased at a relatively fast pace. The clearing of contracts with maturities of 3 months, 3-6 months, 6-9 months, and 9-12 months reported a turnover of RMB 1.34 trillion, RMB 931 billion, RMB 2.3 trillion, and RMB 2.53 trillion. Particularly, the clearing turnover of contracts with a maturity of within three months soared 21 times year on year.

In 2021, the average daily positions in the standard bond forwards market were RMB 5.25 billion. The average daily positions of contracts with CDB bonds and ADBC bonds as the underlying asset stood at RMB 3.94 billion and RMB 1.31 billion respectively, both reporting a huge increase compared to 2020. The proportion of contracts with medium and short maturities rose moderately. The three major varieties of contracts with CDB bonds as the underlying, namely those with 3-year, 5-year, and 10-year maturities, registered a turnover of RMB 61.05 billion, RMB 62.6 billion, and RMB 27.06 billion respectively; the two major varieties of contracts with ADBC bonds as the underlying asset, namely those with 5-year and 10-year maturities, had a turnover of RMB 78.59 billion, and RMB 28.77 billion respectively.

9.3.2.2 The participant base continued to expand, with the structure further diversified

In 2021, the participants in the derivatives market were further diversified. In the trading stage, a total of 630 institutions entered the interest rate swaps market through the CFETS as of end-2021, and product class participants accounted for nearly half of them. The number of participant institutions in the standard bond forwards market and the interest rate options market was 83 and 124 respectively, covering banks, securities companies, unincorporated products, and other major types of institutions.

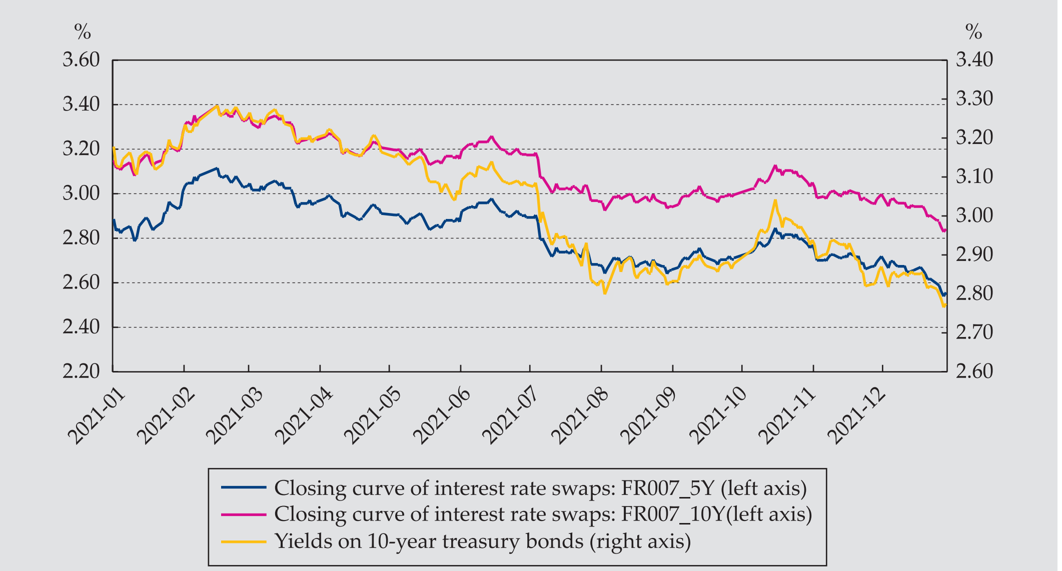
In 2021, the participants in the centralized clearing business of interest rate swaps kept growing, registering an increase of 95 compared to the previous year. As of end-2021, there were 9 general clearing members, 40 direct clearing members, and 340 non-clearing members. The 389 participants in the market included banks, securities companies, insurers, finance companies, and non-legal-person products. The number of participants in the standard bond forwards market rose to 94, including 6 general clearing members, 45 direct clearing members, and 43 clients. Among them, there were various types of institutions, including state-owned commercial banks, joint-stock commercial banks, city commercial banks, rural commercial banks, foreign banks, securities companies, and unincorporated products, etc.

9.3.2.3 The ability of price discovery was enhanced, and the function of risk hedging was further strengthened

Take the major variety in the market, interest rate swaps with FR007 as the reference rate, as an example. From January to March, the yields in the bond market rallied, and the swap interest rate rose to the year's high in early March; from April to June, the rate kept volatile and dipped along with the yields in the bond market; in early July, following the RRR cut implemented by the PBC, the swap interest rate dropped below the threshold; in the latter half of the year, both the yields in the bond market and the swap interest rate decreased steadily, and the rates of major maturities at the year-end closed at the year's low and their correlation with the cash bond yields was relatively high, serving as a timely reflection of market participants' interest rate expectations.

In 2021, institutions participating in the centralized clearing business of interest rate swaps were more willing to trade, and the market's position exposure increased by 13.97 percent year on year. The real-time novation business reported a turnover of RMB 1.46 trillion, and its participants were further increased. As the liquidity of dominant contracts was enhanced, the trading and clearing efficiency was continuously stepped up, and credit issues of institutions were mitigated.

Figure 9.16 Movements of FR007 interest rate swaps and treasury bond yields in 2021



(Source: CFETS)

9.3.3 Innovation of the RMB interest rate derivatives market

9.3.3.1 Market functions were leveraged for the "30·60" goal

First, the CFETS explored the product of "carbon-neutral bond index swap", where a party to the transaction pays a fixed interest rate and the counterparty pays the changes in the total value of the carbon-neutrality index in the duration of the contract. On July 26th, 2021, Guotai Junan Securities and CICC completed the first interbank swap transaction linked to the CFETS Carbon-Neutral Bond Index under the interest rate swap module of the local-currency trading platform. The carbon-neutral bond index swap would serve as a new tool for market participants to manage the risks of carbon-neutral bonds, encourage institutions to trade carbon-neutral financial instruments, optimize the pricing of carbon-neutral bonds in the secondary market, and give full play to the role of finance in resource allocation.

Second, the CFETS collaborated with the SHCH to launch standard bond contracts for CDB green bonds, and rolled out the 2-year CDB green bond forward contracts to be settled by physical delivery, which facilitated the price discovery for green bonds.

9.3.3.2 Benchmark rates linked to interest derivatives were introduced

To expand the application of benchmark rates, improve the system of benchmark rates and market-based interest rates, and raise the efficiency of interest rate transmission, in March 2021, the CFETS launched interest rate options (including interest rate swap options and interest rate cap/floor options) linked to fixing depository-institutions repo rates such as FDR001 and FDR007.

9.3.3.3 Physical delivery mechanism for standard bond forwards was launched

To strengthen the linkage between spot and forward markets and improve the hedging efficiency and effectiveness of the standard bond forward market, the SHCH and the CFETS launched the physical delivery mechanism for standard bond forwards in November 2021. The first batch of physical delivery contracts included standard bond forwards underlying 2-year CDB green bonds, and 2-year and 7-year ADBC bonds, which supplemented the cash settlement mechanism and further satisfied the demands of market institutions for interest rate risk management.

9.3.3.4 Centralized clearing of LPR interest rate swaps was introduced

To expand the toolkit of interest rate risk management (IRRM) by centralized clearing and meet the demands of market institutions for stronger risk management and increased clearing efficiency, in November 2021, the CFETS and the SHCH included more varieties of interest rate swaps into the scope of centralized clearing, including the LPR1Y interest rate swaps with a maturity of no more than three years. Hence, the SHCH, with the collaboration of the CFETS, became the world's first clearing institution to provide centralized clearing service for LPR swaps. As of end-

2021, they cleared a total of 164 LPR swap transactions with a notional principal totaling RMB 13.28 billion, involving 29 participating institutions.

COLUMN Centralized clearing of LPR interest rate swaps

To expand the toolkit of IRRM by centralized clearing and meet the demands of market institutions for stronger risk management and increased clearing efficiency, on November 8th, 2021, the SHCH worked with the CFETS to include more varieties of interest rate swaps into the scope of centralized clearing, including the LPR1Y interest rate swaps with a maturity of three years or less, making them the world's first clearing institutions to provide centralized clearing service for LPR swaps. As of end-2021, they cleared a total of 164 LPR swap transactions with a notional principal totaling RMB 13.28 billion, involving 29 participating institutions.

As LPR is published monthly, normal valuation methods can result in biases, and there is no unified and generally accepted valuation method available in the market. Therefore, the pricing of LPR interest rate swaps and risk management have been the main challenges of market participants and also the important restraints hindering the expansion of trading volume. Since the PBC reformed and optimized the LPR formation mechanism in 2019, the SHCH timely kicked off the study and development of centralized clearing of LPR interest rate swaps and formulated plans for curve construction, fair valuation and risk control.

The inclusion of LPR interest rate swaps into centralized clearing contributes to building a more transparent interest rate derivatives market, enhancing the monitoring over the risks of derivatives trading, and reducing the participants' costs while improving the efficiency of the use of margins. This service will further activate transactions of LPR-linked assets, give play to the derivatives' role in price discovery, and improve the transmission efficiency of monetary policies, so as to better leverage the role of LPR in guiding resource allocation in the market.

9.3.4 Opening-up of the RMB interest rate derivatives market

9.3.4.1 Overseas institutions participated in a steadily increasing size of the domestic interest rate derivatives market

In 2021, overseas institutions closed deals amounting to RMB 131.866 billion (all for interest rate swaps) in the interbank interest rate derivatives market, up 191.11 percent year on year. The turnover accounted for 0.86 percent of total in the overseas market, up from 0.42 percent in 2020. The products of other asset management institutions overseas were most traded, recording RMB 85.45 billion throughout the year, accounting for 64.8 percent of the total.

Throughout 2021, the value of RMB interest rate swap contracts of overseas participants cleared in a centralized way totaled at approximately RMB 107.466 billion, up 283.25 percent year on year. This year saw five additional overseas participants, injecting new impetus to the interbank interest rate derivatives market.

9.3.4.2 Ways were explored to encourage overseas institutions to participate in clearing of interest rate swaps

First, multiple overseas investors, upon signing the ISDA Master Agreement or the NAFMII Master Agreement, were introduced to the market, participating in market transactions and engaging in the centralized clearing of interest rate swaps, which further diversified the participants and located an approach for overseas institutions to engage in such clearing business through settlement agents. Second, draft plans were made after research on the approach of overseas central bank institutions to participate in centralized clearing of interest rate swaps with PBC Shanghai Head Office as their operation agent. The progress updates were timely reported to the PBC Shanghai Head Office and plans were timely improved upon feedback. Third, efforts were made to explore an interconnectivity-based business model for domestic and foreign financial infrastructure, to study international experiences in trading and clearing of swaps, the regulatory rules, laws and regulations in concern both at home and abroad, and to analyze and resolve obstacles and problems facing overseas investors. All these aimed to promote practical cooperation between domestic and overseas financial markets and facilitate the high-quality opening-up of the financial market.

9.3.5 Outlook of the RMB interest rate derivatives market

First and foremost, the derivatives market will improve institutional support with relevant laws and regulations to its core trading mechanisms (including the single agreement, close-out netting, and performance guarantee). Second, it will enhance top-level design and straighten out the rule system to provide legal guarantee for risk control, cross-border regulation, and self-regulation of the derivatives business. Third, it will press ahead with the Swap Connect business following the PBC's arrangements. Fourth, it will study and increase varieties of interest rate derivatives to facilitate the development of financial products and markets related to green finance and the carbon goals. Fifth, it will study products of longer maturities to meet the demands of long-term investors for interest rate risk management.

9.4 RMB credit derivatives market

9.4.1 Performance and features of the RMB credit derivatives market

9.4.1.1 Performance of CRM instruments in the interbank market

First, the size of the RMB credit derivatives market, with a major product of Credit Risk Mitigation (CRM) instruments, grew remarkably in 2021. A total of 235 transactions were concluded, and their total notional principal stood at RMB 36.67 billion, up 100.0 percent year on year. Among them, 150 transactions were for warrant-type products with a total notional principal of RMB 29.77 billion, up 99.6 percent year on year; 85 transactions were for contract-type products with a total notional principal of RMB 6.91 billion, up 101.2 percent year on year.

As of end-2021, there were 200 unexpired CRM agreements with a total notional principal of RMB 42.24 billion, up 89.7 percent year on year. Among them, 165 were for warrant-type products with a total notional principal of RMB 37.09 billion, up 90.6 percent year on year; 35 were for contract-type products with a total notional principal of RMB 5.16 billion, up 83.4 percent year on year.

Second, Credit Risk Mitigation Warrants (CRMWs) continued to support bond issuance. In 2021, 147 CRMWs were made available, with a total notional principal of RMB 29.52 billion (up 99.2 percent year on year). They supported bond issuance in an accumulative amount of RMB 61.68 billion (up 69.4 percent year on year), and the issued bonds were 2.64 times subscribed in average, higher than the 2.43 times in 2020. In the secondary market, 168 transactions were concluded, and their total notional principal stood at RMB 4.63 billion, up 85.0 percent year on year.

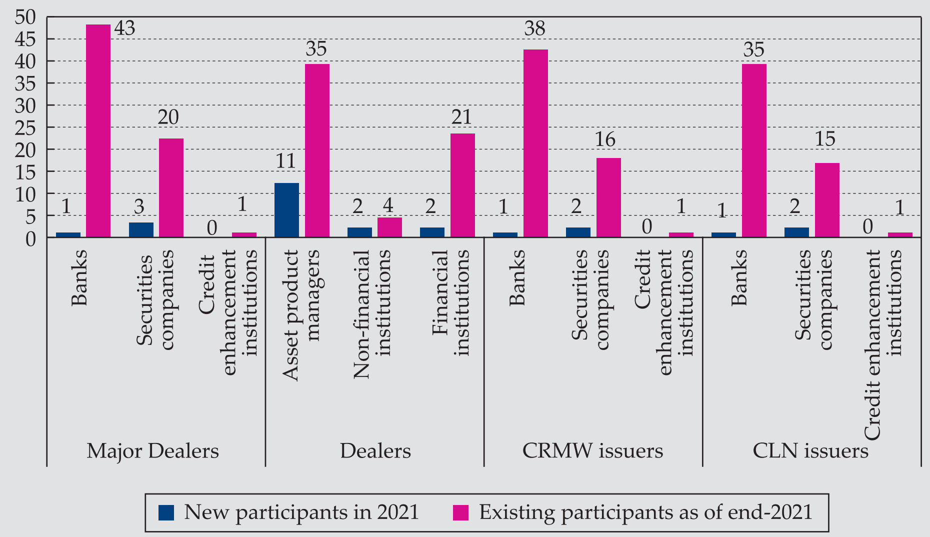
The growth can be attributed to three reasons. Firstly, non-private enterprise reference entities grew rapidly. A total of 81 CRMWs linked to non-private enterprise bonds were made available, accounting for 55 percent of the total, with a nominal principal of RMB 16.23 billion, up 178.3 percent year on year, which supported bond issuance in an accumulative amount of RMB 34.76 billion. A total of 66 CRMWs linked to private enterprise bonds were made available, accounting for 45 percent of the total, with a nominal principal of RMB 13.29 billion, up 70.5 percent year on year, which supported bond issuance in an accumulative amount of RMB 26.92 billion.

Secondly, ratings of reference entities were generally brought down, and the maturities were markedly extended. Among the reference entities that CRMWs are linked to, 46.9 percent were AA-rated, up 13.6 percentage points year on year; 34.7 percent and 10.9 percent were rated AA+ and AAA respectively, down 15.3 and 5.8 percentage points year on year. CRMWs of maturities of 3 years or above accounted for 34.7 percent, up 33.5 percentage points year on year; CRMWs maturing in or within one year accounted for 36.7 percent, down 28.7 percentage points year on year.

Thirdly, reference entities concentrated in certain regions and industries. The reference entities of CRMWs were located in 18 provinces, 4 more than the level in 2020, and 58.5 percent of them were in Jiangsu, Zhejiang and Shanghai. In terms of industries, they were mainly dedicated to the investment and financing for the manufacturing and infrastructure industries, accounting for 37.6 percent and 36.5 percent of the total respectively.

Third, types of participants were further diversified. In 2021, new participants included 4 CRM Major Dealers and 15 CRM Dealers. As of end-2021, there were a total of 124 CRM participants, including 64 CRM Major Dealers and 60 CRM Dealers. In addition, there were three new CRMW issuers and three new CLN issuers. As of end-2021, there were 55 CRMW issuers and 51 CLN issuers.

Figure 9.17 Market participants of CRM instruments in 2021



(Source: NAFMII)

9.4.1.2 Performance of credit protection warrants and credit protection contracts in the exchange market

The SSE launched the pilot program of credit protection instruments in November 2018. As of end-2021, the SSE has issued 41 warrants with a notional principal of RMB 2.646 billion, supporting bond issuance in an accumulative amount of RMB 15.685 billion, and 134 contracts with a notional principal of RMB 7.058 billion, supporting bond issuance in an accumulative amount of RMB 24.56 billion. A total of 21 institutions became issuers of credit protection warrants on the SSE.

The SZSE launched the pilot program of credit protection contracts and credit protection warrants in November 2018 and October 2020 respectively. As of end-2021, the SZSE has issued credit protection instruments with a notional principal of RMB 4.169 billion, supporting corporate financing of RMB 31.99 billion; a total of 20 institutions were registered as Major Dealers and 11 as issuers of credit protection instruments.

9.4.2 Innovation of the RMB credit derivatives market

9.4.2.1 *Notice on Matters Concerning the Formulation and Trading of Credit Default Swap indices in the Interbank Market (for Trial Implementation)* was issued

In April 2021, the NAFMII issued the *Notice on Matters Concerning the Formulation and Trading of Credit Default Swap indices in the Interbank Market (for Trial Implementation)* to regulate the formulation of Credit Default Swap (CDS) indices in such aspects as methods, quality control, interest conflict management, and information disclosure obligations. The *Notice* also encouraged the exploration of risk control measures effective for index products to promote the application of index trading.

9.4.2.2 Clearing of CDS index trading was launched

In April 2021, the SHCH and the CFETS launched the clearing business for CDS index trading, with the SHCH providing the trade-by-trade clearing service for CDS indices. Throughout 2021, clearing services were provided for 40 CDS index transactions with a notional principal of RMB 795 million, accounting for 21.9 percent of the total CDS trading in the market. The services enhanced the credit risk pricing function of CDS indices and improved market transparency effectively, thus providing the high-quality enterprises included in CDS indices with more accurate market pricing and higher financing efficiency.

9.4.2.3 Private enterprise and regional CDS indices were released

In April 2021, the SHCH and the CFETS rolled out the Private Enterprise CDS Index. The index was composed of 25 liquid private enterprises selected based on certain rules, which aimed to foster a price indicator for credit risks of private enterprises. In September, the SHCH, the CFETS and the China Bond Rating (CBR) jointly launched the Yangtze River Delta CDS Index. The index was composed of 25 liquid enterprises in the region rated A+ and above by the CBR, which were selected following certain rules. The innovative development of CDS indices helped with the continuous improvement of China's credit derivatives market, further enhanced the reasonable pricing of credit risks, and promoted the financing of enterprises in the real economy to enable the financial sector to serve the real economy.

9.4.2.4 Collateral management services for credit derivatives using bonds as margins were introduced

In November 2021, for the first time, market institutions used SHCH-deposited bonds as collateral for the CDS index trading with bilateral clearing. The SHCH, both a derivatives clearing house and a bond custodian, leveraged its integration of the two infrastructures to provide trade-by-trade clearing and collateral management services for CDS indices. This was China's first attempt to introduce bonds as collateral to credit derivatives trading, which reduced the capital tied up with the counterparty, raised the utilization rate of bonds held, and activated outstanding high-quality assets.

9.4.2.5 Operational mechanism for warrant-type products was optimized

To further increase the effectiveness of CRMWs in supporting bond issuance, the NAFMII worked with the SHCH to continuously optimize the collaboration mode between CRMW issuance and bond issuance, and improve the effectiveness of financing in support of the real economy. They streamlined the registration procedures for warrant issuance, and synchronized the information disclosure and registration of CRMW issuance, which gave market members more flexibility in choosing the timing of issuance. In addition, operations became more convenient as market behaviors were well regulated through enhanced information disclosure, interim and ex-post management and the newly introduced centralized online disclosure mode. Moreover, they supported the over-allotment option of CRMW issuance, which attracted more investors to engage in bond subscription and encouraged full competition in bond bidding.

9.4.2.6 Application scope of credit protection instruments was expanded in the exchange market

To leverage the role of the exchange bond market in supporting corporate financing, at end-March 2021, the SSE and the SZSE collaborated with the CSDC to launch the pledged repo business for bonds under credit protection, which allowed the credit bonds issued by entities rated above AA+ to be pledged together with credit protection warrants. In July 2021, the SSE issued the revised *Guidelines of the Shanghai Stock Exchange on Credit Protection Instrument Trading*, which allowed relevant institutions to issue credit protection warrants based on outstanding bonds, and permitted investors to buy such instruments without holding underlying bonds. As of end-2021, there were several bond products on the SZSE pledged together with the credit protection warrants simultaneously issued by the same issuers. Those warrants had a notional principal of RMB 130 million, leveraging corporate financing of RMB 1.86 billion.

9.4.3 Outlook of the RMB credit derivatives market

In 2022, the RMB credit derivatives market will innovate its supply of services, and introduce more classic CDS index products that are needed to the market based on the realities or hotspot issues in industries and regions. Infrastructure building of the market will be improved to expand Fintech application and move the core procedures such as warrant-type CRM product issuance online. For a higher level of opening-up, steps will be taken to gradually open up the credit derivatives market to overseas institutions. In addition, efforts will be devoted to diversifying market participants, enhancing the capabilities of risk pricing and price discovery, and improving clearing services, in a bid to serve the real economy. The core resolution procedures of credit events will be improved, and market-based resolution mechanisms that are professional and efficient will be put in place more effectively.

9.5 Exchange rate derivatives market

9.5.1 Performance of the exchange rate derivatives market

In 2021, the RMB exchange rate derivatives market grew steadily and saw a total turnover of USD 21.3 trillion. The daily turnover averaged USD 87.8 billion, up 25 percent year on year. Specifically, the average daily turnover of swaps, options, forwards and currency swaps were USD 83.6 billion, USD 3.7 billion, USD 400 million and USD 100 million respectively, up 24 percent, 58 percent, 4 percent and 58 percent year on year. The turnover of RMB exchange rate derivatives in the year accounted for 68 percent of the total turnover of the RMB exchange rate market, up one percentage point year on year.

The foreign currency pair derivatives market grew rapidly and became one of the important drivers for the interbank exchange rate market. In 2021, the foreign currency pair derivatives market reported a total turnover of USD 1.3 trillion. The daily turnover averaged USD 5.2 billion, up 110 percent year on year.

9.5.2 Main features of the exchange rate derivatives market

9.5.2.1 The exchange rate matching market grew fast

The share of trades executed on C-Trade increased to 60 percent of the total turnover of the exchange rate market, and the number of transactions accounted for 77 percent of the total while 50 percent more institutions were connected to the portal, and the transactions concluded through the portal tripled. The proportion of swaps matching hit a new record.

9.5.2.2 Short-term swap points remained stable while mid- and long-term swap points fluctuated along with the interest rate spread between China and the U.S.

In 2021, the swap points of mid- and long-term swaps with maturities of one month or above fluctuated along with the domestic local and foreign currency liquidity and the interest rate spread between China and the U.S., moving downward after rising in the year. At the beginning of the year, as the China-U.S. interest rate spread bounced back, the swap points of all maturities rose, where the long-term ones fluctuated violently. Then as the market expectation for a normal monetary policy of the Fed grew stronger, the yield of U.S. T-bonds raised and the China-U.S. interest rate spread fell, bringing the swap points down. Starting from Q4, the Fed tapered its bond purchases, and the expectation for interest rate hikes continued to rise, so the mid- and long-term swap points sped up decreasing. At end-2021, the overnight swap point closed at 4.1 bps, down 0.7 bps year on year, and the 1-year swap point closed at 1,494 bps, up 63 bps.

9.5.2.3 Implied volatility of options declined slightly, and the exchange rate expectation remained stable

The volatility of RMB-USD options of all maturities fluctuated in a tight range in H1 2021 and generally went down in H2. The expectation of exchange rate volatility further stabilized, seldom experiencing pulse-like rises and falls, and high-risk events remarkably reduced compared with last year. Regarding the volatility smiles, the market sentiment swung under the influence of risk events in the year. The peak value of the implied volatility of the 25-Delta Risk Reversal (RR) stood below its historic high. The exchange rate expectation was stable.

9.5.3 Innovation of the exchange rate derivatives market

9.5.3.1 Efforts were made for the conversion and connection of benchmark interest rates of foreign currencies, with derivatives-linked benchmark rates added

By introducing the fixing depository-institutions repo rates FDR007 and FDR001 to the currency swap trading, the CFETS expanded the floating-rate benchmarks of exchange rate derivatives and further increased the application of DR for greater market recognition and influence. It launched the business of floating-rate foreign currency lending, allowing the two parties to obtain foreign-currency financing with reference to benchmark floating rates, hedge the interest rate risks in their loans to clients, and improve their liquidity management. The CFETS also launched the conversion services for outstanding exchange rate derivative contracts such as LIBOR-based currency swaps, and supporting services like interest margin adjustment, transaction write-off and valuation, to support its members to manage their outstanding contracts online, helping with the smooth transition of interbank exchange rate derivatives.

9.5.3.2 Standard texts of IBOR fallbacks were released

In July 2021, the NAFMII and the ISDA released the standard texts of IBOR fallbacks for the NAFMII Master Agreement, namely the *IBOR Fallbacks Supplemental Agreement to the 2009 NAFMII Master Agreement* and the *IBOR Fallbacks Booklet for China Interbank Market Financial Derivative Transactions*, to proactively act on the consensus on an international benchmark interest rate reform, effectively address LIBOR's discontinuation, and facilitate the steady transition to other benchmark rates for derivatives at domestic institutions.

9.6 OTC commodity derivatives market

9.6.1 Performance and features of the OTC commodity derivatives market

In 2021, the SHCH made the OTC commodity derivatives central counterparties (CCP) clearing business available for 20 derivatives in six industries, i.e., freight, ferrous metals, non-ferrous metals, energy, chemicals, and carbon emission. Throughout the year, the SHCH cleared a total of 57,800 contracts, up 88.13 percent year on year; the cumulative clearing volume reached RMB 26.19 billion, up 210.6 percent year on year. In terms of industry distribution, the clearing business was mainly used for derivatives in the chemical industry, which accounted for 99.1 percent of the total clearing volume. As of end-2021, there were seven general clearing members and seven direct clearing members in the OTC commodity derivatives CCP clearing business of the SHCH.

9.6.2 Innovation of the OTC commodity derivatives market

9.6.2.1 Commodity Clearing Net (CCNet) was launched

In 2021, the SHCH launched the CCNet to work with commercial banks to provide large-value, real-time, cross-bank and cross-border fund clearing services for the commodity spot trading of enterprises in a regulated and efficient way through commodity spot platforms compliant with national and local regulations. As of end-2021, three spot trading platforms and ten spot clearing members have been introduced to interconnect with the Urban Commercial Bank Clearing Co., Ltd., while centralized access service has been provided to 2,110 enterprises (more than 90 percent were micro, small and medium-sized private enterprises) in 30 provinces, which cleared about 56,400 commodity spot transactions with a volume of RMB 239.597 billion and a total delivery of 42.9416 million tons. CCNet served as an important approach of the SHCH to break through the bottleneck of financial support and render accurate support to the real economy.

9.6.2.2 Efforts were made to serve the carbon market development

In 2021, the SHCH took the initiative to serve the national carbon emissions trading market and released the first carbon price indices to provide fair and transparent price references for the emission quota trading among market participants, so as to leverage the market's price discovery function and facilitate the optimized allocation of environmental resources. At the same time, the SHCH also collaborated with pilot carbon trading markets to research on the cross-border RMB clearing business of carbon trading, and proposed recommendations to regulators concerning the operational mechanism and hotspot issues in the carbon market while deepening its services for national and pilot markets to support the dual-carbon goal.

9.6.2.3 Derivatives products were continuously enriched

In 2021, the SHCH rolled out the CCP clearing business for RMB-denominated swaps on benzene, paraxylene (PX), and purified terephthalic acid (PTA) to further improve its business structure along the chemical industry chain. These products were RMB-denominated OTC commodity derivatives settled by cash, which filled the gaps of derivatives on benzene and PX in the domestic market and served as important tools for enterprises along the industry chain to manage price risks.

9.6.3 Outlook of the OTC commodity derivatives market

In 2022, the OTC commodity derivatives market will continue to build a comprehensive service system featuring domestic-overseas interconnectivity and futures-spot linkage to meet corporate demands for risk management, hedging, financing and pricing. It will steadily expand the service scope and product varieties, make CCNet available for more spot platforms in a steady and orderly way, and cover industries including energy, chemicals, non-ferrous metals, agro-products and carbon emissions. The market will advance the implementation of innovative services, including cross-border RMB clearing and information services for supply chain finance. Meanwhile, it will continue to give play to its role as a financial infrastructure, furthering its collaboration with operational institutions in the national carbon emissions registration and trading systems.

BOX 7 "Circle of friends" for futures-spot linkage expands and China's natural rubber enjoys greater international influence

"Shanghai Price" is widely used in the international financial market, and the influence of "Shanghai rubber" on market prices keeps increasing. On December 7th, 2021, the SHFE hosted the "Seminar on Futures Market Serving the High-quality Development of Natural Rubber Industry and Cooperation on Pricing of TSR 20 Spot and Futures" in Qingdao, Shandong. The cooperation on TSR 20 pricing has been extended to more participants, increasing from six institutions in 2020 to 15 in 2021. The participants included the world's top four natural rubber producers, namely Southland Resources, Sri Trang Agro-industry, Halcyon Agri Group and Guangken Rubber, and four of China's top ten tire enterprises, namely Sailun Tire, Qingdao Doublestar, Aeolus Tyres, and Sentury Tire. By continuously expanding the "circle of friends" of futures-spot linkage, the Shanghai natural rubber futures market gained remarkably stronger international influence.

Regarding long-term trade agreements, in August 2021, the Thai factory of Guangken Rubber entered into a long-term cross-border trade contract with a domestic trade company, taking the TSR 20 futures traded on the SHFE as the pricing benchmark. This was the first time that the price of TSR 20 futures had been applied to pricing in long-term cross-border trade contracts, signaling the elevation of international influence of "Shanghai rubber" to a higher level. Regarding the spot market, according to the industry feedback, the TSR 20 futures has become the pricing benchmark for domestic enterprises' spot trades. According to incomplete statistics, from 2020 to 2021, over 50,000 tons of spot rubber were settled at prices based on the TSR 20 futures prices.

Meanwhile, the implementation of bonded delivery plus transport convenience brought by Trans-Eurasia Logistics (China Railway Express) has opened a new route for international trade in natural rubber, where the commodity can travel from Southeast Asia through Qingdao, China *to Europe. Enterprises can obtain the supply of TSR 20 from Indonesia, Thailand and Malaysia through bonded delivery, and then export it to Poland, Germany and other European countries. The bonded delivery of TSR 20 futures allows China's futures market to allocate resources across Southeast Asia and Europe and exert influence on the new markets, contributing to the stable global rubber industry chain and injecting new impetus to the BRI countries for COVID-19 containment, securing people's livelihood and recovering economy. Moreover, it brings the Shanghai TSR 20 price to the global arena and elevates the international influence of China's natural rubber market.*

BOX 8 SHCH centralized clearing of commodity trading contributes to the high-quality development of the real economy

1. CCNet tackles the most urgent needs of enterprises

In the CCNet business, the SHCH works with spot clearing members to provide large-value, real-time, cross-bank and cross-border fund clearing services for the commodity spot trading of enterprises in a regulated and efficient way through compliant and high-quality commodity spot platforms.

To facilitate regional economic development, the dual-carbon goal, and other national strategies, the SHCH, targeting the most urgent needs of MSMEs in the real economy and fully playing its role as a financial infrastructure, launched the CCNet service in March 2021.

The commodity spot trading features a long process and complex procedures. By harnessing its advantageous resources including spot platforms, warehouses and banks, the SHCH has created its exclusive centralized clearing mechanism beyond the scope of a traditional clearing bank, fostering a safe, convenient, regulated and efficient environment for spot delivery and payment for goods, which can be synchronized in real time based on corporate accounts. It has remarkably improved efficiency and addressed the problems facing MSMEs such as low efficiency of delivery and collection of payment, and difficulties in cross-bank settlement.

After its launch, the service has been highly recognized and supported by local governments and market institutions. The CCNet has been connected to spot platforms in Zhangjiagang (Jiangsu), Lin-gang Special Area (Shanghai) and Qingdao FTZ (Shandong), developed best practices in the chemical industry and expanded to non-ferrous metal and rubber industries. It also introduced state-owned or large joint-stock commercial banks including the ICBC, the CCB, the BOCOM, the SPD Bank, the Huaxia Bank *and the CITIC Bank, as well as city commercial banks including the Bank of Shanghai, the Bank of Jiangsu, the Bank of Nanjing and the Bank of Ningbo to provide services for enterprises. As of end-2021, the growth rate of monthly clearing volume of CCNet has approached 50 percent, indicating the business development was on a fast lane. Going forward, the SHCH will contact spot platforms such as Guangzhou Emissions Exchange in the Greater Bay Area to help achieve the dual-carbon goal and introduce more banks to the business.*

2. Empowering carbon market to serve the green development in an innovative way

In January 2017, the SHCH and the Shanghai Environment and Energy Exchange (SEEE) jointly launched the CCP clearing service for Shanghai Carbon Emissions Allowance Forwards, so far the first and only standardized variety of carbon derivatives that adopts CCP clearing and is compliant with practices in the international financial market. Since 2021, the SHCH has, based on previous work progress and driven by innovation, further deepened its carbon finance arrangements and strengthened finance's role in empowering the green development of the real economy, to fully implement the new development philosophy, advance the progress toward the dual-carbon goals, and carry out the arrangements of the PBC on improving the policy framework and incentive mechanism for green finance and fully supporting the carbon market development. Collaborating with infrastructures such as China Carbon Emissions Registration System, the SHCH released China Carbon Emissions Allowance Spot Listing Price Index, the first carbon price index in China, in July 2021, and tried to deepen services for the national carbon market. Supported by the GBA policies, it collaborated with the Guangzhou Emissions Exchange to research on cross-border RMB clearing services for carbon trading, aiming to support the carbon market development in the Great Bay Area and pave the way for the international development of China's carbon market. Moreover, it studied carbon finance products with underlying carbon assets such as the China Certified Emission Reduction (CCER), and promoted the CCP clearing business for carbon finance derivatives when appropriate, and took steps to explore its integration in more types of green assets, so as to help build a multi-tiered market structure and improve the price discovery and resource allocation functions of the carbon market.

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On January 4th, the PBC, the NDRC, the Ministry of Commerce (MOFCOM), the SASAC, the CBIRC and the SAFE jointly issued the *Notice on Further Optimizing the Cross-border RMB Policies to Stabilize Foreign Trade and Foreign Investment*, in an attempt to further improve the institutional arrangements for cross-border RMB investment, financing, transactions and settlement.

On January 5th, the PBC and the SAFE issued the *Notice on Adjusting the Macroprudential Adjustment Coefficient for Domestic Companies Making Overseas Loans*, raising the macro-prudential adjustment coefficient for domestic companies making overseas loans from 0.3 to 0.5.

On January 7th, the PBC and the SAFE issued a notice to lower the macroprudential adjustment parameter for cross-border financing of companies from 1.25 to 1.

On January 8th, the CFETS released the *Guidelines for Trial Market Makers in Interbank Foreign Exchange Market* and other regulations to reform the market maker regime in the interbank foreign exchange market, further improving the price discovery functions of the market.

On January 13th, the CBIRC and the PBC released the *Notice on Matters Concerning the Regulation of Internet-based Personal Deposits of Commercial Banks*, prohibiting commercial banks from engaging in time deposit or other businesses via non-self-operated online platforms.

On January 15th, the CBIRC issued the *Regulations on the Solvency Management of Insurance Companies*.

On January 22nd, upon approval of the State Council, the CSRC officially approved the establishment of the Guangzhou Futures Exchange.

On January 22nd, the NIFC, the SHCPE and the SHCH jointly issued the *Depository Agreement for Standardized Bills (2020 Version)*.

On January 27th, the SGE released the *Implementation Rules on the Administration of International Members of SGE (Revised in 2021)*.

On January 28th, the SHCPE issued the *Rules on Accessing the Supply Chain Bill Platform (for Trial Implementation)*.

On February 1st, the *Measures for the Regulation of Internet Insurance Business* officially entered into force. Apart from regulating the Internet-based insurance business and effectively forestalling risks, these measures aimed to protect the legitimate rights and interests of consumers and ultimately improve the ability of the insurance industry to support the real economy and people's livelihood.

On February 5th, the PBC, the CBIRC, the CSRC, the SAFE, the Hong Kong Monetary Authority (HKMA), the Securities and Futures Commission of Hong Kong (SFC) and the Monetary Authority of Macao (AMCM) signed a Memorandum of Understanding on the Cross-boundary Wealth Management Connect.

On February 5th, the CSRC approved the merger of the SZSE Main Board and SME Board.

On March 1st, the *Measures for the Custody of Clients' Reserves at Non-banking Payment Institutions* took effect, regulating the centralized custody of clients' reserves after moving clients' reserves to their specific accounts with the PBC.

On March 16th, the CBIRC and three other regulators issued the *Notice on Advancing the Work on Micro Credit for People Lifted out of Poverty during the Transitional Period*.

On March 18th, the CSRC deliberated and adopted the *Decision to Amend Provisions for the Administration of Equity Ownership in Securities Companies*, which came into force on April 18th, 2021.

On March 26th, the SGE published the lists of institutions eligible for interbank inquiry trading of spot gold, institutions participating in gold lending/borrowing, institutions eligible for interbank inquiry trading of gold swaps, and those eligible for interbank inquiry trading of gold forwards.

On March 27th, the CBIRC released the *Rules on Liability Management of Commercial Banks,* specifying six key elements of liability, including the reasonableness of the liability-asset compatibility.

On March 30th, the PBC, together with the CBIRC, the MOF, the NDRC and the MIIT, released the *Notice on Matters Concerning Further Extending the Validity Period of the Deferral of Repayments on Inclusive MSB Loans and the Support Scheme for Unsecured Inclusive Loans to MSBs*, extending the validity period of the two policies to end-2021.

On March 31st, the PBC issued the *Interim Regulations on Filing-based Management of Directors, Supervisors and Senior Executives of Financial Holding Companies*.

On March 31st, the PBC released an announcement, stipulating that all loan products should explicitly quote annualized interest rates.

On April 6th, the NAFMII issued the *Guidelines for Risk Management of Existing Debt Financing Instruments of Non-financial Enterprises in the Interbank Bond Market*.

On April 9th, the PBC, the CBIRC, the CSRC and the SAFE jointly issued the *Opinions on*

Supporting Hainan in Deepening All- round Reform and Opening-up through the Financial Sector to support local development of real estate investment trusts (REITs) in rental housing, encourage banking institutions to innovate financial products and services, and facilitate the regulated development of the rental housing market.

On April 15th, the first four environmental, social, and governance (ESG) ETFs were approved, which were developed by AXA SPDB Investment Managers, Penghua Fund and Fullgoal Fund. Two of the four ESG ETFs were from Fullgoal Fund.

On April 16th, the CSRC and the SSE released the amended *Guidelines for the Evaluation of STAR Market Issuers' Sci-tech Innovation Attributes (for Trial Implementation)* and *Interim Regulation on Application and Recommendation for Issuance and Listing of Enterprises on SSE STAR Market* respectively, setting out detailed requirements for sci-tech innovation attributes, including areas and sectors supported by the STAR market and indicators of those attributes.

On April 16th, the SSE issued the *Interim Regulation on Application and Recommendation for Issuance and Listing of Enterprises on SSE STAR Market (Revised in April 2021)*, which restricted the listing of Fintech enterprises and mode-innovating enterprises on the STAR market and prohibited the listing of real estate enterprises and those primarily engaged in finance and investment on the STAR market.

On April 17th, the PBC issued the *Measures for AML/CFT Supervision of Financial Institutions*.

On April 22nd, the PBC, the NDRC and the CSRC issued the *Green Bond Endorsed Projects Catalogue (2021 Edition)*.

On April 28th, the CBIRC issued the *Rules on the License Management of Banking and Insurance Institutions*, which came into force on July 1st.

On May 14th, the first five publicly traded infrastructure REITs were approved by the SSE.

On May 17th, the CBIRC released the *Measures for the Administration of Insurance Companies' Critical Illness Insurance Business for Urban and Rural Residents*, which provided that any insurance company headquarters that intends to engage in the critical illness insurance business shall have a registered capital of no less than RMB 2 billion or a net worth (within the last three years) of no less than RMB 5 billion.

On May 27th, the PBC released the *Green Finance Evaluation Program for Banking Institutions*, requiring the green finance evaluation results to be included in the central bank rating of financial institutions and other central bank policies and prudential management instruments.

On May 28th, the CBIRC issued the *Interim Measures for the Administration of Sales of Wealth Management Products of Wealth Management Companies*, which limited the institutions eligible for selling wealth management products to "banking institutions", excluding Internet-based platforms for the time being. Meanwhile, prohibitions were amended to prevent the disguised publicity of expected yields.

On June 9th, the CBIRC released the *Interim Measures for Implementing the Recovery and Resolution Plans of Banking and Insurance Institutions*, which provided that the following institutions shall formulate recovery and resolution plans: (1) depository financial institutions, financial asset management companies and financial leasing companies whose reconciled on-balance and off-balance sheet assets on a consolidated basis reach RMB 300 billion or more; and (2) insurance group companies (holding companies) and insurance companies whose total on-balance sheet assets on a consolidated basis reach RMB 200 billion or more.

On June 15th, the PBC raised the foreign exchange RRR by 2 percentage points from 5 percent to 7 percent.

On June 17th, the SSE issued the *Guidelines to Public Traded REITs Businesses in Their Duration*.

On June 18th, the CFETS launched the whole-process services for bond issuance from underwriting to distribution, which for the first time enables the online confirmation of bond distribution in the interbank market.

On June 19th, the CSRC released the revised *Provisions on Banning Access to the Securities Market*, which came into effect on July 19th. Under the new rules, market access bans are classified into two types, i.e., identity-based bans and transaction-based bans.

On June 19th, BlackRock started its Chinese fund management unit in Shanghai, becoming the first global asset manager licensed to start a wholly-owned mutual fund business in China.

On June 21st, China launched crude oil options, China's first RMB-denominated options product open to overseas investors.

On July 1st, the CFETS Interbank Green Bond Index and CFETS Interbank Carbon-Neutral Bond Index were released, and the first interbank index swap linked to the latter index was completed.

On July 15th, the PBC lowered the RRR for financial institutions by 0.5 percentage points (not applicable to financial institutions that have carried an RRR of 5 percent).

On July 16th, China's carbon market was off to a good start. On the first trading day of the national emissions trading scheme (ETS), the carbon emissions allowance opened at RMB 48 per ton, registering an intraday high of RMB 52.8 per ton and an intraday low of RMB 48 per ton, and closed at RMB 51.23 per ton, 6.73 percent higher than the opening price. The trading volume and value on the first day totaled 4.104 million tons and RMB 210 million respectively. The average price recorded RMB 51.23 per ton.

On July 20th, the CBIRC released the revised *Catalogue and Format Requirements of Application Materials for Administrative Licensing Matters of Non-banking Institutions*.

On July 20th, the PBC issued the *Administrative Measures for the Reporting of Major Events by Non-banking Payment Institutions*, which stipulated that any non-banking payment institution shall report, among other matters, planned IPO, outbound investment exceeding 5 percent of its net assets, and any branch to be established overseas.

On July 29th, the CBIRC issued the newly revised *Regulations on Reinsurance Business*. The revisions included reinforcing the top-level strategic management of reinsurance, strengthening supervision over the security of reinsurance businesses, the management of insurance contracts, as well as brokers, supporting the development of the direct insurance market, and tightening the management of direct insurance companies that handle ceded businesses.

On July 30th, under the guidance of the PBC, the NAFMII and the ISDA released the standard text for IBOR fallbacks under the *NAFMII Master Agreement*.

On August 1st, the SHCPE launched its information disclosure platform, putting the information disclosure system for trade acceptances into effect.

On August 2nd, the SGE published the lists of institutions participating in gold lending/borrowing and institutions eligible for interbank inquiry trading of gold swaps, gold forwards, and spot gold.

On August 5th, the SGE released the *Account-opening Guidance for Institutional Customers* and the *Account-opening Guidance for Special Institutional Users*.

On August 6th, the PBC, the NDRC, the MOF, the CBIRC and the CSRC jointly released the *Notice on Promoting the Sound Development of the Credit Rating Industry for the Bond Market*.

On August 9th, the new-generation interbank RMB trading platform went into operation, extending full-scale support to transactions in the money market, the bond market, and the related derivatives market.

On August 11th, the PBC released an announcement to pilot removing credit rating requirements during the issuance of debt financing instruments by non-financial enterprises.

On August 14th, the SHCPE launched the new-generation bill business system (Phase I) (the supply chain bill platform).

On August 18th, the PBC, the NDRC, the MOF, the CBIRC, the CSRC and the SAFE jointly issued the *Guiding Opinions on Advancing the Reform, Opening-Up, and High-quality Development of the Corporate Bond Market*.

On September 3rd, the PBC issued the *Notice on Matters Concerning Increasing the Quota of Special Central Bank Lending by RMB 300 Billion to Support Loans Granted by Locally Incorporated Financial Institutions to Micro and Small Businesses and Self-employed Businesses*. The PBC increased the quota of special central bank lending for MSBs by RMB 300 billion, encouraging locally incorporated financial institutions to increase lending to MSBs and self-employed businesses and lower their financing costs.

On September 10th, the PBC, the CBIRC, the CSRC, the SAFE, the People's Government of Guangdong Province, the Government of the Hong Kong Special Administrative Region and the Government of the Macao Special Administrative Region jointly held a ceremony to launch the Cross-boundary Wealth Management Connect (WMC) pilot scheme. At the ceremony, the *Implementation Details for the Cross-boundary Wealth Management Connect Pilot Scheme in the Guangdong-Hong Kong-Macao Greater Bay Area* was promulgated concurrently in Guangdong, Hong Kong and Macao.

On September 15th, the PBC and the HKMA issued a joint announcement on collaboration in establishing Southbound Trading under mutual bond market access between Hong Kong and the Chinese Mainland (Southbound Bond Connect). The PBC issued the *Notice on Launching Southbound Trading under Mutual Bond Market Access between the Chinese Mainland and Hong Kong*.

On September 22nd, the CBIRC released the *Rules on Supervisory Rating of Commercial Banks* to set out rules for the regulatory rating of banking institutions, improve the regulatory rating system for banks, and gave full play to the role of regulatory rating in rendering off-site surveillance and guiding banks to manage risks.

On September 24th, the Southbound Trading under Mutual Bond Market Access between the Chinese Mainland and Hong Kong was officially launched.

On September 30th, the MOF released the *Provisions on Accounting of Asset Management Products (Exposure Draft)*, which took effect on January 1st, 2022.

On October 15th, the PBC and the CBIRC jointly released the list of China's systemically important banks (SIBs) and the *Additional Regulatory Provisions on Systemically Important Banks (for Trial Implementation)*.

On October 15th, the SGE issued the *Notice on Revising the Interim Provisions of Shanghai Gold Exchange on Irregular Trade Monitoring (Revised)*, with the original provisions abolished.

On October 29th, Chinese government bonds were officially added to the FTSE WGBI. As such, Chinese government bonds were included in all three major international bond indices.

On October 29th, the PBC, together with the CBIRC and the MOF, formulated the *Administrative Measures on the Total Loss-*

absorbing Capacity of Global Systemically Important Banks to refine the institutional framework for the regulation and risk resolution of China's G-SIBs and reinforce the ability to forestall and resolve systemic financial risks.

On November 12th, the PBC issued the *Notice on Matters Concerning the Development of Carbon Emission Reduction Facility* to guide financial institutions to provide financing at preferential interest rates for three key fields of carbon emission reduction, namely, clean energy, energy conservation and environmental protection, and carbon emission reduction technology.

On November 19th, the SGE published the lists of institutions eligible for interbank inquiry-based trading of gold spot, institutions participating in gold lending/borrowing, institutions eligible for interbank inquiry-based trading of gold swaps, and those eligible for interbank inquiry-based trading of gold forward.

On November 20th, the SHCPE upgraded China's Commercial Paper Exchange System and launched the DVP settlement for central bank discounts.

On November 21st, the PBC, in concert with the NDRC and the National Energy Administration (NEA), issued the *Notice on Matters Concerning the Launch of Special Central Bank Lending for the Clean and Efficient Use of Coal* to guide financial institutions to provide financing at preferential interest rates for seven fields for the clean and efficient use of coal, including large-scale clean production of coal and application of clean combustion technologies.

On December 3rd, the SGE issued the *Implementation Rules on the Supervision and Administration of Shanghai Gold Exchange Members*.

On December 7th, the NAFMII issued the *Administrative Measures for the Professional Committees of the National Association of Financial Market Institutional Investors (Revised)*.

From December 8th to 10th, the Central Economic Work Conference was held in Beijing.

On December 15th, the PBC cut the RRR for financial institutions by 0.5 percentage points (not applicable to financial institutions that have carried an RRR of 5 percent).

On December 15th, the PBC raised the foreign exchange RRR of financial institutions by 2 percentage points from 7 percent to 9 percent.

On December 16th, the SGE formulated and issued the *Rules of the Shanghai Gold Exchange for Benchmark Rates of Gold Leasing (for Trial Implementation)*.

On December 17th, the CBIRC issued the *Rules on Liquidity Risk Management of Wealth Management Products of Wealth Management Companies*, outlining the governance structure and management measures, and setting out rules on the management of investment, transactions, subscription, redemption, as well as partner institutions.

On December 23rd, the PBC and the SAFE released the *Notice on Issues Concerning Supporting New Types of Offshore International Trade*, encouraging banks to optimize financial services and facilitate the cross-border fund settlement for new types of bona fide and compliant offshore international trade of honest and law-abiding enterprises.

On December 28th, the PBC and the NDRC announced the abolishment of the *Interim Measures for the Administration of the Issuance of RMB Bonds in Hong Kong Special Administrative Region by Domestic Financial Institutions*.

On December 31st, the PBC released the *Notice on Issues Concerning the Adaptive Use of the Two Monetary Policy Instruments Directly Bolstering the Real Economy and Continuing with the Support for the Development of MSBs*, converting the two monetary policy instruments into market-based policy instruments to extend continuous support for MSBs.

On December 31st, the PBC issued the *Guidelines on Macroprudential Policies (for Trial Implementation)*, which set forth the logic and principles behind improving the macro-prudential policy framework and governance mechanism.

Appendix II China Financial Market Statistics

Table 1 Major macroeconomic and financial indicators, 2000—2021 (year-end balance)

Item	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product (GDP) (RMB 100 million)	99,215	109,655	120,333	135,823	159,878	184,937	216,314	265,810	314,045	340,903
Growth rate (%)	8.4	8.3	9.1	10.0	10.1	10.4	12.7	14.2	9.6	9.2
Exports & imports (USD 100 million, RMB 100 million)	4,743	5,097.7	6,208	8,512	11,547	14,221	17,607	21,738	25,616	22,073
Growth rate (%)	31.5	7.5	21.8	37.1	35.7	23.2	23.8	23.5	17.8	-13.9
Exports (USD 100 million, RMB 100 million)	2,492	2,661	3,256	4,384	5,934	7,620	9,690	12,205	14,307	12,016
Imports (USD 100 million, RMB 100 million)	2,251	2,436.1	2,952	4,128	5,614	6,601	7,915	9,561	11,326	10,059
Foreign exchange reserves (USD 100 million)	1,655.7	2,121.7	2,864	4,033	6,099	8,189	10,663	15,282	19,460	23,992
Foreign direct investment (USD 100 million)	408	468.5	527	535	606	603	694.7	747.7	924	900
Fiscal revenue (RMB 100 million)	13,380.1	16,371	18,914	21,691	26,355.9	31,628	38,760.2	51,304	61,330	68,518
Fiscal expenditure (RMB 100 million)	15,879.4	18,844	22,012	24,607	28,360.8	33,708.1	40,222.7	49,565.4	62,593	76,300
Deficit/surplus (RMB 100 million)	-2,499.3	-2,473	-3,098	-2,916	-2,004.9	-2,080.1	-1,462.5	1,738.6	-1,263	-7,782
Money supply (M2) (RMB 100 million)	134,610.3	158,301.9	185,007	221,222.8	254,107	296,040.1	345,577.9	403,401.3	475,166.6	606,223.6
Growth rate (%)	12.3	17.6	16.9	19.6	14.9	16.5	16.7	16.7	17.8	27.6
Money supply (M1) (RMB 100 million)	53,147.2	59,871.6	70,822	84,118.6	95,969.7	107,279.9	126,028.1	152,519.2	166,217.1	220,004.5
Growth rate (%)	15.9	12.7	18.3	18.8	14.1	11.8	17.5	21.0	9.0	32.4
Money supply (M0) (RMB 100 million)	14,652.7	15,688.8	17,278	19,746	21,468.3	24,032.8	27,072.6	30,334.3	34,218.96	38,245.97
Growth rate (%)	8.9	7.1	10.1	14.3	8.7	11.9	12.6	12.0	12.8	11.8
Per capita disposable income of urban residents (RMB)	6,280	6,859.6	7,703	8,500	9,422	10,493	11,759	13,786	15,781	17,175
Real growth rate (%)	6.4	8.5	13.4	9.0	7.7	9.6	10.4	12.2	8.4	9.8
Net income of rural residents (RMB)	2,253	2,366	2,475.6	2,622	2,936	3,255	3,587	4,140	4,761	5,153
Real growth rate (%)	2.1	4.2	4.8	4.3	6.8	6.2	7.4	9.5	8.0	8.5
Total deposits with financial institutions (RMB 100 million)	123,804.4	143,617.2	170,917.4	208,055.6	241,424.3	300,208.6	348,015.6	401,051.4	478,444.2	612,005.1
Growth rate (%)	13.8	16.0	19.0	21.7	16.0	24.3	15.9	15.2	19.3	27.9
Total loans by financial institutions (RMB 100 million)	99,371.1	112,314.7	131,293.9	158,996.2	178,197.8	206,838.5	238,279.8	277,746.5	320,048.7	425,622.6
Growth rate (%)	6.0	13.0	16.9	21.1	12.1	16.1	15.2	16.6	15.2	33.0
Consumer Price Index (CPI) (%)	0.4	0.7	-0.8	1.2	3.9	1.8	1.5	4.8	5.9	-0.7

Sources: National Bureau of Statistics (NBS), PBC, and MOF.

Notes: 1. Data of previous years may have been adjusted according to latest statistical releases.

2. From 2009 onwards, the total value of exports and imports, the value of imports, and the value of exports are denominated in RMB.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
408,903	484,124	534,123	595,244	643,974	689,052	743,585	832,036	919,281	990,865	1,015,986	1,143,670
10.6	9.5	7.7	7.8	7.3	7.0	6.8	6.9	6.7	6.1	2.3	8.1
201,723	236,402	244,160	258,168	264,242	245,503	243,386	278,099	305,010	315,505	321,557	391,009
34.7	17.2	3.2	5.7	2.39	-7.0	-0.9	14.2	9.7	3.4	1.9	21.4
107,023	123,241	129,359	137,131	143,884	141,167	138,419	153,309	164,129	172,342	179,326	217,348
94,700	113,161	114,801	121,037	120,358	104,336	104,967	124,790	140,881	143,162	142,231	173,661
28,473	31,811	33,116	38,213	38,430	33,304	30,105	31,399	30,727	31,079	32,165.22	32,501.66
1,057	1,160	1,117	1,176	1,196	1,263	1,260	1,310	1,350	1,381	1,444	1,735
83,102	103,874	117,254	129,210	140,370	152,269	159,605	172,593	183,360	190,382	182,895	202,539
89,874	109,248	125,953	140,213	151,662	175,768	188,793	203,330	220,906	238,874	245,588	236,233
-6,772	-5,374	-8,699	-11,003	-11,312	-23,499	-29,188	-30,734	-37,546	-48,492	-62,693	-33,694
725,851.79	851,590.9	974,148.8	1,106,524.98	1,228,374.81	1,392,278.11	1,550,066.67	1,676,768.54	1,826,744.22	1,986,488.82	2,186,795.89	2,832,899.56
19.7	13.5	14.4	13.6	11.0	13.3	11.4	8.2	8.1	8.7	10.1	9
266,621.54	289,847.7	308,664.2	337,291.05	348,056.41	400,953.44	486,557.24	543,790.15	551,685.91	576,009.15	625,580.99	647,443.35
21.2	7.9	6.5	9.3	3.2	15.2	21.4	11.8	1.5	4.4	8.6	3.5
44,628.17	50,748.46	54,659.77	58,574.44	60,259.53	63,216.58	68,303.87	70,645.6	73,208.4	77,819.47	83,314.53	
16.7	13.8	7.7	7.1	2.9	4.9	8.1	3.4	3.6	5.4	9.2	
19,109	21,810	24,565	26,955	28,844	31,195	33,616	36,396	39,251	42,359	43,834	
7.8	8.4	12.6	9.7	6.8	6.6	5.6	8.3	7.8	5.0	3.5	
5,919	6,977	7,917	8,896	9,892	11,422	12,363	13,432	14,617	16,021	17,131	
10.9	11.4	13.5	9.3	11.2	7.5	6.2	7.3	8.8	9.6	6.9	
733,382.03	826,701.35	943,102.27	1,070,587.72	1,173,734.59	1,397,752.11	1,555,247.07	1,692,727.15	1,825,158.24	1,981,642.58	2,183,744.07	2,386,062.38
19.8	12.7	14.1	13.5	9.6	19.1	11.3	8.8	7.8	8.6	10.2	9.3
509,225.95	581,892.5	672,874.61	766,326.64	867,867.89	993,459.69	1,120,551.79	1,256,073.74	1,417,516.44	1,586,020.56	1,784,033.85	1,985,107.52
19.6	14.3	15.6	13.9	13.3	14.5	12.8	12.1	12.9	11.9	12.5	11.3
3.3	5.4	2.6	2.6	2.0	1.4	2.0	1.6	2.1	2.9	2.5	0.9

Table 2 Composition and growth of RMB and foreign currency deposits and loans, 2000—2021 (Year-end balance)

Item	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total deposits with financial institutions	123,804	143,617.2	170,917.4	208,055.6	241,424.3	300,208.6	348,015.6	401,051.4	478,444.21	612,005.1
YoY growth	13.8	16.0	19.0	21.7	16.0	24.3	15.9	15.2	19.3	27.9
of which: Deposits of urban & rural residents	64,332.4	73,762.4	86,910.7	103,617.7	119,555.4	147,053.7	166,616.2	176,213.3	221,503.47	264,756.9
YoY growth	7.9	14.7	17.8	19.2	15.4	23.0	13.3	5.8	25.7	19.5
Corporate deposits	44,093.7	51,546.6	60,028.6	72,487.1	84,669.5	101,750.6	118,851.7	144,814.1	164,385.79	224,360
YoY growth	18.6	16.9	16.5	20.8	16.8	20.2	16.8	21.8	13.5	36.5
Total loans by financial institutions	99,371.1	112,314.7	131,293.9	158,996.2	178,197.8	206,838.5	238,279.8	277,746.5	320,048.68	425,622.6
YoY growth	6.0	13.0	16.9	21.1	12.1	16.1	15.2	16.6	15.2	33.0
of which: Short-term loans	65,748.1	67,327.2	76,822.4	87,397.9	90,808.3	91,157.5	101,698.2	118,898	128,571.47	151,390.7
YoY growth	2.9	2.4	14.1	13.8	3.9	0.4	11.6	16.9	8.1	17.7
Medium and long-term loans	27,931.2	39,238.1	51,731.6	67,251.7	81,010.1	92,940.5	113,009.8	138,581	164,160.42	235,591.3
YoY growth	16.5	40.5	31.8	30.0	20.5	14.7	21.6	22.6	18.5	43.5

Source: PBC.

Units: RMB 100 million, percent

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
733,382.03	826,701.35	943,102.27	1,070,587.72	1,173,734.59	1,397,752.11	1,555,247.07	1,692,727.15	1,825,158.24	1,981,642.58	2,183,744.07	2,386,062.38
19.8	12.7	14.1	13.5	9.6	19.1	11.3	8.8	7.8	8.6	10.2	9.3
307,166.39	357,901.58	415,549.87	471,090.18	512,790.14	551,928.92	606,522.23	651,983.38	724,438.51	821,296.39	934,383.14	1,033,117.54
16.0	16.5	16.1	13.4	8.9	7.6	9.9	7.5	11.1	13.4	13.8	10.6
252,960.27	423,086.61	478,730.2	541,793.87	591,069.28	455,208.83	530,895.41	571,640.83	589,104.74	621,147.01	688,218.21	730,136.82
12.7	67.3	13.2	13.2	9.1	-22.9	16.6	7.7	3.1	5.4	10.8	6.1
509,225.95	581,892.5	672,874.61	766,326.64	867,867.89	993,459.69	1,120,551.79	1,256,073.74	1,417,516.44	1,586,020.56	1,784,033.85	1,985,107.52
19.6	14.3	15.6	13.9	13.3	14.5	12.8	12.1	12.9	11.9	12.5	11.3
171,236.64	217,480.1	268,152.19	311,771.97	336,371.27	359,190.66	371,286.36	405,492.17	432,776.46	462,715.17	487,247.04	516,011.42
13.11	27	23.3	16.3	7.9	6.8	3.4	9.2	6.7	6.9	5.3	5.9
305,127.55	333,746.51	363,894.22	410,345.5	471,818.36	537,832.55	634,209.87	750,130.12	854,188.75	971,567.92	1,137,402.06	1,291,006.29
29.5	9.4	9	12.8	15	14	17.9	18.3	13.9	13.7	17.1	13.5

Table 3 Outstanding loans, outstanding bonds and stock market capitalization as percentage of GDP, 2006—2021

Units: RMB 100 million, percent

Year	GDP	Outstanding loans	Outstanding loans/GDP	Outstanding bonds	Outstanding bonds/GDP	Stock market cap	Stock market cap/GDP
2006	216,314	238,280	110.2	92,740	42.9	89,404	41.3
2007	265,810	277,747	104.5	124,470	46.8	327,140.9	123.1
2008	314,045	320,049	101.9	151,648	48.3	121,366.4	38.6
2009	340,903	425,623	124.9	176,430	51.8	243,939.12	71.6
2010	397,983	509,226	128	205,481	51.6	265,422.59	66.7
2011	471,564	581,893	123	223,786	47.5	214,758.1	45.5
2012	519,470	672,875	130	262,058	50.4	230,357.6	44.3
2013	568,845	766,327	135	296,165	52.1	239,077.2	42
2014	636,463	867,868	136	355,778	55.9	372,546.92	59
2015	676,708	993,460	147	478,978	70.8	531,304.2	78.5
2016	744,127	1,120,552	151	636,614	85.6	508,245.11	68.3
2017	827,122	1,256,074	152	740,098	89.5	567,475.37	68.6
2018	900,309	1,417,516	157	870,016	96.6	434,924	48.3
2019	990,865	1,586,021	160	991,043	100	483,461.26	48.8
2020	1,015,986	1,784,034	175	1,167,200	115	797,238	78.5
2021	1,143,670	1,985,108	174	1,331,106	116	916,088	80.1

Source: PBC and CSRC.

Notes: 1. Outstanding loan refers to the outstanding amount of all RMB and foreign currency loans of financial institutions.

2. Outstanding bonds include bonds in custody in the interbank market and on the stock exchange.

Table 4 Composition of aggregate financing to the real economy (flow), 2010—2021

Unit: RMB 1 trillion

Year	Flow of the incremental all-system aggregate financing	RMB loans	Foreign currency loans	Entrust loans	Trust loans	Undiscounted bankers' acceptances	Net bond financing by enterprises	Domestic equity financing by non-financial enterprises	Others
2010	13.94	7.86	0.49	0.88	0.39	2.34	1.11	0.58	0.29
2011	12.83	7.47	0.57	1.3	0.2	1.03	1.37	0.44	0.45
2012	15.76	8.20	0.92	1.28	1.28	1.05	2.26	0.25	0
2013	17.29	8.89	0.58	2.54	1.84	0.78	1.8	0.22	0
2014	16.41	9.78	0.36	2.51	0.52	-0.13	2.43	0.44	0
2015	15.29	11.27	-0.64	1.59	0.04	-1.06	2.82	0.76	0
2016	17.8	12.4	-0.56	2.18	0.86	-1.95	3	1.24	0.6
2017	19.44	13.84	0.0018	0.77	2.26	0.54	0.45	0.87	0.71
2018	19.26	15.67	-0.4203	-1.61	-0.69	-0.63	2.49	0.36	4.1
2019	25.67	16.88	-0.1274	-0.9396	-0.3467	-0.4755	3.34	0.3478	6.18
2020	34.86	20.03	0.1450	-0.3954	-1.1	0.1746	4.45	0.8923	10.66
2021	31.35	19.94	0.1714	-0.1696	-2.0073	-0.4917	3.29	1.2357	8.32

Source: PBC.

Table 5 Interbank lending and bond repo trading, 1997—2021

Unit: RMB 100 million

Year	Interbank lending	Pledged repo	Outright repo
1997	8,298	310	—
1998	1,978	1,021	—
1999	3,291	3,957	—
2000	6,728	15,785	—
2001	8,082	40,133	—
2002	12,107	101,885	—
2003	24,113	117,203	—
2004	14,556	93,105	1,263
2005	12,783	156,784	2,223
2006	21,503	263,021	2,892
2007	106,466	440,672	7,253
2008	150,492	563,830	17,376
2009	193,505	677,007	25,891
2010	278,684	846,533	29,402
2011	334,412	966,650	27,885
2012	467,044	1,366,174	50,966
2013	355,190	1,519,757	61,882
2014	376,626	2,124,191	120,035
2015	642,135	4,324,109	253,528
2016	959,131	5,682,693	330,335
2017	789,811	5,882,607	281,077
2018	1,392,987	7,086,726	140,036
2019	1,516,372	8,100,887	96,427
2020	1,471,425	9,527,158	70,357
2021	1,188,208	10,404,513	47,423

Source: CFETS.

Table 6 Change in the number of interbank funding market participants, 2000—2021

Year	Banks	Securities companies	Insurance companies	Trust companies	Finance companies	Leasing companies	Rural credit cooperatives	City credit cooperatives	Asset management companies	Auto finance companies	Consumer finance companies	Other	Total
2000	232	14	—	—	20	—	148	—	—	—	—	3	417
2001	246	18	—	—	25	—	198	—	—	—	—	3	490
2002	261	41	—	—	25	—	202	4	—	—	—	3	536
2003	289	56	—	—	32	—	229	10	—	—	—	1	617
2004	309	64	—	—	35	—	236	11	—	—	—	1	656
2005	323	66	—	—	38	—	239	12	—	—	—	1	679
2006	339	53	—	—	46	—	250	15	—	—	—	0	703
2007	326	56	—	3	49	—	267	16	—	—	—	0	717
2008	340	58	—	16	55	4	298	13	2	2	—	0	788
2009	348	65	6	26	68	6	320	9	3	3	—	0	854
2010	347	68	6	30	72	11	338	8	3	5	—	0	888
2011	347	70	7	38	77	11	369	7	4	6	—	1	937
2012	359	77	7	39	81	16	422	7	5	8	—	1	1,022
2013	368	82	9	45	98	16	482	7	5	9	—	1	1,122
2014	349	87	10	54	129	17	547	7	5	13	—	1	1,219
2015	355	90	15	57	154	20	661	7	5	16	—	2	1,382
2016	390	95	31	62	180	24	916	0	8	17	—	2	1,725
2017	497	96	43	62	213	40	973	0	8	21	3	2	1,958
2018	573	97	52	62	226	54	1,017	0	8	23	8	3	2,123
2019	1,338	102	53	66	236	66	282	0	9	24	13	1	2,190
2020	1,432	102	53	66	238	66	266	0	9	24	20	2	2,278
2021	1,510	104	60	66	245	66	237	0	9	24	22	2	2,345

Source: National Interbank Funding Center (NIFC).

Table 7 Trading in the bill market, 2017—2021

Unit: RMB 1 trillion

Year	Trading volume of acceptances	Trading volume of discounts	Trading volume of interbank discounts	Trading volume of repurchases
2017	14.63	6.95	44.48	6.92
2018	18.27	9.94	34.63	7.12
2019	20.38	12.46	38.82	12.12
2020	22.09	13.41	44.11	19.98
2021	24.15	15.02	46.94	22.98

Source: SHCPE.

Table 8 Spot trading and futures trading in the bond market, 2006—2021

Units: RMB 100 million, percent

Year	Interbank bond market				Exchange market			
	Spot trading	YoY growth	OTC market trading	YoY growth	Spot trading	YoY growth	Treasury bond futures market	YoY growth
2006	102,558.6	70.55	42.8	-34.86	1,977.83	—	—	—
2007	156,038.21	52.15	35.7	-16.59	2,051.75	3.74	—	—
2008	371,082.7	137.82	30.4	-14.85	4,294.73	109.32	—	—
2009	472,646.43	27.37	62.8	106.58	4,659.86	8.5	—	—
2010	640,418.98	35.5	41.7	-33.6	5,832.26	25.16	—	—
2011	636,422.9	-0.62	27.89	-33.12	6,839.9	17.28	—	—
2012	751,952.83	18.15	14.99	-46.25	9,852.7	44.05	—	—
2013	416,106.44	-44.66	18.72	24.88	17,387.6	76.48	3,063.89	—
2014	403,565.2	-3	71.7	283.01	27,874.4	60.31	8,785.17	186.73
2015	867,370.1	114.9	109.3	52.4	33,994.6	22	60,106.8	584.18
2016	1,270,918.3	46.5	87.6	-19.8	51,269.9	50.8	89,013.6	48.09
2017	1,028,351.7	-19.1	245	179.7	55,597.0	8.4	140,849.1	58.23
2018	1,507,367.9	46.6	1,320.3	438.9	59,282.6	6.6	103,819.3	-26.77
2019	2,087,499.4	38.5	2,528.6	91.5	83,530.2	40.9	148,158.3	40.71
2020	2,328,245.2	11.5	3,237.6	28	201,785.8	141.6	263,689.3	77.98
2021	2,144,508.5	-7.9	4,130.3	26.2	289,275.4	43.4	275,130.2	4.39

Source: PBC.

Table 9 Spot trading in the bond market, 2021

Units: RMB 100 million, percent

Month	Interbank bond market				Exchange market			
	Spot trading	YoY growth	Interbank bond aggregate index	OTC market trading	YoY growth	Spot trading	YoY growth	SSE treasury bond index
Jan.	161,889.7	11.3	117.38	333.0	68.7	20,771.5	216.1	250.39
Feb.	108,865.1	10.8	117.14	263.5	4.6	12,460.1	56.9	251.05
Mar.	190,283.8	-22.1	117.46	443.2	-10.2	19,679.2	1.7	252.06
Apr.	171,147.9	-32.8	117.67	199.6	-66.3	18,876.8	-5.6	253.11
May	149,943.0	-30.9	117.98	358.0	22.8	22,646.7	71.4	254.13
Jun.	185,275.6	-21.1	117.88	452.6	54.8	21,587.0	56.8	255.02
Jul.	202,399.5	-23.3	119.10	331.8	165.1	28,407.4	39.3	255.84
Aug.	200,577.0	-11.7	119.09	560.5	220.2	29,763.7	55.3	257.13
Sept.	180,296.8	-23.3	118.85	468.4	124.7	29,152.3	87.9	257.64
Oct.	144,387.1	36.9	118.46	195.0	89.7	20,666.5	-3.2	258.24
Nov.	222,688.1	57.1	118.98	342.7	25.4	35,744.1	68.7	258.71
Dec.	226,754.9	41.4	119.33	182.1	-32.4	29,520.1	26.4	259.55
Total	2,144,508.5	-7.9		4,130.3	26.2	289,274.4	43.4	

Sources: PBC, CCDC, SSE, and CFETS.

Note: The interbank bond aggregate index refers to the month-end close value of ChinaBond Interbank Aggregate Index. SSE treasury bond index refers to the month-end net close value of the SSE treasury bond.

Table 10 Bond market issuance, 2004—2021

Year	Government credit bonds			Govern-ment-backed agency bonds	Central bank bills	Financial bonds				Interbank certificate of deposits
	Treasury bonds	Local government bonds	Sub-total			CDB and Policy bank bonds	Short-term financing bonds of securities companies	Other financial bonds	Sub-total	
2004	7,318.8	0	7,318.8	0	17,037	4,348	0	748.8	5,096.8	—
2005	7,042	0	7,042	0	27,882	6,051.7	29	1,036.3	7,117	—
2006	8,883.3	0	8,883.3	0	36,574	8,980	0	525	9,505	—
2007	23,483.4	0	23,483.4	0	40,721	10,931.9	0	972.7	11,904.6	—
2008	8,546.3	0	8,546.3	0	42,960	10,809.3	0	974	11,783.3	—
2009	16,213.6	2,000	18,213.6	0	39,740	11,678.1	0	3,071	14,749.1	—
2010	17,778.2	2,000	19,778.2	1,090	46,608	13,192.7	0	979.5	14,172.2	—
2011	15,397.9	2,000	17,397.9	1,000	14,140	19,972.7	0	3,528.5	23,501.2	—
2012	14,360.4	2,500	16,860.4	1,500	0	21,399	561	4,233.7	26,193.7	—
2013	16,945	3,500	20,445	1,900	5,362	20,760.3	2,995.9	1,321	25,077.2	340
2014	17,047.3	4,000	21,047.3	2,100	0	22,900.5	4,246.9	5,459.5	32,606.9	8,985.6
2015	19,875.4	38,350.6	58,226	2,400	0	25,790.2	3,515.6	14,794.9	44,100.7	52,975.9
2016	29,457.7	60,428.4	89,886.1	2,250	0	33,529.7	1,178.6	12,717.9	47,426.2	129,931
2017	38,661.8	43,580.9	82,242.7	2,860	0	32,814.8	392	16,961	50,167.8	201,872.4
2018	35,411.0	41,651.7	77,062.6	2,530	0	33,681.8	1,425	18,302.2	53,409	210,832.4
2019	40,091	43,624.3	83,715.3	3,720	0	37,401	4,491	26,693.4	68,585.4	179,712.7
2020	70,173.3	64,438.1	134,611.4	—	0	51,257.2	7,983	33,343.6	92,843.8	189,719.8
2021	66,758.1	74,826.3	141,584.4	—	0	55,059.4	5,937	35,878.7	96,875.2	217,922.9

Source: PBC.

Notes: 1. Treasury bonds include book-entry treasury bonds and electronic saving bonds.

2. Other financial bonds include interbank and exchange-traded financial bonds from 2015, and asset-backed securities includes interbank and exchange asset-backed securities.

3. From 2015 to 2019, asset-backed securities (ABS) include interbank credit ABS and exchange-based ABS.

4. Since 2020, for statistical purposes, government-backed agency bonds are included into enterprise bonds and exchange fund notes, asset-backed notes (ABN) are separated from the debt financing instruments of non-financial enterprises, and exchange-based ABS are included into corporate bonds.

5. International institutional bonds refer to bonds issued in China by overseas institutional legal persons, including sovereign institutions, quasi-sovereign institutions, and overseas financial and non-financial institutions.

Unit: RMB 100 million

Corporate credit bonds						ABS	International institutional bonds	Standard commercial paper	Exchange fund notes	Debt financing plan of BFAE	Credit ABS	Total
Debt financing instruments of non-financial enterprises	Asset-backed notes (ABN)	Enterprise bonds	Corporate bonds	Exchange-based asset-backed securities (ABS)	Sub-total							
0	—	326	209	—	535	—	—	—	—	—	—	29,987.6
1,424.0	—	654	0	—	2,078.0	172.7	—	—	—	—	—	44,291.7
2,919.5	—	995	142.9	—	4,057.4	280	—	—	—	—	—	59,299.7
3,349.1	—	1,720.0	407.3	—	5,476.4	178.1	—	—	—	—	—	81,763.5
6,075.5	—	2,367.0	976.5	—	9,419.0	302	—	—	—	—	—	73,010.6
11,509.7	—	4,252.0	715	—	16,476.7	0	—	—	—	—	—	89,179.4
11,863.0	—	3,627.0	1,320.3	—	16,810.3	0	—	—	—	—	—	98,458.7
18,503.2	—	2,473.5	1,707.4	—	22,684.1	12.8	—	—	—	—	—	78,736
26,547.2	—	6,499.3	2,722.8	—	35,769.3	224.4	—	—	—	—	—	80,547.8
28,357.9	—	4,752.3	4,081.4	—	37,191.6	231.7	—	—	—	—	—	90,547.5
41,217.6	—	6,952.0	3,483.8	—	51,653.4	3,220.63	—	—	—	—	—	119,613.8
53,660.6	—	3,431	13,292.4	—	70,384.0	6,157.2	115	—	—	—	—	234,358.8
50,297.9	—	5,917.7	25,770.0	—	81,985.6	8,647.0	1,330.4	—	—	—	—	361,456.3
39,813.5	—	3,731.0	11,460.2	—	55,004.7	15,398.4	666	—	—	—	—	408,212.0
57,915.9	—	2,404.8	16,336.7	—	76,657.4	18,187.5	898.6	—	—	—	—	439,577.5
67,975.7	—	3,606.2	25,704.9	—	97,286.8	19,668.3	538.4	13.8	—	—	—	453,240.7
78,848.7	5,107.9	5,508.7	34,439.3	14,634.4	138,538.9	—	586.5	61.2	1,450	7,512.3	7,880.3	573,204.2
85,144.0	6,454.4	6,274.4	34,914.2	15,598.4	148,385.3	—	1,064.5	0.5	200	5,035.6	8,815.3	619,883.7

Table 11 Bond custody in bond market, 2006—2021

Year	Government bonds			Government-backed agency bonds and others	Central bank bills	Financial bonds				Interbank certificate of deposits	Corporate credit bonds			
	Treasury bonds	Local government bonds	Sub-total			CDB and policy bank bonds	Short-term financing bonds of securities companies	Other financial bonds	Sub-total		Debt financing instruments of non-financial enterprises	Asset-backed notes (ABN)	Enterprise bonds	Corporate bonds
2006	29,048	0	29,048	30	32,300	22,836	0	2,552	25,388	0	2,667	—	2,832	288
2007	46,503	0	46,503	30	36,587	28,784	0	3,486	32,270	0	3,203	—	4,422	1,131
2008	48,753	0	48,753	30	48,121	36,720	0	4,255	40,975	0	5,875	—	6,803	539
2009	55,411	2,000	57,411	40	42,326	44,498	0	6,454	50,952	0	13,196	—	10,971	1,135
2010	62,628	4,000	66,628	1,130	40,909	51,604	0	6,662	58,266	0	20,271	—	14,511	3,584
2011	67,839	6,000	73,839	2,130	21,290	64,778	0	9,785	74,563	0	29,047	—	16,799	6,023
2012	74,236	6,500	80,736	8,532	13,440	78,582	295	13,126	92,003	0	40,327	—	19,310	7,441
2013	83,165	8,615	91,780	10,067	5,522	88,720	810	13,535	103,064	340	51,483	—	23,359	10,553
2014	91,450	11,624	103,073	11,706	4,282	99,874	1,134	17,213	118,221	5,995.3	67,901	—	29,513	12,335
2015	101,503	48,255	149,757	13,275	4,282	110,069	436	32,174	142,678	30,274	85,910	—	31,632	15,582
2016	114,663	106,250	220,913	14,605	60	124,070	82	42,026	166,178	62,761	87,771	—	35,305	42,312
2017	129,028	147,419	276,447	16,045	60	135,437	152	52,300	187,889	80,051	83,741	—	35,067	50,652
2018	143,616	180,669	324,285	17,195	59.7	144,706	460	62,447	306,472	98,859	101,968	—	31,133	58,437
2019	161,041	211,153	372,193	19,445	280	156,927	1,745	75,937	234,609	107,239	117,064	—	29,840	70,570
2020	201,781	254,526	456,306	—	210	182,762	1,429	93,486	277,677	111,537	115,039	7,012	45,494	91,750
2021	225,303	302,946	528,249	—	210	203,141	1,699	108,282	313,123	139,139	125,462	9,158	45,760	102,177

Source: PBC.

Notes:1. Treasury bonds include book-entry government bonds and electronic savings bonds.
2. Since 2015, other financial bonds include interbank and exchange-traded financial bonds.
3. From 2015 to 2019, asset-backed securities (ABS) include interbank credit ABS and exchange-based ABS.
4. Since 2020, for statistical purposes, government-backed agency bonds are included into enterprise bonds and exchange fund notes, asset-backed notes (ABN) are separated from the debt financing instruments of non-financial enterprises, and exchange-based ABS are included into corporate bonds.
5. International institutional bonds refer to bonds issued in China by overseas institutional legal persons, including sovereign institutions, quasi-sovereign institutions, and overseas financial and non-financial institutions.

Unit: RMB 100 million

Corporate credit bonds		Credit asset-backed securities	International institutional bonds	Standard commercial paper	Exchange fund notes	Debt financing plan of BFAE	Credit ABS	Interbank custody	Exchange custody	Total custody
Exchange-based asset-backed securities (ABS)	Sub-total									
—	5,786	188	—	—	—	—	—	88,910	3,830	92,740
—	8,756	324	—	—	—	—	—	120,102	4,368	124,470
—	13,218	551	—	—	—	—	—	148,100	3,548	151,648
—	25,301	399	—	—	—	—	—	172,476	3,954	176,430
—	38,366	182	—	—	—	—	—	199,019	6,462	205,481
—	51,869	95	—	—	—	—	—	214,260	9,526	223,786
—	67,078	269	—	—	—	—	—	250,014	12,044	262,058
—	85,394	354	—	—	—	—	—	277,128	19,377	296,505
—	109,749	2,751	—	—	—	—	—	329,803	25,975	355,778
—	133,123	5,463	125	—	—	—	—	440,640	38,337	478,978
—	165,387	6,174	531	—	—	—	—	563,292	73,316	636,608
—	169,460	9,132	1,013	—	—	—	—	654,324	85,774	740,098
—	191,538	28,917	1,550	—	—	—	—	763,015	107,000	870,016
—	217,474	38,142	1,659	1	—	—	—	864,460	126,583	991,043
23,111	282,406	—	1,588	29	3,890	13,958	22,221	1,007,204	162,611	1,169,815
25,040	307,596	—	1,494	0	4,110	14,971	26,068	1,147,223	187,736	1,334,959

Table 12 Number of interbank bond market participants

Institution			2014	2015	2016	2017	2018	2019	2020	2021
Domestic participants	Incorporated entities	Depository financial institutions	1,088	1,302	1,560	1,745	1,859	2,068	2,261	2,342
		Other banking financial institutions	158	182	242	278	324	349	370	398
		Securities financial institutions	169	171	179	185	189	194	199	207
		Insurance financial institutions	148	152	154	163	173	183	184	189
		Non-financial institutions	278	280	274	274	274	265	86	84
		Other	7	7	21	20	23	23	23	23
		Sub-total	1,848	2,094	2,430	2,665	2,842	3,082	3,123	3,243
	Unincorporated Products	Securities investment funds	1,556	2,151	3,137	3,919	4,212	4,796	5,659	6,564
		Corporate annuities	1,275	1,431	1,528	1,625	1,684	2,748	3,270	3,271
		Social security fund	105	105	106	163	197	206	211	162
		Insurance products	145	311	641	976	1,087	1,164	1,511	1,741
		Trust products	569	666	684	869	949	1,032	1,038	1,496
		Specific asset management portfolios of fund companies	176	1,140	3,061	3,425	3,315	3,395	3,610	3,765
		Asset management schemes of securities companies	560	1,388	2,743	3,586	3,965	4,832	5,501	5,943
		Wealth management products of banks	48	48	445	679	1,006	1,611	2,581	3,120
		Other	0	0	114	216	320	412	549	745
		Sub-total	4,434	7,240	12,459	15,458	16,735	20,196	23,930	26,807
Overseas participants			180	302	407	617	1,186	2,610	905	1,016
Total			6,462	9,636	15,296	18,740	20,763	25,888	27,958	31,066

Source: PBC.

Note: In terms of statistics, from 2014 to 2019, overseas participants include both legal-person and non-legal-person institutions; in 2020 and 2021, only legal-person institutions are included.

Table 13 Primary dealers for open market operations

No.	Institution	No.	Institution
1	Industrial and Commercial Bank of China	2	Agricultural Bank of China
3	Bank of China	4	China Construction Bank
5	Bank of Communications	6	Postal Savings Bank of China
7	China Development Bank	8	The Export-Import Bank of China
9	China Merchants Bank	10	Industrial Bank Co., Ltd.
11	Shanghai Pudong Development Bank	12	China Guangfa Bank
13	Ping An Bank	14	China Zheshang Bank
15	China CITIC Bank	16	China Everbright Bank
17	Huaxia Bank	18	Hengfeng Bank
19	China Minsheng Bank	20	Bohai Bank
21	Bank of Beijing	22	Bank of Ningbo
23	Huishang Bank	24	Bank of Hangzhou
25	Bank of Jiangsu	26	Bank of Changsha
27	Bank of Qingdao	28	Bank of Guiyang
29	Bank of Nanjing	30	Bank of Luoyang
31	Bank of Shanghai	32	Zhongyuan Bank
33	Bank of Guangzhou	34	Xiamen Bank
35	Bank of Hebei	36	Bank of Xi’an
37	Bank of Zhengzhou	38	Shanghai Rural Commercial Bank
39	Chongqing Rural Commercial Bank	40	Beijing Rural Commercial Bank
41	Shunde Rural Commercial Bank	42	Guangzhou Rural Commercial Bank
43	Bank of Tokyo-Mitsubishi UFJ (China) Co., Ltd.	44	HSBC Bank (China) Co., Ltd.
45	Deutsche Bank (China) Co., Ltd.	46	Standard Chartered Bank (China) Ltd.
47	Citibank (China) Co., Ltd.	48	CITIC Securities
49	China International Capital Co., Ltd.	50	China Securities Credit Investment Co., Ltd.

Source: PBC.

Table 14 Stock market statistics, 2000—2021

Year	Number of listed companies	Listed share capital (100 million shares)	Market cap (RMB 100 million)	Free-float market cap (RMB 100 million)	Total capital raised via the A-share market (RMB 100 million)	Turnover (RMB 100 million)	Average turnover ratio (%)		Average P/E ratio (%)		Investor accounts (10,000)
							Shanghai	Shenzhen	Shanghai	Shenzhen	
2000	1,088	3,791.7	48,090.9	16,087.5	1,415.17	60,826.6	492.9	509.1	58.2	56.0	6,123.2
2001	1,160	5,218.0	43,522.2	15,228.8	1,277.33	38,305.2	269.3	227.9	37.7	39.8	6,898.7
2002	1,224	5,875.5	38,329.1	12,484.6	738.14	27,990.5	214.0	198.8	34.4	37.0	6,841.8
2003	1,287	6,428.5	42,457.7	13,178.5	806.24	32,115.3	250.8	214.2	36.5	36.2	6,981.2
2004	1,377	7,149.4	37,055.6	11,688.6	715.53	42,333.9	288.7	288.3	24.2	24.6	7,215.7
2005	1,381	7,629.5	32,430.3	10,630.5	344.13	31,663.1	274.4	320.6	16.3	16.4	7,336.1
2006	1,434	14,897.6	89,403.9	25,003.6	2,305.86	90,468.7	541.1	671.3	33.4	33.6	7,854.0
2007	1,550	22,416.9	327,140.9	93,064.4	8,303.34	460,556.2	927.2	1,062.1	59.2	72.1	9,280.6
2008	1,625	24,522.85	121,366.44	45,213.9	3,429.29	267,113.0	392.5	—	14.86	17.13	10,449.7
2009	1,718	26,162.85	243,939.12	151,258.7	4,816.07	535,986.7	—	—	28.73	46.01	12,037.7
2010	2,063	33,184.35	265,422.59	193,110.41	10,424.74	545,633.54	—	—	21.61	44.69	13,391.04
2011	2,342	36,095.52	214,758.10	164,921.3	7,312.2	421,649.72	—	—	13.4	23.11	14,050.37
2012	2,494	38,295.0	230,357.62	181,658.26	4,558.23	314,667.41	—	—	12.3	22.01	14,054.91
2013	2,489	40,569.08	239,077.19	199,579.54	4,674.98	468,728.6	—	—	10.99	27.76	13,247.15
2014	2,613	43,610.13	372,546.96	315,624.31	8,914.31	743,912.98	—	—	15.99	34.05	14,214.68
2015	2,827	49,997.26	531,304.20	417,925.40	16,064.7	2,550,538.29	—	—	17.63	52.75	21,477.57
2016	3,052	55,820.50	508,245.11	393,266.27	21,028.16	1,267,262.64	—	—	18.94	62.36	—
2017	3,482	60,919.15	567,475.37	449,105.31	17,223.86	1,124,625.07	—	—	19.67	39.53	—
2018	3,584	57,581.02	434,924.02	353,794.19	12,107.35	901,103.17	—	—	12.45	20.00	—
2019	3,777	61,719.92	592,934.57	483,461.26	15,413.25	1,366,232.67	—	—	14.55	26.15	—
2020	4,154	65,455.93	797,238.16	643,605.29	16,676.54	2,068,252.52	—	—	16.76	34.51	—
2021	4,685	70,759.28	918,242.52	750,706.47	18,178.06	2,579,734.12			16.61	33.03	

Source: Wind.

Table 15 Change in stock market turnover and indices

Unit: RMB 100 million, point

Year	Turnover	Average daily turnover	SSE composite index				SZSE composite index			
			Open	High	Low	Close	Open	High	Low	Close
2000	60,826.6	254.5	1,368.69	2,125.72	1,361.21	2,073.48	402.71	654.37	414.69	635.73
2001	38,305.2	159.6	2,077.08	2,245	1,515	1,645.97	636.62	664.85	439.36	475.94
2002	27,990.5	118.1	1,643.49	1,748.89	1,339.2	1,357.65	475.14	512.38	371.79	388.76
2003	32,115.3	133.25	1,347.43	1,649.6	1,307.4	1,497.04	386.61	449.42	350.74	378.63
2004	42,333.9	174.21	1,492.72	1,783.01	1,259.43	1,266.5	377.93	470.55	315.17	315.81
2005	31,663.1	130.84	1,260.78	1,328.53	998.23	1,161.06	313.81	333.27	237.18	278.75
2006	90,468.7	375.39	1,163.88	2,698.9	1,161.91	2,675.47	278.99	710.14	278.99	706.01
2007	460,556.2	1,903.12	2,728.19	6,092.06	2,612.54	5,261.56	555.26	1,567.74	547.89	1,447.02
2008	267,113.0	1,085.82	5,265	5,497.9	1,706.7	1,820.81	1,450.33	1,584.39	452.33	553.08
2009	535,986.7	2,196.67	1,849.02	3,478.01	1,844.09	3,277.139	560.09	1,234.12	560.1	1,201.34
2010	545,633.54	2,254.68	3,289.75	3,306.75	2,319.74	2,808.08	1,207.33	1,412.64	890.24	1,290.87
2011	421,649.72	1,728.06	2,825.33	3,067.46	2,134.02	2,199.42	1,298.59	1,316.19	828.83	866.65
2012	314,667.41	1,294.93	2,212.00	2,460.69	1,959.77	2,269.13	871.93	1,020.29	724.97	881.17
2013	468,728.6	1,969.45	2,289.51	2,434.48	1,950.01	2,115.98	887.37	1,106.27	815.89	1,057.67
2014	743,913.0	3,036.38	2,112.13	3,239.36	1,974.38	3,234.68	1,055.88	1,504.48	1,004.93	1,415.19
2015	2,550,538.29	10,453.0	3,258.63	5,178.19	2,850.71	3,539.18	1,419.44	3,156.96	1,408.99	2,308.91
2016	1,267,262.64	5,193.7	3,536.59	3,538.69	2,638.3	3,103.64	2,304.48	2,304.49	1,618.12	1,969.11
2017	1,124,625.07	4,609.1	3,105.31	3,450.50	3,016.53	3,307.17	1,972.55	2,054.02	1,753.53	1,899.34
2018	901,103.17	3,708.24	3,314.03	3,587.03	2,449.20	2,493.90	1,903.49	1,966.15	1,212.23	1,267.87
2019	1,273,572.04	5,219.56	2,497.88	3,288.45	2,440.91	3,050.12	1,270.50	1,799.10	1,231.83	1,722.95
2020	2,068,252.52	8,511.33	3,066.34	3,474.92	2,646.81	3,473.07	1,734.63	2,333.46	1,552.96	2,329.37
2021	2,579,734.12	10,616.19	3,474.68	3,731.69	3,312.72	3,639.78	2,335.16	2,571.27	2,130.09	2,530.14

Sources: CSRC, SSE, and SZSE.

Table 16 Market makers for RMB trading in the interbank spot foreign exchange market

No.	Institution	No.	Institution
1	Industrial and Commercial Bank of China	2	Agricultural Bank of China
3	Bank of China	4	China Construction Bank
5	Bank of Communications	6	China CITIC Bank
7	China Merchants Bank	8	China Everbright Bank
9	Huaxia Bank	10	China Guangfa Bank
11	Ping An Bank	12	Industrial Bank
13	China Minsheng Bank	14	China Development Bank
15	Bank of Shanghai	16	Bank of Nanjing
17	Bank of Ningbo	18	BNP Paribas (China) Ltd.
19	Shanghai Pudong Development Bank	20	DBS Bank (China) Co., Ltd.
21	HSBC Bank (China) Co., Ltd.	22	Standard Chartered Bank (China) Ltd.
23	J.P. Morgan Chase Bank (China) Co., Ltd.	24	Mizuho Bank (China) Co., Ltd.
25	Bank of Tokyo-Mitsubishi UFJ (China) Co., Ltd.		

Source: CFETS.

Table 17 RMB/FX central parity rates, 1994—2021

Year	USD	EUR	JPY	HKD	GBP	MYR	RUB	ZAR	KRW	AED	SAR	HUF	PLN	DKK	SEK	NOK	TRY	MXN	AUD	CAD	NZD	SGD	CHF
1994	844.91	—	7.78	112.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1995	831.79	—	8.0703	107.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1996	829.92	—	7.1613	107.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1997	827.98	—	6.3627	106.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1998	827.87	—	7.1719	106.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1999	827.93	—	8.0933	106.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	827.81	—	7.2422	106.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2001	827.66	—	6.3005	106.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2002	827.73	863.6	6.9035	106.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2003	827.69	1,033.8	7.7263	106.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2004	827.65	1,126.3	7.9701	106.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2005	807.02	957.97	6.8716	104.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2006	780.87	1,026.7	6.563	100.47	1,532.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	–
2007	730.46	1,066.7	6.4064	93.638	1,458.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	–
2008	683.46	965.9	7.565	88.189	987.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2009	682.82	979.71	7.3782	88.048	1,097.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2010	662.27	880.65	8.126	85.093	1,021.8	46.649	462.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2011	630.09	816.25	8.1103	81.07	971.16	50.279	508.6	—	—	—	—	—	—	—	—	—	—	—	640.93	617.77	—	—	—
2012	628.55	831.76	7.3049	81.085	1,016.1	48.865	485.28	—	—	—	—	—	—	—	—	—	—	—	653.63	631.84	—	—	—
2013	609.69	841.89	5.7771	78.623	1,005.6	54.141	539.85	—	—	—	—	—	—	—	—	—	—	—	543.01	572.59	—	—	—
2014	611.9	745.56	5.1371	78.887	954.37	56.737	905.36	—	—	—	—	—	—	—	—	—	—	—	501.74	527.55	480.34	463.96	—
2015	649.36	709.52	5.3875	83.778	961.5	66.051	1,131	—	—	—	—	—	—	—	—	—	—	—	472.76	468.14	444.26	458.75	640.18
2016	693.7	730.68	5.9591	89.451	850.94	64.406	869.06	196.75	17,371.0	52.938	54.062	4,247.68	60.355	101.71	131.16	124.27	50.757	298.64	501.57	514.06	483.08	479.95	679.89
2017	653.42	780.23	5.7883	83.591	877.92	62.224	881.4	189.5	16,369.0	56.212	57.397	3,973.0	53.576	95.43	126.24	126.24	57.834	301.65	509.28	520.09	463.27	488.31	667.79
2018	686.32	784.73	6.1887	87.62	867.62	60.683	1,013.83	211.19	16,327.0	53.537	54.685	4,091.61	54.732	95.17	131.34	127.74	77.151	287.02	482.5	503.81	459.54	500.62	694.94
2019	689.01	774.7	6.3828	89.608	905.74	59.236	885.06	202.69	16,618.0	52.612	53.758	4,285.15	54.983	96.47	134.65	127.7	85.049	271.62	483.34	530.69	463.88	515.4	712.67
2020	652.49	802.5	6.3236	84.164	899.03	61.833	1,140.11	224.33	16,675.0	56.302	57.505	4,542.9	57.079	92.71	125.99	130.77	113.161	304.86	501.63	511.61	470.5	493.14	740.06
2021	637.57	721.97	5,541.5	81.76	860.64	65.503	1,170.04	249.78	18,656.0	57.602	58.884	5,109.1	63.624	102.98	141.84	138.23	207.365	320.9	462.2	500.46	435.53	471.79	697.76

Source: SAFE.

Notes: 1. Listed in the table are central parity rates on the last trading day of the year.

2. The central parity rates of CNY/MYR, CNY/RUB, CNY/ZAR, CNY/KRW, CNY/AED, CNY/SAR, CNY/HUF, CNY/PLN, CNY/DKK, CNY/SEK, CNY/NOK, CNY/TRY, and CNY/MXN are under indirect quotation; the central parity rates of CNY against the other 10 currencies are under direct quotation.

Table 18 Futures market trading, 1993—2021

Units: RMB 100 million, 10,000 lots

Year	Commodity futures market		Financial futures market	
	Trading value	Trading volume	Trading value	Trading volume
1993	5,521.99	890.69	—	—
1994	31,601.41	12,110.72	—	—
1995	100,565.3	63,612.07	—	—
1996	84,119.16	34,256.77	—	—
1997	61,170.66	15,876.32	—	—
1998	36,967.24	10,445.57	—	—
1999	22,343.01	7,363.91	—	—
2000	16,082.29	5,461.07	—	—
2001	30,144.98	12,046.35	—	—
2002	39,490.16	13,943.26	—	—
2003	108,389.03	27,986.42	—	—
2004	146,935.31	30,569.76	—	—
2005	134,448.38	32,284.75	—	—
2006	210,046.34	44,947.41	—	—
2007	409,722.43	72,842.68	—	—
2008	719,141.94	136,388.71	—	—
2009	1,305,107.20	215,742.98	—	—
2010	2,269,852.69	304,194.19	821,397.94	9,147.66
2011	937,503.93	100,372.53	437,659.55	5,041.62
2012	952,862.59	134,546.42	758,406.78	10,506.18
2013	1,264,695.8	186,827.38	1,410,066.21	19,354.93
2014	1,279,712.5	228,343.25	1,640,169.73	21,758.1
2015	1,356,307.36	323,715.31	4,173,852.33	34,052.95
2016	1,774,124.99	411,943.24	182,191.10	1,833.59
2017	1,633,042.09	305,155.38	245,922.02	2,459.59
2018	1,846,960.97	300,165.53	261,222.97	2,721.01
2019	2,209,875.26	389,566.73	696,210.17	6,641.04
2020	3,220,907.56	603,734.46	1,154,350.96	11,528.14
2021	4,630,336.71	739,199.23	1,181,651.64	12,203.32

Source: CFA.

Note: Starting from 2011, the trading volume was calculated unilaterally. And data of exchange for physical transactions are not included in the table.

Table 19 Gold market trading, 2003—2021

Units: RMB 100 million, metric ton

Year	Trading value	Trading volume
2003	459.2	470.7
2004	731.0	665.3
2005	1,069.8	906.4
2006	1,947.5	1,249.6
2007	3,164.9	1,828.1
2008	8,683.9	4,457.6
2009	10,288.8	4,710.8
2010	16,157.8	6,051.5
2011	24,772.2	7,438.5
2012	21,506.3	6,350.2
2013	32,133.8	11,614.5
2014	45,891.6	18,486.7
2015	80,083.9	34,067.3
2016	130,240.6	48,676.6
2017	149,751.9	54,292.0
2018	183,046.4	67,510.3
2019	214,944.8	68,574.4
2020	225,507.8	58,671.5
2021	130,812.6	34,841.1

Source: SGE.

Table 20 OTC gold businesses of commercial banks, 2007—2021

Year	Trading volume/value	Account gold		Physical gold			Others								
		USD-denominated (10,000 oz, USD100 million)	RMB-denominated (metric ton, RMB 100 million)	Proprietary (metric ton, RMB 100 million)	Agent (metric ton, RMB 100 million)	Gold accumulation and regular investment (metric ton, RMB 100 million)	Gold leasing (metric ton, RMB 100 million)	Gold lending/borrowing (metric ton, RMB 100 million)	Gold pledging (metric ton, RMB 100 million)	Domestic USD gold forwards (10,000 oz, USD100 million)	Domestic USD gold options (10,000 oz, USD100 million)	Domestic USD gold swaps (10,000 oz, USD100 million)	Domestic RMB gold forwards (metric ton, RMB 100 million)	Domestic RMB gold swaps (metric ton, RMB 100 million)	Domestic RMB gold options (metric ton, RMB 100 million)
2007	Trading volume	157.68	352.71	6.09	3.96	—	33.11	1.20	—	204.93	8.48	—	—	—	—
	Trading value	11.08	607.05	11.20	7.16	—	56.40	2.31	—	11.84	0.60	—	—	—	—
2008	Trading volume	293.09	1,332.55	33.12	4.13	—	73.99	11.40	—	574.85	6.28	—	—	—	—
	Trading value	25.37	2,546.30	66.68	8.18	—	141.50	20.16	—	54.44	0.58	—	—	—	—
2009	Trading volume	579.96	1,381.16	40.73	3.43	0.54	91.29	7.56	—	162.06	2.29	—	—	—	—
	Trading value	57.34	2,923.48	89.90	7.64	1.30	191.98	15.09	—	15.98	0.22	—	—	—	—
2010	Trading volume	418.67	1,205.15	80.40	3.06	12.27	155.80	10.63	0.27	257.82	1.74	—	3.09	—	—
	Trading value	51.47	3,227.49	222.90	8.53	35.29	413.25	28.85	—	32.75	0.21	—	8.78	—	—
2011	Trading volume	447.20	1,864.40	129.50	6.16	30.30	301.30	31.99	4.56	407.04	6.06	17.99	5.09	—	—
	Trading value	72.21	6,271.71	428.50	21.49	102.18	970.55	104.92	—	64.69	0.90	2.74	17.59	—	—
2012	Trading volume	424.35	1,458.89	126.20	10.55	59.85	465.01	54.80	7.43	1,331.50	61.46	49.93	20.95	—	—
	Trading value	70.71	4,947.18	443.70	41.20	205.82	1,583.70	187.23	—	222.01	10.17	8.35	70.91	—	—
2013	Trading volume	497.26	1,864.54	198.63	24.89	298.24	947.65	407.23	39.85	991.99	146.88	524.56	29.76	18.63	—
	Trading value	70.39	5,159.69	618.25	87.76	838.09	2,656.29	1,094.43	78.96	136.48	20.39	75.63	79.86	60.86	—
2014	Trading volume	250.37	910.78	91.36	25.16	594.24	1,370.69	474.80	17.14	1,735.95	40.87	341.08	197.29	10.35	0.03
	Trading value	31.59	2,289.79	250.76	94.19	1,483.77	3,438.19	1,180.97	32.83	218.64	5.18	43.68	496.33	26.01	0.07
2015	Trading volume	377.34	1,109.83	128.18	27.54	535.02	1,582.71	849.22	27.47	2,414.39	28.74	1,314.93	737.86	309.82	0.31
	Trading value	43.95	2,609.08	321.01	100.54	1,252.41	3,739.06	2,009.87	74.63	281.36	3.37	151.75	1,767.57	7,101.86	0.74
2016	Trading volume	685.04	1,889.54	143.47	34.40	463.96	1,827.78	1,242.59	3.42	1,359.40	50.53	1,814.90	799.26	32.01	0.08
	Trading value	86.47	5,064.28	396.04	135.83	1,239.66	4,855.60	3,319.76	6.00	168.84	6.34	217.35	2,134.97	85.47	0.21
2017	Trading volume	577.48	1,951.19	101.47	27.97	378.72	1,778.05	1,216.60	0.83	707.64	73.92	3,280.59	1,074.17	98.92	1.16
	Trading value	72.87	5,344.52	288.74	117.22	1,044.04	4,901.43	3,367.16	1.66	89.45	9.28	414.87	2,982.79	277.73	3.34
2018	Trading volume	593.63	2,984.04	95.66	36.04	257.61	968.16	790.58	0.17	960.18	51.45	7,792.08	856.98	31.50	144.62
	Trading value	76.39	8,035.55	269.00	146.13	700.93	2,633.05	2,149.29	0.30	122.19	6.57	996.77	2,365.06	86.78	426.96
2019	Trading volume	758.14	3,277.63	116.05	39.05	246.94	740.19	1,448.03	0.04	472.26	40.25	9,129.24	404.93	113.42	19.20
	Trading value	107.11	10,391.20	372.13	152.90	771.85	2,268.43	4,431.75	0.07	65.90	5.63	1,258.21	1,251.49	359.56	66.60
2020	Trading volume	946.63	4,185.73	155.45	32.26	298.02	602.89	1,410.12	0.78	480.39	45.82	7,410.00	360.92	248.93	76.34
	Trading value	164.28	15,592.76	621.53	142.24	1,154.44	2,304.64	5,340.85	2.20	83.20	7.8	1,253.18	1,377.40	941.83	302.42
2021	Trading volume	311.64	1,171.51	111.91	27.94	188.72	572.39	1,458.46	0.25	227.78	23.11	4,344.09	295.11	104.16	31.81
	Trading value	56.30	4,377.49	469.06	122.62	713.61	2,144.92	5,469.75	0.85	40.9	4.22	775.86	1,111.24	394.01	121.65

Source: Gold Market Monitoring and Analysis System of PBC Shanghai Head Office.

Notes: Proprietary trading and agent trading of physical gold comprise sales and repos. Volume of gold accumulation (regular gold investment) comprises sales and redemptions. Volume of gold leasing, comprising leases and repayments for the years from 2007 to 2013, covers leases only from 2014 onwards. Volume of gold lending/borrowing, comprising gold lending and borrowing for the years from 2007 to 2013, covers lending only from 2014 onwards. Volume of gold pledging is the weight of gold received as pledge.

Table 21 Interest rate derivatives trading, 2006—2021

Unit: RMB 100 million

Year	Interest rate swaps		X-swap		Bond forwards		Standard bond forwards		Forward rate agreements	
	Number of trades	Notional principal amount	Number of trades	Notional principal amount	Number of trades	Trading volume	Number of trades	Trading volume	Number of trades	Trading volume
2006	103	355.7	—	—	398	664.5	—	—	—	—
2007	1,978	2,186.9	—	—	1,238	2,518.1	—	—	14	10.5
2008	4,040	4,121.5	—	—	1,327	5,005.5	—	—	137	113.6
2009	4,044	4,616.4	—	—	1,599	6,556.4	—	—	27	60
2010	11,643	15,003.4	—	—	967	3,183.4	—	—	20	33.5
2011	20,202	26,759.6	—	—	436	1,030.1	—	—	3	3
2012	20,945	29,021.4	—	—	56	166.1	—	—	3	2
2013	24,409	27,277.8	—	—	1	1.01	—	—	1	0.5
2014	43,071	40,384.51	207	393	—	—	—	—	—	—
2015	64,812	82,587.33	996	5,024	83	19.6	59	17.2	—	—
2016	87,882	99,306.95	8	8	7	14.86	8	1	1	1
2017	138,404	144,057.59	0	0	15	12	0	0	0	0
2018	188,461	214,906.57	0	0	5	3.93	2,859	796.2	0	0
2019	237,654	181,394	—	—	—	—	3,891	4,368	—	—
2020	274,029	195,564.59	—	—	—	—	6,366	4,532.3	—	—
2021	251,449	210,255.11	—	—	—	—	4,404	2,614.8	—	—

Source: CFETS.